Activism to Promote the Health of Patients and the Public

ABSTRACTS OF SUBMISSIONS
ACCEPTED FOR PRESENTATION

A COLLECTIVE LOOK IN THE MIRROR: USING AN AUDIENCE RESPONSE SYSTEM TO HELP MEDICAL STUDENTS RECOGNIZE THEIR OWN BIASES TOWARDS PATIENTS OF DIFFERENT SOCIOCULTURAL BACKGROUNDS. M. Mintz1, S. Hahn1; K. Yu-Isenberg2; J. Priest2; E. Skinner2; M. Weaver2; George Washington University, Washington, DC. (Tracking ID #: 154097)

BACKGROUND: Physician bias (discrimination, prejudice, stereotyping) towards patients of different socio-cultural backgrounds and their own contributes significantly to health care disparities. Teaching health care professionals to recognize their own biases is therefore important, but difficult due to the personal and sensitive nature of the topic. Our purpose was to determine the usefulness of an audience response system (ARS) in helping learners recognize their own biases and how their biases might contribute to health care disparities.

METHODS: All third-year medical students from our institution attended a 2-hour workshop on health care disparities. Part of the workshop included a session where five brief videotaped patient vignettes were shown to the entire class, and students were then asked to guess each patient’s age, level of education, annual income, race, religion and sexual orientation by using individual keypads. Anonymous results were then displayed to the entire class in aggregate along with correct information to demonstrate variation, discrepancy and bias. Large and small group discussions followed. Students completed pre and post-session survey which used a 5-point Likert scale.

RESULTS: 160 students attended the workshop. 120 (75%) agreed to participate in the study and completed both the pre and post-workshop survey. Awareness of the role of culture in healthcare (mean=4.47), socio-cultural sensitivity and bias. Large and small group discussions followed. Students completed a pre and post-session survey which used a 5-point Likert scale. Data was analyzed using the paired student t-test.

CONCLUSIONS: Using an ARS was effective in helping medical students recognize their own biases and enhancing group discussion about the role of bias in health care disparities. Because an ARS allows individual participants to respond anonymously and displays aggregate responses which can instantly be used for group discussion, the ARS provides a safe and non-threatening way to discuss difficult topics, such as personal biases. Given student’s initial and strong reluctance to recognize their own personal biases, the modest response is not surprising to such a brief intervention. Further research is needed, including repeated exposure and use by other learners (residents) to see the full potential of the ARS as an educational tool.

A COMPARISON OF BARRIERS TO MEDICATION ADHERENCE IN PATIENTS WITH CHRONIC CONDITIONS. S. Hahn1; K. Yu-Isenberg2; J. Priest2; E. Skinner2; M. Weaver2; P. Olson3; Albert Einstein College of Medicine, Bronx, NY; GlaxoSmithKline, RTP, NC. (Tracking ID #: 154745)

BACKGROUND: Nonadherence to medication is a well documented cause of inadequate control of chronic disease. Specific barriers to nonadherence are often undetected. The ASK-20 was designed as a self-administered survey that can rapidly focus attention on specific, actionable barriers to adherence across the spectrum of chronic diseases. This study reports on the differential prevalence of barriers to adherence identified with the ASK-20 in a cohort of patients with asthma, diabetes, and depression.

METHODS: This cross-sectional study examined a total of 605 randomly selected patients with asthma, diabetes, or depression who completed the 20-item web-based ASK-20 and a battery of validating self-report adherence questions. The ASK-20 identifies barriers to adherence in 5 domains: Lifestyle, Attitudes and Beliefs, Help from Others, Talking with Healthcare Team, and Difficulty Taking Medicines. Descriptive statistics were used to examine barriers stratified by chronic conditions and baseline demographics. Predictors of medication nonadherence, defined by the self-report of a missed dose of medicine in the past week, were determined by logistic regression adjusted for demographic variables, comorbidities, medication use, and the ASK-20 survey items.

RESULTS: The mean age was 53 years, 66% were female, 60% married, and 45% unemployed, and had lower rate of missing doses. The average number of barriers detected by the ASK-20 across all three conditions was 4.0 (+3.4); diabetes patients reported fewer total barriers (3.2 ± 2.7) than those with depression (4.4 ± 3.4) or asthma (5.1 ± 3.7, p < 0.0001). The most common specific barriers to adherence were taking medicine more or less than prescribed (43%), inconvenience taking medicine (43%), forgetting to take medicines (40%), taking too many medicines a day (33%) and forgetting things important to me (32%).
in Table 1. Adjusted independent predictors of nonadherence were: forgetfulness (p < 0.0001); medicine taken more or less than prescribed (p < 0.0001); medics more than once a day is inconvenient (p = 0.0013); not getting refills on time (p = 0.01); and alcohol in the way of taking meds (p = 0.0379). Additionally, agreement was compared between whether HIV-related medications were prescribed by medical records and taken by self-report (antiretroviral therapy [ART] and medications to prevent Pneumocystis carinii pneumonia [PCP] and Mycobacterium avium complex [MAC]).

CONCLUSIONS: Lifestyle and Difficulty Taking Medicines barriers were the most significant predictors of suboptimal adherence in a cohort of patients with diabetes, asthma, and depression. Barriers were similar across chronic conditions with a few exceptions. Interventions addressing barriers identified with the ASK-20 in patients with one or more chronic diseases may enhance adherence to medication and improve health outcomes.

Table 1. Frequency of Selected ASK-20 Barrier Items by Chronic Disease

| Selected ASK-20 Items | Asthma | Depression | Diabetes | p-Value |
|----------------------|--------|------------|----------|---------|
| Feeling sad, down, or blue | 25% | 22% | 3% | <0.0001 |
| Don’t get refills on time | 25% | 16% | 5% | <0.0001 |
| Skipped or stopped because of cost | 28% | 19% | 13% | 0.0011 |
| Worry about sexual health | 27% | 30% | 16% | 0.0032 |
| Use of alcohol | 4% | 8% | 3% | 0.0375 |

A COMPARISON OF SELF-REPORT AND MEDICAL RECORD HIV UTILIZATION MEASURES IN A MARGINALIZED POPULATION

BACKGROUND: Institutions often use a single instrument to assess the teaching performance of faculty in different disciplines. This indiscriminate use of assessment tools assumes that the same skills are required to teach in all medical specialties. However, we are unaware of studies examining the stability of teaching assessment scores across medical specialties. Our previous research showed that clinical teaching assessments of general internists reduced to interpersonal, cognitive and efficiency domains. We sought to determine the factor stability of this three-dimensional model among cardiologists and compare domain specific scores between general internists and cardiologists.

METHODS: Two thousand general internal medicine and cardiology hospital teaching assessments from January 2000 to March 2004 were analyzed. Principal factor analysis with orthogonal rotation was used to identify clustering among 14 items assessing general internists and cardiologists. Factor loadings with Eigenvalues > 1 and items with loadings > 0.5 were retained. Internal consistency and inter-rater reliability were calculated. Mean item scores were compared between specialties.

RESULTS: The interpersonal and cognitive domains previously demonstrated among general internists collapsed into one domain among cardiologists, whereas the efficiency domain remained stable. The extracted factors accounted for nearly 100% of the proportion of total variance among the original variables. Internal consistency of domains (Cronbach’s alpha range 0.89 to 0.93) and inter-rater reliability of items (intra-class correlation range 0.65 to 0.87) were good to excellent for both specialties. General internists scored significantly higher (p < 0.05) than cardiologists. All items had a perfect 4th quartile which most accurately reflected the cardiology teaching environment.

CONCLUSIONS: We observed factor instability of clinical teaching assessment scores among cardiologists when compared on number of ambulatory visits (0, 1, > 2). This finding underscores the importance of developing a better understanding of how self-reported data correlates with medical record data in marginalized populations.

A COMPARISON OF CLINICAL TEACHING ASSESSMENT SCORES AMONG GENERAL INTERNSISTS AND CARDIOLOGISTS: NOT ONE SIZE FITS ALL. T.J. Beckman1; D.A. Cook1; J. Mandrek1; 1Montefiore Medical Center/Albert Einstein College of Medicine, Bronx, NY

BACKGROUND: Overweight and obesity are highly prevalent in persons with severe mental illness (SMI); these conditions in the SMI likely contribute substantially to hypertension, diabetes mellitus, coronary disease and early mortality. Effective behavioral weight loss interventions exist for the general population. However, they are not appropriately adapted for persons with SMI who have special cognitive and other needs. The objective of this study was to develop and pilot test a multifaceted weight loss intervention appropriately adapted for persons with SMI in a psychiatric rehabilitation program.

METHODS: We performed a pre/post study in 2005 at an urban psychiatric rehabilitation program where SMI attend three mornings a week. The 5 month intervention provided nutrition classes (2 45 minute sessions/week) and group physical activity classes (3 45 minute sessions/week) along with healthy modification of on-site meals and vending machines. Nutrition sessions were led by trained nutritionists, used materials adapted to a 5th-6th grade reading level and emphasized repetition of concepts and hands-on activities (e.g., taste testing, label reading, measuring portions). The primary outcome was weight loss at 5 months. Paired t-tests were performed.

RESULTS: Of 51 potentially eligible persons, 36 entered the rehab program, 32 enrolled. 27 (84%) completed the study: 5 were discharged from the rehab program before study completion (2 for psych hospitalizations). Mean participant age was 45 years; 58% were women; 88% African American; 54% had schizophrenia; 18% bipolar disorder; 24% depression; 36% mental retardation; 21% substance use. Over half smoked; 36% had hypertension; 27% had diabetes. Average intervention attendance across all classes was 67% (84% on days participants attended the rehab program). Participants significantly reduced weight, waist circumference, and improved fitness after the intervention (Table). Blood pressure decreases were not statistically significant. The 60% of participants achieving weight loss had a mean loss of 7.2 lbs (SD 6.0).

CONCLUSIONS: SMI in this multifaceted weight loss intervention had high levels of participation and achieved weight loss, decreased waist circumference and improved fitness. These pilot study results, which need to be confirmed in controlled trials, may be appropriately tailored to all lifestyle interventions. These data raise serious concerns about research that relies on self-reported data, specifically self-reported health care utilization measures. Furthermore, because self-reported CD4 count value and medication use are frequently used to guide clinical management, these findings have a number of clinical implications. This study underscores the importance of developing a better understanding of how self-reported data correlates with medical record data in marginalized populations.

A MULTIFACETED WEIGHT LOSS INTERVENTION FOR PERSONS WITH SEVERE MENTAL ILLNESS: RESULTS FROM THE ACHIEVE STUDY. G.L. Daum1; A. Dacon1; R.M. Crum1; D. Gayles1; G. Jerome1; P. McCarron1; K. Reever1; L. Aippe1; Johns Hopkins University, Baltimore, MD; “Baince, Inc, Baltimore, MD (Tracking ID # 152897)

BACKGROUND: Interventions addressing barriers identified with the ASK-20 may enhance adherence to ambulatory visits, HIV medication use, and laboratory tests performed. However, agreement on CD4 count value was best. Most disagreement with utilization measures was from participants over-reporting. While medical record data may not be entirely unbiased, all self-reported measures in this New York City marginalized population was poor for ambulatory visits, HIV medication use, and laboratory tests performed. Additionally, agreement was compared between whether HIV-related medications were prescribed by medical records and taken by self-report (antiretroviral therapy [ART] and medications to prevent Pneumocystis carinii pneumonia [PCP] and Mycobacterium avium complex [MAC]).

RESULTS: The mean age of the sample was 45 years old, and the majority were men (76.2%), black (57.9%) or Hispanic (30.6%), had annual incomes under 88,000 (67.7%), and were active substance users (56.9%). Agreement between self-report and medical records for visits was 54.9% (kappa = 0.09), with 36.3% over-reporting visits. Agreement on whether laboratory tests were performed was 64.8% (kappa = 0.06) for CD4 counts, and 61.3% (kappa = 0.06) for VL, with most disagreement from over-reporting for both tests. Limited to those with labs performed by self-report and medical records, agreement on CD4 count value was 81.3% (kappa = 0.71), and VL value was 75.9% (kappa = 0.49). Most disagreement was found between participants with higher CD4 counts (12.5%) and lower VL (15.7%). Agreement between prescribing and taking HIV medications was 75.0% (kappa = 0.43) for ART, 69.0% (kappa = 0.38) for PCP prophylaxis, and 75.8% (kappa = 0.23) for MAC prophylaxis. Most disagreement was from over-reporting medication (15.1% for ART, 23.4% for PCP prophylaxis, 15.5% for MAC prophylaxis).

CONCLUSIONS: Agreement between self-report and medical record HIV utilization measures in this New York City marginalized population was poor for ambulatory visits, HIV medication use, and laboratory tests performed. While medical record data may not be entirely unbiased, all self-reported measures in this New York City marginalized population was poor for ambulatory visits, HIV medication use, and laboratory tests performed. Additionally, agreement was compared between whether HIV-related medications were prescribed by medical records and taken by self-report (antiretroviral therapy [ART] and medications to prevent Pneumocystis carinii pneumonia [PCP] and Mycobacterium avium complex [MAC]).

CONCLUSIONS: Agreement between self-report and medical record HIV utilization measures was poor for ambulatory visits, HIV medication use, and laboratory tests performed. While medical record data may not be entirely unbiased, all self-reported measures in this New York City marginalized population was poor for ambulatory visits, HIV medication use, and laboratory tests performed. Additionally, agreement was compared between whether HIV-related medications were prescribed by medical records and taken by self-report (antiretroviral therapy [ART] and medications to prevent Pneumocystis carinii pneumonia [PCP] and Mycobacterium avium complex [MAC]).
A MULTIMEDIA PATIENT EDUCATION PROGRAM INCREASES COLORECTAL CANCER KNOWLEDGE, RISK PERCEPTION, AND WILLINGNESS TO CONSIDER SCREENING IN THE HISPANIC/LATINO COMMUNITY

BACKGROUND: The Hispanic/Latino population has very low CRC screening rates, putting this group at risk for late-stage presentation of the disease. We worked with patients at a federally qualified health center to develop, implement, and test a multimedia patient education program on CRC screening, designed specifically for the Hispanic/Latino community.

Methods: Using feedback gained from structured interviews and focus groups in a mostly Spanish-speaking community, we developed two versions of a 5-minute multimedia program. These differed only in the opening sequence so we could test the effect of a positive appeal (e.g., "You have plans... you may be living longer") vs a negative appeal (e.g., "Every year, over 56,000 people in the United States die of colon or rectal cancer... you could be one of them"). To make the program accessible across literacy levels, we used voiceover, photographs and illustrations, but very little text. Three bilingual promotoras were trained to implement the research protocol at 2 community clinic sites serving Hispanic/Latino patients. Subjects who consented to participate in the study: (1) completed a structured interview to establish baseline knowledge of colorectal cancer, risk perception, and willingness to consider screening; (2) were assigned to view either the positive or negative program at a computer kiosk in the waiting room; (3) completed a parallel post-test structured interview that also gauged reaction to the program. Both the structured interview and multimedia program were created in English, translated into Spanish, back-translated to English, and revised to ensure parallel content. Participants could choose Spanish or English for the interview and program viewing; analyses focus on this subset. While Spanish was participants' language of choice, only 36.8% reported their ability to read in Spanish, and only 34.8% reported their ability to write in Spanish. Though most people were from Mexico (39.6%) or Puerto Rico (31.1%), the multimedia program produced marked increases in knowledge of key terms (e.g., polyp, primary screening options, FOBT, Flex Sig, Colonoscopy), and recommended age for screening, as well as perception of risk for CRC and willingness to consider each of the three primary screening options (McNemar Test, p < 0.05). For all but 2% of differences between the 2 versions and negative appeals in terms of these measures or subjects' intentions to discuss CRC screening with their doctor (90.4% and 94.8%, respectively). At pre-test, 83% were not aware that Portuguese-speaking Mexicans were more likely to screen than English-speaking Mexican Americans to consider screening, but the difference was erased post-test.

CONCLUSIONS: This multimedia patient education program designed specifically for the Hispanic/Latino community increased knowledge about CRC and CRC screening, as well as willingness to consider screening. Tools developed with community input that present important health messages using graphics and audio can reach individuals across literacy levels and ethnic backgrounds.

A NATIONAL SURVEY OF CLINICAL REMINDER USE AND BARRIERS TO CLINICAL REMINDER USE IN AN INTEGRATED HEALTH CARE SYSTEM

BACKGROUND: We conducted a national survey of computerized clinical reminders in integrated health care systems (IHCSS) to assess the prevalence of these interventions and barriers to their use.

METHODS: In 2000, a national survey of IHCSS was conducted by RAND Corporation. The survey was designed to assess the prevalence and barriers to computerized clinical reminders. The survey was conducted using a stratified random sample of IHCSS. The survey was completed by the chief executive officer or chief medical officer of each organization. The survey was administered via the Internet. The survey included questions about the prevalence of computerized clinical reminders and barriers to their use. The survey was completed by 230 organizations, representing 230 unique organizations.

RESULTS: Of the 230 organizations surveyed, 208 (90.0%) reported the use of computerized clinical reminders. The most common reasons for the use of computerized clinical reminders were to improve the quality of care (64.0%), to reduce medical errors (42.0%), and to improve patient care (33.0%). The most common barriers to the use of computerized clinical reminders were the lack of sufficient resources (41.0%), the lack of support from senior management (32.0%), and the lack of documentation in the electronic medical record (25.0%). The survey also found that the use of computerized clinical reminders was associated with a decrease in the number of medical errors and an increase in the quality of care.

CONCLUSIONS: The use of computerized clinical reminders is widespread in IHCSS. The barriers to the use of computerized clinical reminders are primarily resource-related. The use of computerized clinical reminders is associated with improved quality of care and reduced medical errors.

A NOVEL ‘DISPARITY CURVE’ METHOD TO EVALUATE ETHNIC DIFFERENCES IN SCREENING FOR HIGH CHOLESTEROL: 18-YEAR TIME TRENDS USING THE BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM (BRFSS)

BACKGROUND: In recent years the risk associated with high cholesterol and the need for intervention with lipid lowering drugs has been established. While this has led to a corresponding increase in cholesterol screening, it is unclear whether this increase represents all ethnic groups and if earlier ethnic disparities in cholesterol screening persist.

METHODS: BRFSS is an annual cross-sectional national survey of U.S. adults that provides information on health risk behaviors and clinical preventive practices. Using BRFSS data from 1987–2004 the difference in screened proportions between whites and non-whites declined during the period. We computed the adjusted disparity index (DI) for that difference (using the delta method) to create a “disparities curve” for each race pair. We evaluated both unadjusted as well as adjusted (age, gender, education, and income) disparities curves and tested the trend by the race-year interaction. All analyses incorporated the complex sampling frame to provide population estimates.

RESULTS: In 1987, the unadjusted percentage difference [with 95% CI] in cholesterol screening proportions between Caucasians (48.5% screened) and African Americans (41.4%) was 7.1 [4.2, 9.9], while the Caucasian-Hispanic difference was 11.8 [7.6, 16.0], indicating that African Americans and Hispanics were less likely to be screened than Caucasians. When we computed the adjusted disparity index (DI) for that difference (using the delta method) to create a “disparities curve” for each race pair. We evaluated both unadjusted as well as adjusted (age, gender, education, and income) disparities curves and tested the trend by the race-year interaction. All analyses incorporated the complex sampling frame to provide population estimates.

CONCLUSIONS: There has been a substantial narrowing of the cholesterol screening gap between Caucasians and African Americans over time. This narrowing occurred in both adjusted and unadjusted analyses. This narrowing is important because cholesterol screening is a key component of primary prevention of cardiovascular disease.
A NOVEL WEBSITE TO IMPROVE ASTHMA CARE: QUALITATIVE ANALYSIS OF END-USER EXPERIENCES. C.N. Sciamanna1; C. Hartmann1; S. Mui2; D. Blanch3; M. Weiner1; S. Zickmund2; D. Sacco1; E. Olshansky1; G.S. Fischer1.

RESULTS: Analysis revealed two main themes. The first was a shift in attitudes towards the website. Patients reported a greater willingness to try alternative treatments and to consider the website's suggestions. The second theme was the impact of the website on patient-doctor interactions. Patients felt more empowered to ask questions and to negotiate changes in their care.

CONCLUSIONS: A novel strategy for selecting patients for diabetes screening is needed. Future studies are needed to validate this strategy in other populations.

A PILOT STUDY OF HOME-BASED SELF-MANAGEMENT OF OSTEARTHRITIS AMONG OLDER ADULTS USING ADAPTIVE TURNAROUND DOCUMENTS. M. Weiner1; B. Bledsoe2; B. Fultz3; M. Zore4; V. Anand; R. Owrey6; A.J. Perkins5; D.C. Arg2; E.M. Downs2; C.M. Callahan2; D.O. Clark3. "Indiana University Center for Aging Research and Regenstrief Institute, Inc., Indianapolis, IN; 2Indiana Children's Health Services Research Institute, Indianapolis, IN; 3Indiana University School of Medicine, Indianapolis, IN; 4Indiana University School of Medicine, Indianapolis, IN; 5Indiana University School of Medicine, Indianapolis, IN; 6Indiana University School of Medicine, Indianapolis, IN." (Tracking ID # 154594).

BACKGROUND: Osteoarthritis benefits from self-management techniques such as exercise, diet, and adjustment to medication, but outpatient medical visits are infrequent, and many older patients are home-bound. Activating patients at home could improve self-management. Paper-based adaptive turnaround documents (ATD) are computer-readable mark-sense forms that can solicit and provide tailored information about patients' signs or symptoms. We developed and piloted an ATD system using facsimile (fax) machines, to test feasibility and identify technical issues, among patients with osteoarthritis at home. We identified patients' symptoms and provided suggestions about self-management. We hypothesized that patients would be able to use the system to communicate symptoms of pain and dysmobility and that most would rate the program as useful.

METHODS: We developed a system by which ATDs could be transmitted to a fax server and then automatically interpreted by computer software. Educational programs were developed to assist patients in the self-management of chronic disease, which self-management is crucial. There is also a body of literature in diabetes describing effective self-management education. As part of a larger patient portal project, we developed a system that (1) systematized the feedback process to ensure that patients ask questions during doctor visits to improve the quality of care they receive. Feedback consisted of three elements: (1) a list of suggested questions for patients to ask their physician. (2) "What benefit from a daily inhaled corticosteroid?" and "Would you benefit from a long-acting bronchodilator like salmeterol?" (3) a lay explanation of why patients should ask each question, (4) links to other websites for further reading and explanations. The suggested topics. Adults with arthritis, aged 65 or older, and access to the Internet were recruited. Semi-structured telephone interviews were conducted with 36 subjects that had used the website and subsequently visited a physician. Interview questions addressed issues including: (1) use of the website before the visit; (2) utilization of information generated from the website during the subsequent physician's visit; and (3) how use of the website changed communication with their physician, if at all. Interviews were audio-recorded, transcribed, and entered into (SR4)Neurocognitive software. The transcripts were computer-coded, and ground-upon the ground theory technique.

RESULTS: Analysis revealed two main themes. The first was a shift in attitudes regarding interactions with physicians: "I've been going to this doctor for about 17 years, but this was the first time that I've actually gotten anywhere with him as far as changing what he was doing for me. [The website gave me] the questions to ask that seemed to push him in the right direction as far as giving me treatments that I just take it all in."

and that's different than my usual office visit where I don't make any suggestive comments that she probably should — or she probably should — look at other means of treatment, having him work on me."

"[This time] I was able to speak about the fact that I was becoming reliant on the inhaler that I was becoming reliant on."

CONCLUSIONS: Patient access to their own electronic health record, such as that provided by the portal, has been described as necessary by the Institute of Medicine. However, our findings indicate that providing access and information (an electronic pamphlet) is not enough. We believe that it must be coupled with directed patient education programs, similar to those studied and proven for in-person disease management. Our future work involves tailoring these programs for electronic, remote delivery.
A PILOT TRIAL OF YOGA FOR THE TREATMENT OF MENOPAUSAL SYMPTOMS.

M. Guessous1; A. Kanaya2; D. Grady3; C. Ruffieux3; J. Cornuz1.

BACKGROUND: Hot flashes occur in approximately two thirds of postmeno-
apausal women and can be debilitating. Despite several effective pharmacologic therapies for hot flashes, many women avoid treatment due to contraindications or concerns about side effects. A likely mechanism of hot flashes involves increased sympathetic nervous system activity. Since yoga has been shown to decrease sympathetic activity, we conducted a pilot study to evaluate the feasibility and estimate the effect of a yoga intervention in postmenopausal women.

METHODS: We enrolled 14 mostly sedentary postmenopausal women who experienced ≥ 4 moderate to severe hot flashes per day or ≥ 30 per week in the previous 6 months. An expert yoga instructor with experience teaching yoga to menopausal women designed the yoga intervention. The intervention consisted of a series of 8 postures derived from Restorative Yoga, a branch of yoga that focuses on deep relaxation and uses props to provide total body support. Participants attended 8 weekly 90-minute classes where they learned the postures. Participants also were asked to practice the postures they practiced. The main outcome was change in frequency of hot flashes measured by a validated 7-day hot flash diary that was completed at baseline and week 8. Change in severity of hot flashes was evaluated using a validated hot flash score derived from the diary responses. Questionnaires assessing quality of life (Menopause-Specific Quality of Life), sleep quality (Insomnia Severity Index), and menopausal symptoms (Menopausal Symptom Questionnaire) were completed at baseline and week 8.

RESULTS: Thirteen (93%) of the participants completed the study, and 92% of the participants attended 7 or more of the 8 yoga sessions. The mean amount of time spent on yoga practice at home was 170 ± 85 minutes per week. The mean number of hot flashes per week decreased by 63% (p < 0.003) from 61 per week at baseline to 45 per week at week 8. Mean hot flash score decreased by 33% (p < 0.005). Mean scores on the Menopause-Specific Quality of Life questionnaire decreased from 15 to 10 (p < 0.022) in the Menopausal Symptom Questionnaire, 69% of participants reported improvement in their hot flashes and 46% reported improvement in sleep habits. A majority (93%) of participants felt the study met their expectations. No adverse events were reported by any of the participants.

CONCLUSIONS: This pilot trial demonstrates that it is feasible to teach restorative yoga to sedentary, middle-aged women and suggests that yoga may be a safe and effective treatment for hot flashes in postmenopausal women. The effectiveness of yoga on menopausal symptoms may be further explored through an adequately powered randomized controlled trial.

A QUALITATIVE STUDY OF DEPRESSION IN EMERGING ADULTHOOD.

A. Gelber1; T. Kurth2; J.E. Manson2; J.E. Buring2; J. Gaziano3.

BACKGROUND: Despite extensive investigation, controversy still exists regarding the association between BMI and mortality. Prior studies suggesting a U-shaped association have often not comprehensively accounted for confounding by factors such as prior disease and cigarette smoking. We examined the association between BMI and all-cause mortality among young adults, according to preexisting disease and smoking status in a large prospective cohort.

METHODS: Participants were 99,253 male physicians in the Physicians' Health Study enrollment cohort, aged 40-84 years, who provided information in 1982. We used Cox proportional hazards regression to examine the association between baseline BMI and mortality.

RESULTS: A total of 5438 men died during a median follow-up of 5.7 years (including 2701 deaths due to cardiovascular disease and 1608 deaths due to cancer). While a U-shaped association between BMI and mortality was seen among men, we found a lower BMI threshold of about 20 kg/m2 for BMI and increased risk of mortality when accounting for potential confounding by preexisting disease and smoking status. Among men with more than 2 years of follow-up and without a prior history of cigarette smoking, myocardial infarction, stroke, cancer, or other coronary disease (n = 22,6 kg/m2) had a relative risk (RR) of mortality of 0.91 (95% confidence interval, CI, 0.71–1.17), as compared with men in the middle BMI quintile (22.5/23.0 kg/m2), adjusted for age, alcohol consumption, and physical activity. Contrast, in men the highest quintile (>27.0 kg/m2) had RR of 1.33 (95% CI, 1.05–1.67). P for linear trend, <0.001. We found similar results examining BMI according to WHO categories. As compared to men in the “normal” BMI range (<25.0 kg/m2), the RR of mortality was 1.04 (95% CI, 1.01–1.07) among overweight (25.0–29.9 kg/m2) men and 1.56 (95% CI, 1.16–2.07) among obese (≥30.0 kg/m2) men. Further adjustment for potential intermediates, including alcohol use, smoking status, high chole-
sterol, and renal disease, did not substantially alter these results.

CONCLUSIONS: In this large cohort of men, we found a consistent association between higher BMI and increased risk of mortality after accounting for several potential sources of confounding, even among those within the “overweight” range of BMI. Our findings support others indicating that overweight and obesity increase risk of mortality among otherwise healthy individuals. Public health messages should emphasize the preponderance of evidence supporting the adverse health effects associated with higher body weight.
A RANDOMIZED CONTROLLED TRIAL OF AN EDUCATIONAL AND MOTIVATIONAL INTERVENTION TO ENHANCE CONSUMERS’ USE OF HEALTH PLAN AND MEDICAL GROUP QUALITY DATA. P.S. Romano1; J. Rainwater1; J.A. García1; G. Mahendra1; D.J. Tancredi2; J. Keyzer1.

1University of California, Davis, Sacramento, CA;2University of Illinois (Tracking ID # 152398).

BACKGROUND: Health care quality reports are increasingly prevalent but have little impact on consumer behaviour; many consumers appear not to understand what data to use or how to interpret it. METHODS: A cluster-randomized, controlled trial of a two-pronged educational/motivational intervention to enhance use of quality data during Open Enrollment: (1) a mailing with the California HMO Report Card, California’s HMO Guide, and a motivational letter “negatively framed” to arouse concerns about health care quality; and (2) toll-free telephone and e-mail hotlines staffed by counselors trained to provide advice around enrolment decisions. Both components were designed to mitigate consumer concerns about cost and access, and quality-related information may even trigger some distress. CONCLUSIONS: Educational/motivational interventions designed to increase perceived benefits and decrease perceived barriers, with negative framing, may little impact on consumer behaviour; many consumers appear not to understand what data to use or how to interpret it. Methods: A cluster-randomized, controlled trial of a two-pronged educational/motivational intervention to enhance use of quality data during Open Enrollment: (1) a mailing with the California HMO Report Card, California’s HMO Guide, and a motivational letter “negatively framed” to arouse concerns about health care quality; and (2) toll-free telephone and e-mail hotlines staffed by counselors trained to provide advice around enrolment decisions. Both components were designed to mitigate consumer concerns about cost and access, and quality-related information may even trigger some distress. Conclusions: Educational/motivational interventions designed to increase perceived benefits and decrease perceived barriers, with negative framing, may improve consumer behaviour and quality use.}

A SYSTEMATIC REVIEW OF CURRICULA FOR RELATIONSHIPS BETWEEN PHYSICIANS AND THE PHARMACEUTICAL INDUSTRY. D.B. Billings1; D.J. J. Tyler2; L.S. Rosenbaum3. 1Yale University, Hamden, CT;2Yale University, Waterbury, CT;3Yale University, New Haven, CT (Tracking ID # 154775).

BACKGROUND: Considerable research has been devoted to the potential adverse effects of pharmaceutical company marketing on physician knowledge and prescribing practices. Resident physicians, due to their lack of experience, may be particularly vulnerable to pharmaceutical influence. Formal curricula addressing resident-pharmaceutical industry relations have been reported, but there has been no consensus regarding the best approach. METHODS: Educational curricula were identified via search of Medline, PsycINFO, MedEdPortAL, ERIC, Embase, and bibliographies of collected articles. Abstracts were reviewed for relevance. Four educational approaches were included: 1) description of an educational curriculum regarding relations between physicians and pharmaceutical industry and 2) use of curriculum in grading, educational evaluation, or inclusion in a residency program. Policies regarding resident-pharmaceutical representative (PR) interactions without distinct educational curricula were excluded. We abstracted information on demographics, curriculum development, learning objectives, instruction, evaluation methods, and evaluation results. RESULTS: The search identified 8 curricula for residency training (4 family practice, 2 internal medicine, 1 psychiatry, 1 mixed specialty). Most concerned detailing of residents by PRs. Only 3 curricula described technique development. Learning objectives included the techniques of pharmaceutical advertising, patient perceptions of physician-PR relationships, organizational guidelines regarding physician-PR relations, relevant ethical principles, potential influence of marketing methods on physician knowledge and practice, and critical skills necessary for analyzing PR presentations regarding drug use. Instructional strategies most commonly consisted of small group discussions/seminars (6/8). Other features included lecture, debates, facilitated review of videotaped physician-PR encounters, and structured learner critique of resident-PR sessions with feedback from mentors. Seven articles included an evaluation component of which only 1 included a control group comparison. Evaluations consisted primarily of self-assessment surveys of attitudes towards physician-PR relations (4/8). Other measured outcomes included self-reported confidence in ability to handle encounters (2/8), knowledge of guidelines (1/8), and self-reported behaviors (1/8). Most significant improvements were noted in resident confidence, knowledge of guidelines, belief in the potential influence of marketing on behavior, and self-reported accuracy of physician-PR interactions. No studies included long-term follow-up. Conclusions: A limited number of curricula have addressed the complexities of resident-pharmaceutical industry interactions. Inconsistency in curriculum content, application, and evaluation methodology prevents meaningful synthesis of data. Resident attitude and behavior may be affected, but the outcome measures used lack sufficient validity to accurately assess improvements in resident knowledge. A clearer understanding of the learning development process would facilitate the reproduction of positive results at other institutions, as well as development of standardized outcome measures that are better correlated with the stated educational objectives.
A WEB-BASED COURSE ON COMPLEMENTARY MEDICINE IMPROVES KNOWLEDGE AND CHANGES ATTITUDES AMONG MEDICAL STUDENTS AND RESIDENTS. D.A. Cook1; M.H. Gelula2; M.C. Lee3; B.A. Bauer4; D.M. Dupras5; A. Schwartz. 1Mayo Clinic, Rochester, MN; 2University of Medicine and Dentistry of New Jersey, Newark, NJ; 3University of Illinois at Chicago, Chicago, IL; 4University of California, Los Angeles, CA; 5University of New Mexico, Albuquerque, NM.

BACKGROUND: The use of complementary and alternative medicine (CAM) is growing rapidly, and many physicians feel that their knowledge about CAM is inadequate to care for patients using such therapies. Few introductory courses in CAM have been described. We sought to develop and evaluate an introductory course for CAM in medical students and residents. We used a Web-based delivery format to overcome barriers of distance and scheduling.

METHODS: We conducted a multi-institutional controlled study evaluating a Web-based course in CAM, making comparison to no intervention. Participants were 123 internal medicine residents, family medicine residents, and third and fourth year medical students at academic residency programs in internal medicine and family medicine and two US medical schools. The course consisted of an evidence-based review of common CAM therapies along with a discussion of legal issues, tips for counseling patients, and recommendations for identifying reliable information on the Internet. Content was developed using primary journal articles, the Cochrane Database, other evidence-based resources, and local experts. Instructional methods included cases with self-assessment questions and a review activity at the end of each module. Outcomes included knowledge of CAM, attitudes toward CAM therapies (Index of Learning Styles), course evaluation and satisfaction. Test scores were compared using the t-test, and attitudes were analyzed using the Wilcoxon signed-rank or Wilcoxon rank sum test as appropriate.

RESULTS: Strategy of participants completed the course, and another 34 served as controls. Test scores among a subset of course participants (n=57) were higher (mean ± SD: 77.2 ± 11.1) than control group scores (50.9 ± 8.5, p=0.001) and remained higher (60.3 ± 9.3, p=0.001) at 3 months after the intervention. There were no associations between test score and learning styles (p>0.065). After the course participants knew better where to look for reliable information on CAM topics, recognized a greater role for CAM in comprehensive medical treatment, and felt more comfortable discussing CAM therapies with their patients (all p<0.001 compared to baseline). Course rating on a 10-point scale was 7.7 ± 1.6. Thirty-four percent of learners desired more feedback: other course evaluation components were very favorable (+95% positive). Although 35% of participants experienced technical problems at some point during the course, these problems did not influence overall course rating (p=0.75).

CONCLUSIONS: This brief course in CAM improved knowledge and changed attitudes of residents and medical students, and was well received by learners. A Web-based course of this type may serve as a useful introduction to this important topic. Feedback to learners is an important element of instructional design. Technical problems with Web-based learning do not necessarily affect course ratings.

ACCOUNTING FOR VETERAN STATUS CHANGES CONCLUSIONS ABOUT GENDER DISPARITIES. S.M. Frazier1; C. Phibbs2; W. Yu3; E. Yanof4; L. Ananth1; S. Iqbal5; A. Thavlik1. 1VA Palo Alto Health Care System, Palo Alto, CA; 2VA HSR&D Center of Excellence, Sepulveda, CA; (Tracking ID #: 15407).

BACKGROUND: Given the push to assure equitable access to high quality care for males and females, studies of gender differences among veterans (VHA) patients, studies of gender disparities have been given high priority. While such work often takes patient characteristics into account, there has been little attention to the fact that, in some circumstances, VHA serves non-veterans (e.g., some spouses of veterans, employees, etc.) who may use VHA services differently from veterans; rates of non-veteran status could vary by gender. We examined whether limiting the study cohort to veterans alters conclusions about apparent gender-related disparities in VHA care.

METHODS: In a cross-sectional assessment of centralized VHA administrative files for all users of VHA care in 2002 (N=4,444,577), eligibility files identified the 5.3 million male and 4.9 million female (VHA) patients, studies of gender disparities have been given high priority. While such work often takes patient characteristics into account, there has been little attention to the fact that, in some circumstances, VHA serves non-veterans (e.g., some spouses of veterans, employees, etc.) who may use VHA services differently from veterans; rates of non-veteran status could vary by gender. We examined whether limiting the study cohort to veterans alters conclusions about apparent gender-related disparities in VHA care.

RESULTS: Eighty-nine participants completed the course, and another 34 served as controls. Test scores among a subset of course participants (n=57) were higher (mean ± SD: 77.2 ± 11.1) than control group scores (50.9 ± 8.5, p=0.001) and remained higher (60.3 ± 9.3, p=0.001) at 3 months after the intervention. There were no associations between test score and learning styles (p>0.065). After the course participants knew better where to look for reliable information on CAM topics, recognized a greater role for CAM in comprehensive medical treatment, and felt more comfortable discussing CAM therapies with their patients (all p<0.001 compared to baseline). Course rating on a 10-point scale was 7.7 ± 1.6. Thirty-four percent of learners desired more feedback: other course evaluation components were very favorable (+95% positive). Although 35% of participants experienced technical problems at some point during the course, these problems did not influence overall course rating (p=0.75).

CONCLUSIONS: This brief course in CAM improved knowledge and changed attitudes of residents and medical students, and was well received by learners. A Web-based course of this type may serve as a useful introduction to this important topic. Feedback to learners is an important element of instructional design. Technical problems with Web-based learning do not necessarily affect course ratings.

REFERENCES:

1. Chapman1; C.E. Dubé2; R.W. Schadt3; R. Saitz1. 1VA Palo Alto Health Care System, Palo Alto, CA; 2VA HSR&D Center of Excellence, Sepulveda, CA; (Tracking ID #: 15407).

BACKGROUND: In VHA, non-veterans (who use VHA services less heavily) to veterans only. Before implementing practice or policy interventions to improve gender-related disparities in VHA care.
planning. Even those who saw palliative care as end-of-life care felt that care; most interpreted it as end-of-life or hospice care while few identified its role
RESULTS: Participants were often confused about the definition of palliative
barriers to earlier and wider service use in the acute care hospital.

METHODS: We used the California Health Interview Survey of CAM, a cross-
sectional survey of a sample of 9,187 adults representative of the California population, conducted in 2003. We constructed a prevalence and predictors of any CAM use among Chinese Americans, Filipino Americans, Japanese Americans, South Asians, and other Asians (Korean Americans, Southeast Asians, and Pacific Islanders) using multivariable logistic regression models.

RESULTS: Nearly three-quarters of American adults used at least one type of CAM in the past 12 months, which was significantly higher than the national prevalence rate. Chinese Americans had the highest prevalence of any CAM use, whereas South Asians had the lowest prevalence (36% vs. 50%, respectively).

The relations of demographic and health status factors related to any use of CAM varied greatly across Asian American subgroups. Acculturation and access to conventional medical care were more weakly related to any use of CAM for most Asian American subgroups. Chinese Americans who had English proficiency were more likely to use CAM (OR=4.97, 1.71–13.4) than Chinese Americans who were proficient in English. Also, other Asians who were uninsured (OR=5.16, 1.71–15.5) or delayed in receiving conventional medical care (OR=2.89, 1.01–8.32) were more likely to use CAM compared to those who were insured or had received timely conventional care.

Spirituality was the strongest predictor of any CAM use for most Asian American subgroups. Japanese Americans who considered themselves “moderately or very spiritual” were more likely to use CAM (OR=19.2, 1.8–96.0) compared to those who were “not at all spiritual.”

CONCLUSIONS: CAM varies greatly across Asian American subgroups. Acculturation and access to conventional medical care are only weak predictors of any CAM use for most Asian American subgroups, whereas spirituality is the strongest predictor of any CAM use. Clinicians and researchers need to understand the scope and rationale of use of CAM among Asian American subgroups in order to provide culturally-sensitive health care for the Asian American population.

ACUTE CARE HOSPITAL PROVIDER UTILIZATION AND PERCEPTIONS OF PALLIA-
TIVE CARE: K.L. Rodriguez1, A.E. Barnato1, P.J. Gambino1, R.M. Arnold2, NA-Pittsburgh Healthcare System, Pittsburgh, PA; 1University of Pittsburgh, Pittsburgh, PA. (Tracking ID # 153526)

BACKGROUND: Palliative medicine focuses upon prevention and relief of suf-
ferring through symptom management in patients with incurable life-limiting illnesses. Typically, the focus has been upon “dying” patients. Given uncertainty regarding the onset of “dying,” and the prevalence of untreated symptoms and unmet psychosocial needs of chronically ill patients, palliative medicine has sought to move its professional purview earlier in the illness trajectory. The objective of the current study is to understand the perceptions of palliative care in the acute care hospitals and to identify barriers to earlier service use.

METHODS: In this exploratory study, we shadowed healthcare providers on intensive care unit (ICU) rounds for 1/2 day and conducted 144 days of semi-structured interviews with 120 physicians, nurses, case managers, and chaplains at 11 Pennsylvania hospitals. Hospitals were purposively sampled to represent varying geography (rural, suburban, urban), teaching status (major-, minor-, and non-teaching), size, and observed rates of terminal ICU, mechanical ventilation, and dialysis use among chronically ill patients over age 64. Semi-
structured interviews were guided by the interview schedule for the most recent case of an inpatient death, including specific probes about patient, family, provider, and organizational factors associated with treatment decisions during the terminal hospitalization. We used qualitative content analysis of field notes to explore providers’ perceptions of palliative care services, with particular attention to barriers to earlier and wider service use in the acute care hospital.

RESULTS: Participants were often confused about the definition of palliative care; most interpreted it as end-of-life or hospice care. Physicians believed that they had the same skills as palliative care consultants. Hospital staff suggestions for increasing integration and utilization of palliative care included workforce development, education, and training about palliative care; improving financial reimbursement and sustainability for palliative care; and changing the normative hospital culture currently geared toward high intensity care.

CONCLUSIONS: Perceptions of palliative care in the acute care setting are dominated by its role in facilitating LST limitation or allowing death. Moving consultation earlier in the hospitalization of a “dying” patient was a greater preoccupation than increasing palliative service use earlier in the illness trajec-
tory. Any move short or far upstream will require that palliative care specialists market benefits to patients and referring providers that emphasize their unique skill set and compatibility with parallel treatment plans and do not threaten provider autonomy.

ADDRESSING HEALTH CARE DISPARITIES THROUGH MEDICAL EDUCATION: THE UNIVERSITY OF CALIFORNIA, LOS ANGELES/CHARLES R. DREW UNIVERSITY MEDICAL EDUCATION PROGRAM: M. Ko1; R. Edelstein1; A. Haas2; M. Goldstein2; L. Becerra3; N.S. Wenger2; E. Cheng3; 1University of California, Los Angeles, Irvine, CA; 2University of California, Los Angeles, Los Angeles, CA; 3Greater Los Angeles Veterans Healthcare System, Los Angeles, CA. (Tracking ID # 153790)

BACKGROUND: Acculturation and access to conventional care have been found to be predictors of complementary and alternative medicine (CAM) use in the general population. We hypothesized that these factors would be predictors of CAM use in the Asian American ethnic subgroups. Because of differences in health and cultural beliefs, we also hypothesized that patterns and predictors of CAM use vary among Asian American subgroups.

METHODS: We used the California Health Interview Survey of CAM, a cross-
sectional survey of a sample of 9,187 adults representative of the California population, conducted in 2003. We constructed a prevalence and predictors of any CAM use among Chinese Americans, Filipino Americans, Japanese Americans, South Asians, and other Asians (Korean Americans, Southeast Asians, and Pacific Islanders) using multivariable logistic regression models.

RESULTS: Nearly three-quarters of American adults used at least one type of CAM in the past 12 months, which was significantly higher than the national prevalence rate. Chinese Americans had the highest prevalence of any CAM use, whereas South Asians had the lowest prevalence (36% vs. 50%, respectively).

The relations of demographic and health status factors related to any use of CAM varied greatly across Asian American subgroups. Acculturation and access to conventional medical care were more weakly related to any use of CAM for most Asian American subgroups. Chinese Americans who had English proficiency were more likely to use CAM (OR=4.97, 1.71–13.4) than Chinese Americans who were proficient in English. Also, other Asians who were uninsured (OR=5.16, 1.71–15.5) or delayed in receiving conventional medical care (OR=2.89, 1.01–8.32) were more likely to use CAM compared to those who were insured or had received timely conventional care.

Spirituality was the strongest predictor of any CAM use for most Asian American subgroups. Japanese Americans who considered themselves “moderately or very spiritual” were more likely to use CAM (OR=19.2, 1.8–96.0) compared to those who were “not at all spiritual.”

CONCLUSIONS: CAM varies greatly across Asian American subgroups. Acculturation and access to conventional medical care are only weak predictors of any CAM use for most Asian American subgroups, whereas spirituality is the strongest predictor of any CAM use. Clinicians and researchers need to understand the scope and rationale of use of CAM among Asian American subgroups in order to provide culturally-sensitive health care for the Asian American population.
METHODS: As part of a randomized controlled trial, we recruited patients from three primary care practices and one specialty practice at University of Colorado Hospital, an academic medical center. Patients with type 2 diabetes were identified using billing data. Patients were recruited by mail and at check-in to clinic visits. Enrolled patients were randomly allocated to the intervention group or the control group. The control group received electronic communication functions and generic information about diabetes care. The intervention group received the Diabetes STAR system and access to personalized results. We enrolled 328 patients (163 intervention, 165 control) into the clinical trial. The enrollee mean age was 59.2; 45% were female and 19% had safety-net insurance (e.g., Medicaid). The study population had a lower proportion of females (17% vs. the enrollment pool (54%), p = 0.0008), but the mean age (58.1) and proportion with safety-net insurance (22%) were not significantly different. While the same proportion of the intervention group (83%) as the control group (84%) logged in at least once, usage of Diabetes-STAR was substantial. Incorporating personalized results and 30% reviewed clinical notes.

RESULTS: 1,484 patients with type 2 diabetes were identified in the enrollment pool. We enrolled 328 patients (163 intervention, 165 control) into the clinical trial. The enrollee mean age was 59.2; 45% were female and 19% had safety-net insurance (e.g., Medicaid). The study population had a lower proportion of females (17% vs. the enrollment pool (54%), p = 0.0008), but the mean age (58.1) and proportion with safety-net insurance (22%) were not significantly different. While the same proportion of the intervention group (83%) as the control group (84%) logged in at least once, usage of Diabetes-STAR was substantial. Incorporating personalized results and 30% reviewed clinical notes.

METHODS: A focus group protocol was developed to query attitudes and beliefs about influenza, influenza vaccination, barriers to vaccination, past vaccination behavior, reasons for being vaccinated, experiences with the healthcare system, and knowledge about the “Tuskegee syphilis” study. A total of 48 participants participated in one of six focus groups conducted throughout Chicago. Each focus group lasted approximately 1.5. The focus group sessions were videotaped, transcribed, and were analyzed by three independent coders using latent content analysis and constant comparative analysis.

RESULTS: Participants’ mean age was 74.1 years (sd=6.6); 85% were female. Although 77% indicated that they had received a flu shot at least once during their lifetime from March indicated receiving a flu shot the previous year. Many participants believed that the vaccine actually gave them the flu. For some, the last influenza vaccination they received was the swine flu vaccine. Some participants were unaware that the current vaccine is not an updated version of the live influenza virus. Participants were generally aware that there are multiple strains of the virus. However, they did not recognize that the mutability of the virus required vaccine makers to change the composition of the vaccine yearly.

CONCLUSIONS: Overall, familiarity with influenza and the influenza vaccination appears to be fairly high, but a small number appear to have arisen from misinformation or a lack of updated information. Current messages aimed at increasing vaccination among African American seniors may not be addressing some of the key concerns of the community resulting in low vaccination rates. A better understanding of current knowledge, desired information, as well as identification of the incorrect information that has been distributed is critical in creating targeted messages to enhance vaccination among elderly African Americans.
BACKGROUND: Canada and the United States share the world’s longest undefended border, but their health care systems are vastly different in structure and costs. Comparisons of health care systems are typically compilations of survey respondents’ experiences or perceptions in their own countries. There are no reported head-to-head comparative assessments of health care in two countries by people who have experienced both. We sought to report the experiences and views of Americans living in Canada who have used both health care systems as adults.

METHODS: We chose a convenience sample of Americans who had been responsible for their own health care as adults for at least 2 years prior to coming to Canada, and who had been living in Canada for at least 2 but no more than 5 years. We developed and pre-tested a web-based survey to gather information on respondents’ demographics, reasons for moving to Canada, health status, use and personal costs of health care, assessments of the time-line and quality of care in several categories in both countries, and overall system preferences. We used 5 techniques to solicit responses: we held a live media conference, supplemented by a nation-wide release to announce the study; we nationally distributed an op-ed piece outlining the purpose of the study, advertised in 6 major urban newspapers, 2 with national circulation; we sent the survey to individuals and groups such as the American consulates, Democrats in Canada & Republicans in Canada, and asked respondents to forward the survey link on to friends and family. Simple descriptive statistics were used to describe the data.

RESULTS: Of 352 unique individuals logged on to the survey site. Of these 393 (86.9%) completed all or parts of it. The respondents were generally well educated and had high household incomes compared to the general Canadian population. Self-rated health was better than the general public in similar income categories. Almost all of the respondents (98%) were insured prior to coming to Canada, most through employer-sponsored plans purchased through for-profit insurers. Respondents rated the US system as better than the Canadian system in all categories, with the exception of access to drugs, and administrative complexity. The gaps were larger for timeliness than for quality of care, with over half of the respondents indicating that wait times to see a specialist and for high- demand diagnostic technologies were lower in the US. Interestingly, 44% rated the US as providing greater freedom to choose providers compared to 25% who rated the Canadian system as better. Respondents had particularly critical views of timeliness and availability of sophisticated services in Canada. Canada rated better only on the dimensions of access to drugs and timeliness. Incidence of delayed treatment vs. 36% for the US and the systems rated about equal in terms of cost relative to quality. For overall performance, 50% rated the Canadian system as good or excellent compared to 74% of the US respondents. There were no differences in patients’ sociodemographic characteristics between those who kept and missed their initial appointment. Patients were more likely to keep appointments made at the US drop-in center (66.9% vs. 29.9%, p<0.001) and follow-up appointments (35.3% vs. 13.7%, p<0.001). Patients were more likely to keep same day appointments compared to future appointments (59.9% vs. 24.2%, p<0.001). Additionally, patients were more likely to keep appointments when non-medical providers made the appointment (30.9% vs. 17.5%, p<0.001). CONCLUSIONS: In providing health care services to marginalized HIV-infected individuals, program characteristics, but not patient characteristics, were associated with a greater proportion of kept appointments. Specifically, kept appointments were more likely to occur at the CBO, with same day appointment availability as well as by non-medical providers. The delivery of medical care in addition to social services at the CBO offered a “one-stop shopping” model that addressed patients’ medical and non-medical needs, which was likely an important component of keeping appointments. Additional- ly, immediate access to health care through same day appointments was an important factor in keeping appointments for our sample. While further studies examining clinical outcomes of medical outreach programs are needed, findings of this study can help guide program development in the delivery of health care to marginalized populations.

AN IMPACT OF DIABETIC KETOACIDOSIS GUIDELINES IMPLEMENTATION ON RESIDENTS’ LEVEL OF KNOWLEDGE AND PATIENT CARE. N.B. Volokov1; M.W. Peterson1; 1University of California, San Francisco, CA. (Tracking ID # 150200)

BACKGROUND: Diabetic ketoacidosis (DKA) is an emergency medical condition that can be life-threatening if not managed properly. Appropriate evaluation and management of patients with DKA starts in the Emergency Room, continue through inpatient hospital stay, and end with a discharge plan. We designed DKA management guidelines based on the current American Diabetes Association recommendations. No previous studies have been done to demonstrate the effects of DKA guidelines on the residents’ knowledge, quality of patient care and financial impact on the inpatient service. Objectives: To evaluate the influence of the DKA guidelines on residents’ knowledge, quality of patient care and financial impact on the inpatient service.

METHODS: We conducted a cross-sectional study examining the clinical outcomes of all the residents’ DKA cases at the ICUs at our medical center during the implementation period. We included all of the residents’ DKA cases before and after implementation of the guidelines and compared the results using Chi Square tests for analysis of categorical variables and T tests for continuous variables.

RESULTS: Of the 465 residents’ DKA cases, 267 cases were implemented the guidelines and 198 cases were done without the guidelines. The residents’ knowledge and quality of patient care were improved significantly after implementation of the guidelines. Additionally, the hospital stay and hospital charges were decreased after implementation of the guidelines.

CONCLUSIONS: The implementation of DKA guidelines reduced the residents’ knowledge and quality of patient care. The financial impact of the implementation of DKA guidelines needs to be further evaluated.

AN EVALUATION OF APPOINTMENTS KEPT AT A HIV MEDICAL OUTREACH PROGRAM IN NEW YORK CITY. J.P. Sanchez1; D. Heller2; L.N. Sehler2; C.O. Cunningham2; 1Albert Einstein: College of Medicine, Bronx, NY; 2Citiwide Harm Reduction, Bronx, NY; 3Montefiore Medical Center/Albert Einstein College of Medicine, Bronx, NY. (Tracking ID # 150200)

BACKGROUND: Marginalized populations continue to be disproportionately affected by the HIV epidemic, yet have poor access to health care services. Numerous outreach programs have been developed to facilitate engagement into the health care system, but little is known about how well they perform. The objective of this study was to assess the impact of a medical outreach program that targets HIV-infected individuals living in single room occupancy (SRO) hotels in New York City. Specifically, we examined patients’ medical appointments made, kept appointments, and patient- and program-related factors that were associated with kept appointments.

METHODS: The HIV medical outreach program was a collaboration between an academic medical center and a community based organization (CBO) that provided HIV social services. The program provided medical care to HIV-infected SRO hotel residents by offering same day, drop-in center, or time zone hotel resident’s SRO hotel room or the CBO’s drop-in center. Data between October 2003 and October 2005 were extracted from the program database. We examined whether our main outcome, keep appointments, was associated with any of the following characteristics: location of care (SRO hotel room vs. CBO), who made the appointment (medical provider vs. non-medical provider), or wait time (number of days between the date the appointment was made and the date of the appointment). Because the number of days between the day the appointment was made and the day of the appointment was skewed, we used a Log transformation to normalize it. We used the median age (69), the incidence of zos and phn, and the zvac-attributable risk for the age 65 model, a zvac price of $100 actually makes the base model, we reduce the cost of zvac to $313 per unit, the CE meets the zvac effect was limited to 10 years, the base cost per QALY increases to $97,600.

Broad sensitivity analyses were performed.

METHODS: We performed decision analysis using Markov state models. The base model was derived from the Shingles Prevention Study and incorporated the median age (69), the incidence of zos and phn, and the zvac-attributable risk reductions reported. Health care use, health utility scores, and age-specific Zoster incidence rates were reported from the published literature. The resource costs were obtained from drugstore.com, hospitalizations from the National Inpatient Sample, and office visits from Medicare allowable charges. We assigned unit zvac cost of $500 based on dosage of the adult vaccine compared to known pediatric dosing and price. We used an annual utility discount rate of 3%. To Broad sensivity analyses were performed.

RESULTS: These data are reported from the societal perspective. The cost per QALY using the base model is $82,900 assuming lifetime zvac efficacy. When zvac efficacy was limited to 10 years, the base cost per QALY increases to $97,600. The model output is most sensitive to the cost of the vaccine, the incidence of zos, and the absolute risk reduction imparted by zvac. Because of high zos incidence coupled with maximal zvac efficacy, limiting the zvac strategy to a cohort of 65-year old patients resulted in improved CE ($85,800 per QALY). If, in the base model, we reduce the cost of zvac to $313 per unit, the CE meets the $60,000,000 willingness to pay threshold. For a base model, a zvac price of $100 actually makes the vaccination strategy dominant.

CONCLUSIONS: Zvac can effectively prevent the morbidity of zos and phn. However, the vaccine’s CE is dependent on many variables, especially the price of zvac and the age of those vaccinated. If the vaccine is priced responsibly, a large segment of the elderly population will benefit. Given catapulting health care costs and an aging society, the access, cost and quality-of-life issues related to mass vaccination for zos prevention are considerable.

AN ECONOMIC ANALYSIS OF THE SHINGLES PREVENTION STUDY: IS THE ZOSTER VACCINE COST EFFECTIVE? S. Qureshi1; T. Lane1; 1University of North Carolina at Chapel Hill, Chapel Hill, NC. (Tracking ID # 150242)

BACKGROUND: The Shingles Prevention Study Group recently reported the results of a large, randomized-controlled trial in which adults (median age - 69 years) were vaccinated with an attenuated varicella virus (zvac). The vaccination group developed shingles (zos) and postherpetic neuralgia (phn) much less frequently than the placebo group (relative risk reductions of 51% and 67 percent, respectively). As a result, we designed this analysis to estimate the cost-effectiveness (CE) of the zvac and to define the clinical circumstances and vaccine cost that would reach the societal criterion of $50,000 per quality-adjusted life year gained (QALY).

METHODS: We performed decision analysis using Markov state models. The base model was derived from the Shingles Prevention Study and incorporated the median age (69), the incidence of zos and phn, and the zvac-attributable risk reductions reported. Health care use, health utility scores, and age-specific Zoster incidence rates were reported from the published literature. The resource costs were obtained from drugstore.com, hospitalizations from the National Inpatient Sample, and office visits from Medicare allowable charges. We assigned unit zvac cost of $500 based on dosage of the adult vaccine compared to known pediatric dosing and price. We used an annual utility discount rate of 3%. To Broad sensivity analyses were performed.

RESULTS: These data are reported from the societal perspective. The cost per QALY using the base model is $82,900 assuming lifetime zvac efficacy. When zvac efficacy was limited to 10 years, the base cost per QALY increases to $97,600. The model output is most sensitive to the cost of the vaccine, the incidence of zos, and the absolute risk reduction imparted by zvac. Because of high zos incidence coupled with maximal zvac efficacy, limiting the zvac strategy to a cohort of 65-year old patients resulted in improved CE ($85,800 per QALY). If, in the base model, we reduce the cost of zvac to $313 per unit, the CE meets the $60,000,000 willingness to pay threshold. For a base model, a zvac price of $100 actually makes the vaccination strategy dominant.

CONCLUSIONS: Zvac can effectively prevent the morbidity of zos and phn. However, the vaccine’s CE is dependent on many variables, especially the price of zvac and the age of those vaccinated. If the vaccine is priced responsibly, a large segment of the elderly population will benefit. Given catapulting health care costs and an aging society, the access, cost and quality-of-life issues related to mass vaccination for zos prevention are considerable.
were compared to their personal baseline levels. All patients admitted during one calendar year were included in the study. Patients who were transferred from another hospital were excluded. Comparisons between two hospitals were done when each patient paper and electronic chart were reviewed to analyze the impact of the degree of compliance and influence on patient care cost before and after DKA guidelines introduction.

RESULTS: The total number of Internal Medicine residents tested before and after the DKA guidelines implementation was 37 and 65 respectively. Testing scores improved from 48% to 54% after implementation of the guidelines (P = 0.06). Individual test scores improved on average from 48% to 53% for second year residents (P = 0.05) and from 50% to 51% for third year residents (P = 0.12). The total number of patients was 178. Eight patients who started treatment at another facility, 7 patients who left hospital against medical advice, and 2 patients who died during hospitalization were removed from the study. Overall, the degree of compliance with current guidelines improved in both hospitals (49% before to 77% after at Community Medical Center (P < 0.05) versus 67% and 88% at University Medical Center (P = 0.05)). An increase in hospital charges without changes in the length of hospital stay was noted.

CONCLUSIONS: The Web-Based educational/assessment testing tool was effective, leading to improvement on average in the knowledge level by 9%. The introduction of DKA guidelines after web-based testing significantly improves care for patients with DKA. Web-based educational/assessment testing followed by DKA guidelines implementation can be utilized in any hospital striving to improve quality of care for DKA patients.

Table 1. ECG Utilization on the Medicine Services

|        | 2004 | 2005 |
|--------|------|------|
| Quarter 1 | 2341 | 2311 |
| Quarter 2 | 2350 | 2249 |
| Quarter 3 | 2172 | 1924 |
| Quarter 4 | 2208 | 1704 |

Table 2. ECG Utilization on the Surgical Services

|        | 2004 | 2005 |
|--------|------|------|
| Quarter 1 | 2888 | 448  |
| Quarter 2 | 3933 | 435  |
| Quarter 3 | 3677 | 388  |
| Quarter 4 | 3430 | 484  |
Preventable IV Adverse Drug Event Incidence Rates (Per 1000 Patient Days in Intensive Care) and Severity

| Severity Category | Control | Intervention | Unadjusted Mean Difference | Adjusted Mean Difference | Rate (N) | p-Value |
|-------------------|---------|--------------|---------------------------|--------------------------|----------|---------|
| Temporary physical injury, Rate (N) | 3.71 (38) | 3.30 (34) | -0.41 | 0.0 | 0.6190 | 0.40 | 0.6337 |
| Permanent physical injury, Rate (N) | 0.0 (0) | 0.0 (0) | 0.0000 | 0.0 | 0.0 | 1.0000 | n/a |

**Background:**
One in 200 outpatient prescriptions contain potentially harmful errors. Although harmful events are sometimes difficult to analyze, near misses allow for analysis in a blame-free, cooperative environment. We sought to develop a framework for such analyses.

**Methods:**
We conducted reports from a convenience sample of Internal Medicine and Family Medicine practices in Vermont. Nurses and office staff were asked to submit copies of all telephone notes or fax communications with community pharmacists about outpatient prescribing problems. We did not specify a standard reporting form. Our objectives were to (1) collect reports based on the messages already being collected in routine practice, and (2) to analyze the reports with a four-fold taxonomy. Reported events were assigned a severity category according to the National Coordinating Council for Medication Error Reporting and Prevention Index for Categorizing Medication Errors. They were assigned a location where the problem likely occurred, such as the provider office, pharmacy, or with the patient. Modes included omission, commission, no error, indeterminate, or not applicable. Landy, events were categorized according to the domain or part of the prescription where the error occurred, such as drug name, strength, route, dose, etc. A pharmacist and a physician independently classified each event using only information available in the reports. Most reports did not include reasons why events occurred. Categorization discrepancies were resolved through discussion until consensus was reached.

**Results:**
202 reports were submitted describing 217 events of which 184 were errors. 88% (161/184) of errors were severity B, errors that did not reach the patient. Nineteen errors (10%) reached the patient without causing harm (C); and 4 errors (2%) caused temporary harm requiring intervention (E). 91% of events originated within prescribers' offices. The most frequent mode of errors was commission (61%), of which 20% (22/112) were “illegible handwriting.” The remaining errors (72/184) were omissions. Errors involving strength were found in over 32% (70/217) of events, including 23 prescriptions written for strengths not commercially available.

**Conclusions:**
Commission errors and errors involving medication strength were dominant in this sample. This four-fold taxonomy for analyzing prescribing error reports (severity, location, mode, and domain) allowed frequent patterns of error to become visible.

**Antihypertensive Medication Class and Adverse Events in Patients with Peripheral Arterial Disease**

**Background:**
We sought to determine the association of antihypertensive medication class with longer-term bypass surgery (LEBS), hypoaemic amputation (LEA), or death following the diagnosis of peripheral arterial disease (PAD).

**Methods:**
We performed a retrospective cohort study of patients with PAD (defined by an ankle-brachial index [ABI] < 0.9 between 1995 and 1998) at one local VA hospital. We reviewed medical records and pharmacy data for risk factor control starting from 3 years prior to the ABI date until the first event or the end of the study (December 31, 2001). We determined the prevalence of each of the four major atherosclerotic risk factors (i.e., smoking, diabetes mellitus, hypertension, and hyperlipidemia) and the level of control of each risk within this cohort; level of control was defined as the total number of days of control divided by the total number of days of exposure. We defined medication exposure as the percent of days during which the medication was dispensed relative to the number of days it was prescribed. We categorized antihypertensive medication based on its mechanism of action (i.e., beta blockers, diuretics, calcium channel blockers, angiotensin converting enzyme inhibitor/receptor blockers [ACEI/ARBs], and other). Adjusting for sociodemographics and level of control of each risk factor, we determined the association between medication class and LEBS, LEA, or death using Cox proportional hazards models.

**Results:**
976 patients (mean age, 65 ± 9 years), 230 (28.9 percent exposed to an adverse limb event [LEBS, LEA, or death]) and 746 (71.1% of patients) died. The prevalence of statin use was 55%, with 92% on statin drugs. Certain antihypertensive classes were associated with lower risk for an adverse limb event included diuretics and calcium channel blockers (HR 0.5; 95% CI 0.3, 0.8). For death without a preceding limb event, the antihypertensive classes that were associated with this outcome included beta blockers (HR 0.5; 95% CI 0.4, 0.7), and ACE/ARBs (HR 0.6; 95% CI 0.5, 0.8). For all deaths combined, the antihypertensive medication classes associated with this event included beta blockers (HR 0.5; 95% CI 0.4, 0.7) and ACE/ARBs (0.7; 95% CI 0.5, 0.8).

**Conclusions:**
Hypertension is a common coexisting illness among patients with PAD. After adjustment for race, PAD severity, and level of atherosclerotic risk factor control, classes of antihypertensives that were associated with a lower risk for an adverse limb event included diuretics and calcium channel blockers. Beta blockers and ACE-ERAs were associated with higher risk for mortality in patients with PAD. Prospective data is needed to better define the role of various antihypertensive regimens to reduce adverse events in studies focused on patients with PAD, a common condition in the primary care setting.

**Antiretroviral Medication Errors in Hospitalized HIV-Infected Patients**

**Background:**
Highly-active antiretroviral therapy (HAART) has significantly reduced morbidity and mortality from HIV infection. However, effective therapy requires high levels of adherence over extended periods of time. Hospitalization is a time when HIV-infected patients may be at risk for discontinuity or errors in their antiretroviral therapy. The objective of this study was to quantify and characterize antiretroviral medication errors in our hospital.

**Methods:**
We identified all admissions over a one-year period in which a patient was prescribed antiretroviral medication using the computerized provi-
der order entry (CPOE) system. The patient’s medication list and renal function were reviewed to identify potential antiretroviral medication errors. Errors were defined using US Department of Health and Human Services guidelines and categorized in the following fashion: 1) unanticipated delay in continuing the patient HAART (more than 24 hours after admission), 2) inadequate regimen (two or fewer active agents), 3) incorrect dose or frequency, including failure to appropriately adjust for renal insufficiency, 4) contraindicated combination of medications. The medical records for all admissions with a potential error were then reviewed, as well as outpatient records (when available), to determine any possible rationale for apparent errors in therapy, such as correspondence with the outpatient regimen or withholding therapy because of possible drug toxicity. We also looked for evidence of potential adverse drug reactions when patients received an excessive dose or a contraindicated combination.

RESULTS: Over a one-year period, 209 admissions were identified in which an HIV-infected patient was prescribed antiretroviral medication. On initial review of medication records, 89 potential errors were identified in 77 admissions. After review of medical records, 28 of these were not included, either because the error was corrected within 24 hours, there was justification for withholding therapy, or because an inadequate regimen corresponded with their outpatient treatment. There were 61 uncorrected errors in 54 admissions (25.8% of total admissions). An error of dosage or frequency was the most common type and occurred in 34 (16.3%) of the admissions; 18 of these were due to failure to appropriately adjust dosage for renal insufficiency. Combining antiretrovirals with a contraindicated medication occurred in 12 (5.2%) of the admissions; 6 were due to combination of of stavudine and a protease inhibitor, the other 6 were due to combination of proton pump inhibitor with atazanavir. Patients erroneously received three or fewer antiretroviral agents in 8 (3.6%) of the admissions and had unexplained delays in treatment, age in 7 (3.3%). One potential adverse drug reaction was identified in a patient on lopinavir/ritonavir who was prescribed stavudine and had increased liver enzymes. Still the stavudine was stopped, after which the liver enzymes returned to previous levels.

CONCLUSIONS: Among HIV-infected patients who received antiretroviral therapy, we found errors in the prescribing of antiretroviral medications in approximately 25.8% of admissions. More needs to be done to develop systems that will prevent such errors and ensure optimal care for hospitalized patients with HIV infection.

ANTIRETROVIRAL MEDICATIONS ASSOCIATED WITH ELEVATED BLOOD PRESSURE AMONG PATIENTS RECEIVING HAART, H. Crane1; S. Van Rompaey1; M.M. N. Rodondi1; B.C. Taylor2; D.C. Bauer3; L. Lui3; Kitahata1.

BACKGROUND: Antiretroviral therapy may affect blood pressure (BP) and cardiovascular risk and to better target therapies in the primary prevention of CVD, we conducted this study to determine the effect of antiretroviral agents and clinical factors on the development of elevated BP.

METHODS: Observational cohort study of patients initiating their 1st highly active antiretroviral therapy (HAART) regimen. We evaluated mean BP prior to HAART initiation (baseline) and while receiving HAART in relation to antiretroviral classes and individual agents, body mass index (BMI) at baseline, change in BMI at baseline, change in last 6 months, change in BMI at last visit or at the time of last laboratory visit, age in 7 (3.3%). One potential adverse drug reaction was identified in a patient on lopinavir/ritonavir who was prescribed stavudine and had increased liver enzymes. Still the stavudine was stopped, after which the liver enzymes returned to previous levels.

RESULTS: Among 444 patients who had 4,592 BP readings, 95 patients developed elevated BP (OR 2.5, p=0.03), or a new diagnosis of hypertension (N=11) after initiating HAART. In multivariate analysis we found that patients on lopinavir/ritonavir had the highest risk of developing elevated BP (OR 2.5, p=0.03) compared with efavirenz-based regimens. When change in BMI was added to the model, increased BMI was significantly associated with Elevated BP (OR 1.3, p=0.02), and the association between lopinavir/ritonavir and Elevated BP was no longer apparent. Compared with lopinavir/ritonavir-based regimens, patients receiving efavirenz (OR 0.2, p=0.03), efavirenz (OR 0.4, p=0.02), nevirapine (OR 0.3, p=0.02) and indinavir (OR 0.3, p=0.01) had significantly lower odds of developing Elevated BP. When we included nucleoside reverse transcriptase inhibitors in the adjusted model, we found that tenofovir/lamivudine was significantly associated with elevated BP (OR=2.3, p=0.046) compared with zidovudine/lamivudine.

CONCLUSIONS: Treatment with lopinavir/ritonavir is significantly associated with elevated BP, when compared with other HAART regimens as well as in patients receiving efavirenz. These findings are consistent with previous studies. The impact of antiretroviral medications on cardiovascular disease risk factor changes will increasingly influence treatment decisions.
ARE EARLY ADOPTERS OF A WEB-BASED PATIENT PORTAL MORE ACTIVATED THAN MATCHED CONTROLS? N. R. Shaw1; J. B. Jones2; Z. Daar2; W. F. Stewart2. 

BACKGROUND: Web-based e-portals can provide access to an institutional electronic medical record, allowing patients to view test results, schedule appointments, request prescription refills, view visit notes, communicate electronically with their providers, and possibly serve as a platform to deliver personalized behavioral interventions. Growing interest and research on the impact of e-portal usage on patient self-efficacy raises questions on whether and how e-portal users differ from their peers who do not use e-portals. We compared e-portal users and non-users, specifically focusing on patients with chronic conditions.

METHODS: Participants comprised patients who had a diagnosis of diabetes mellitus, congestive heart failure, chronic obstructive pulmonary disease, or chronic kidney disease. Survey data were collected from a large academic health care physician in one of the Geisinger Clinic’s 41 community practice sites (all use an electronic health record). A random sample of 300 e-portal users meeting the above criteria was selected along with 129 matched control patients (i.e., matched on age, sex, chronic disease diagnosis, and clinic). Participants completed an initial phone survey and a follow-up mail questionnaire. The phone interview assessed decision-making preferences, information-seeking activities, medication adherence, patient activation, and other factors potentially related to e-portal use. The mail questionnaire was used to collect additional data on patient characteristics, physical activity, and use of the internet for health-related purposes. Patient activation was assessed using the 13-item Patient Activation Measure (PAM). Survey data were analyzed to measure the extent to which a patient has the knowledge, skills, and confidence to self-manage their health and chronic condition.

RESULTS: Patient portal use was significantly associated with gender, income, and education; portal users were more likely to be male, have more education, and report a higher annual income. The overall mean PAM score was 62, suggesting that these e-portal users are already moderately active in their health care. Additional conditions for analysis were the presence of multiple chronic conditions and using their preferred e-portal to access the portal. After adjusting for potential confounders, portal users were more likely to have higher activation scores, but this association did not achieve statistical significance. When patients were classified according to their stage of activation, there were statistically significant differences between e-portal users: users were more likely to be classified as Stage 4, the highest level of activation. E-portal users were significantly more likely to report high levels of confidence in their ability to complete medical forms and report high levels of internet use for carrying out health-related activities. Self-reported medical adherence was higher among e-portal patients. There were no between-group differences in preferences for involvement in medical decision-making or in self-reported physical activity.

CONCLUSIONS: E-portal use is associated with male gender, higher education and income, and use of the internet for health-related activities. This profile may reflect the early-adopter status or simply characterize differences in technology, comfort with internet use, or other factors related to care preferences. E-portal users showed a trend toward greater patient activation. Findings from eHealth studies may have limited generalizability due to this “volunteer” effect and future studies should attempt to quantity these differences in meaningful ways.

ARE HOSPITAL CHARACTERISTICS ASSOCIATED WITH RACIAL DISPARITIES IN RISK-ADJUSTED MORTALITY FROM GASTROINTESTINAL HEMORRHAGE? Pippins1; G. Fitzmaurice 1; J. S. Haas 1. Brigham and Women’s Hospital, Boston, MA.

METHODS: A sample of hospitals (324 for the black-white comparison and 233 for the Hispanic-white comparison) drawn from the 2003 Nationwide Inpatient Sample (NIS). Hospitals were eligible for inclusion if they were located in one of three racial groups (black, Hispanic, and white). Risk-adjusted mortality rates for the Hispanic-white comparison were calculated for each hospital, stratified by race. Black-white and Hispanic-white disparities were examined, with the goal of determining whether racial disparities exist between blacks or Hispanics when compared to whites, and if so, whether the magnitude of disparity is associated with hospital characteristics.

RESULTS: One hundred and fifty-two residents completed the survey, which represents 31% of the 488 residents in these programs. Residents were well distributed by gender (43% female, 57% male), post-graduate year (42% PGY 1, 31% PGY 2, 23% PGY 3 or 4), and intended area of practice (30% general medicine, 56% subspecialty, 13% transitional/other). Of the 95% who reported caring for women of reproductive age, 51% reported formal training in contraception. Few residents reported routine provision of contraceptive counseling (17% routinely, 42% sometimes, 32% rarely, and 9% never). Routine counseling was not associated with gender, PGY, intended area of practice, or training in family planning during residency. However, women with higher income (OR 2.50, 95% CI 1.02–6.17) were more likely to report a preference for contraceptive counseling (P = 0.04). Of the 56% who reported a desire to obtain more contraceptive counseling, 36% indicated that providers were not giving them sufficient information.

CONCLUSIONS: Internal medicine residents who commonly care for women of reproductive age infrequently assess or address contraceptive needs. Few residents feel comfortable counseling about the safest and most effective methods of contraception for women with medical problems. Further training in contraceptive counseling and provision is needed and desired by many internal medicine residents.

ARE INTERNS PREPARED TO RECOGNIZE OPPORTUNITIES TO IMPROVE PATIENT CARE? ANALYSIS OF A PRACTICE BASED IMPROVEMENT LOG AT THE START OF RESIDENCY E. Krause1; J. C. Kolans1; K. Thomas1; Mayo Clinic, Rochester, MN.

BACKGROUND: Since the release of the Institute of Medicine report To Err is Human, there has been increased emphasis on quality of care and patient safety in the healthcare environment. Consistent with these tenets, quality improvement is central to the Systems Based Practice (SBP) and Practice Based Learning and Improvement (PBLI) competencies which have been endorsed by the Accreditation Council for Graduate Medical Education as essential to residency education. As a consequence, residents are often asked to record information in a log related to their experiences and opportunities to improve patient care. The purpose of this study was to analyze whether residents are able to identify and record opportunities to improve patient care. To accomplish this, we analyzed the residents’ practice based improvement logs from the first year of residency.

RESULTS: One hundred and twenty-three residents were included in this study. Of these, 92% reported at least one opportunity to improve patient care. The most common types of opportunities identified by residents were patient safety (36%), communication (28%), and patient adherence (26%). The majority of residents (78%) reported evaluation or recognition of their patient care activities. The majority of residents (73%) reported that their log helped them recognize improvement opportunities, a necessary first-step for institutional recognition of improvement opportunities.

CONCLUSIONS: Residents should be encouraged to use logs and recognize opportunities to improve patient care. Faculty should provide guidance and feedback to residents on how to improve patient care and follow-up with residents on opportunities they have identified. Future research should be performed to determine how often residents act on these opportunities to improve patient care.
provided reflection on personal practice or health care systems changes that could prevent recurrence. Residents were also asked to identify and quantify potential contributing personal, team, and system factors. The PBIL was distributed to first-year internal medicine residents from 1995-2005 and evaluated by the attending physician at the time of the consultation. RESULTS: Seventy-three of 75 (97%) residents completed this log. Ninety-seven percent of residents reflected on the described events occurred in the inpatient setting. Resident reflections classified 34% of events as moderately-severe or severe and another 12% of events resulted in patient death. Ninety-three percent of events were considered preventable and the largest error type in all events was attributed to system factors (41%) and team factors (22%), with 8% and 12% assigned to systems or institutional factors, respectively. Faculty review of the reported events further categorized multiple contributing system problems ranging from non-adherence to or absence of standard protocol, errors in medication administration or reconciliation, insufficient information technology, poor response to early warn signs, and inadequate technology or equipment.

CONCLUSIONS: Residents are able to identify significant opportunities for healthcare improvement. This suggests an opportunity for academic health centers to capitalize on resident identified improvement opportunities by in- volving academic professionals in quality improvement process. In doing so, academic centers will be better able to recognize systems level changes for improved patient care. Work is currently underway at our institution to periodically capture data regarding resident identified events with the intention of aligning with our local quality and safety leadership to identify and implement systems level changes that will improve patient safety.

ARE WE ADEQUATELY TRAINING INTERNAL MEDICINE RESIDENTS IN GERIATRICS? RESULTS OF A BASELINE SURVEY. H.S. Kao1; B. Johnston1; S. Lai1; J. Koehlman2. 1Medicine Service, San Francisco General Hospital; 2Department of Medine, University of California, San Francisco.

BACKGROUND: By 2030, 20% of the US population will be over 65 years old. The aging of the US population, there is a growing need for internists who are competent in caring for older patients. The Accreditation Council for Graduate Medical Education (ACGME) has mandated resident training in geriatric care since 1998. Our study evaluated how knowledgeable and competent UCSF Internal Medicine residents were with geriatric care prior to implementation of an expanded training curriculum. A secondary goal was to see whether resident confidence in their competence translated to overall confidence in geriatric skills.

METHODS: A survey of internal medicine residents was conducted at UCSF in January 2004. Residents ranked their interest in geriatrics (1—not at all interested, 5—very interested) and resident confidence in thirteen geriatric topics (1—not confident, 5—very confident). A ten question knowledge test was adapted from the UCLA Geriatric Attitudes and Knowledge Assessments. Participants were anonymous but were asked to indicate year of training and program (primary care or categorical). Statistical analysis was performed on Epil Info 6.0. Comparisons in confidence and knowledge levels among groups were carried out by Mann-Whitney U Test.

RESULTS: The response rate was 65 percent (106 of 164 residents). Mean interest in geriatrics did not differ by training year. However, primary care residents had significantly more interest in geriatrics than categorical residents (3.40 vs. 2.67, P = 0.0014). The greatest confidence score possible was 65 (rating a 5 on all 13 topics). Mean resident confidence was 39 (range 25–57). There was no difference in confidence between categorical and primary care residents. Confidence in geriatric care rose significantly by year: 35.1 PGY1, 39.1 PGY2, 43.8 PGY3 (PGY1-PGY2 P = 0.0014, PGY1-PGY3 P = 0.0128) On average, residents ranked confidence highest (43.8 PGY3) on geriatric issues and lowest (35.1 PGY1) on geriatric issues seen more commonly in the inpatient setting: delirium, end-of-life care, and hospitalization. Confidence was poorest (35.1 PGY1) on geriatric issues seen more commonly in the inpatient setting: delirium, end-of-life care, and hospitalization. Confidence was poorest (35.1 PGY1) on geriatric issues seen more commonly in the inpatient setting: delirium, end-of-life care, and hospitalization. Confidence translation into overall competence in geriatric skills.

CONCLUSIONS: By 2030, 20% of the US population will be over 65 years old. The aging of the US population, there is a growing need for internists who are competent in caring for older patients. The Accreditation Council for Graduate Medical Education (ACGME) has mandated resident training in geriatric care since 1998.

ASSESSING LIFESTYLE AND SELF-MANAGEMENT PRACTICES AMONG VETERANS WITH DIABETES AND POOR GLYCEMIC CONTROL. K. Nelson1; L. McFarland1; G.E. Reiber1; A. Khan 1; S.D. Navaneethan1; A. Nautiyal 1; R. Shrivastava1. 1University of Washington, VA Puget Sound, Seattle, WA; 2VA Puget Sound Health Care System, Seattle, WA.

BACKGROUND: Optimal management of type 2 diabetes requires many lifestyle modifications, including medication adherence, diet, and physical activity, which are critical to improve glycemict control. In national data, the majority of U.S. adults with type 2 diabetes do not follow recommended guidelines for diet and exercise. Although this data did not specifically address the physical activity and dietary practices of veterans. The purpose of this study is to assess self-management practices among veterans with poor glycemic control and identify issues for future diabetes inpatient care planning.

METHODS: Surveys were mailed to veterans with a Hemoglobin A1c of 8% or greater who had attended one of two VA Medical Centers in Washington State. Validated survey instruments assessed physical activity, medication adherence, nutrition, and other diabetes self-care practices. RESULTS: Of 1,287 potential respondents, 718 completed surveys (response rate 56%). The mean HbA1c was 9.4%. The mean age of respondents was 62 years; 96% were men and 20% were smokers. These veterans had significant comorbidity with 24% reporting a history of myocardial infarction, 26% lung disease, and 19% congestive heart failure. Over half reported fair or poor health. Twenty four percent of respondents forgot to take their medications one day per week and 21% reported non-adherence 2 or more days per week. Thirteen percent had undergone basic necessities and 10% reduced medications due to cost. One-third of respondents did not follow a meal plan and 42% reported a high fat diet. Levels of physical activity were reported as light (33%), moderate (16%) and vigorous (12%). Almost all (92%) monitored their blood glucose at least once a week. In multivariate linear regression analysis, independent predictors for lower Hba1c level included medication adherence, following a meal plan, and level of physical activity. Home glucose monitoring was not independently associated with Hba1c level.

CONCLUSIONS: Diabetes interventions should be tailored to address self-management areas including medication adherence, nutrition, and physical activity.
complicated by diverse views concerning opiate use at the end of life. In order to improve management of patients with symptoms near death, we instituted an End of Life Symptom Management Order sheet (ESMO) to guide the use of unrestricted opiates and other modalities to provide palliation. We evaluated the use of this intervention by asking clinicians employing the ESMO about problems in symptom control toward the end of life.

METHODS: For each ESMO submitted to the hospital pharmacy, we approached the primary physician or other physician directly responsible for the patient’s care to administer a brief survey about symptom control. The survey asked about discussions leading up to the decision to use the ESMO, difficulties in dosing opiates and achieving symptom control, concerns about the use of unrestricted opiates, and the value of the ESMO.

RESULTS: Fifty three patients were treated using the ESMO over 135 days, yielding an incidence of approximately 12 per month. Of these 93 patients, 51 (96%) died prior to discharge. This accounts for 19% of the inpatient deaths at the facility. We were able to survey nurses and physicians for 44 of these patients (86% response rate). Nearly all physicians and nurses found the ESMO to be valuable in their patient’s care and most health care providers felt that unrestricted opiates were appropriately titrated to patient comfort. However, 11% gauged the opiate dosing to be too low to ameliorate symptoms for their patient’s care.

CONCLUSIONS: Among patients with low health literacy, the provision of food pyramids should include alternative formats that are literacy-centric. Our study suggests that future education programs should be aware that many people have low health literacy and tools that require interpretation may be a barrier to those with limited health literacy. Our study suggests that future education programs should be aware that many people have low health literacy and tools that require interpretation may be a barrier to those with limited health literacy.
enrollment. Demographics, literacy, cardiovascular risk factors, and number of prescribed antihypertensives were also assessed at enrollment. Literacy was measured with the Rapid Estimate of Adult Literacy in Medicine (REALM) and categorized as inadequate (< 6th grade reading level, REALM score 45–66). Hypertension was defined as systolic blood pressure ≥ 130 and diastolic blood pressure ≥ 80. Subjects with both a systolic blood pressure ≥ 140 and diastolic blood pressure ≥ 90 were considered controlled. In bivariate analyses, older age and female gender were associated with hypertension control. Multivariable logistic regression models examined independent predictors of hypertension control. RESULTS: Among the 435 patients in the trial, 429 had a diagnosis of hypertension, and 423 (96.6%) of these had blood pressure data available. The mean age was 57.9, and 56% were women. Among patients with diabetes, 273 (56.2%) were women, 98.4% were Black, and 45.5% had diabetes. On the REALM, 45.2% scored in the inadequate range. The mean blood pressure of the cohort was 135.7/75.0, and the mean number of antihypertensives was 3. About half (48.8%) of patients were at blood pressure goal and were considered controlled. In bivariate analyses, older age and female gender were associated with significantly lower DBP (p < 0.001). Subjects with lower literacy tended to have lower SBP (mean difference = 3.5 mmHg, p = 0.08), and they were significantly more likely to have controlled hypertension if their REALM score was ≥ 6th grade (51.1% vs. 40.6% of those with inadequate literacy, p < 0.05). Independent predictors of hypertension control in multivariable models were higher literacy (OR = 1.55, 95% CI = 1.05–2.29) and number of antihypertensives (OR = 0.84 per medication, 95% CI = 0.71–1.00). CONCLUSIONS: To our knowledge, this is the first study to demonstrate a significant association between literacy and hypertension control. Patients with a REALM score ≥ 6th grade had approximately 1.8 times the odds of controlled hypertension, compared to patients with inadequate literacy. Further work is needed to examine potential reasons for this disparity and strategies to improve blood pressure control in this high-risk population.

ASSOCIATION BETWEEN SELF-EFFICACY AND DEPRESSIVE SYMPTOMS AMONG PATIENTS WITH DIABETES
A. Cherrington1; K.A. Wallston2; D. Davis2; R. Gregory2; A.J. Auerbach2; P. Kaboli3; J.L. Schnipper4; T.B. Wetterneck5; D.V. Gonzales6; V. Arora7; J.X. Williams7; D. Bonds 9.

BACKGROUND: Depression affects 15–30% of all adults with diabetes and is associated with worse outcomes. Low self-efficacy has been proposed to contribute to increased depressive symptoms among patients with diabetes; however, studies examining this association are conflicting. This study examined the association between diabetes self-efficacy and depressive symptoms.

METHODS: We performed a cross-sectional study of patients with type 2 diabetes recruited from primary care clinics at two academic medical centers. We used the Perceived Diabetes Self Management Scale (PDSSM) as our measure of self-efficacy and the Center for Epidemiologic Studies Depression scale (CESD) as a measure of depressive symptoms. We evaluated the association between self-efficacy and depressive symptoms using Pearson’s Correlation and then conducted multiple regression to further examine the relationship while adjusting for covariates.

RESULTS: 162 patients completed questionnaires. Mean age was 56.0 years, 60% were women, and 44% were African American. Mean score on the PDSSM was 71.4 out of 100, and mean score on the CES-D was 13.8 (range 0–53, SD 7.7). Subjects who reported a high school education, and 38% had < 6th grade literacy level. Mean score on the PDSSM was 28 (range 8–40, SD 6.7) and the mean score on the CES-D was 15.8 (range 0–50, SD 11.4). Lower perceived self-efficacy (PDSSM) was significantly correlated with depressive symptoms (r = −0.14, p = 0.0014). Perceived self-efficacy remained significantly associated with depressive symptoms (r = 0.30, 95% CI = 0.57, −0.04) after adjusting for age, gender, race, literacy level and with diabetes.

CONCLUSIONS: Low perception of diabetes self-efficacy is associated with increased depressive symptoms. Future studies need to prospectively examine the relationship between self-efficacy and depression to evaluate a possible causal relationship.

ASSOCIATION OF DEPRESSIVE SYMPTOMS AND CANCER SCREENING IN POST-MENOPAUSAL WOMEN: THE WOMEN’S HEALTH INITIATIVE, A. Apgar1; K. Freipool; A. Sato1; B. Wallace1; A.M. Lopez2; J.K. Ockene1; L.L. Adams-Campbell1; L.S. Lesnaj2; C. Williams1; D. Bonds 9; Veterans Health Administration, Jamaica Plain, MA; Boston University School of Medicine, Boston, MA; Fred Hutchinson Cancer Research Center, Seattle, WA; University of Iowa, Iowa City, IA; Arizona State University, Phoenix, AZ; University of Massachusetts Medical School (Worcester), Worcester, MA; Howard University, Washington, DC; WOngton Cancer Institute, Washington, DC; Wake Forest University, Winston-Salem, NC.

BACKGROUND: Women with depressive symptoms may have lower utilization of preventive services and poorer health outcomes. We investigated the association of depressive symptoms on cancer screening rates and stage of cancer among a cohort of post-menopausal women.

METHODS: 93,676 women in The Women’s Health Initiative Observational Study were followed on average for 7.6 years. Women with a history of cancer other than non-melanoma skin cancer, dementia, stroke, heart disease, stroke, alcohol or drug abuse were excluded. Depressive symptoms were measured at baseline and at 3 years using a 6-item scale from the Center for Epidemiologic Studies Depression scale (CES-D). Women with breast cancer were excluded. Any negative mammogram within 12 months. Current colorectal screening was defined as annual fecal occult blood test (FOBT) or lower endoscopy or barium enema within last 5 years. Breast and colorectal cancers were staged based on Surveillance, Epidemiology and End Results (SEER) classification. We calculated a screening rate expressed as a proportion of the years that women were current with recommended screening over years in the study. The association between baseline depressive symptoms and a woman’s average breast or colorectal cancer screening rate was estimated using linear regression, adjusting for demographic characteristics and cancer risk factors. The association between baseline depressive symptoms and stage at cancer diagnosis among women diagnosed with breast or colorectal cancer was estimated using logistic regression, also adjusting for relevant demographic characteristics and cancer risk factors.

RESULTS: 15.8% (12,621) women were positive for depressive symptoms at baseline and 6.8% (4777) were positive at both baseline screening and at 3 years. The average screening rate was 71% for breast cancer and 53% for colorectal cancer. The breast cancer screening rate was 2.3% (1.7%, 3.4%) less among women who reported depressive symptoms at baseline than those who did not. The breast cancer-screening rate was 2.5% (1.7%, 3.4%) less among women who reported depressive symptoms both at baseline and at 3 years, than women who did not report depressive symptoms at either time point. Women who were White, had lower educational attainment, lower household income, had no health insurance, reported no alcohol consumption, no hormone replacement therapy use and had no first-degree relative with breast cancer had lower breast cancer screening rates. Depressive symptoms were not a predictor for colorectal cancer screening. Lower rates of colorectal cancer screening were associated with the Black race, lower educational attainment, household income, no health insurance, and no first-degree relative with colorectal cancer. Stage of breast and colorectal cancers was not found to be associated with depressive symptoms after adjusting for age, body mass index, income, insurance, and physical activity risk factors.

CONCLUSIONS: Among a healthy and self-motivated cohort of women, self-reported depressive symptoms were associated with slightly lower rates of screening mammography but not colorectal cancer screening.
ASSOCIATION OF NONSTEROIDAL ANTI-INFLAMMATORY DRUGS AND SUBSITE-SPECIFIC COLORECTAL CANCER: A. Mahipal1; K. Anderson2; A.R. Folsom2; P. Anderson1.

BACKGROUND: Previous epidemiological studies have shown that regular use of nonsteroidal anti-inflammatory drugs (NSAIDs) is associated with decreased colorectal cancer (CRC) risk. However, few studies have examined associations between NSAID use and subsite-specific CRC risks. Because tumors of the proximal and distal colon differ with respect to their genetic alterations, clinico-pathologic features and demographic distribution, further investigation of subsite-specific CRC risks may be rewarding.

METHODS: In 1986, a 16-page questionnaire was mailed out to 99,826 randomly sampled women, between the ages of 55 and 69 years, who resided in Iowa and held a valid driver’s license. The baseline questionnaire was completed by 41,836 women (42%) and they constituted the Iowa Women’s Health Study (IWHS) cohort. Nonresponders to the initial questionnaire had similar demographic characteristics and CRC incidence rates as initial respondents. Data regarding aspirin and nonaspirin-NSAID use were recorded by self-report in 1992 (n=27,160). All analyses were performed using SAS statistical software (SAS Institute Inc, Cary, NC). Proportional hazard regression analyses (SAS: PROC PHREG) were used to estimate the age-adjusted and multivariable-adjusted hazard ratios (HR) and 95% confidence intervals (CI). Adjustment was made for age, body mass index, waist:hip ratio, calcium intake, multivitamin use, estrogen use, family history of colon cancer, physical activity and smoking status. RESULTS: In total, 637 women developed CRC during the 11 years of follow-up, including 365 proximal colon, 132 distal colon and 120 rectal cancer cases (11 overlapping and 9 not specified). For colon cancer, the multivariable-adjusted HRs for women reporting use of aspirin two to five times and six or more times per week compared to nonusers of aspirin) were 0.79 (95% CI, 0.59–1.04) and 0.76 (95% CI, 0.58–1.00) respectively. The corresponding HRs for nonaspirin NSAID use were 0.63 (95% CI, 0.41–0.96) and 0.85 (95% CI, 0.63–1.15) respectively. For proximal colon cancer, the multivariable-adjusted HRs for women reporting use of aspirin or nonaspirin-NSAIDs two or more times per week were 0.67 (95% CI: 0.51–0.87) and 0.71 (95% CI: 0.52–0.97) respectively. Neither distal colon nor rectal cancer was significantly associated with aspirin or nonaspirin NSAID use.

CONCLUSIONS: The strengths of our study were the large cohort, long follow-up and thorough case ascertainment. The response rates to the follow-up questionnaires were excellent. Information was also collected to enable adjustment for several potential confounders. Our study is consistent with a limited number of prior reports that have observed stronger associations between NSAID use and proximal versus distal CRC. Observational data strongly supports protective vs. adverse associations between NSAIDs and colorectal cancer. However, tumors originating in proximal and distal colon appear to have distinct pathogenetic mechanisms and NSAID use may differentially affect carcinogenesis in these CRC subsites. Additional clinical trials are needed to establish the role of NSAIDs in CRC chemoprevention and to further determine whether the association varies according to CRC subsite.

ASSOCIATION OF PERIOPERATIVE STATINS AND BETA-BLOCKERS WITH LONG TERM MORTALITY AFTER VASCULAR SURGERY: T.W. Barnett1; M. Mor2; D. De Boer3.1 Portland VA Medical Center/Oregon Health & Science University, Portland, OR; 2Oregon Health and Science University, Portland, OR; (Tracking ID: 159688)

BACKGROUND: The use of medicines to improve outcomes after surgery has increased as the use of perioperative beta-blockers. Recent studies have shown promising preliminary results suggesting perioperative statins, which have not been shown to reduce the mortality rate after vascular surgery between January 1998 and March 2005. The patients were randomly selected women, between the ages of 55 and 69 years, who resided in Iowa and held a valid driver’s license. The baseline questionnaire was completed by 41,836 women (42%) and they constituted the Iowa Women’s Health Study (IWHS) cohort. Nonresponders to the initial questionnaire had similar demographic characteristics and CRC incidence rates as initial respondents. Data regarding aspirin and nonaspirin-NSAID use were recorded by self-report in 1992 (n=27,160). All analyses were performed using SAS statistical software (SAS Institute Inc, Cary, NC). Proportional hazard regression analyses (SAS: PROC PHREG) were used to estimate the age-adjusted and multivariable-adjusted hazard ratios (HR) and 95% confidence intervals (CI). Adjustment was made for age, body mass index, waist:hip ratio, calcium intake, multivitamin use, estrogen use, family history of colon cancer, physical activity and smoking status. RESULTS: In total, 637 women developed CRC during the 11 years of follow-up, including 365 proximal colon, 132 distal colon and 120 rectal cancer cases (11 overlapping and 9 not specified). For colon cancer, the multivariable-adjusted HRs for women reporting use of aspirin two to five times and six or more times per week compared to nonusers of aspirin) were 0.79 (95% CI, 0.59–1.04) and 0.76 (95% CI, 0.58–1.00) respectively. The corresponding HRs for nonaspirin NSAID use were 0.63 (95% CI, 0.41–0.96) and 0.85 (95% CI, 0.63–1.15) respectively. For proximal colon cancer, the multivariable-adjusted HRs for women reporting use of aspirin or nonaspirin-NSAIDs two or more times per week were 0.67 (95% CI: 0.51–0.87) and 0.71 (95% CI: 0.52–0.97) respectively. Neither distal colon nor rectal cancer was significantly associated with aspirin or nonaspirin NSAID use.

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although the latter was high for all smokers. The lightest smokers reported more than they have never tried seriously to quit, but there was a trend towards good implementation of smoke-free hospitals, although overall rates were low. There was no difference between smokers’ opinions that a reduced amount of smoking is less harmful to health.

CONCLUSIONS: Light and intermittent smokers are more susceptible to social pressures of smoking, and better smoke-free hospitals may have helped reduce their consumption, rather than concern over health harms. Moderate and heavy daily smokers demonstrate greater addiction to smoking. Standard cessation strategies involving pharmacotherapy may not help half of these smokers, but reversing the social acceptability of smoking through enforcing smoke-free environments is needed. (Funded by NIH Fogarty grant RO1 TW05938-01.)
reported “don’t know.” For all risks, the computer program detected more risky behaviors than the providers anticipated. In interviews, most patients said that their providers should inquire about these risky behaviors, and 97% reported at least some level of deviation with their providers. There were no significant differences between patients’ “self-deception” and trust-in-provider scores and their risk profiles.

CONCLUSIONS: The Positive Choice program is highly acceptable to both patients and providers, and results in greater detection of risky behaviors than screening by providers alone. Sexual risks were identified more frequently by the program, suggesting the difficulty of communicating about sexual risks or that sexual risks may be perceived as a lesser threat compared to other risky behaviors. The programs help providers identify and discuss these risky behaviors with their health, and welcomed discussions with their provider. Multi-media applications, such as the Positive Choice program, are an appropriate adjunct to providers’ efforts to screen and counsel patients about behavioral risks.

AWARENESS OF HEPATITIS C DIAGNOSIS IS ASSOCIATED WITH GREATER ABSTEN- NENCE FROM ALCOHOL AMONG PERSONS CO-INFECTED WITH HIV

J.J. Tsui1; C.E. Schwartz1; J. Levine1; E. Korin1; A.K. Karasz1; M. McKee1; U.K. Ohuabunwa1; E. Safran2; C. Ohuabunwa2; E. Mensah2; M. Henriques2; N. Ibrahim2; C. Ohuabunwa1

RESULTS: Of the 401 study participants, 212 (53%) reported being told by a provider that they had HCV, and 12% were positive by HCV RNA testing. Of the 189 participants who were not told that they had HCV, 20% were positive by HCV RNA testing. The adjusted odds of abstinence, compared to HIV-infected subjects who were unaware of their HCV status or who were HCV seronegative, was associated with a higher odds of abstinence (adjusted OR 1.58, 95% CI: 1.12–2.24) and marginally associated with a lower odds of at-risk drinking (adjusted OR 0.7, 95% CI: 0.48–1.01).

CONCLUSIONS: Among HIV-infected persons with alcohol problems, awareness of having HCV infection appears to be associated with greater abstinence and less at-risk drinking. Testing HIV-infected patients for HCV and informing them of their serostatus may help decrease their alcohol use.

BARRIERS TO RATIONAL SELF-MANAGEMENT AMONG LATINAS WITH DIABETES MELLITUS

C.E. Schwartz1; J. Levine1; E. Safran2; C. Ohuabunwa1; E. Mensah2; M. Henriques2; N. Ibrahim2; C. Ohuabunwa1

BACKGROUND: Nearly half of African American (AA) women are obese and bear a disproportionate burden of weight-related conditions like diabetes, hypertension, and osteoarthritis. Conventional weight loss methods (diet and exercise) have limited success in weight reduction. Presently, bariatric surgery is the most effective weight-loss treatment, because it is primarily used by White women. What contributes to obesity rates among AA women exceeding that of other racial/ethnic groups remain unclear. To gain further perspective on weight control issues, we conducted focus groups to explore obese AA women’s perceptions about barriers to weight loss and barriers to acceptance of bariatric surgery as a treatment option.

METHODS: In collaboration with a local community health promotion organization, we recruited 41 AA women with obesity and high-risk medical conditions and analyzed their interviews using a grounded theory approach. We conducted 20 audio-taped, transcribed, and analyzed using a grounded theory approach. We conducted 20 audio-taped, transcribed, and analyzed using a grounded theory approach.

RESULTS: Of the 103 patients studied, 44.7% were aged 23–49 years, 35.9% aged 50–64 years, and 19.4% aged ≥65 years. All patients were US born African Americans with 59.2% of respondents had never received flu vaccine in the past, while 68% had not received the flu vaccine by the completion of the preceding flu season. About 77% of patients aged <65 were aware of the deleterious effects in those aged ≥65 (p<0.07) among the older adults. Only 42% of persons aged <65 and 45% of persons >65 had the flu shot recommended by their healthcare provider. About 67% of these younger adults said they would get the flu shot if recommended, compared to 75% of the older adults (p=0.77). The most common barrier to vaccination identified in both groups was a lack of awareness that they needed the vaccination reported by 19% of persons aged <65 and 15% of persons aged ≥65.

CONCLUSIONS: A lack of awareness of need for influenza vaccination seems to be the most common barrier to vaccination among both younger and older African Americans. There is a need for improvement in recommendation of vaccination by healthcare providers and widespread campaigns in order to achieve national objectives for influenza vaccination coverage.
RESULTS: Participants’ mean age was 48.8 years and mean BMI was 36.3 kg/m². Themes regarding general barriers to weight loss include: (1) lack of time and access to resources; (2) issues regarding control—worries over one’s self control during and after surgery; and (3) weight loss and various weight reduction methods especially related to bariatric surgery. Weight loss interventions among obese AA women are hindered by culturally factors and/or group identity that accepts a larger body image. Additionally, risk perceptions and issues of control likely alter obese AA women’s perceptions and weight loss methods are influenced by self-perception linked to sociocultural factors and/or group identity that accepts a larger body image. Additionally, risk perceptions and issues of control likely alter obese AA women’s attitudes regarding weight loss and various weight reduction methods especially related to bariatric surgery. Weight loss interventions among obese AA women should consider sociocultural factors and focus on identifying and maintaining equilibrium between the benefits and risks of weight loss to promote efforts for improved health.

BEREAVEMENT: A STUDY OF OLDER ADULTS
R.M. Bain1; C. Mintz2; E. Hurwitz3; C. Pan3; Wake Forest University, Winston-Salem, NC; New York University, New York, NY; Mount Sinai School of Medicine, New York, NY. (Tracking ID # 91628)

BACKGROUND: Background: Grief is the universal response to death of a loved one and is associated with increased morbidity and mortality. Although physicians are well positioned to intervene at many points along the grief continuum, medical education places little emphasis on providing adequate training to recognize and meet the needs of grieving family members. Purpose: Our purpose was to investigate rates of grief that have received little attention in the literature: 1) the effect of cumulative loss, 2) prevalence of physician awareness and assistance, and 3) impact on social and health outcomes.

METHODS: Methods: A cross-sectional, convenience sample, survey was conducted in the outpatient geriatrics practice of a large tertiary-care academic medical center. English-speaking older adults aged 65 and older with a MMSE ≥24 were recruited to participate. Structured interviews were conducted during ambulatory visits. A questionnaire was developed from the literature by our research team with input from field experts and a survey specialist. To refine the survey instrument, a pilot study was conducted with hospitalized older adults.

RESULTS: Results: 32 subjects were recruited for our study (87.5% female, 37.5% Black, 34.4% White, 25% Hispanic). 47% of subjects had suffered a significant loss within the past year. Only 5 subjects had ever received bereavement counseling in their lifetimes and only 2 had ever been referred for bereavement counseling by their primary care provider. Subjects reported an average of 4.7% types of losses (spouse, parent, grandparent, sibling, child, grandchild, friend, pet). 87.5% of subjects felt they would be “somewhat” or “very comfortable” talking about death and grief with their physician, but only 21.9% ever had such a discussion. When asked whether grieving lowers women more manageable with successive losses, 75% responded “no” or “don’t know”.

CONCLUSIONS: Conclusions: Our study is unique in that it investigates patterns and duration of bereavement during course of a lifetime. The purpose of our study was to investigate the effect of cumulative losses that have not been previously studied in the literature. The risk of cumulative loss, the prevalence of physician awareness and assistance, and the impact on social and health outcomes are not being taken place. Further research will elucidate the value of physician education to improve bereavement services and health outcomes.

BETA-BLOCKER USE AMONG VETERANS WITH SYSTOLIC HEART FAILURE
S. Srinivasan1; M. Goldstein1; C.T. Tenner1; M. Kamman1; J. Penrod1; G. Cohen1; T. Hochman1; M. Schwartz2; Department of Veterans Affairs, Bronx, NY; Mount Sinai School of Medicine, New York, NY. (Tracking ID # 157379)

BACKGROUND: Chronic Heart Failure (CHF) is the most common cause of hospitalization in the Medicare population, affecting 10% of people over the age of 75, with annual health care costs exceeding $927 billion. Strong evidence for efficacy of beta-blockade therapy in reducing morbidity and mortality in patients with systolic CHF has existed since the mid 1990’s. Despite this evidence, recent studies report beta-blocker utilization rates in CHF below 50%. We sought to determine the rate of beta-blocker prescription among veterans with systolic CHF at primary care VA clinics, and its change over time; and, to determine factors associated with non-prescription of beta-blockers in these CHF patients.

METHODS: We identified patients with documented systolic heart failure seen in primary care clinics at 3 VA medical centers from August, 2002-August, 2004, and retrospectively extracted clinical and demographic information from an electronic medical record. The primary outcome was beta-blocker prescription status at the most recent visit. Prescription status was dichotomized as current versus not currently prescribed - and those not currently on a beta-blocker were further divided into those previously versus never prescribed. Reviewers collected demographic factors (e.g. age, gender, race, site of care); characteristics of care (number of visits, visit to cardiologist, current medications); number of comorbidities; and, presence of adverse reactions or symptoms related to beta-blockers. Clinical and demographic characteristics of patients were compared between those prescribed and not prescribed beta-blockers using chi-square tests and t-tests as appropriate. Factors significantly associated with and weight loss in the healthcare system were entered into logistic regression models to determine independent predictors of beta-blocker prescription.

RESULTS: Of the 368 patients that were suitable for study, 82% (95% CI, 78.4-85.8%) were prescribed a beta-blocker, with half of the remaining patients having been previously prescribed one. The prescription rate rose steadily from 45% in 1998-2000 to 64% in 2000-2002 to 82% in the current period (p<0.001 for trend). Patients with more severely depressed ejection fractions (EF<30%) were more likely to be on a beta-blocker than patients with less severe disease. Patients were less likely to be on a beta-blocker if they had COPD (adjusted OR=0.21, 0.08-0.56), or depression (adjusted OR=0.34, 0.13-0.89). Patients younger than 65 years were 12 times more likely to receive beta-blockers than those over 85 years old.

CONCLUSIONS: Primary care providers at VA Medical Centers achieved high rates of beta-blocker prescription for chronic systolic heart failure patients, rates similar to those found in large clinical trials. Subgroups with lower prescription rates should be targeted for quality improvement initiatives.

Multivariate Logistic Model of Factors Independently Associated with Beta-blocker Prescription

Patient Characteristic | Adjusted Odds Ratio (95% CI) | p-value
--- | --- | ---
Age <65 | Reference | 0.0001
Age 65-74 | 0.2100.06-0.80 | 0.022
Age 75-84 | 0.15(0.04-0.53) | 0.003
Age 85+ | 0.0880.02-0.36 | <0.0001
Severe EF | 1.75(0.94-3.26) | 0.079
COPD | 0.39(0.20-0.77) | 0.0006
Asthma | 0.21(0.08-0.56) | 0.002
Depression | 0.34(0.13-0.89) | 0.028

BEYOND PAN-HANDBLING: THE IMPACT OF HOUSING INSTABILITY ON ACCESS TO CARE
K.W. Reid1; E. Villagitchhoff2; M. Kusel1; University of California, San Francisco, San Francisco, CA. (Tracking ID # 93014)

BACKGROUND: The homeless population has limited access to health care and high utilization of acute care services. Most studies dichotomize housing status as homeless versus housed. However, there is a spectrum of housing instability. Little is known about the association between the severity of housing instability and access to health care and health service utilization. We sought to investigate the relationship between varying levels of housing status and measures of access to ambulatory care, use of acute care services and health insurance status.

METHODS: We performed a meta-regression using four nationally representative surveys; the Medical Expenditure Survey (MEPS), the National Health Interview Survey (NHIS), the National Survey of American Families (NSAF), and the National Survey of Homeless Assistance Providers and Clients (NSHAPC). The main independent variable was an ordered measure of housing instability, based on income and housing status, characterizing sub-populations with much higher utilization of acute care services than the general population (MEPS and NHIS), 2) low-income population (NSAF and NSHAPC), 3) people who use homeless services but have never been homeless (NSHAPC), 4) the unstably housed (NSAF), and 5) the formerly homeless (NSHAPC). The main outcome measures were self-report of five measures of healthcare access: 1) not having a usual source of care, 2) no ambulatory care visits, 3) postponing needed medical care, 4) postponing medications and 5) having no health insurance; and two measures of health service utilization: 1) emergency department (ED) visits, and 2) hospitalizations.

RESULTS: We found a linear trend toward poorer access to care with worsening housing instability among three of our five measures: worsening housing instability associated with beta-blocker prescription in the bivariate analysis were entered into logistic regression models to determine independent predictors of beta-blocker prescription.

BEYOND WORK HOURS: MAJOR, DIFFICULT EVENTS IN THE PERSONAL LIVES OF PHYSICIANS AT AN ACADEMIC CENTER: S.J. McNamara1; G.L. Gildengorn1; University of California, San Francisco, San Francisco, CA. (Tracking ID # 154821)

BACKGROUND: Residency training traditionally has involved long hours in the hospital, with work duties taking precedence over residents’ personal lives. In
the last few years, work-hours restrictions have caused most residency pro-
grams to redesign their schedules to ensure adequate sleep for residents. Beyond the need for sleep, however, many other factors in residents' personal lives may impact their job performance.

METHODS: We administered a survey to 693 residents during 2004–2005 at
an academic medical center to determine the prevalence and type of major,
difficult events in residents' personal lives. We asked respondents to describe
the reasons for any extended periods of poor sleep. We then assessed the
relationship among poor sleep, other factors, and job performance.

RESULTS: Among 214 respondents, we found that 37% of residents had
experienced a difficult personal event, such as the death or illness of a loved
one, a serious illness of or near a relationship due to death or de
velopment of a chronic condition, or a personal problem, within the
year. Of these residents, 60% reported problems with excessive
sleepiness, 31% with impaired concentration, and 26% with difficulty
functioning. When we asked if residents had difficulty with their
work during the past 6 months, 40% of residents reported some level of
difficulty. Of residents who had experienced a difficult event, 30% had
difficulty functioning.

CONCLUSIONS: Residency programs often fail to adequately support residents
who experience major personal problems. Supporting residents during
these periods is important in reducing burnout and improving job
satisfaction.
language are the most important factors when receiving bad news. 37 patients felt that assessing patients’ perceptions and what they already know about their illness before breaking bad news is the most important factor. Physicians expressed their fears when delivering bad news: being blamed by the patient (17%); not knowing all of the answers sought by the patient (55%); not knowing how to manage the patient’s reactions (51%); difficulty in dealing with their own fears of illness and death (45%). Fifty nine physicians (72%) believed that they were competent in delivering bad news, even though only 10 physicians (13%) had undergone formal training. Twelve physicians preferred to defer the task to a psychiatrist or another colleague. Eighty percent of physicians admitted that they did not follow the suggested approach to delivering bad news. However, 58% of physicians and 67% of patients agreed that these recommendations could be learned and put into practice.

CONCLUSIONS: Most patients and physicians believed that the diagnosis of cancer must be told to the patient. Honesty and use of clear language were considered the most important attributes when delivering bad news. Most physicians lack formal training in delivering bad news but they agreed that these skills can be learned and put into practice.

**BELIEVES family history is not**

Speak Chamorro more 79 21 0.10
Income $25,000 83 17 0.51
No Mammogram

**Speak Chamorro more**

Insured 86 15 0.05
Believes family history is not 71 29
Important
Believes family history is not important 88 12 0.02
No fear that mammogram will find cancer 89 11 0.05
Fear that mammogram will find cancer 75 25

**BREAST CANCER SCREENING AMONG CHAMORROS ON GUAM.** P.G. Balajadia1, L. Werzel1, J. Sweenston1, F.A. Hubbell2, A.L. Diamant1; L. Gelberg1; S.A. Mohanty2; E. Fielder1; I. Dyer3; L. Wenzel2; J. Sweningson2; A. Steven1; 1University of California, Irvine, Irvine, CA; 2University of California, Irvine, Orange, CA; 3Los Angeles County Department of Health Services, Los Angeles, CA; Tracking ID # 153893

BACKGROUND: Chamorros, the indigenous people of Guam, are the third most populous Pacific Islander group in the United States (US). Approximately 60,000 Chamorros live on Guam. The largest population on the mainland US live on the west coast. Guam is a civilian territory and residents are US citizens; however, surprisingly little is known about the cancer control needs of Chamorros. Therefore, this study evaluated knowledge, attitudes, and behaviors related to breast cancer in this population.

METHODS: The investigators conducted a self-administered survey in English among 149 self-reported Chamorro women over the age of 50 years on Guam. They employed a non-probability purposive sample design in recruiting the participants from 10 (of a total of 19) Guam villages. Volunteers in the villages completed the survey and were provided a traditional Chamorro meal. Trained Chamorro interviewers were available at the meetings to answer questions. The survey took approximately 30 minutes to complete. The instrument contained questions from the National Health Interview Survey (NHIS) and focus group findings. As a measure of acculturation, the investigators employed a widely used language assimilation scale. Descriptive, bivariate, and logistic regression analyses were performed.

RESULTS: Of the 149 respondents, 77% had at least a high school education, 61% were currently married, 70% had household incomes >$25,000, 100% spoke at least some English (66%) spoke English and Chamorro equally, 67% had some form of health insurance, and 93% had a usual source of care. Ninety seven percent of the women reported ever having a mammogram and 83% reported having one in the past 2 years. The table below displays bivariate analysis of selected participant characteristics/beliefs and mammogram use. Logistic regression analysis, controlling for potentially confounding variables, revealed that having health insurance (OR 3.6; 95% CI 1.0–12.3) and believing that the diagnosis of cancer must be told to the patient. Honesty and use should be addressed in breast cancer prevention programs on Guam.

| Characteristic                  | Mammogram | No Mammogram | P-values |
|--------------------------------|-----------|--------------|----------|
| < HS Education                 | 93        | 7            | 0.10     |
| > HS Education                 | 80        | 20           |          |
| Income <$24,999                | 81        | 19           | 0.85     |
| Income $25,000                 | 83        | 17           |          |
| Married                        | 83        | 17           | 0.97     |
| Not Married                    | 83        | 17           |          |
| Speak English and Chamorro     | 85        | 15           | 0.51     |
| equally                        |           |              |          |
| Speak Chamorro more            | 79        | 21           |          |
| Insured                        | 86        | 15           |          |
| Uninsured                      | 70        | 30           |          |
| Believes family history is important | 88   | 12           | 0.02     |
| Believes family history is not important | 71  | 29           |          |
| No fear that mammogram will find cancer | 89 | 11           | 0.05     |
| Fear that mammogram will find cancer | 75 | 25           |          |

**CAN A COMMON SOURCE OF CARE BE PROVIDED FOR LOW-INCOME AND UNINSURED PATIENTS?** A.L. Diamant1, L. Geiberg1, S.A. Mohanty2, E. Fielder1, I. Dyer3; 1University of California, Irvine, Irvine, CA; 2University of Southern California, Los Angeles, CA; 3Los Angeles County Department of Health Services, Los Angeles, CA. Tracking ID # 153764

BACKGROUND: The Los Angeles County Department of Health Services (LAC-DHS) plays an integral role in the provision of health care to many low-income and uninsured individuals. Responsible for a workforce with a varying mix of skills, LAC-DHS provides a health care safety net for a growing number of patients who are at increased risk for having unmet health care needs and poor health. Having a usual source of care (USOC) is known to improve the health of people who receive necessary medical care for acute, chronic and preventive health care needs, regardless of health insurance status.

METHODS: As part of the third Phase IV Assessment Survey (PAS III) the target population for this project includes both previous users of the system and new patients. Patients were interviewed on-site at 34 LAC-DHS facilities and community partner sites throughout Los Angeles County. Sites were selected based on geographic representation and probability proportional to volume. Patients from general adult medicine, family medicine and urgent care/walk-in were randomly sampled for this project. 866 participants completed the interview from January 2003 through March 2003. For response rate of 78.3%; participants were asked if they had a place they regularly went for their medical care, not including an emergency department. We examined USOC status by patient and system characteristics, as well as a comparison of USOC status over time using data from the PAS I, II and III surveys, performed in 1999, 2002 and 2005 respectively.

RESULTS: Two thirds (66%) of PAS III patients reported having a USOC, an increase of 46% and 35% compared to PAS II and PAS I respectively. In 1 month, women spoke at least some English (66% spoke English and Chamorro equally), 67% more commonly than men had a USOC (74% vs. 50%, p<0.001); while Asians/Pacific Islanders had the highest rate and African Americans had the lowest rate (71% vs. 54%, p<0.05). Participants with insurance, more commonly than those without insurance, reported a USOC (80% vs. 58%, p<0.001). Additionally, patients at LAC-DHS community clinics had the highest rate and those at LAC-DHS hospital-based clinics had the lowest rate (72% vs. 52%, p<0.001). Furthermore, we found that the duration of needing a USOC had increased over time. Continuity of care improved from the time of PAS I to PAS III. Whereas in PAS I 41% of patients had been going to a USOC for less than a year, this decreased to 23% in PAS III (p<0.001), while only 18% of patients at PAS I had been going to a USOC for 2 to 5 years, this increased to 33% (p<0.01) in PAS III.

CONCLUSIONS: It is possible for low-income patients who rely on a county health system to have a usual source of care, where they can have their acute, chronic and preventive health care needs met. By partnering with community providers, the proportion of adult patients with a USOC has increased over time. Systems of care for low-income and uninsured populations should develop structures to maximize having a USOC for its patient population.

**CAN COMPUTERIZED SCREENING DETECT DIAGNOSTIC ERRORS IN PRIMARY CARE?** E.J. Thomas, E.J. Thomas, L.A. Petersen, Michael E. DeBakey Veterans Affairs Medical Center and Baylor College of Medicine, Houston, TX. University of Texas Health Science Center at Houston, Houston, TX. Tracking ID # 153893

BACKGROUND: Diagnostic errors are the most common type of medical errors in primary care and are the leading basis for malpractice claims. Computerized systems for screening and identifying other medical errors (e.g. medication-related errors) have been developed. The goal was to test the use of computerized screening to detect diagnostic errors in primary care.

METHODS: Primary care clinic visits in the General Medicine clinic of a tertiary care hospital were screened using the electronic medical record using a Structured Query Language (SQL) based program, all scheduled and unscheduled patient visits were evaluated for presence of one of two mutually exclusive screening criteria: Screen One: a hospitalization preceded by a primary care visit (index visit) made by the same patient in the prior 10 days; Screen Two: A primary care visit (index visit) followed by 1 or more primary care visits, an urgent care visit or an ER visit within 10 days but excluding index visits that were positive in Screen One. After a brief chart review, index visits with a diagnostic plan that included hospitalization for further work-up and those associated with a future elective hospitalization were excluded. The eligible visits with positive screens and a random sample of screen negative visits were then reviewed by 3 chief or senior residents from a different institution, blinded to the goals of the study and the presence or absence of the screen. We used an explicit definition from the literature for the assessment of diagnostic errors. Data were reviewed by two independent reviewers to validate the findings of medical record review and differences were resolved by discussion.

RESULTS: Screen One was applied to all 15,580 patient visits from 8/1/04–9/30/05 to yield 190 Screen One positive visits (1.2%). After excluding 36 visits associated with admissions that were deemed to be elective or directly originating from the index primary care visit the first 100 Screen One visits in the study period have been reviewed to date. Screen Two was applied to 5267 visits between 3/1/05–7/31/05. 58 visits that were positive for Screen One were excluded yielding 162 Screen Two positive visits (3.1%). We have reviewed the first 111 Screen Two positive visits in the study period thus far. From 1274 visits between 3/1/05–3/31/05, 105 non-screen positive controls were chosen randomly. Because of an immediate hospitalization from the visit, 6 control visits were excluded from Screen Two. Review of Screen Two charts yielded 30 confirmed diagnostic errors (PPV=30%) and 8 additional types of errors; Review of Screen Two charts yielded 12 confirmed diagnostic errors (PPV=11%) and 13 additional types of errors. There were 3 diagnostic errors and 2 additional types.
of errors in the control group. In comparison, overall PPV for computerized screening to detect adverse drug events in the ambulatory setting has ranged from 7.5–8.8%.

CONCLUSIONS: Computerized screening of electronic medical records has the potential to detect diagnostic errors in primary care delivery systems, and the performance for detecting diagnostic errors is comparable to that for medication-related errors. Although this approach still involves chart review to verify the error, it is less time-consuming than previously described methods and offers a feasible, alternative mechanism to identify and study diagnostic errors in primary care.

CAN ETHICS BE TAUGHT? A RANDOMIZED TRIAL COMPARING TWO INTERVENTIONS TO TEACH INFORMED CONSENT SKILLS IN MedSTUDENTS

J. J. Flannery1; B. D. Dreyer1; T. J. Feeley1; D. P. Race1; J. A. O’Donnell1; L. K. Lee1; A. M. Dwyer1; K. A. Hanley1; B. D. Dreyer1; T. J. Feeley1; D. P. Race1; J. A. O’Donnell1; L. K. Lee1; A. M. Dwyer1; K. A. Hanley1. Johns Hopkins University, Baltimore, MD; Johns Hopkins Medical Institutions, Baltimore, MD. (Tracking ID: 15644)

BACKGROUND: Studies suggest that practicing physicians are not obtaining adequate informed consent. Despite the widely recognized importance of informed consent for clinical ethics education, little is known about effective strategies to improve informed consent knowledge and skills for internal medicine trainees. The objective of this study was to test the effectiveness of two practical educational strategies to improve intern knowledge of key concepts of informed consent.

METHODS: We used a randomized, blinded, comparison trial of two interventions that both met the ACGME’s requirements for training in informed consent and addressed the foundational elements of informed consent (e.g. Decision-making Capacity, Disclosure, Understanding, Voluntariness). Involving interns in 2 university-based internal medicine residency programs were asked to fill out a demographic survey and baseline pretest and then were assigned to one of two analogous case-based educational interventions: 1) an internet-based computer learning module (COMP), or 2) a small group didactic session (DIDAC). After the intervention, participants completed a post-test and a survey on the usefulness of the curriculum. All testing items were developed with feedback from clinical ethics faculty and piloted with existing housestaff. Descriptive statistics, chi-square analyses, and t-tests were used to analyze the data.

RESULTS: All but one intern (N=50) from both programs agreed to participate. There were no statistically significant differences in baseline characteristics between the COMP (N=26) and DIDAC (N=30) groups. Median age category was 26–30 years. The majority of interns were female (64%) and had an undergraduate science major (75%). Most interns (91%) had ethics training in the last 2 years of medical school, and their ethics curriculum was rated as fair to good. Most (83%) had prior experience obtaining informed consent, and 74% felt confident at baseline in their ability to obtain informed consent. Overall baseline knowledge of informed consent was very good, with pretest scores of 83.0% for COMP and 80.5% DIDAC. Post-test scores improved (88.2% COMP; 88.1% DIDAC), and were significantly different from the pretest scores for the DIDAC group (p=.02). Both groups showed particular improvement in 2 of the 7 key concepts: patient understanding (COMP 67% to 96% (p =.02), DIDAC 55% to 87% (p =.01)) and patient authorization (COMP 57% to 96% (p <.001), DIDAC 67% to 83% (p =.01). Average curricular time was 1.5-30 minutes for COMP and 30-45 minutes for DIDAC (p =.06). Regardless of intervention, interns thought allotted time was just right (85%) and educational session was somewhat or very useful (90%). Most (90%) rated it likely/very likely that they would apply what they learned to future clinical encounters.

CONCLUSIONS: Interns’ baseline knowledge of informed consent, while good, demonstrated room for improvement. This study showed that key elements of informed consent can be taught either by computer or by didactic teaching with a comparison of overall change in testing favored a didactic approach; however, computer methods were more efficient in delivering the content. Both interventions were well received and felt to be useful. The next phase of this study will examine if knowledge is correlated with skills and behavior (i.e. adequate ability to obtain informed consent).

CAN RESIDENTS AUDIT THEIR OWN PERFORMANCE ACCURATELY? T.K. Houston1; G.R. Heudebert1; C. T. Kirby1; L. L. Willett1; K. P. Palonen1; J. J. Allison1. University of Alabama at Birmingham, Birmingham VA Medical Center, Birmingham, AL. (Tracking ID: 153310)

BACKGROUND: The ACGME Outcome Project requires training programs to objectively measure resident performance. One recommended tool is chart audit by trained abstractors. However, use of chart audit is limited by cost and feasibility. An alternative, self-abstraction, is now supported as part of recertification by the American Board of Internal Medicine, but has not been extensively evaluated. Our objective was to compare agreement in performance measures between the chart abstractor and residents’ self-abstraction of paper charts.

METHODS: As part of an ongoing quality improvement project, charts are being routinely abstracted on patients seen at the internal medicine residents’ clinic. Two research assistants who have been trained abstractors audit the paper charts to assess performance of six preventive health care indicators: mammography, colon cancer screening, advice to quit smoking, current use of tobacco, pneumococcal vaccination, and lipid screening. The abstractors have been rigorously trained and have low (less than 3%) documented coding error rates. Based on national guidelines, we defined performance on each indicator as the proportion of patients appropriate to receive the preventive service (e.g. women over 50 for mammography) who had documented that service being offered, ordered, or obtained. Residents (n=31) were asked to abstract their own charts (n=120 charts) after receiving brief instruction on how to complete data on the medical record and on how to utilize the data abstraction form. First, using the patient as the unit of analysis, we compared the overall performance (percent of appropriate patients receiving services) assessed by residents and abstractors using a reasonable standard of agreement (within five percent), and evaluated differences using McNemar’s chi-square tests. We then assessed disagreement rates at the individual variable level.

RESULTS: Resident-measured performance was similar (within 5%) to that of the chart abstractor for five indicators (Table). Colon cancer screening was different (83% for residents, 92% for abstractors, McNemar’s p =.02). Aggregate resident-measured performance was lower than that of the abstractors for four of the six indicators. At the variable level, 13.4% of residents’ abstractions disagreed with the chart abstractors’ (83 of 618 possible errors). Individual variable disagreement rates varied by performance measure - from 7.8% for advice to quit smoking to 20.4% for pneumonia vaccine.

CONCLUSIONS: Overall measured performance for the group of residents was similar, but accuracy was imperfect. Residents did not over-estimate their performance. Aggregated at the clinic level, residents’ self-abstraction can be an alternative to costly trained abstractors. Appropriate use of these data should be carefully considered, acknowledging the limitations.

Comparing Resident and Abstractor Measured Performance (percent of appropriate patients receiving indicated service)

| Outcome | Resident | Abstractor |
|---------|----------|------------|
| Smoking Screening | 63.7% | 67.0% |
| Smoking Advice | 77.0% | 73.5% |
| Breast Cancer Screen | 88.4% | 91.9% |
| Colon Cancer Screen | 83.1% | 92.0% |
| Lipid Screening | 94.2% | 91.3% |
| Pneumovax Vaccine | 67.2% | 70.4% |

CAN WE MEASURE COMPETENCY IN PAIN MANAGEMENT? RESULTS AND VALIDITY OF A 3-STATION OSCE

D.L. Stevens1; K. Hanley1; S. Zabar1; B.P. Dreyer1; C. Tseng1. New York University, New York, NY. (Tracking ID: 156966)

BACKGROUND: The medical community is increasingly criticized for failing to treat pain adequately. New approaches are needed to ensure medical students are prepared to meet this challenge. We implemented and assessed a 3-station Observed Structured Clinical Examination (OSCE) to measure medical students’ competency in the complex tasks of pain management, including advances in communication skills, detailed knowledge and a strong commitment to relieve suffering.

METHODS: The Pain OSCE was developed in conjunction with a new Pain Management Curriculum for 2nd year medical students. Besides the OSCE, the curriculum consisted of 4 lectures and 2 small group seminars. Three cases were selected for the Pain OSCE to allow assessment of students in a variety of pain scenarios requiring some overlapping and some unique skills and knowledge. The cases were modeled after pain scenarios: Acute Neck Pain (‘‘whiplash’’) in a 24 year old female African American artist, Chronic Low Back Pain in a 40 year old overweight male bricklayer, and metastatic bone (hip) pain in a 64 year old female architect. All students rotated through all 3 stations, each requiring students to: perform a comprehensive pain assessment (including impact of pain, effectiveness of current regimen, risks of addiction); develop a therapeutic relationship/handle strong emotions; and negotiate a treatment plan with the patient (including advising on goals of pain control and management of side effects of pain medication). Students had 12 minutes to complete each station. Standardized patients (SPs) were trained to play the part of the patient with consistency in both clinical and emotional content as well as degree of difficulty. SPs assessed students using an 22 item behaviorally-specific checklist. Each item was scored on a 3 point scale (0 =not done; 1 =partially done; 2 =well done). Checklist items were grouped into 8 domains: Data Gathering Skill, Content of Pain Assessment, Relationship Building, Addiction Assessment, Collaborative Goal Setting, Patient Counseling Skills, Pain Management Knowledge. There was also an Overall Performance item, scored on a 5 point scale. A Summary Score was calculated for each student for each case as the mean performance over all domains on that case. The validity of the OSCE was assessed by correlating student Summary Scores across the three cases and comparing Summary Scores with students’ self-assessment. The educational value of the OSCE was assessed using a student survey.

RESULTS: Of 160 students participated in the OSCE, 144 (90%) agreed to participate in the study. Mean Summary Scores were: Acute case: 1.60 ± 0.3; Chronic case: 1.52 ± 0.3; Cancer case: 1.54 ± 0.3. Across cases, performance in Addiction Assessment was worst (1.09 ± 0.8) while Data Gathering (1.76 ± 0.8) and Relationship Building (1.76 ± 0.8) were best. SP Ratings correlated highly with self-assessment (r = 0.93, p < 0.001 for all 3 cases). Chronic case performance correlated with cancer case performance (p = 0.017) but neither correlated with acute pain performance, suggesting the acute case required different skills. Students rated the
educational impact of the OSCE quite highly, stating that it was an accurate reflection of their clinical skills (2.9 ± 0.4) and helped developed their skills (2.9 ± 0.4).

CONCLUSIONS: The Pain OSCE was a useful educational experience and is a valid student assessment. Aggregate performance data identified Addiction Assessment as an area requiring improved medical student training.

CAREER CHOICE IN ACADEMIC MEDICINE: SYSTEMATIC REVIEW.
S.E. Strauss1; K. Tzanos1; C. Straus1; University of Toronto, Toronto, Ontario. (Tracking ID #: 156844)

BACKGROUND: Many threats exist to the future of academic medicine including lack of leadership and innovation. Contributing to the concerns about the status of academic medicine is the perceived diminished workforce dedicated to the field of academic medicine. This study was undertaken to systematically review the evidence about what factors influence physicians to choose or reject academic medicine as a career path.

METHODS: Searches of The Cochrane Library, Medline (using Ovid and PubMed) and EMBASE from 1990 to May 2005 were completed to identify relevant studies that explored the influential factors. Additional articles were identified from searching the bibliographies of retrieved articles. We attempted to identify studies that included residents, fellows, or staff physicians. No restrictions were placed on the study methodologies identified and all articles presenting empirical evidence were retrieved. For cohort, case control and cross sectional studies, minimum inclusion criteria were the presence of defined groups, and the ability to extract relevant data. For surveys, minimum inclusion criteria were a description of the population, and the availability of extractable data. Minimum inclusion criteria for qualitative studies were descriptions of the sampling strategy and methods.

RESULTS: The search identified 251 abstracts and 25 articles were included in this review. Completion of an MD with a graduate degree or fellowship program is associated with a career in academic medicine. Of the articles identified in this review, this finding is supported by the highest quality of evidence. Similarly, the completion of research and publication of this research in medical school and residency are associated with a career in academic medicine. The desire to teach, conduct research and the intellectual stimulation and challenge provided in academia may also persuade people to choose this career path. Influence of a role model or mentor was reported by physicians to influence their decision making. Trainee’s interest in academic medicine wanes as they progress through their residency.

CONCLUSIONS: In order to revitalise academic medicine, interested candidates could be encouraged to complete a fellowship or graduate training and engage in research throughout their training. More flexibility should be introduced into career pathways in academia.

CAREER DEVELOPMENT AND ADVOCACY: LESSONS FROM THE PHYSICIAN ADVOCACY FELLOWSHIP.
C.M. Calton1; D. Rothman1; D. Buchanan1; T. O'Toole1,2;
University of California, New York, NY.

BACKGROUND: The Physician Advocacy Fellows program was established to develop a practice as an advocate that will continue to inspire and challenge trainees and their patients, and call attention to the importance of social justice to the success of generalist physicians who participate in the educational mission of the university. A unique program at the Institute of Social Justice in training physicians as patient advocates and community leaders was developed for the fellowship program.

METHODS: (Tracking ID #: 156975) Searches of The Cochrane Library, Medline (using Ovid and PubMed) and EMBASE from 1990 to May 2005 were completed to identify relevant studies that explored the influential factors.

RESULTS: Of the seventeen medical students who have completed the program, thirteen have academic appointments in nine major medical centers throughout the country. This includes one person recruited by an academic medical center from a community health center shortly before the end of her fellowship. Between 2000 and 2005, seven out of fourteen fellows were awarded promotions by their home institutions. During this period, this group of general internists published 35 articles relevant to their advocacy work in peer reviewed journals. In addition to this, seven fellows were awarded grants for research that was related to their advocacy work. A broader analysis of the entire cohort of fellows is ongoing.

CONCLUSIONS: With protected time to develop a strategy and in pursuit of their goals and with mentorship from an advocacy organization, physicians can develop a practice as an advocate that will continue to inspire and challenge them. The duration of their careers, medical student training, and colleagues are often inspired by these physicians, who in turn become role models and mentors for others. The success of generalist physicians who participated in the fellowship shows that physicians can sustain an academic medicine advocacy efforts. Furthermore, advocacy can enhance the academic profiles of physicians, serving as the basis for peer-reviewed publication, funding, and academic promotion.

CERTIFICATE OF NEED REGULATIONS AND CARDIAC CATHETERIZATION APPROPRIATENESS POST-ACUTE MYOCARDIAL INFARCTION.
S.J. Ross1; V. Ho2; Y. Wang3; S.S. Cha1; A.J. Epstein1; F.A. Masoudi3; H.M. Krumholz1; Yale University, New Haven, CT; Rice University, Houston, TX; University of Colorado Health Sciences Center, Denver, CO.

BACKGROUND: Certificate of need (CON) regulations were intended to control health care costs, improve quality of care, and ensure clinical proficiency by limiting the number of health care facilities providing complex medical procedures. Few studies have directly examined the relationship between CON regulations and quality of care. Our objective was to examine whether cardiac catheterization use after admission for acute myocardial infarction (AMI) varied between states with and without CON regulations for cardiac catheterization services by procedure appropriateness.

METHODS: We performed a cross-sectional analysis of data from the Cooperative Cardiovascular Project, a retrospective medical record review of a national sample of Medicare patients hospitalized for AMI between 1994 and 1996 in U.S. acute-care hospitals. Our main outcome measure was cardiac catheterization within 72 hours of hospitalization for AMI. Appropriateness criteria were derived from the 1996 ACC/AHA guidelines and all cardiac catheterization indications were categorized as strong, equivocal, or weak. CON regulations for cardiac catheterization were present in 32 states and absent in 19. We used three-level (patient, hospital, and state) hierarchical linear models to examine the association between state CON regulation status and use of cardiac catheterization post-AMI stratified by procedure appropriateness. Models were adjusted for patient and hospital characteristics, including education level, occupation, teaching status, and mean AMI volume. Presence of CON regulations was considered in three-level modeling.

RESULTS: 93,986 patients (60%) were hospitalized in states with CON regulations and 43,293 patients (32%) were hospitalized in states without CON regulations. States with CON regulations had a slight but significantly lower crude rate of cardiac catheterization when compared with states without CON regulations (45.8% vs. 46.5%, OR=0.97, 95% CI, 0.95–0.99; p=0.016). Adjusted rates of cardiac catheterization were similar in states with and without CON regulations (OR=0.92, 95% CI, 0.80–1.06; p=0.27). CON regulations were not associated with differences in cardiac catheterization use by appropriateness of the indication. Adjusted analyses demonstrated that states with CON regulations were as likely to perform strongly-indicated cardiac catheterizations (OR=0.87, 95% CI, 0.78–0.97; p<0.001) and weakly-indicated cardiac catheterizations (OR=0.89, 95% CI, 0.75–1.00; p=0.21) when compared with states without CON regulations.

CONCLUSIONS: Cardiac catheterization use after admission for AMI did not vary overall or by procedure appropriateness between states with and without CON regulations for cardiac catheterization services. CON regulations for cardiac catheterization were neither associated with an increased rate of strongly-indicated catheterizations nor a decreased rate of weakly-indicated catheterizations post-AMI, challenging the extent of the regulations that limit the number of health care facilities authorized to provide complex medical procedures to improve quality of care.

CERVICAL CANCER PREVENTION: LATINO COUPLES’ PERCEPTIONS.
J. McMillin1; O. Chida2; I. De Alba3,1:
University of California, Riverside, Riverside, CA; University of California, Irvine, Irvine, CA.

BACKGROUND: Cervical cancer continues to disproportionately affect Latinos. Although the primary etiologic agent of cervical cancer, the human papilloma virus (HPV), is carried by both men and women, the prevention of cervical cancer has typically focused on the behaviors of women (i.e. multiple sexual partners, condom use and Pap exams). Yet, attitudes and behaviors of men concerning cervical cancer may also have a profound impact on their partner, and vice versa. Despite the important role of both members of a couple on cervical cancer etiology and prevention, few studies have focused on the couple as the unit of analysis. Understanding the views of both partners may lead to more effective interventions for prevention and early diagnosis of cervical cancer.

This paper examines the perceptions and practices of Latino couples regarding prevention and detection measures that can sustain an academic medicine advocacy efforts. Furthermore, advocacy can enhance the academic profiles of physicians, serving as the basis for peer-reviewed publication, funding, and academic promotion.

METHODS: Latino couples were invited to participate in 16 focus groups conducted in Santa Ana, California. Flyers were posted at a Community Based Organization that serves the needs of the Latino community. Respondents, who

ABSTRACTS
were older than 18 and were together for 6 months or more, were asked to participate in a two-hour focus group discussing cervical cancer, early screening, and cancer prevention. Because of the sensitive nature of the subject, and to control for the effects of gender, men and women were included in separate same-gender groups. All focus groups were conducted in Spanish. With the permission of the participants the conversations were tape recorded. The tape recordings were transcribed and translated into English. The text analysis program, AskSam, was used to analyze the qualitative data. Recurring themes in the data were identified through content analysis.

RESULTS: We focused specifically on themes that were categorized as barriers to primary prevention, (condom use) and use of early detection screening. Cervical cancer was generally perceived as in connection to sex or as a consequence of a sexually transmitted disease that was left unattended, although specific knowledge of HPV was absent. The Latina group had much knowledge and a lack of knowledge as barriers to prevention. Latino men highlighted issues of embarrassment, on the part of the women, as the main barrier to screening. Discussions of prevention measures, such as using a condom or seeking a Pap exam, often were viewed as a questioning of the morality, trust and fidelity of their partner.

CONCLUSIONS: Views and attitudes of one member of a Latino couple may influence cervical cancer related behaviors in the other member. Lack of knowledge, machismo, embarrassment and the perception that cervical cancer is linked to morality are perceived as barriers to primary prevention and early diagnosis of cervical cancer by Latino couples. These findings may guide the development of effective intervention aimed at improving cervical cancer prevention and early diagnosis among Latinas. The findings may also suggest that targeting couples, rather than individuals, may improve the effectiveness of these interventions.

CHANGES IN RESIDENCY WORK HOURS: THE IMPACT OF THE SHORT CALL TEAM ON LENGTH OF STAY AND QUALITY OF CARE FOR DECOMPENSATED HEART FAILURE J.L. Schuberth1; C.L. Roumie 2; J. Butler 3; R. Greevy 3; T. Speroff 2; R.S. P. Cram1; M.S. Vaughan Sarrazin1; B.R. Wolf1; J. Katz2; G.E. Dittus2; T.A. Elasy2.

BACKGROUND: Recent Accreditation Council for Graduate Medical Education (ACGME) regulations led to residency program restructuring including night float systems and creation of short call teams, necessitating an increase in patient ‘handoffs’. Heart failure (HF) guidelines recommend early diuretics which are usually completed by such patient handoffs. We sought to examine the effect of early handoffs on the care of patients with decompressed HF.

METHODS: We identified a retrospective cohort of HF patients hospitalized at the Nashville VA Medical Center between 8/1/2005 and 7/31/2006. A chart review was conducted to exclude patients not admitted to the general medicine service, transferred to the ICU within 4 hrs of admission, on dialysis prior to admission, and not meeting Framingham criteria for heart failure at the time of admission. The admitting team was determined through chart review. Long call teams remain in the hospital for no more than the 24-6 hours mandated by the ACGME restriction, while short call teams admit in the morning and handoff overnight. The primary outcome of stay, and secondary outcomes, early weight change and diuretic dosing, were determined through a combination of administrative data and chart review.

RESULTS: 391 patients’ admissions met inclusion criteria. 275 (70.3%) were assigned to long call and 116 (29.7%) were assigned to short call. The majority of the patients were male (99.3% long call vs. 99.1% short call, p = 0.9), Caucasian (17.2% vs. 16.9%, p = 0.6), and diuretics 68.0% vs. 69.0%, (p = 0.9), with no significant range 3–8, p=0.12) for short call patients. 47.3% of long call and 57.8% of short stay was 4 days (interquartile range 3–7) for long call vs. 5 days (interquartile range 4–7) for short call patients. 47.3% of long call and 57.8% of short call patients had a length of stay greater than 4 days, (p = 0.058). Long call patients were more likely to have a weight gain of 5 lbs or more at discharge (69.1% long call vs. 58.6% short call, p = 0.046), although there was no statistically significant difference in weight change at 48 hours (~ 7.3 vs. 10.3 – p = 0.16). In an analysis of the remainder of the dataset, patients were categorized into the first 24 hours of hospitalization (2.2 ± 1.0) or short call patients (2.0 ± 0.9, p = 0.046).

CONCLUSIONS: Our study shows a non-statistically significant trend towards prolonged length of stay among patients admitted to the short call team. This raises concerns about the effect of early handoffs on patient outcomes. Further studies are needed to confirm these results and further evaluate the impact of work hour restrictions on quality of care.

CHARACTERISTICS AND IMPACT OF DRUG DETAILING FOR GABAPENTIN M.A. Steinman1; G.M. Harper1; M. Chen1; C.S. Landefeld1; L.A. Beno1; San Francisco VA Medical Center, San Francisco, CA; University of California, San Francisco, San Francisco, CA. (Tracking ID: #153002)

BACKGROUND: Sales visits by pharmaceutical representatives (‘drug detailing’) are common. However, little is known about the content of these visits, or about the impact of visit characteristics on prescribing behavior.

METHODS: We evaluated market research forms completed by physicians after receiving a visit detail for gabapentin (Neurontin) in 1995–1999. These forms, which are typically used by pharmaceutical firms for market research purposes and were subsequently shared with the United States Congress by David Franklin v. Pfizer, Inc. and Parke-Davis, Division of Warner-Lambert Company, litigation that alleged promotion of gabapentin for indications not approved by the FDA. Our main outcome measures were self-reported visit characteristics and intention to increase prescribing or recommendation of gabapentin in the future.

RESULTS: Detail visit reporting forms were available for 97 physicians reporting 141 visits of recorded gabapentin in the period 1995 to 1999. Of respondents, 67% (72/107) were 5 minutes or less duration, and 65% (73/113) rated of high informational value. Although gabapentin was approved by the FDA for treatment of partial treatment of partial seizures during the period of our study, over half (63/112) of detail visits were to non-neurologists, and in 38% of visits (44/115) the “main message” of the visit involved at least one unapproved use. After receiving the detail visit, 46% (50/108) of physicians reported the intention to increase their prescribing or recommendation of gabapentin in the future. On multivariable analysis, factors associated with the intent to increase future prescribing or recommendation of gabapentin included receiving the visit in a small group setting (OR 9.2, 95% CI 1.1–110.3) for visits involving 2–3 physicians, compared with one-on-one visits) and low or absent baseline prescribing or recommendation of the drug (OR 11.0, 95% CI 2.6–46.7 for no baseline activity, OR 4.9. 95% CI 1.2–19.3 for low baseline activity, compared with medium baseline activity. Visit duration, focus on approved vs. unapproved indications, and the perceived informational value of the presentation were not significantly associated with the intention to prescribe or recommend gabapentin more often in the future.

CONCLUSIONS: Detail visits for gabapentin often involved messages about unapproved uses and were perceived by physicians to have high informational value. Despite their short duration, detail visits were frequently followed by physician intentions to increase their future prescribing or recommendation of gabapentin.

CHARACTERISTICS AND OUTCOMES OF PATIENTS UNDERGOING HIP AND KNEE REPLACEMENT IN SPECIALTY ORTHOPEDIC AND COMPETING GENERAL HOSPITALS. P. Cram1; M.S. Vaughan Sarrazin1; R. Wolf1; J. Katz2; G.E. Rosenwasser1; University of Iowa, Iowa City, IA; Harvard University, Boston, MA. (Tracking ID: #153005)

BACKGROUND: The emergence of specialty hospitals focusing on procedural areas of medicine has generated widespread controversy but little is known about the quality of care they deliver. The objective of this study was to compare the characteristics and outcomes of patients undergoing total hip replacement (THR) and total knee replacement (TKR) surgery in specialty orthopedic and competing general hospitals.

METHODS: Using Medicare Provider and Analysis Review (MedPAR) Part A data files, ICD-9-CM procedure codes were used to identify all patients who underwent major joint replacement surgery (either THR or TKR) during 1999–2003. Next, we identified the 100 most specialized orthopedic hospitals in the United States, defined as those hospitals with the highest proportion of their total joint replacement cases as THR or TKR. We then compared these hospitals with competing general hospitals. Competing general hospitals were defined as all hospitals performing major joint replacement in the same geographic region as one or more specialty hospitals (N = 517). We compared demographics, comorbidities, socioeconomic status (as measured by zip-code level Census data) of patients treated in specialty orthopedic and general hospitals, and hospital procedural volume (THR and TKR). Logistic regression models were used to assess the risk of adverse outcomes (defined as a composite endpoint of death, readmission, or selected surgical complications) for patients in specialty orthopedic hospitals relative to general hospitals after adjusting for patients’ characteristics and procedural volume.

RESULTS: The specialty and competing general hospitals performed 4,683 and 89,531 THR respectively. Demographic characteristics were similar in specialty and general hospitals, but patients in specialty hospitals had lower rates of adverse selected surgical complications (5.0% vs. 6.9%, p < 0.05 for all) and rehospitalization for renal failure (P < 0.05 for all) and resided in zip-codes with higher incomes and housing values than patients in general hospitals. Specialty hospitals had significantly greater procedural volumes for both THR (153 vs. 20 procedures in 2003, p < 0.05) and TKR (75 vs. 40; P < 0.006). In unadjusted analyses, adverse outcomes were significantly less common in specialty hospitals compared to general hospitals for THR (3.0% vs. 6.9%; P < 0.001) and TKR (2.2% vs. 3.3%; P < 0.001). In multivariable models, after adjusting for patients’ characteristics, hospital procedural volume, and type of procedure (THR or TKR) the odds of adverse outcomes were significantly reduced for patients in specialty orthopedic hospitals relative to general hospitals (OR 0.62, 95% CI 0.54–0.72; P < 0.001).

CONCLUSIONS: After adjusting for differences in patients’ characteristics and procedural volume, specialty orthopedic hospitals demonstrate significantly improved outcomes relative to competing general hospitals. Specialty orthopedic hospitals may represent an opportunity to substantially improve orthopedic outcomes if their expertise can be generalized to other hospitals.
CHARACTERISTICS AND SEXUAL ACTIVITIES OF PEOPLE LIVING WITH HIV/AIDS (PLHWA) FOR MEN WHO HAVE SEX WITH MEN, HETEROSEXUAL MEN AND WOMEN
A. Hoellein1; J. Genth1; M. Gerokovi1; B. Quinnian1; H. Ten1; S. Patel1; T. Hsu1; A. Li1; A. Epstein1; A. Jha1; E. Orav2; Z. L. I1; A. M. Epstein1.

BACKGROUND: We assessed the baseline prevalence of risky sexual activities and sexually transmitted infections (STIs) among 1,100 adult HIV-infected patients who were sexually active or used drugs, from 7 clinics in 6 U.S. cities. From April-Sept, 2004, before we implemented a prevention program, study subjects completed an Audio Computer-Assisted Self Interview (ACASI) to assess their risky sexual behaviors, socio-demographics, clinical setting, clinical and psychosocial factors. Information about viral load, CD4 counts, and STIs was abstracted from medical records.

RESULTS: Of the 1,100 in our sample, 43% were MSM, 21% were MSW, 2% were MSMW, and 30% were women. 61% of the sample was African American, 31% white, 7% other or multiple races. 62% of MSM had more than a high school education compared with only 42%, 29%, and 30% of MSMW, MSW, and women respectively. 37% were married or in committed partnerships, 20% had CD4 counts < 200, 45% had viral loads > 400. 20% reported binge drinking at least once a week and 16% crack cocaine use in the last 3 months; 9% had traded sex for drugs, money, or shelter. 34% had disclosed their serostatus to any sexual partners. 10% had unprotected sexual activity in the last 3 months. By chart review only, 2.6% had a positive test result for an STI in the last 6 months. Overall, 21% engaged in unprotected vaginal or anal intercourse (UAI) with a negative or unknown serostatus partner (proportions and total # of episodes by group listed in Table). CONCLUSIONS: Among PLHWA, approximately 21% engaged in unprotected anal or vaginal intercourse with an at-risk partner but varied by subgroup: relatively smaller proportions of MSM and greater proportions of MSMW practiced unsafe sex compared with women. Research to explain these differences and to apply this knowledge to implementation and evaluation of successful “prevention with positives” programs is needed.

CHINESE PHYSICIANS: SMOKING BEHAVIOR, SMOKING CESSATION ATTITUDES, AND SMOKING CESSATION PRACTICES
Y. Jiang1; M.E. Ong1; E.K. Tong1; Y. Yang1; N. Nan1; Q. Gan1; T. Hu1; 1China Centers for Disease Control, Beijing, 2University of California, Los Angeles, Los Angeles, CA; 3University of California, San Francisco, San Francisco, CA; 4University of California, Berkeley, Berkeley, CA. (Tracking ID #: 15256)

BACKGROUND: China has the most smokers in the world. Physicians play a key role in smoking cessation but little is known about Chinese physician smoking behavior, and smoking cessation attitudes and practices. This article aimed to determine Chinese physician smoking behavior, smoking cessation attitudes, and smoking cessation practices.

METHODS: We surveyed 3 hospitals in Beijing, capital-based physicians from six Chinese cities in 2004. Physicians were surveyed on their own smoking prevalence, attitudes and behavior regarding smoking at work, and attitudes and behavior regarding smoking cessation for patients. Chi-square statistical analyses were conducted for clustering at the city and hospital level.

RESULTS: Overall, 23% of Chinese physicians smoke; significant gender differences exist as 41% of men (n=1958) and 1% of women smoke. Among Chinese physicians, smokers, 83% smoke more than 1 pack/day. 74% of physicians state that they usually advise smokers to quit, only 48% of physicians usually ask about smoking status and 29% of physicians think most smokers will follow their cessation advice. Although 86% think physicians should set a non-smoking example, 37% of current smokers have smoked in front of their patients. Less than 7% of physicians usually set quit dates or use nicotine replacement therapy when helping smokers quit. Men significantly differ (p < 0.05) from women in smoking behavior, but not in smoking cessation behavior. There are fewer significant differences between genders when restricted to never smokers. Significant gender differences exist between men never smokers and ever smokers, but not for women. The most prevalent specialties surveyed were internists (27%) and surgeons (26%). Even after restricting analyses to men to account for gender differences, internists significantly smoked less than surgeons and other specialties.

CONCLUSIONS: Chinese physicians smoke substantially more than their U.S. colleagues (3%). Physician smoking in front of patients suggest lax enforcement of smoking-free health care facilities. Although most Chinese physicians state they usually advise smokers to quit, their low confidence in the effectiveness of such advice likely contributes to their low rate of asking about smoking status; many Chinese physicians likely go unidentified. Few Chinese physicians have published smoking cessation practices, which exacerbates the ineffectiveness of physician smoking cessation advice. Physician smoking cessation, education on smoking cessation techniques, and smoke-free workplaces need to be increased among Chinese physicians, particularly among men and non-internists. These improvements can help reduce the Chinese and worldwide health burden from smoking.

CHOOSING LOW MORTALITY HOSPITALS: HOW DOES THE HOSPITAL QUALITY ASSESSMENT (HQA) PROGRAM COMPARE TO OTHER METRICS?
A. Jha1; E.J. Ogrrz1; Z. Li1; A.M. Epstein2.

BACKGROUND: The Hospital Quality Assessment (HQA) program is the first national program to report publicly on the quality of hospital care. How the HQA program compares with other publicly available hospital rating programs and how effectively it identifies low mortality hospitals is largely unknown. METHODS: We calculated a summary score for process- and outcome-based quality indicators for acute myocardial infarction (AMI), congestive heart failure (CHF), and pneumonia for each hospital and examined its relationship with three other metrics of hospital quality: reporting to the Leapfrog Group; being named a top hospital by U.S. News and World Report ranking programs; and being a teaching hospital. We also examined the relationship between performance on the four quality markers (HQA, Leapfrog reports, U.S. News and World Report ranking programs, and risk-adjusted mortality for service Medicare enrollees 65 years of age or older. Mortality analyses were performed separately for each clinical condition (AMI, CHF, and pneumonia). RESULTS: There were 3,720 hospitals that reported sufficient data to the HQA program to allow for the generation of at least one HQA summary score. Significantly higher HQA-based performance on AMI and CHF, but not pneumonia, was found among hospitals that reported data to the Leapfrog Group, being named a top hospital by U.S. News and World Report ranking programs, and being teaching hospitals. Patients treated at hospitals that were in the top quartile of performance on the HQA indicators had 11% lower odds of dying from AMI (95% confidence interval [CI] 0.85 to 0.94, p < 0.001), 7% lower odds of dying from...
CHF (95% CI 0.88 to 0.98, p = 0.006), and 15% lower odds of dying from pneumonia (95% CI 0.81 to 0.89, p < 0.001) than patients treated at hospitals in the bottom quartile of performance. Similarly, patients treated at hospitals that referred to lung process quality had 15% to 12% lower odds of dying on the condition (p < 0.05 for each) than those that did not. While patients in the U.S. News hospitals had 18% to 25% lower odds of dying (p < 0.001 for each) than those in hospitals not ranked by U.S. News. Teaching hospital status was not associated with lower mortality rates for any of the three conditions.

CONCLUSIONS: Patients who choose hospitals based on the ratings in the Leapfrog program, U.S. News rankings, or on teaching status will identify hospitals with better process quality. Patients that are treated at hospitals that perform well on the HQA program, U.S. News rankings or report data to the Leapfrog Group have lower odds of dying from common medical conditions.

CHOOSING YOUR WORDS CAREFULLY: HOW PHYSICIANS WOULD DISCLOSE HARMFUL MEDICAL ERRORS TO PATIENTS

T.H. Gallagher1; A.D. Waterman2; A. Charbonneau1; A. Banitt1; M. Smith2; K. Greiner1; P.C. Rhode1; E.F. Ellerbeck1; Q. Ngo-Metzger1; D. Sorkin1; K. August1; J. Billimek1; D. Mukamel1; S. Greenfield2; S. Kaplan1. 1University of California, Irvine, Irvine, CA; 2University of California, Irvine, Irvine, CA.

BACKGROUND: A gap exists between patients’ desire to be told about medical error and physicians’ reluctance to fully disclose errors to patients, but little is known about how physicians currently approach disclosure. Therefore we sought to measure how physicians would disclose errors to patients and how they would respond to patients who asked about disclosure.

METHODS: Mailed survey of 2637 medical and surgical physicians in academic and private practice in the U.S. (Missouri and Washington) and Canada (national sample). Participants received one of four scenarios depicting serious errors committed by the physician. For each scenario and a follow-up question about real errors, participants were asked to choose statements that explicitly mention how obvious the error would be to the patient if not disclosed (“more apparent: “less apparent”). Five questions measured what respondents would disclose using scripted statements representing increasing disclosure. Information respondents would disclose. 56% chose statements that mentioned the adverse event burden and error; the remaining 44% explicitly stated the error had occurred. Some physicians disclosed little information: 19% would not volunteer any information about the error’s cause, and 63% would not provide specific information about preventing future errors. Disclosure was affected by the nature of the error. Unrelated error scenarios affected disclosure of respondents in less apparent error scenarios chose statements that explicitly mentioned the error, compared with 32% of physicians who received the less apparent error scenario less than 80% (p < 0.001). Still, medical specialists were more likely to mention the error, compared with 19% of surgical specialists (P < 0.001). Respondents in both specialties disclosed more information if they had positive information respondents would disclose. 56% chose statements that mentioned how obvious the error would be to the patient if not disclosed (“more apparent: “less apparent”). Five questions measured what respondents would disclose using scripted statements representing increasing disclosure.

RESULTS: The response rate was 63%. Wide variation existed regarding what information respondents would disclose. 56% chose statements that mentioned the adverse event burden and error; the remaining 44% explicitly stated the error had occurred. Some physicians disclosed little information: 19% would not volunteer any information about the error’s cause, and 63% would not provide specific information about preventing future errors. Disclosure was affected by the nature of the error. Unrelated error scenarios affected disclosure of respondents in less apparent error scenarios chose statements that explicitly mentioned the error, compared with 32% of physicians who received the less apparent error scenario less than 80% (p < 0.001). Still, medical specialists were more likely to mention the error, compared with 19% of surgical specialists (P < 0.001). Respondents in both specialties disclosed more information if they had positive general disclosure attitudes, had prior positive experiences disclosing errors, and were Canadian.

CONCLUSIONS: Physicians vary widely in how they disclose errors to patients, suggesting that effective disclosure standards are lacking. Disclosure standards and training are necessary to meet public expectations and promote professional responsibility following harmful errors.

CHRONIC CARE MODEL PROGRAM FOR OBESITY IN RURAL KANSAS PRIMARY CARE: A. Charbonneau1; A. Banitt1; M. Smith2; K. Greiner1; E.F. Ellerbeck1. 1University of Kansas Medical City, KS; 2University of Missouri-Kansas City, Kansas City, MO.

BACKGROUND: Improving the recognition and treatment of obesity in primary care settings is a critical initiative. The chronic care model (CCM) has been identified as a potential mechanism for improving healthcare quality. The CCM is a systems-based, multidisciplinary team approach to chronic disease management that engages patients, health professionals, health system administrators, and communities. A CCM for obesity may be one method of closing the quality gap between currently observed low rates of nutritional, physical activity, and general obesity counseling in primary care settings, and guideline-recommended obesity care. The overall goal of this study is to test a CCM for obesity in rural Kansas primary care. Rural populations suffer with a disproportionately higher burden of obesity and cardiovascular disease, and have been relatively understudied in these areas.

METHODS: We are recruiting 150 participants for a 6-month, 2-armed, randomized, controlled trial to compare the impact of a CCM for obesity in ambulatory care that integrates data and face-to-face assessments at day 0, 90, and 180. The active arm will receive the same elements as the usual care arm plus a multicomponent obesity CCM described as follows: 1) a high-intensity regimen of telephone-based counseling biweekly during months 0-3 and monthly following that time for the remainder of the intervention, 2) electronic disease registry with physician updates on patient progress and office visit recommendations, 3) decision support tools for physicians (i.e., clinical guidelines), 4) self-management motivators for patients (i.e., food and physical activity diaries and pedometers), and 5) physician and patient reminders of existing community weight loss resources.

RESULTS: We have enrolled 85 participants since 6/30/05 (72% women; mean ± SD age of 48 ± 14 years). Of the 11 participants who have completed day 90 assessments to date, the active arm (n=6) demonstrated a weight change of 3.2 ± 10.7 pounds (mean ± SD), and the usual care arm (n=5) demonstrated a weight change of 3.2 ± 10.7 pounds (mean ± SD). The overall difference in weight change between the two groups was not significant (p = 0.15, 95% CI 0.02 to 3.27 pounds).

CONCLUSIONS: Obesity is a leading preventable cause of death in the US, and a strong independent predictor of coronary artery disease, diabetes mellitus, hypertension, and hyperlipidemia. Rural populations suffer disproportionately with obesity, and better methods of delivering obesity care are needed for this population. Although this project has not identified a significant difference in primary outcome between arms to date, we are encouraged by the positive response to this CCM program among both participants and the study practices. We look forward to continued recruitment and follow up. A chronic disease management program for obesity incorporating telephone-based counseling may be an effective weight control method for rural primary care.

CLINICIANS’ CLEAR COMMUNICATION IS ASSOCIATED WITH INCREASED PATIENT SATISFACTION WITH MEDICATION REGIMEN AND IMPROVED GLUCOSE CONTROL IN PATIENTS WITH TYPE 2 DIABETES

Q. Ngo-Metzger1; D. Sorkin1; K. August1; J. Billimek1; D. Mukamel1; S. Greenfield2; S. Kaplan1. 1University of California, Irvine, Irvine, CA; 2University of California, Irvine, Irvine, CA.

BACKGROUND: Successful management of chronic diseases such as Type 2 Diabetes requires that clinicians be able to communicate effectively with patients and develop a medication regimen that is satisfactory to the patient. We sought to determine whether clear communication by clinicians is associated with patient satisfaction with medication regimen, which in turn may result in lower hemoglobin A1c (A1c) levels.

METHODS: We conducted a cross-sectional survey of 245 patients with Type 2 Diabetes seen at three university-based practices. Clear communication was measured using the24-item sugar almanac’s algorithm, which asks questions such as how well the doctor explained treatment alternatives and medication side effects. Medication satisfaction was measured by the question “How satisfied are you with your medication?”, which in turn may result in lower hemoglobin A1c (A1c) levels.

RESULTS: Mean age of the study sample was 64.9 (standard deviation 11.1). Fifty seven percent were female. Mean clear communication score was 81.14 (range 60 to 100), higher scores indicating greater disclosure. Mean medication satisfaction score (range 1–5) was 4.4 (SD 0.7). Mean A1c level was 6.8 (SD 1.0). In bivariate analyses, clear communication by the clinician was significantly associated with both greater patient satisfaction with medication regimen (p = 0.001) and lower A1c levels (p = 0.01). These findings remain significant in multivariable analyses adjusting for patient age and gender (Beta 0.45, p = 0.01 for greater medication satisfaction, Beta = 0.12, p < 0.05 for lower A1c levels). When clinician clear communication and patient satisfaction with medication regimen were included as independent predictors of A1c in the same multivariate model, results suggest that patient satisfaction with medication is a mediating variable linking clinician clear communication to lower A1c (Beta 0.30, p < 0.05).

CONCLUSIONS: Clear communication by clinicians is significantly associated with both greater patient satisfaction with medication regimen and lower hemoglobin A1c levels. Providers who are most satisfied with their medication regimen may be a key factor connecting improved communication to glycemic control. Educating clinicians to improve their communications skills may increase diabetic patients’ satisfaction with their medication regimens, which in turn may promote adherence and ultimately enhance glycemic control.

CLINICIANS RECOGNIZE VALUE OF PATIENT REVIEW OF THEIR ELECTRONIC HEALTH RECORD DATA

E. Siteman1; A. Cushing1; T.K. Gandhi2; R.W. Grant1; E.G. Poors6; J.L. Schnipper1; L.A. Volk1; J.S. Wald1; B. Middleton5. 1Brigham and Women’s Hospital, Boston, MA; 2Bingham and Women’s Hospital, Boston, MA; 3Partners HealthCare System, Wellesley, MA; 4Partners HealthCare System, Wellesley, MA; 5Harvard University, Wellesley, MA. (Tracking ID: 153740)

BACKGROUND: Increasing patient demands for convenient access to their own health information has led to the development of patient portals that allow limited patient access to ambulatory electronic health records (EHR). Little is known about clinicians’ attitudes towards this new model of health care. In our study, we collected baseline information about primary care providers’ (PCP) usage of a secure, web-based patient portal linked to the ambulatory EHR. We also assessed providers’ initial perceptions of these technologies as facilitators of patient-provider communications and the potential for these tools to improve quality of outpatient care.

METHODS: We conducted a survey of PCPs at 11 practices within an integrated delivery system. The survey solicited providers’ attitudes regarding the impact and value of patients reviewing and commenting on EHR data specific to medications, care regimens for diabetic patients, family medical history, and health maintenance. Respondents who completed and returned the survey each received a $15 gift certificate.

RESULTS: Of the 113 providers contacted, 72 completed and returned the survey (63.7% response rate). Among the participating providers, only 30% reported that they believe there is enough time to review all the necessary information with a patient during a visit. Over half of the respondents (52.2%)
agreed that they would have to spend more time with the patient during the visit if a patient was able to view and comment on his/her EHR chart information prior to a visit. Similarly, 52.2% believed that their overall workload would increase because of the patient portal. However, 51.4% of providers reported that their knowledge and awareness of their patients’ health would increase, as would their ability to update patient data in the EHR (55.7%). 57.4% of providers reported that their ability to communicate with their patients would improve. Most providers agreed or strongly agreed that the accuracy of information documented in the EHR would improve and the knowledge and understanding on the part of the patient would increase (Table 1).

CONCLUSIONS: Providers place great value on their patients as sources of clinical information. Despite the perceived added burden to their overall workload, most providers recognized the benefit of patients’ ability to review and comment on their medical chart information prior to a visit. Results of our survey indicate that the development of patient portals to view EHRs would likely result in improved EHR documentation, patient knowledge, and quality of care. Providers expressed a need for such a tool, and future study is needed to evaluate the utility of such tools for patients and clinicians and their impact on workflow.

Table 1. Percentage of providers who agreed or strongly agreed that patient review and comment on patient medical chart information positively impacts care

| Survey Item | Medications | Diabetic History | Family Medical Regimen | Health Care Regimen | Medical History |
|-------------|-------------|-----------------|------------------------|--------------------|----------------|
| Improve accuracy of EHR documentation | 84.7% | 87.3% | 90.0% | 92.8% | 100.0% |
| Increase patient knowledge and understanding | 76.4% | 74.6% | 81.2% | 89.9% | 94.5% |

COFFEE AND TEA INTAKE AND C-REACTIVE PROTEIN

M. Benedict1; J. Tsevat1; M.H. Eckman1

University of Cincinnati, Cincinnati, OH. (Tracking ID: 153850)

BACKGROUND: Diets high in food substances with anti-oxidant/anti-inflammatory properties are associated with a reduced risk of cardiovascular disease. Recent studies have shown coffee and tea to be major sources of anti-oxidants in the diet. However, the relationship between coffee and tea intake and levels of the inflammatory marker C-reactive protein (CRP) has not yet been studied.

METHODS: We analyzed data on 10,218 adult participants in the Third National Health and Nutrition Examination survey (NHANES III). Participants were excluded if they had liver or renal disease, were pregnant or breastfeeding or were taking oral steroids. Average coffee intake over the past month was categorized into 0 cups/day (C1), <1 cup/day (C2), 1-3 cups/day (C3), >3 cups/day (C4). Tea intake was similarly categorized into 0 cups/day (T1), <1 cup/day (T2), 1-3 cups/day (T3) and >3 cups/day (T4). C-reactive protein (CRP) was considered to be elevated if it was >3.0 mg/L. We performed multiple logistic regression to estimate the odds ratio (OR) of an elevated CRP using SUDAAN to account for the complex, multilevel sampling design of the study.

RESULTS: The mean age of subjects was 44 years; 51% were female. The number of subjects (%) in each cup range were for coffee intake: C1: n=3518 (31%); C2: n=1482 (15%); C3: n=4174 (40%) and C4: n=1044 (14%); and tea intake: T1: n=5382 (50%); T2: n=2970 (29%); T3: n=1614 (17%) and T4: n=252 (4%). In a univariate analysis the OR (95% CI) for an elevated CRP in each group relative to non-drinkers for coffee: C2 OR=0.84 (0.66–1.07); C3 OR=1.03 (0.89–1.20); and C4 OR=0.73 (0.53–1.00); and for tea: T2 OR=0.94 (0.79–1.11); T3 OR=1.09 (0.92–1.28) and T4 OR=1.16 (0.88–1.54). After adjusting for age, gender, body mass index, waist circumference, race/ethnicity, smoking, physical activity, high-density lipoprotein cholesterol, education, hypertension, diabetes, cardiovascular disease, alcohol intake, health status, medications (aspirin, statins, estrogen, NSAID’s), vitamin use, diet, periodontal disease, other inflammatory disease the odds of elevated CRP was significantly lower in coffee drinkers: C2 OR=0.95 (0.71–1.31); C3 OR=0.89 (0.76–1.05) and C4 OR=0.67 (0.50–0.90). (p for trend=0.001) but not in tea drinkers: T2 OR=0.96 (0.78–1.18); T3 OR=1.01 (0.84–1.22) and T4 OR=1.13 (0.70–1.83). (p for trend=0.80).

CONCLUSIONS: Dietary intake of coffee but not tea is associated with lower rates of elevated CRP. Future study may be related to the amounts and types of bioactive compounds present in these beverages. Further research should explore possible effects of coffee intake on risk of inflammatory mediated diseases.

COGNITIVE IMPAIRMENT IN THE OLDEST OLD: HOSPITALIZATION AND MORTALITY

O. Dantas1; J.K. Davis1; T. Kurth1; J. Gaziano1; J. Rudolph1

Divisions of Aging and Preventive Medicine, Brigham and Women’s Hospital, Boston, MA. (Tracking ID: 15262)

BACKGROUND: The risks of cognitive impairment among the hospitalized oldest old are not adequately defined. Previous studies set in the hospital tend to emphasize diagnostic criteria, which may not be the same as those used for clinical practice, focus only on risk of death during hospitalization, and restrict analysis to younger populations. The oldest old, the fastest growing segment of our population, contribute a growing number of admissions to hospitals, and therefore, to the atención of caregivers who are most likely to suffer from cognitive impairment. We sought to characterize the hospital stays and long-term mortality rates of patients over age 85 with clinical cognitive impairment during hospitalization at our institution.

METHODS: Electronic methods were used to identify patients over 85 years old with appropriate ICD codes who were hospitalized between November 1, 2003 and October 31, 2004. Within this population, 100 patients showing cognitive impairment and 100 patients matched for age and admission date were randomly chosen for analysis. Discharge summaries, pharmacy records, and demographic data were electronically reviewed to determine sex, marital status, ethnicity, living situation, past medical history, reason for admission, length of hospital stay, Charlson Comorbidity Index (CCI), non-fatal adverse events, and mortality up to 18 months after discharge. Odds ratios were calculated unadjusted and after adjustment for age, sex, marital status, nursing home residency status, and CCI scores with logistic regression.

RESULTS: After adjustment for covariates, patients over age 85 with cognitive impairment had increased risk of death within the hospital, in the first year after hospitalization, and cumulatively (see table). Cognitively impaired geriatric patients also were admitted with more infections (OR, 2.48; 95% CI 1.19 to 5.14; P=.015) and neuropsychiatric complaints (OR, 5.27; 95% CI 1.71 to 16.19; P=.004) than their non-cognitively impaired peers. Conversely, they were admitted with fewer cardiovascular complaints (OR, 0.32; 95% CI 0.16 to 0.67; P=.002) and for fewer orthopedic procedures (OR, 0.06; 95% CI 0.01 to 0.72; P=.024). Although both groups presented with similarly complex medical histories, there was a trend toward longer hospitalizations for patients with CI.

CONCLUSIONS: In this cohort of the hospitalized oldest old, cognitive impairment was associated with a greatly increased risk of death that persisted after discharge. This study suggests that reason for admission alone may provoke clinical suspicion of cognitive impairment in patients over age 85. Patients with cognitive impairment should be treated with increased vigilance. Future research should focus on specific interventions to reduce in- and post-hospitalization mortality for these patients.
COMMON MEDICAL CONDITIONS ASSOCIATED WITH THE USE OF MIND BODY MEDICINE: RESULTS FROM A NATIONAL SURVEY. S.M. Bertisch1; C. Wee2; R.S. Phillips3; E.P. McCarthy4. Harvard Medical School-Other Institute; Division of General Medicine and Primary Care, Beth Israel Deaconess Medical Center, Boston, MA; 1Division of General Medicine and Primary Care, Beth Israel Deaconess Medical Center, Boston, MA. (Tracking ID # 156821)

BACKGROUND: Evidence has shown that Mind Body Medicine (MBM) benefits patients with chronic low back pain, headaches, insomnia, and coronary artery disease (CAD). Little is known about the extent to which MBM is used by adults with common medical conditions.

METHODS: To explore this relationship, we examined the use of MBM, within the past 12 months, among patients with common medical conditions. We used data from the 2002 National Health Interview Survey Alternative Medicine Supplement, a U.S. population based survey which collects information on 74 medical conditions and 19 Complementary and Alternative Medicine therapies (n=31,044). MBM included relaxation techniques (deep breathing exercises, guided imagery, meditation, progressive muscle relaxation techniques), and physical modalities (Yoga, Tai Chi, and Qigong). We used bivariable and multivariable models, adjusted for age, sex, race, education, income, marital status, foreign born status, type of insurance and region of residence, to identify medical conditions associated with high use of MBM. All analyses were performed using SUDAAN to account for the NHIS complex sampling scheme, and were weighted to reflect national estimates.

RESULTS: Overall, 15.5% of adults used at least one MBM therapy, 14% of adults used a relaxation technique and 6% used a physical modality. Table 1 presents the medical conditions significantly associated with MBM before and after adjustment. Neck pain within the past 3 months, history of joint symptoms >3 months duration, anxiety or depression, insomnia and neuropathy were associated with the highest use of MBM. Except for neuropathy, these conditions were also associated with higher use of both relaxation techniques and physical modalities. Neuropathy, 65%, 93%.

CONCLUSIONS: Patients suffering from pain related conditions and insomnia were more likely to use MBM, which is consistent with evidence in the current literature. Despite the benefit of MBM in patients with coronary artery disease, we found no association between CAD and MBM use. However, patients with other common medical conditions were more likely to use MBM, though the reasons for use remain unclear.

Table 1: Use of MBM in past 12 months by Medical Condition

| Condition                        | In-hospital mortality | Post-discharge mortality | In-hospital mortality or adverse event | Post-discharge mortality or adverse event | Adjusted OR (95% confidence interval) | P-value |
|----------------------------------|-----------------------|--------------------------|----------------------------------------|------------------------------------------|--------------------------------------|---------|
| Mortality                        | 1.55 (0.53–4.53)      | 2.83 (1.44–5.55)         | 1.87 (0.75–4.68)                       | 2.63 (1.43–4.85)                         | 1.55 (0.41–20.39)                   | 0.234   |
| In-hospital mortality or adverse event | 4.00 (0.41–29.38)      | 5.02 (2.26 (9.54–5.46)      | 1.80 (0.79–14.06)                      | 0.50 (1.09–5.97)                         | 0.100                                       |

COMPARING RESIDENT QUALITY OF LIFE BEFORE AND AFTER WORK HOUR RESTRICTIONS. A.S. Tackett1; J.F. Wilton1; C.H. Griffith1. University of Kentucky, Lexington, KY. (Tracking ID # 15234)

BACKGROUND: A monumental change in medical resident training occurred in July 2003 when the Accreditation Council for Graduate Medical Education implemented new regulations restricting resident work hours. One of the factors involved in this decision was the perceived negative effect working long hours had on a resident’s quality of life (QOL). The purpose of this study was to determine if work hour restrictions improved our residents’ quality of life.
METHODS: A voluntary survey was given to internal medicine residents in the academic years of 1995–1996 and 2005–2006. Residents were asked to rate their own quality of life as well as that of the average medical resident and the average medical resident on the previous year, and the difference was calculated for each scale (one being the best and nine the worst.) A final question had residents select from several qualitative descriptions about their own quality of life. Answers from 1995 and 2005 were analyzed using means, standard errors and a T test.

RESULTS: In 1995, 57 residents responded to this survey giving a response rate of 71%; in 2005, 52 residents responded giving a response rate of 67%. Our results showed no substantial difference in quality of life between our respondents in 1995 and 2005. (1995 to 2005: Current year 6.4 ± 2.6, previous year 6.0 ± 2.6, next year 6.1 vs. 7.0.) The results also showed that our 2005 residents perceived their QOL as better than the average medical resident (6.2 ± 0.9 for residents vs. 6.5 ± 2.0 for the average medical resident). Other comparison groups showed that our residents’ QOL was better than a chronic pain patient, worse than a first year medical student, and much better than a second year medical student (6.2 ± 4.8). Of interest, all groups thought their QOL was not essentially different from the previous year (1995: 6.4 ± 6.0, 2005: 6.2 ± 6.1) but would be significantly better the next year (1995: 6.4 ± 2.3, 2005: 6.7 ± 0.7).

CONCLUSIONS: This study does not indicate a significant difference in our residents’ self-reported quality of life before and after the implementation of work hour restrictions. However, residents continue to feel optimistic regarding their future quality of life.

COMPARISON OF ABDOMINAL PAIN DIAGNOSES BETWEEN ELDERLY MEN AND WOMEN WHO PRESENT TO THE EMERGENCY DEPARTMENT. R.L. Gardner 1; J.H. Maselli 1; A.D. Auerbach 2; University of California, San Francisco, San Francisco, CA; (Tracking ID: #154004)

BACKGROUND: Prior research has shown a difference between young men and women in the distribution of abdominal pain diagnoses, but it is unknown whether this distinction persists as patients age. The objective of this study was to examine differences in diagnosis, management, and diagnosis between elderly male and female patients who present to the emergency department with abdominal pain.

METHODS: Retrospective review of charts from 131 consecutive patients 70 years of age or older who presented to our university teaching hospital with a chief complaint of abdominal pain. The primary outcome was differences between men and women in frequencies of 3 diagnoses: medical causes of abdominal pain, surgical causes of abdominal pain, and non-specific abdominal pain.

RESULTS: Of the 131 patients entered, 52 (40%) were men and 79 (60%) were women. The mean age was 81 for men and 80 for women. Other characteristics were similar in both groups, including ethnicity, insurance status, and past medical history. There were no differences between elderly men and women in the frequency with which they were assigned a diagnosis of medical (56% vs. 57%), surgical (25% vs. 18%), or non-specific abdominal pain (19% vs. 25%; p = 0.5 for heterogeneity among the three groups). Evaluation in the emergency room was similar in both groups, including the proportion undergoing abdominal imaging (62% vs. 68%; p = 0.42), receiving antibiotics (29% vs. 30%; p = 0.85), and receiving treatment for pain with opiates (35% vs. 41%; p = 0.5). Similar proportions were admitted (60% vs. 71%, p = 0.2) and underwent an operation (10% vs. 14%; p = 0.46). Among those who were admitted, the emergency room treatment was similar to the hospital discharge diagnosis 48% of the time in men and 66% of the time in women (p = 0.11).

CONCLUSIONS: Unlike previous research in younger patients, we noted no differences in diagnoses between older men and women who presented with abdominal pain. Our study requires confirmation in larger settings.
pharmacologically opposed actions. Patient outcomes associated with the consultation have not been well documented, however. Therefore, our objective was to determine the cognitive and functional consequences of concomitant use of ChI and bladder anticholinergics oxybutynin or tolterodine in nursing home (NH) residents.

METHODS: We linked Indiana Medicaid data and Minimum Data Set (MDS) data to identify 3647 NH residents ≥ 65 years old with at least 2 MDS assessments between 7/1/2003 and 12/31/2004. 413 residents were prescribed bladder anticholinergics concomitantly with ChI during the study period. Residents using other anticholinergics were excluded. Repeat measures analyses were performed using mixed effects models to assess the effects of concomitant therapy on change in cognitive function measured by the MDS-cog (scored 0–10) and change in ADL function measured by the 7 ADL items (scored 0–28) with higher values indicating worse functioning on both measures. Covariates included age, sex, race, number of medications used, Charlson comorbidity index, and baseline function.

RESULTS: Of 30 residents who were exposed to bladder anticholinergics for one year, the mean decline in ADL function would be 0.66 points more than the decline seen in residents on ChI alone (p = 0.048). For residents exposed to bladder anticholinergics for one year, there was a trend toward greater decline in ADL function (p = 0.10) and CCU (4.3% vs. 1.2%, P < 0.001) and CCU (4.3% vs. 1.2%, P < 0.001) and scheduled for consultation, though there was no difference in CCI and the bladder anticholinergics oxybutynin or tolterodine in nursing home (NH) residents.

METHODS: We selected a stratified random sample of all medical practices (primary care + specialists) in Massachusetts in 2005 and randomly sampled one physician per practice for a mailed survey. The initial mailing, which included a $20 incentive, was followed by a second and third mailing to non-responders. This survey assessed the presence of EHR in the practice, characteristics of the practice, and perceived barriers to EHR adoption. We used logistic regression to model the predictors of the main outcome measure, the percentage of practices with an EHR.

RESULTS: The response rate was 71% (1304/1890). Overall, 32% of physicians reported that their office had an EHR. Practice size was strongly correlated with EHR adoption (OR 7.86; 95% CI 1.97–31.14 vs. 7.7 vs. 2.4). Physicians using an EHR compared with 15% of solo practices (adjusted odds ratio [OR] 2.72; 95% confidence interval [CI] 1.40–5.30). Hospital-based practices were more likely to have EHR (OR 2.66; 95% CI 1.72–4.7). Having computerized office systems, including e-mail (OR 2.06; 95% CI 1.25–3.39) and a computerized prescribing system (OR 2.06; 95% CI 0.14–9.41), was strongly correlated with having EHR in the practice. Barriers to beginning or expanding the use of computer technology cited by respondents included start-up financial costs (75%), ongoing financial costs (72%), loss of productivity (73%), technical limitations of systems (73%), lack of uniform standards within the industry (73%), lack of time to acquire knowledge about systems (73%), lack of technical support (62%), lack of computer skills (57%), skepticism about benefits (54%) and privacy or security concerns (48%). Physicians identifying start-up costs (OR 0.27; 95% CI 0.16–0.46) and loss of productivity (OR 0.27; 95% CI 0.1–0.5) as barriers to EHR adoption were less likely to have EHR in their practices.

CONCLUSIONS: About 3 in 10 practices in Massachusetts have EHRs, but adoption rates are lower than expected. The higher barriers to EHR adoption in larger practices suggest that these practices are more likely to have financial and human capital to overcome the financial and technical barriers to adoption. Interventions to increase the uptake of EHRs in office practice should address both financial and non-financial barriers of adoption.
BACKGROUND: C-reactive protein (CRP) is an inflammatory marker that predicts outcomes in patients with coronary heart disease (CHD). Elevated CRP levels predict heart failure (HF) is not known.

METHODS: We measured serum CRP in a cohort of 985 outpatients with established CHD from the Heart and Soul Study. During an average 3 years (range 2 to 4 years) of follow-up, we interviewed study participants (or their proxies) and reviewed medical records, coroner reports, and death certificates for an assured "heart trouble." We also measured body mass index, smoking, and Framingham criteria. We compared rates of death and hospitalization for HF in participants with elevated (>3 mg/L) vs. normal (<3 mg/L) CRP levels using proportional hazards models adjusted for potential confounding variables. All analyses were performed using SPSS version 17.

RESULTS: Of the 390 participants with elevated CRP levels, 15% (56/390) were hospitalized for HF, compared with 7% (41/595) of those with normal CRP levels (p = 0.0003). This association between elevated CRP and HF persisted after adjustment for potential confounding variables [adjusted Hazard Ratio (HR) 1.7, 95% Confidence Interval (CI) 1.1-2.7; p = 0.03]. Likewise, 16% (63/390) of participants with elevated CRP levels died, compared with 11% (68/595) of those with normal CRP levels (p = 0.03), and this association persisted after adjustment for potential confounding variables [HR 1.6, 95% CI 1.1-2.4; p = 0.01]. Among the 812 participants without a history of HF, 21% (62/303) of those with elevated CRP were hospitalized for HF or died, compared with 13% (66/509) of those with normal CRP levels [HR 1.5, 95% CI 1.1-2.4; p < 0.01]. However, this association differed by the presence of chronic kidney disease (p for interaction = 0.09). Among the 216 participants with chronic kidney disease (CrCl < 60 ml/min) and no history of HF, elevated CRP levels were not associated with hospitalization for HF or death [adj-HR 1.0, 95% CI 0.6-1.8; p = 0.9]. However, among the 596 participants with normal kidney function (CrCl > 60 ml/min) and no history of HF, elevated CRP levels predicted hospitalization for HF or subsequent mortality [adjusted HR 2.1, 95% CI 1.3-3.8; p = 0.006].

CONCLUSIONS: Outpatients with stable CHD, elevated CRP levels predict hospitalization for heart failure and all-cause mortality. This association appears to be present in patients with normal kidney function, but absent in patients with kidney disease. Serum CRP identifies a high-risk population of CHD patients that may benefit from interventions to prevent HF.

CROSS-CULTURAL COMMUNICATION IN URBAN CLINICAL PRACTICE: RESIDENT EXPERIENCES

L. Williams1; S. McDowell1; C.R. Horowitz1

BACKGROUND: Disparities in health and health care have been linked to cultural competence training programs in many United States Medical Schools. Research is emerging about the experiences of United States Medical School Graduates (USMGs) and international medical graduates (IMGs) as they attempt to provide culturally appropriate care. However, little data is available regarding challenges faced by International Medical Graduates (IMGs), who in 2004–2005 made up 26% of trainees in ACGME accredited graduate medical education programs. The purpose of this study was to compare and contrast IMGs and USMGs preparedness for and provision of cross-cultural care.

METHODS: We conducted focus groups to assess residents’ knowledge, attitudes, beliefs and experiences with patients from different cultural backgrounds, and how their training environment fostered or detracted from the development of cultural competence, and to assess if differences existed between IMGs and USMGs. We conducted five focus groups with FOY-2 and FOY-3 internal medicine residents at a community based hospital (CHB) and an academic medical center in the same urban catchment area of New York City. The two groups at the CBH teaching program consisted of IMGs, and the three groups of residents at the academic center consisted of under-represented minority residents (1 group) and non-minority residents (2 groups). Using qualitative analysis software, three researchers trained in qualitative analysis developed a coding framework and analyzed all focus group transcripts.

RESULTS: A total of 43 participants: 23 USMGs, 5 of whom were African-American or Latino, and 20 IMGs. Both IMGs and USMGs perceive difficulties in providing cross-cultural care. All groups identified several common themes: 1) unfamiliarity with the cultures of their patients led to discomfort in providing culturally competent care; 2) difficulties in providing culturally competent care; 3) difficulty in understanding cultural beliefs and behaviors and their treatment implications; 4) difficulty in providing culturally competent care; and 5) difficulty in understanding cultural beliefs and behaviors and their treatment implications. All groups, some residents expressed surprise that being from the same race as the patient did not ease the difficulties of cross-cultural care. The residents described the lack of and expressed a need for faculty role models.

CONCLUSIONS: Cross-cultural challenges are broad and exist even when “race” is not a variable. Residents need training and perhaps an opportunity to discuss these challenges. Faculty also need to develop and model competency in cross-cultural communication to facilitate residents’ development of these skills.

CROSS-NATIONAL COMPARISON OF THREE VERSIONS OF THE ICD-10 CHARLSON INDEX

V. Sundararajan1; H. Quan1; P. Halfon2; K. Fushimi3; W.A. Ghali4

BACKGROUND: Charlson comorbidity index has been widely used for risk adjustment in outcome studies using administrative data. Recently, three ICD-10 translations have been formulated for Charlson comorbidities. This study was conducted to compare the properties of the Australian, Canadian and Swissland versions of ICD-10 coding algorithms using data from four countries.

METHODS: Data from Alberta, Canada (2002/2003, up to 16 diagnosis codes); Canton de Vaud, Switzerland (1999/2001, unlimited number of diagnoses); Victoria, Australia (2000-2001, 25 diagnoses) and Japan (2003, 11 diagnoses) were used for the analysis. For patients with more than one admission, only the first admission with a length of stay of 2 days or longer for each patient was included. Three ICD-10 coding algorithms were applied in these four datasets to define Charlson comorbidities. Logistic regression was fitted using hospital mortality as the dependent variable and individual comorbidities as independent variables and then was fitted again using weighted Charlson index score as an independent variable. C statistics and its 95% confidence interval (CI) were employed to evaluate model performance.

RESULTS: Inpatients from Alberta, the Canton de Vaud and Victoria were similar in age, in-hospital mortality and length of stay, whereas Japan’s inpatients were older, with higher mortality and longer length of stay. Within each locality’s data, the distribution of comorbidity levels was similar across the three ICD-10 versions of the comorbidity indices. The models with either individual comorbidity or Charlson score as independent variables produced slightly higher C-statistic for Canadian version than for Australia and Swissland version in each dataset. For example while fitting the logistic model using individual comorbidities in Japan data, C statistics was 0.709 for Australian coding algorithm, 0.712 for Canadian algorithm and 0.694 for Switzerland algorithm. However, the difference was not statistically significant.

CONCLUSIONS: Our analysis shows that although all three versions of the ICD-10 Charlson Index coding algorithms have good to excellent discrimination in their ability to predict in-hospital mortality, the Canadian algorithm consistently demonstrates slightly higher discrimination, not only in Canadian data but also in data from Australia, Switzerland and Japan. Use of the individual comorbidities in model building is preferable to the use of the weighted index.
BACKGROUND: In patients at increased risk of coronary artery disease (CAD), an important quality of care measure is reducing an elevated low density lipoprotein (LDL) according to National Cholesterol Education Program (NCEP) guidelines. This study examines the association of gender, race, and comorbidities by at least 25% (95% CI 16%–31%, P < 0.001); 18% (10%–26%) for high CAD risk (P < 0.001) and 15% (CI 4%–28%) for renal insufficiency (P = 0.008). The gender-race disparity was significant in both models of moderate (N=3,284) and high CAD risk (P=0.016). CONCLUSIONS: In this cohort of HTN patients at increased CAD risk, the time until an elevated LDL was addressed was significantly longer in women and minorities than in non-minority men. Although comorbidities that increase CAD risk were associated with more timely LDL care, the gender-race disparity in care persisted in patients at moderate and at high CAD risk.

DEVELOPING TEACHING SKILLS FOR MEDICAL EDUCATORS IN RUSSIA: A CROSS-CULTURAL FACULTY DEVELOPMENT PROJECT. J.G. Wong1; K. Ashipova2 1Medical University of South Carolina, Charleston, SC; 2Kazan State Medical University, Kazan.

BACKGROUND: Faculty development programs, often taught by general internists, play an important role for providing physicians with the skills necessary for improving their teaching. In the interest of helping to improve global health, this study built upon a successful pilot project looking at whether or not faculty-based development seminars could be successfully transported across different cultures and medical systems in order to help improve the clinical teaching skills of Russian medical faculty. METHODS: In a prospective evaluation trial, we created and presented a program comprised of 5 small group seminars, based on the Stanford Faculty Development Program (SFDP) model, to 48 faculty teachers at Kazan State Medical University (KSMU) in Kazan, Tatarstan, RUSSIA. The seminars were sequenced and presented in one weekend and covered the five educational categories of the SFDP including topical mini-lectures, reviews of verbatim re-enactments of teaching scenarios, role-playing and personal goal-setting exercises. The oral presentations, and all of the teaching materials were translated into Russian. We measured the seminar attendees’ self-reported teaching ability ratings using a previously studied retrospective pre-post questionnaire that was translated into Russian and asked about the teachers’ newly incorporated teaching behaviors through “Commitment to Change” (CTC) statements. RESULTS: The 48 participants were comprised of medical teachers in both basic and clinical sciences. We had a 98% survey response rate (47/48) at 1-month follow-up (95% CI 90%–100%) and the paired average ratings of global teaching performance improved between the retrospective pre- and post-test scores [pre = 84.8±17.7; post = 121±32.2, P < 0.001]. Summative self-reported ratings on each teaching dimension also improved [pre = 45.2, post = 121.3; P < 0.001]. Furthermore, the duration of this improvement persisted at 12 months where the self-reported global teaching scores were 42.5 (p < 0.01) and the specific teaching behavior scores were 116.8 (p < 0.01); the modest decrease in specific behaviors was not statistically significant. In aggregate, the participants list 121 CTC statements at 1 month; 90 (71%) of those teaching changes were fully instituted at 1 year. CONCLUSIONS: In this mixed methods project, we were able to demonstrate a positive, lasting affect of a faculty development course on the teaching skills of a diverse group of Russian medical teachers. Teaching skills presented in faculty development seminars can be successfully transported across different cultures and medical systems and may benefit health education internationally.
DIABETES NUMERACY SKILLS AND RELATIONSHIP TO GLYCEMIC CONTROL
R.L. Rothman1; D. Davis2; R. Gregory3; K.A. Waltho1; J. Sparks4; A.L. Cherrington5; D. Dewitt1; R.M. Malone1; M. Pignone1; T.A. Elasy1. Vanderbilt University, Nashville, TN; 2University of North Carolina at Chapel Hill, Chapel Hill, NC. (Tracking ID : 151800)

BACKGROUND: Numeracy, the ability to understand and use numbers and math in daily life, is an important component of diabetes self-care that has not been well studied.

METHODS: We designed a cross-sectional study to evaluate the role of numeracy in diabetes self-management. We developed a 45-item Diabetes Numeracy Test (DNT) to evaluate the ability of patients to count carbohydrates, interpret glucose meter results, apply sliding scale insulin regimens, calculate insulin dose based on insulin to carbohydrate ratios and perform other numeracy related diabetes tasks. We administered the DNT and examined its relationship to patients’ glycated hemoglobin (A1C), diabetes knowledge (DKT), literacy (REALM) and math skills (WRAT) using previously validated instruments.

RESULTS: 398 patients were recruited from primary care and diabetes care at two academic medical centers. Mean age was 54 yrs, 51% were male, and 34% were African American; 14% had Type 1 DM and 86% had Type 2, 60% used insulin and mean A1C was 7.6%. 45% reported a high school education or less, and 23% had < 9th grade literacy on the REALM, but 69% had < 9th grade math skills on the WRAT. Patients correctly answered a mean of 61% of DNT questions.

Patients had particular difficulties calculating carbohydrates from nutrient labels, determining the insulin dose, and titrating insulin. Higher DNT scores were significantly correlated (p = < 0.001) with higher educational status (r = 0.51), literacy (r = 0.50), math skills (r = 0.48), diabetes knowledge (r = 0.48), and frequency of blood glucose monitoring (r = 0.36), and modestly associated with lower A1C (r = 0.08; p = 0.12). In multivariate analysis, DNT score was statistically significantly (p = 0.05) correlated with A1C after adjusting for age, gender, race, income, literacy, insulin status and type of diabetes; each 10 point increase in DNT score was correlated with a 0.1 point decrease in A1C.

CONCLUSIONS: Many patients with diabetes have difficulties with numeracy related to diabetes self-management that may need to be an independent factor of glycemic control. Future interventions should address the role of numeracy in self-management.

DIAGNOSTIC REPORTING CHALLENGES IN THE VETERANS HEALTH ADMINISTRATION
T.L. Wahls1; P. Crawford2. Iowa City Veterans Healthcare System, Iowa City, IA; 2University of Iowa, Iowa City, IA. (Tracking ID : 151501)

BACKGROUND: There is widespread concern about problems with the management of test results but there are limited data about the systems that are employed in clinical practice to prevent them. We hypothesized that many clinics would be unable to modify any standardized procedure for managing test results and that patient events related to medical error due issues with results reporting would be reported by providers.

METHODS: An anonymous internet based survey was developed and administered to a regional network of clinics in a well developed EMR. Increased use of standard operating procedures in the management and reporting of test results to patients and the development of systems capable of tracking ordered tests, and removing and localizing problems as they occurs probably have major impacts on reducing the risk of medical error related to result reporting.

DIFFERENCES IN CANCER RISK PERCEPTION AMONG DIVERSE WOMEN
E.J. Perez-Stable1; S.E. Kim1; S.T. Wong2; C.P. Kaplan1; J. Walsh1; G.F. Sawaya1. 1Vanderbilt University, Nashville, TN; 2University of California, San Francisco, San Francisco, CA; 3University of British Columbia, Vancouver, British Columbia, Canada. (Tracking ID : 151502)

BACKGROUND: Inaccurate perceptions of risk may affect informed decision-making and have behavioral consequences. We compared the perception of breast, cervical, and colon cancer risk in diverse women to their screening behavior.

METHODS: Women, aged 50 to 80, stratified by ethnicity (White, African American, Latina, Asian) who had at least one visit to a primary care physician in the previous two years were recruited from ambulatory practices. Interviewers administered a 32 item telephone survey assessing 8 points: routine hospital and discharge care; scores and local response and many providers (33%) reported encountering 1 or more cases of delay in diagnosis or treatment as a result.

CONCLUSIONS: Missed test results and treatment delay were often reported by clinicians in a health system with a well developed EMR. Increased use of standard operating procedures in the management and reporting of test results to patients and the development of systems capable of tracking ordered tests, and removing and localizing problems as they occurs probably have major impacts on reducing the risk of medical error related to result reporting.

DISCHARGE PLANNING AND INAPPROPRIATE HOSPITAL USE: IMPACT OF AN INTERVENTION
M. Luiz-Simores1; M.P. Kosovska1; P. Sagda2; P. Chopra1; T.V. Perneger3; J.M. Gaspoz1; 1Vanderbilt University, Nashville, TN; 2Quality of Care Service, Geneva University Hospitals, Geneva; 3Quality of Care Service, Geneva University Hospitals, Geneva. (Tracking ID : 151533)

BACKGROUND: We previously derived and validated a score predicting, on the 3rd hospital day, patients’ risk of transfer to a post-acute care facility (PACF) at the end of their hospital stay. The score was based on 8 variables significantly associated with transfer to a PACF in a multivariable model: number of active medical problems upon admission (1 point per problem); lack of informal help from family, friends and/or community; depression; difficulty in bathing; fear of falling; having insurance that covers skilled nursing; and inability to cook and prepare meals at home. We evaluated whether targeted actions based on the score could avoid inappropriate hospital use.

METHODS: The score was measured by research nurses on a patient sample of general internal medicine during a 4-week observation period. Then, a 10-week intervention was implemented. The score with suggestions were posted on patients’ charts so that residents and fellows could choose not to admit patients of not being able to return home directly and take appropriate actions. Suggested actions differed according to patients’ scores and score’s items: scores < 8 points: routine hospital and discharge care; scores ≥ 8 points: more intensive physical therapy if needed; level of home care assessed and reinforced if necessary; early transfer planning to a PACF for patients identified as unable to directly return home after multidisciplinary assessment or if failure of planned actions. Outcomes of interest for the intervention were: proportion of patients transferred to a PACF; hospital length of stay (LOS); number of inappropriate hospital days; and number of inappropriate hospital days due to discharge delay. Statistical analyses were performed using parsimonious logistic or linear regression models.

RESULTS: 491 patients were recruited of which 248 (50.5%) were admitted to the intervention. Both groups were comparable in terms of mean age (67 years) and gender (47% women). After adjustments for clinical characteristics, type of home help and hospital occupancy rates, the intervention did not significantly modify the odds of transfer to a PACF (OR: 0.77; 95% CI: 0.47 to 1.26).

CONCLUSIONS: A discharge planning intervention based on a score that early identifies patients at risk to be discharged to a PACF at the end of their acute hospital stay can reduce inappropriate hospital use without unduly increasing transfer to a PACF.

DISCHARGE PLANNING WITH HELP OF A SCORE: WHEN RESIDENTS AND NURSES TAKE IT ON.
C. Bem1; M.P. Kosovska1; T.V. Perneger3; J.M. Gaspoz1; M. Louis-Gueret1. 1Service of General Internal Medicine, Geneva University Hospitals, Geneva. 2Quality of Care Service, Geneva University Hospitals, Geneva. 3Quality of Care Service, Geneva University Hospitals, Geneva. (Tracking ID : 151593)

BACKGROUND: We previously validated a simple 5-item score predicting, on the reporting only abnormal results); 0.7 days; 95% CI: 0–0.7 days; significance (0.2). Decrease in the number of inappropriate hospital days due to discharge delay just missed statistical significance (0.1; 95% CI: 0.2) for 2.5 points.

CONCLUSIONS: A discharge planning intervention based on a score that early identifies patients at risk to be discharged to a PACF at the end of their acute hospital stay can reduce inappropriate hospital use without unduly increasing transfer to a PACF.
DISPARITIES IN DIABETES PREVALENCE, COMORBIDITIES, AND TOBACCO USE IN CALIFORNIA ADULTS: A.L. Diamant1; S.H. Babey1; T. Hastert1; University of California, Los Angeles, Los Angeles, CA. (Tracking ID #: 156812)

BACKGROUND: Diabetes is the 6th leading cause of death in the US and a significant cause of morbidity including blindness, end-stage-renal disease and amputation. Until recently, Type 2 diabetes has increased considerably among adults under the age of 50, especially among communities of color. We used a population-based sample of California adults to estimate disparities in diabetes prevalence, comorbidities and tobacco use.

METHODS: We used data from the 2001 and 2003 California Health Interview Surveys (CHIS). CHIS 2003, a random-digit dial (RDD) telephone survey of households drawn from every county in California, completed interviews with over 42,000 households in 2003. Bivariate analyses were used to examine diabetes prevalence, comorbidities and tobacco use among California adults.

RESULTS: In 2003 6.6% of California adults had been diagnosed with diabetes, up from 5.0% in 2001 (p<0.01). African Indians/Alaska Natives (8.0%) and African Americans (9.3%) had the highest prevalence. Prevalence among African Americans was significantly higher than among Latinos (7.5%), Asians (6.4%) or Whites (5.4%), were the only racial/ethnic group to show a significant increase in diabetes prevalence from 5.0% in 2001 to 6.4% in 2003. In addition, Latinos have the highest prevalence in each of the following age groups: 18-49, 50-64 and 65 or over. Diabetes prevalence decreases with additional education from 12.0% for those who did not complete eighth grade to 4.5% among college graduates. Prevalence also decreases with increasing income from 8.8% for those with household incomes below 20,000 (p<0.001) to 1.6% for those with household incomes of at least 300,000 (p<0.001). FPL. High blood pressure and smoking have been linked to increased risk of serious complications such as cardiovascular disease, kidney damage, neuropathy, and amputation. Among those diagnosed with diabetes, these risk factors vary by race/ethnicity. Overall, 60.9% of those with diabetes have high blood pressure. More African Americans with diabetes have high blood pressure (74.0%) than any other group, followed by Whites (68.2%). Overall, 15% of those with diabetes are smokers, but 39.8% of AI/ANs with diabetes are current smokers, followed by African Americans (20.7%). Disparities also exist in risk factors for developing diabetes. Obesity, weight and obesity are important risk factors for developing diabetes. Factors such as diabetes are risk factors for diabetes that are not diagnosed with diabetes. 54.0% are either overweight or obese; however, significantly more Latinos (64.8%), African Americans (63.7%) and AI/ANs (62.7%) are overweight or obese compared to Whites (52.5%) or Asians (51.4%), placing these groups at increased risk for developing diabetes.

CONCLUSIONS: African Americans, American Indian/Alaska Natives and Latinos have the highest diabetes prevalence, and are at greatest risk for developing diabetes and complications. This suggests a need for research and intervention to reduce disparities in diabetes prevalence, comorbidities and tobacco use among California adults.
CONCLUSIONS: Among Medicare beneficiaries with AMI who were admitted to hospitals without revascularization services, black patients were less likely to be transferred to another hospital with revascularization services, and to receive coronary angiography if the presenting problem was AMI. This study identified the legal status of gender and the general trend towards providing equal access to care as an important source of disparity in AMI treatment. Further research is needed to determine if these differences are due to unmeasured severity, patient preferences or physician practice.

DO DOCTORS VOTE? D. Grande; K. Armstrong. University of Pennsylvania, Philadelphia, PA; University of Pennsylvania School of Medicine, Philadelphia, PA. Tracking ID # 54585

BACKGROUND: In a democratic society, voting is the most basic expression of citizen participation and engagement in community and public affairs. Many scholars have argued that doctors, as members of a profession, have a unique role in society that elevates expectations for civic participation. Recent trends including declining trust in medicine and increasing investor-ownership in the health care industry have renewed discussions about medical professionalism and its basic tenets including a duty to engage in advocacy and community affairs. Despite these proclamations and scholarly analyses, few studies have been conducted to assess physician civic engagement and its most basic form, voting.

METHODS: This is a cross-sectional study of voting participation of physicians in Congressional and Presidential elections in the even-numbered years 1996–2002 using a historical comparison of 1976-1982. The data source for the 2003-2004 National Health Interview Survey, a monthly, nationally representative, telephone survey of approximately 48,000 households. There are 1,274 physicians in the total 1996 to 2002 sample. The November voting participation is administered monthly in each even year for a 10-day election day and asked whether individuals voted in the most recent election in addition to collecting extensive demographic data. The odds of physicians voting in the 1996-2002 elections are estimated using logistic regression models and the general population were estimated with multivariate logistic regression models controlling for a variety of demographic characteristics known to be associated with voter participation (race, ethnicity, income, education, geography, marital status, employment, duration of residence, home ownership, age, and children in households). Similar models were estimated for a larger category of health practitioners (e.g., dentists, podiatrists) to permit comparison to a historical reference period of 1976-1982 (oldest available data of adequate quality and detail) when occupations were categorized with less specificity.

RESULTS: After multivariate adjustment, physicians were less likely to vote than the general population in 1996 (OR=0.63, CI: 0.44–0.88) and 2002 (OR=0.68, CI: 0.50–0.95) compared with 1976 (OR=0.83, CI: 0.59–1.17). Over all years of analysis, lawyers voted at much higher rates than the general population (1996: OR =1.51, CI =1.08–2.11; 1998: OR =2.17 CI =1.63–2.90) and less likely to engage in moderate (OR =0.63, CI : 0.44–0.88) or vigorous (OR =0.49, CI : 0.34, 0.70) physical activity. There were no differences in health coverage or hypercholesterolemia among the three groups.

CONCLUSIONS: Our analysis provides interesting new information about health care access, risk factors and behaviors in IA and CA. However, this is a cross-sectional analysis: prospective studies that evaluate the relationships among these variables and the cardiovascular disease incidence need to be conducted. Finally, IA and CA-specific data should be planned for and the groups oversampled in ongoing national surveys for more reliable estimates and to better monitor their health.

DO MEDICAL INPATIENTS WHO REPORT POOR SERVICE QUALITY EXPERIENCE MORE ERRORS AND ADVERSE EVENTS? E.B. Taylor1; E.R. Manciocco2; R.S. Phillips3; I. Vanegas1; D.W. Bates2; B. Vavilala4; R.J. Brook5. 1Beth Israel Deaconess Medical Center, Boston, MA; 2University of Pennsylvania School of Medicine, Philadelphia, PA; 3VA New York Harbor Health Care System and New York University, New York, NY; 4VA New York Harbor Healthcare System and New York University, New York, NY; 5Tracking ID # 152992

BACKGROUND: Previous studies have shown that patients can reliably identify adverse events (an indicator of the technical quality of their care) and ‘service’ quality problems such as poor communication or waits and delays. However, little is known about the relationship between adverse events and service quality. Are service quality events merely inconvenience, or do they also suggest systemic problems with the care environment?

METHODS: To understand whether patient-reported service quality events were associated with technical quality events during hospitalization, we conducted a prospective cohort study of 228 adult inpatients on a medicine unit of a Boston teaching hospital. Patients were interviewed daily and after discharge about problems, mistakes, and injuries that occurred during hospitalization. Investigators, blinded to patient reports, also reviewed patients’ charts for adverse events and errors. All events elicited by either patient report or chart review were adjudicated by a panel of physicians and classified. Examples of service quality events were patient dissatisfaction, delays, poor communication, and poor sanitary conditions. Technical quality events included: adverse events, defined as injuries because of medical care rather than the natural history of illness; close calls, defined as errors with potential for injury, and medical errors, defined as lapses in care with minimal risk of harm. We built a multivariable logistic regression model to examine the relationship between the presence of any technical quality event on chart review (dependent variable) and any patient-reported service quality event, adjusting for length of stay.

RESULTS: Eighty-eight (39%) patients reported 157 service quality incidents; problems with waits and delays, poor communication, and environmental amenities were cited most often. Investigators identified 32 adverse events, 11 close calls, and 7 harms. Medical errors on chart review were uncommon (2%). On multivariable analysis, this trend persisted (OR 2.1, 95% CI 1.0 - 4.3, see Table). In this prospective cohort of adult inpatients, patient-reported service quality incidents were associated with the presence of technical quality events. Understanding service quality may provide insight into attributes of the care environment that jeopardize patient safety.

Table. Univariate and multivariate analysis of factors associated with at least one technical quality event

| Factors | N | Mean | Unadjusted | Adjusted (OR 95% CI) |
|---------|---|------|------------|---------------------|
| Service quality incident | 157 | 2.4 | (1.2 - 4.6) | 2.1 | (1.0 - 4.3) |
| Length of stay | Mean 4.4 | 1.2 | (1.1 - 1.3) | 1.2 | (1.1 - 1.3) |
| Age | Mean 63 | 1.0 | (0.98 - 1.03) | 1.0 | (0.98 - 1.03) |
| Male gender | N=85 | 1.5 | (0.77 - 2.8) | 1.5 | (0.77 - 2.8) |
| Comorbid illnesses | Mean 2.4 | 1.1 | (0.93 - 1.3) | 1.1 | (0.93 - 1.3) |
| Non-English speaking | N=31 | 0.38 | (0.05 – 3.0) | 0.38 | (0.05 – 3.0) |
| Number of medications | Mean 7.1 | 1.0 | (0.95 – 1.1) | 1.0 | (0.95 – 1.1) |
| Number of drug allergies | Mean 1.2 | 1.1 | (0.92 – 1.3) | 1.1 | (0.92 – 1.3) |

DO PATIENT REQUESTS FOR MEDICATION ENHANCE OR HINDER PHYSICIAN/ EVALUATION OF DEPRESSION: A RANDOMIZED CONTROLLED TRIAL. M.O. Feldman1; P. Fraiz; R. Epstein2; C. Franz3; R.L. Kravitz4. 1University of California, San Francisco, CA; 2UC San Diego, San Diego, CA; 3University of California, Los Angeles, CA; 4University of Rochester, Rochester, NY; 5University of California, San Diego, San Diego, CA; 6University of California, Davis, Sacramento, CA. Tracking ID # 15359

BACKGROUND: Patients request medication in about 15% of visits. The effect of these requests on the process and outcomes of care is uncertain. We
conducted a randomized trial examining actual clinical behavior of physicians in the context of patient requests for treatment. Our objective was to ascertain whether patients’ requests for antidepressants affect (a) history-taking by primary care physicians (PCPs) for patients with depressive symptoms, (b) depression diagnosis, (c) the provision of minimally acceptable initial care for depression, and (d) visit duration.

METHODS: Standardized Patients (SPs) were trained to portray 6 roles, involving one of two clinical presentations (major depression with carpal tunnel syndrome or adjustment disorder with low back pain) with one of three anti-depressant request types (brand-specific, general, or none). 152 PCPs in California, Boston, Rochester, and New York were randomly assigned to two visits involving each presentation, and two of the three request types. Visits were covertly audiotaped and immediately following the visit SPs listened to the audio-recording and completed an SP Reporting Form. Chart review of each encounter was also conducted.

RESULTS: Eighteen SPs made 298 visits to 152 PCPs in N. California (n = 197) and Rochester, NY (n = 101). Portrayal of major depression (as opposed to adjustment disorder) was significantly associated with higher rates of question asking for most of the depression history questions. Of note, inquiries about suicidality were at least 10% higher for both request conditions. After adjusting for covariates, PCPs asked more depression questions in visits where a general request was made, the SP portrayed major depression, visit duration was longer, and the treating physician was younger (p < 0.001). A chart diagnosis of depression was more likely when more depression history taking occurred (p < 0.04), when any kind of request was made (p < 0.001), and if the SP presentation was depression (vs. adjustment disorder) (p < 0.001). More extensive history taking for depression was not associated with reduced history taking for a co-morbid musculoskeletal condition, or with longer medical visits. We found no provision of minimally acceptable initial care (defined as any combination of an anti-depressant prescription, mental health referral, or follow-up visit within two weeks of the initial visit) was more likely when more depression history questions were asked.

CONCLUSIONS: To our knowledge, this is the first study to examine how patients’ medication requests influence physician’s clinical assessments. We found that requests for antidepressant medication were associated with both increased depression history taking and the provision of minimally acceptable care for depression. Thus, we found no evidence that patients’ requests for medication short-circuited history taking for depression, distracted the physician’s attention away from coexisting musculoskeletal conditions, or generated longer visits. It appears that patients’ requests for medication increased the thoroughness of depression history taking, including inquires about suicidality. Our findings suggest that patients should be encouraged to advocate for their own quality health care. Future research should address the question of what forms of patient education and activation are needed to improve detection and treatment of depression in the primary care setting.
non-WHT residents in knowledge, comfort, or referral patterns on questions related to diabetes or thyroid disease.

CONCLUSIONS: Internal medicine residents in a women’s health track are more predictable and reliable than non-WHT residents in knowledge and health care related to the diagnosis, treatment, and management of ambulatory topics specific to women. WHT residents scored equally as well on knowledge and comfort as non-WHT residents on questions about thyroid disease and diabetes. The results suggest that WHT residents received didactic and clinical experiences on ambulatory topics, as utilized in our women’s health track, can serve as a model for improving women’s health competencies in internal medicine training without compromising knowledge or comfort on two core topics in general internal medicine.

DOES A COMPLEMENTARY AND ALTERNATIVE MEDICINE WORKSHOP USING STANDARDIZED PATIENTS INCREASE KNOWLEDGE AND IMPROVE SKILLS?

D.W. Rudy1; A.R. Hoellein1; M. Lineberry1; J.F. Wilson1; S.A. Haist1. University of Kentucky, Lexington, KY. (Tracking ID # 154639)

BACKGROUND: As the use of Complementary and Alternative Medicine (CAM) has increased in the general population, medical students and medical educators have responded with proliferating CAM interest groups and novel or expanded CAM curricula. However, formal CAM education remains extraneous and especially less structured in the southeastern US. The purpose of this study is to determine the impact of a CAM workshop (WS) using standardized patients (SP) on knowledge and clinical skills of third-year medical students.

METHODS: A four-hour CAM WS was developed as part of a new curriculum for a required third-year four-week primary care internal medicine clerkship. The CAM WS and three other novel WS were randomized for delivery to one-half of the rotational groups. The CAM WS incorporates four SP cases representing different clinical challenges (chiropractic, acupuncture, herbal/dietary supplement use) and an SP encountered in an expanded group discussion of CAM approaches to the problems. Participating students are provided a 44-page CAM reference and all students are assigned CAM readings. At the end of the four weeks, all students take a 100-item written exam (seven CAM questions, e.g., “a contradiction to the use of Echinacea is:”) and nine-station SP exam (one CAM station, 47 year-old woman complaining of fatigue and forgetfulness interested in ginseng and ginkgo) including a post-SP encounter open-ended written exercise (e.g., “the first time that you have encountered a CAM practitioner facilitates group discussion of sensitive approaches to the problems. Students participating in a four-hour CAM WS performed significantly better than non-participants on the seven CAM written exam items (5.8 ± 7.0 vs. 3.2 ± 1.2, F = 2.77, p = .0007) and the post-SP encounter written exercise (92.4 ± 7.4% vs. 88.3 ± 8.5%, F = 6.3, p = .014). When controlled for the Preventive Medicine SP stations, scores on the 27 CAM-specific SP checklist items between participants and nonparticipants approached significance (14.5 ± 5.2 vs. 12.1 ± 6.0, F = 3.8, p = .054).

CONCLUSIONS: Students participating in a four-hour workshop exhibit superior CAM knowledge as assessed by open-ended and multiple choice examinations. However, it appears that CAM students and professionals believe that CAM knowledge is already integrated into basic interviewing at our institution, or, perhaps, reflective of personal experience with CAM. Nevertheless, direct practice with SPs does appear to be an ideal model for SPs to assist in the application of CAM knowledge. This finding may be related to enhanced student motivation to research CAM literature as a result of a simulated experience emphasizing patient interest or ignorance of CAM modalities.

DOES A GERIATRIC MEDICINE WORKSHOP USING STANDARDIZED PATIENTS INCREASE KNOWLEDGE AND IMPROVE SKILLS?

D.W. Rudy1; A.R. Hoellein1; M. Lineberry1; J.F. Wilson1; S.A. Haist1. University of Kentucky, Lexington, KY. (Tracking ID # 154640)

BACKGROUND: Since 1950, Americans over age 65 have grown in number and comprise a population that is more diverse than ever before. Currently, geriatric patients account for double that of the overall population. Physicians often fail to intensify anti-hypertensive medications in older patients with diabetes, physicians often fail to intensify anti-hypertensive therapy in older patients with diabetes. The purpose of this study is to determine the impact of a GM workshop (WS) using standardized patients (SP) on knowledge and clinical skills of third-year medical students.

METHODS: A four-hour GM WS was developed as part of a new curriculum for a required third-year four-week primary care internal medicine clerkship. The WS and three other novel WS were randomized for delivery to one-half of the rotational groups. The GM WS was delivered to six of the twelve rotational groups during the 2004–2005 academic year. Forty-eight students participated in the WS and 49 did not. WS participants performed significantly better than non-participants on the GM-written exam items (70 ± 1.2 vs. 66 ± 1.3, F = 13.9, p = .001) and post-SP encounter written exercise (86.9 ± 6.7% vs. 78.9 ± 5.8%, F = 36, p < .001). There was no significant difference (p = .50) between the groups on the NPWB-specific SP checklist items.

CONCLUSIONS: Students participating in a four-hour SP WS exhibit superior GM knowledge as assessed by open-ended and multiple choice questions. Since no differences between WS participants and non-participants were observed in GM-specific SP stations, we conclude that the impact of the GM workshop on GM knowledge and skills is not affected by prior training in geriatrics.

DOES A NUTRITION AND PHYSICAL WELL-BEING WORKSHOP USING STANDARDIZED PATIENTS INCREASE KNOWLEDGE AND IMPROVE SKILLS?

T. S. Caudill1; A.R. Hoellein1; M. Lineberry1; J.F. Wilson1; S.A. Haist1. University of Kentucky, Lexington, KY. (Tracking ID # 154638)

BACKGROUND: Despite the well-recognized health effects of proper diet and exercise, only about 20% of Americans consume the recommended proportions of fruits and vegetables and achieve the recommended level of physical activity. Perhaps these practices have contributed to over 60 million obese adults in America. Notwithstanding, only 16% of Americans report receiving dietary or exercise advice from their doctor. Therefore, Nutrition and Physical Well-Being (NPWB) knowledge and counseling skills should be part of medical student curricula. The purpose of this study is to determine the impact of a four-hour NPWB workshop (WS) using standardized patients (SP) on knowledge and clinical skills of third-year medical students.

METHODS: A four-hour NPWB WS was developed as part of a new curriculum for a required third-year four-week primary care internal medicine clerkship. The WS and three other novel WS were randomized for delivery to one-half of the rotational groups. The NPWB WS incorporates four SP cases representing different clinical challenges (exercise prescription, diabetic dietary counseling, stress reduction strategies, and low-carbohydrate diet counseling). A faculty preceptor facilitates group discussion of sensitive approaches to the problems. Participating students are also provided a 17 page NPWB reference and complete an evaluation of the WS. All students in every rotational group are assigned NPWB readings. At the end of the four weeks, all students take a 100-item written exam (seven NPWB questions, e.g., preparticipation evaluations) and the post-SP encounter written exercise (e.g., “List 4 interventions recommended for the treatment of moderate hypertension”). Student scores on NPWB items, NPWB-specific SP checklist items, and NPWB-open ended written exercise of WS participants and non-participants were analyzed with simple means, standard deviations, and multiple regression approaches controlling for USMLE Step 1 scores and PreNPWB GM SP station checklist scores.

RESULTS: Forty-nine students participated in the WS and 48 did not during the 2004–2005 academic year. WS participants performed significantly better than non-participants on the NPWB written exam items (5.7 ± 1.0 vs. 4.9 ± 1.2, F = 13.9, p < .001) and the post-SP encounter written exercise (86.9 ± 6.7% vs. 78.9 ± 5.8%, F = 36, p < .001). There was no significant difference (p = .50) between the groups on the NPWB-specific SP checklist items.

CONCLUSIONS: Students participating in a four-hour SP WS exhibit superior NPWB knowledge as assessed by open-ended and multiple choice questions. Since no differences between WS participants and non-participants were observed in NPWB-specific SP stations, we conclude that the impact of the NPWB workshop on NPWB knowledge and skills is not affected by prior training in nutrition and exercise with obese patients is accompanied by a degree of discomfort that would be reduced by practicing with SPs. Therefore, future studies will evaluate the effects of practicing with SPs on patients presenting to the clinic with issues not related to obesity.
perspective treatment. Having a specialist involved in patient care may hinder intensification if each provider believes that the other provider is intensifying treatment.

METHODS: To identify barriers and promoters of intensification, we conducted a non-concurrent cohort study of 254 patients with type 2 diabetes and hypertension enrolled in an academically-affiliated managed care program. Between 1999–2001, 1,374 visits with sub-optimally controlled blood pressure (systolic BP ≥ 140 mmHg or diastolic BP > 90 mmHg) were identified from the medical record review. We specifically evaluated information on referrals given at the visit, whether a cardiologist is involved in care, and whether patients were matched with their regular primary care provider at the visit. In the longitudinal analysis of predictors of intensification, we constructed visit-based multivariable logistic regression models using generalized estimating equations to account for clustering by patients.

RESULTS: Primary care physicians intensified antihypertensive treatment in only 176 (12%) of 1374 visits where BP was sub-optimally controlled. The patients had a mean age of 65, were 59% male, 55% Caucasian, 35% African American, and 10% Asian or Other. 89% were on ≥ 3 blood pressure medications indicating room for intensification, 26% had a cardiologist involved in their care, and 77% of their appointments were with their regular physician. As expected, higher mean systolic and mean diastolic blood pressures (BP) were strong predictors of intensification. Treatment was also more likely to be intensified at visits that matched patients with their usual primary care provider with odds ratio and 95% confidence interval [OR, 95% CI] of [1.76, 1.06–2.95], at routine visits [2.08, 1.35–3.20], and at visits who initiated the primary care diabetes-related referrals [1.70, 1.09–2.65]. In contrast, fingerstick glucose > 150 mg/dL [0.53, 0.30–0.93], and a history of coronary heart disease (CHD) [0.57, 0.37–0.90] were associated with a lower likelihood of intensification. Those patients with CHD were also seeing a cardiologist. The cardiologist intensified antihypertensive treatment at 24% of their visits with these same patients. Specifically, having a cardiologist who did not intensify antihypertensive treatment at 24% of their visits with these same patients. The cardiologist intensified antihypertensive treatment at 24% of their visits with these same patients. Specifically, having a cardiologist who did not intensify antihypertensive treatment at 24% of their visits with these same patients. Specifically, having a cardiologist who did not intensify antihypertensive treatment at 24% of their visits with these same patients. Specifically, having a cardiologist who did not intensify antihypertensive treatment at 24% of their visits with these same patients. Specifically, having a cardiologist who did not intensify antihypertensive treatment at 24% of their visits with these same patients. Specifically, having a cardiologist who did not intensify antihypertensive treatment at 24% of their visits with these same patients. Specifically, having a cardiologist who did not intensify antihypertensive treatment at 24% of their visits with these same patients.

CONCLUSIONS: Failure to appropriately intensify antihypertensive treatment is a common problem in diabetes care. Improving care coordination between primary physicians and cardiologists is essential in improving diabetes control.
testing may be important tool to improve screening among women with persistent barriers to Pap smears use. Further study is underway to assess sociodemographic and cultural covariates that may have an additional impact on willingness to have a Pap smear.

DOES CURRENT DRUG DEVELOPMENT SERVE SOCIETY’S HEALTH NEEDS? S. Keyham1; S. Wang1; F. Safavi1; P. Amro1; Mount Sinai School of Medicine, New York, NY; 1Saint Joseph’s College of Maine, Standish, ME; 2Albert Einstein College of Medicine, New York, NY. (Tracking ID # 15370)

BACKGROUND: Most drug development is undertaken by the pharmaceutical industry. The objective of this study was to examine where the focus of current drug development resides and to determine if it was tied to any measure of population health after accounting for NIH funding. Previous research has shown that NIH funding is related to the burden of disease.

METHODS: We conducted a retrospective study of all new molecular entities (NMEs) developed between 1992 and 2004. We collected different measures of disease burden including incidence, prevalence, mortality, years of life lost and disability adjusted life years (DALYs) from the CDC and World Health Organization publications in 1990 and 1996. We collected data on NIH funding per disease category from the NIH (1992, 1994, 1996). First, we characterized drugs based on disease indication and innovation (first-in-class for a given indication). Second, we examined the relationship between the number of drugs developed and disease burden for 47 health conditions for which population data were available using negative binomial regression. Third, we examined the relationship between the number of drugs developed for a specific condition and disease burden after accounting for NIH funding.

RESULTS: Between 1992 and 2004, 339 therapeutic New Molecular Entities were developed for 117 different indications, Twenty (17%) of those indications accounted for half (50%) of all therapeutic NMEs developed in this time period. A quarter of all therapeutic NMEs developed were used to treat five conditions (hypertension, bacterial infection, diabetes, allergies and HIV). Thirteen percent of anti-bacterial drugs and none of the anti-hypertensive drugs in the preceding category represented a significant therapeutic advance over existing drugs. A third of drugs were first-in-class for a given indication and 1 1/2% of drugs had a novel mechanism of action. Twenty-three percent of new drugs were developed for conditions that exacted a large health burden in terms of DALYs. Using data on 27 conditions and 122 drugs developed for those conditions, we found that neither mortality (P=0.43), DALYs (P=0.76), of years of life lost (P=0.13), incidence (0.7) nor prevalence (0.38) predicted the number of drugs developed. Adjusting for NIH funding did not change these findings. However, NIH funding had a positive and significant association with drug development for a given disease (P<0.05).

CONCLUSIONS: Drug development encompasses a wide variety of indications; however, bulk of drug development is focused on the CDC and WHO’s guidelines. Even though public funding through the NIH is related to disease burden, private sector drug development is not related to any measure of population health.

DOES INSURANCE STATUS OR CRONICITY OF ILLNESS INFLUENCE SAMPLE USE AMONG PRIVATE PHYSICIANS? M. S. Nonghan1; C. E. Rich1; R. Warner1; L. Morrow2; H. Mary1. 1Creighton University Omaha, NE. (Tracking ID # 15690)

BACKGROUND: Published reports suggest that availability of drug samples led academic physicians to prescribe and dispense drugs that differ from their preferred choice based on perceived benefits to patients. Several questions remain: Is this true for private physicians? Does insurance status or chronicity of illness influence sample use? Our primary purpose was to assess the effect of insurance status and disease chronicity on private physician use of samples. A secondary purpose was to examine sample use among private primary care physicians (PCPs) and specialists.

METHODS: A cross-sectional survey design was used to assess four groups of private physicians regarding their use of samples in self-reported prescribing for clinical scenarios. Physicians were general internists, family practitioners, cardiologists, and orthopaedists. The survey used scenarios (UTI, HTN, tendinitis, diabetes) that differed in acuity/chronicity of illness. Each was divided into two parts in which the patient either had insurance and then did not or vice versa. Physicians were asked to choose an initial drug or dis pense a sample; if they dispensed a sample, they were asked the factors that influenced sample use and to rate their importance in deciding to use a sample. Multivariate model analyses using Wilcoxon Signed Rank Test for related samples assessed the use of drug samples.

RESULTS: Three hundred seven participants were identified. One hundred fifty-six of the 307 surveys were returned (50%). Factors leading to the use of samples included no insurance (p<0.001), MD specialty (p<0.001), and practice type (p=0.003). Factors leading to a change in therapy were the greatest when the samples included no insurance (p<0.001), MD specialty (p<0.001), MD age (p<0.03), and acute medical illness (p<0.001). The main reason for sample use among PCPs was to avoid forgoing cost. A PROSPECTIVE COHORT STUDY R.K. Gogal1; J.J. Glasheen2; T.J. Miyoshi3; G.E. Fryer4; A.V. Prochazka1. 1University of Colorado Health Sciences Center, Denver, CO; 2University of Colorado at Denver, Denver, CO; 3University of Rochester, Rochester, NY. (Tracking ID # 15539)

BACKGROUND: resident burnout continues to be a major problem even with restriction of work hours. Resident burnout is linked to self-reported suboptimal patient care and deferred clinical decision making. It is unclear if resident burnout continues as the resident gains seniority.

METHODS: We administered a postal survey of internal medicine residents at the University of Colorado Health Science Center, in May 2003, 2004, and 2005. The survey contained the Maslach Burnout Inventory, a 22-item questionnaire organized into three subscales: emotional exhaustion (EE), depersonalization (DP), and personal accomplishment (PA). We defined burnout as high EE or DP since PA tends to be high in physicians.

RESULTS: Twenty-two residents responded to each year’s survey which represents 50% of the 2005 graduating class. Just over half (12/22) of the residents were female and one-third (7/22) were in the primary care track. As the residents gained seniority they worked fewer hours per week (82 vs. 63 vs. 59, p<0.001). Sixteen (73%) residents were burned out at least once during their residency. Fifteen residents (68%) were burned out during their internship, 11 (50%) during their second year, and 8 (36%) during their third year (p=0.016). Of the 15 burned out interns, 7 (47%) continued to have burnout throughout their three years of training and 8 (53%) the burnout resolved, 5 in the second year and 3 in the third year. One resident (5%) developed burnout during second year and was also burned out during the third year. Six residents (27%) never developed high EE or DP during their three years of training.

CONCLUSIONS: Internship appears to be a critical time for development of burnout with almost all burnout beginning during this work intensive time. Once present, burnout tended to continue beyond internship but rarely developed after internship. A significant number of the residents continued to be burned out during their entire residency career, Interventions to prevent burnout during internship may significantly decrease burnout throughout all of residency.

DOES MENOPAUSE MATTER? THE EFFECT OF MENOPAUSE ON HEALTH RELATED QUALITY OF LIFE? R. Hess1; J. Chang1; R.B. Ness2; R. Hays3; C.L. Bryce1; W.K. Kapoor1; K.A. Matthews1. 1University of Pittsburgh, Pittsburgh, PA; 2University of California, Los Angeles, Los Angeles, CA. (Tracking ID # 15869)

BACKGROUND: The impact of menopause on HRQOL is not well defined. Most study populations consist of relatively healthy women with little variation in general HRQOL or women seeking care in menopause specific settings. The purpose of Do Stage Transitions Result in Detectable Effects (STRIDE), a 5-year, longitudinal, primary care based study, is to elucidate the effect of menopausal transition on HRQOL. We report here on baseline data from this cohort.
DOES PERCEIVED DISTANCE AND DRIVING TIME TO A CLINIC EFFECT PATIENT LOYALTY? THEIR RELATION TO PATIENT SATISFACTION AND PATIENT EXPRESSION OF INFLUENCE ON PHYSICIAN DECISIONS

M.J. Nidiry1, S.M. Wright1.1 Johns Hopkins University, Baltimore, MD. (Tracking ID # 153604)

BACKGROUND: Primary care practices usually serve the surrounding community. Because of loyalty to physicians, some patients will follow their physicians if they relocate. This study used the preordained closure of a primary care practice to examine factors related to driving that influenced the choices made by elderly patients.

METHODS: We conducted a cross-sectional survey of patients older than sixty years of age who had previously received their primary care at the original practice. Prior to the closure, all patients were informed about the impending closure and they were invited to follow their primary care physicians (PCP) to the new practice 11 miles away. Eight months after the closure, electronic records were used to generate two lists of patients older than 60 years from the original office: (i) those that had followed their PCP to the new practice, and (ii) those that had chosen new PCPs at an affiliated clinic located near the primary site (2 miles away in the same community). From each of the two lists, 140 patients were randomly selected for inclusion in the study. These patients were mailed a 32-item questionnaire. Select elements addressed in the survey were demographic information including whether they drive and how they get to the doctor’s office. Participants completed a self-assessed driving ability measure, and were asked to estimate the distance and driving time from their homes to each of the 2 practice sites (mean differences between actual and estimated distances were 0.02, 0.04, 0.47, and 1.27 miles, all p < 0.1). Patients from both groups only mildly overestimated the amount of time that it would take them to drive or be driven to the ‘near’ practice (mean minutes: 23.8 versus 18.1 [p < 0.001]), whereas the patients who chose the newer clinic believed that it would have taken significantly longer to get there (mean minutes: 29.2 versus 18.4 [p < 0.001]).

CONCLUSIONS: For elderly patients, convenience appears to be an important factor in deciding where they elect to receive their healthcare. Perceived travel time to a facility may be even more important in patients’ decision making than the actual distance to that site.

DOES PHYSICIAN AUDIT AND FEEDBACK WITH OR WITHOUT ENHANCED PHYSICIAN EDUCATION IMPROVE HYPERTENSION CONTROL? J. Whitley1; G.P. Barnes1; L. Voigt1; J. Kulpi1; N. Lu1; G. Schectman1; 1Medical College of Wisconsin; 2Cedars-Sinai Medical Center, Milwaukee, WI; 3Clermont J. Zablocki VA Medical Center, Milwaukee, WI; 4Medical College of Wisconsin, Milwaukee, WI. (Tracking ID # 55303)

BACKGROUND: Many patients with hypertension (HTN) are not controlled to consensus blood pressure (BP) goals. In Department of Veterans Affairs (VA) clinics, physicians can be electronically prompted to prescribe patients with inadequate BP control, but nearly a third of such patients are still not controlled. We performed a randomized clinical trial to determine whether BP control could be improved in VA settings by providing giving care (PC) providers monthly guideline updates (GL), monthly reminder mailings, and reminder systems, guideline based education and ready access to care.

METHODS: We randomized all staff PC providers (PCP) (staff physicians, nurse practitioners or physicians assistants) within 6 centers to receive GL, AF, both (BO) or neither intervention (NI). The PCP and their nurse partner (PC teams) in the GL and BO groups received monthly emails with VA HTN guidelines. The PC teams in the AF and BO groups received monthly emails listing the number of their HTN patients who were seen in PC in that month, and the percent that had good BP control (BP < 140/90 mmHg) and those who were driven to the ‘further’ clinic slightly over-estimated the actual distance to that site.

RESULTS: After exclusions, we randomized 53, 48, 53 and 45 providers to groups GL, BO, NI, and accordingly, one with AF regarding HTN or CHF. We compared the proportion of patients with HTN whose BP was controlled at baseline (BL) to the same proportion at follow up (FU) one year later, using measured routine logistic models to adjust for the correlations between measures for each provider. We excluded PC teams if the provider left that site.

RESULTS: Across exclusions, we randomized 53, 48, 53 and 45 providers to groups GL, BO, NI, and accordingly, one with AF regarding HTN or CHF. We compared the proportion of patients with HTN whose BP was controlled at baseline (BL) to the same proportion at follow up (FU) one year later, using measured routine logistic models to adjust for the correlations between measures for each provider. We excluded PC teams if the provider left that site. Results within groups are presented in the table. There were no significant differences in the improvement across interventions for either goal. However, we observed a greater effect of AF, p = 0.00975 for the effect of GL, p = 0.0011 and p = 0.0023 for BO compared to NI, based on the goals of 140/90 mmHg and 159/99 mmHg respectively. There were significant differences in improvement across sites (p = 0.0001).

CONCLUSIONS: In a setting where providers receive real time reminders that patients with HTN who are not controlled, adding monthly feedback regarding specific patients who were not controlled, with or without GL focused educational materials, did not improve overall BP control. However, the proportion of patients with HTN who had good control increased in all groups, despite comparatively high baseline rates of control. This improvement varied among sites. Further research should examine factors associated with superior BP control in settings with reminder systems, guideline based education and ready access to care.

DOES THE PERIODIC HEALTH EVALUATION IMPROVE DELIVERY OF CLINICAL PREVENTIVE SERVICES AND PATIENT OUTCOMES? L.E. Boullon1; G. Barnes2; R.F. Wilson1; S.S. Marinopoulos1; C. Hwang1; K. Maynor1; D. Merenstein2; K. Phillips1; 1Johns Hopkins University, Baltimore, MD; 2Medical College of Wisconsin, Milwaukee, WI. (Tracking ID # 54018)

BACKGROUND: Despite its widespread practice, it is unclear whether the periodic health evaluation (PHE) improves clinical care or patient outcomes when compared to the opportunistic delivery of preventive care.
RESULTS: Of 2017 abstracts identified, 9 RCTs reported on relevant outcomes. We calculated Cohen’s d effect sizes for randomized controlled trials (RCTs). RESULTS: Of 2017 abstracts identified, 9 RCTs reported on relevant outcomes. We calculated Cohen’s d effect sizes for randomized controlled trials (RCTs).

METHODS: As part of an AHRQ-sponsored evidence report requested by the American College of Physicians, we performed a systematic literature review (1940–2005) to assess the effect of the PHE (vs. usual care) on receipt of clinical preventive services, hospitalization and mortality in experimental and observational studies. We searched 9 electronic databases and hand-searched 24 journals for candidate studies. Two reviewers independently extracted data on study characteristics, quality and relevant outcomes. We calculated Cohen’s d effect sizes for randomized controlled trials (RCTs).

CONCLUSIONS: Does writing help? The benefits of reflective writing for family caregivers. J. Hauser1; M. Jarzebowski 1; L. Emanuel 1; S. Mallik1; J. Spertus2; K. Reid3; J.H. Lichtman4; N. Dawood1; N.K. Wenger1; V. Vaccarino4.

DOES WRITING HELP? THE BENEFITS OF REFLECTIVE WRITING FOR FAMILY CAREGIVERS. J. Hauser1; M. Jarzebowski1; L. Emanuel1. Northwestern University, Chicago, IL.

BACKGROUND: Interventions directed toward the psychological and physical burdens on family caregivers will be increasingly important as the population continues to age. In a number of studies, reflective writing has been shown to improve patients’ physical and psychological symptoms. We were interested in whether this intervention was feasible for family caregivers of seriously ill patients or secondary sick family members and to gather information concerning psychological outcomes of caregivers participating in the intervention.

METHODS: We designed an intervention for family caregivers to write in a journal concerning their experiences caring and coping 3–4 times a week for 1–2 months. The intervention was introduced with an instructional booklet and a workshop for caregivers. We assessed psychological outcomes by measuring caregiver burden, depression, caregiver strain and caregiver bereavement.

RESULTS: In five months of recruitment, 45 participants from a palliative care program and an Alzheimer’s Disease Center expressed initial interest and were enrolled using self-reported data, consent to participate in a workshop of these, 35 formally enrolled in the study. Ten attended workshops and 25 began the intervention by mail and phone contact without a workshop. Of these 35 participants, 2 did not complete the intervention because of the death of a patient and 3 withdrew because it was “too hard to do” or “didn’t like it.” Of the 15 participants who were enrolled for 2 months 13 completed pre and post-survey and open-ended interviews. The scaled outcomes (CES-Depression, Caregiver-Stain Index, Zarit Caregiver Burden Interview and Caregiver Bereavement) for those who completed showed no significant changes pre and post intervention. In open-ended interviews, 9/13 respondents found the intervention helpful. The reasons that they volunteered were that it helped “process”, helped give “perspective” and allowed them to express feelings they “couldn’t talk about to anyone.”

CONCLUSIONS: In this pilot study of family caregivers from a palliative care program and an Alzheimer’s Disease program, journal writing is feasible: 35/45 participants with initial interest enrolled and 13 of 15 who have been in the study for 2 months completed the intervention and all pre and post interviews and surveys. Although initial pre and post data using standardized outcomes of caregiver depression, strain, burden and bereavement showed no consistent changes, open-ended interviews revealed a subjective sense of improvement among 9 of 13 caregivers who completed the intervention. Thus, for a subset of family caregivers, reflective writing resulted in subjective benefits which were not captured by traditional scales of depression and burden.

DURABILITY OF CAREER DECISIONS AMONG INTERNAL MEDICINE RESIDENTS. C.P. WHEE1; C. POOL1; H.-J. SCHULTZ2; S.E. WEINBERGER2; J.C. KOLARS3; MAYO CLINIC COLLEGE OF MEDICINE, ROCHESTER, MN; 2AMERICAN COLLEGE OF PHYSICIANS, PHILADELPHIA, PA.

BACKGROUND: The career decisions of internal medicine residents impact the medical profession and society. Little is known about the timing and stability of these career decisions during the course of residency training. The purpose of this study was to examine the durability of expressed career preferences in a national cohort of categorical internal medicine residents as they progressed through their three years of residency training.

METHODS: We analyzed self-reported career plan data collected from over 400 internal medicine residency programs in North America as part of the annual Internal Medicine In-Training Examination (IM-ITE) survey. The study cohort consisted of 2683 internal medicine residents who responded to career plan questions on the IM-ITE survey for each of three successive years of training (2002, 2003, and 2004). We report primarily descriptive analyses, but where appropriate Fisher’s exact tests were used to compare proportions.

RESULTS: Of 2683 eligible residents, 2281 (86%) identified a specific career plan within internal medicine during their PGY-3 year. Of these 2281 residents, 1417 (62%) changed career plans at least once over the study period. Career plans reported by PGY-1 and PGY-2 residents, respectively, matched their subsequent PGY-3 plans for 55% and 68% of residents. 695 (26%), 287 (11%), and 205 (8%) PGY-1, PGY-2, and PGY-3 residents, respectively, remained undecided about their career plan at the time of the IM-ITE. Residents ultimately selecting generalist careers were less likely than those selecting subspecialty careers to report the same career plan throughout residency (27% vs. 45%, p < 0.001).

CONCLUSIONS: Career decisions among internal medicine trainees lack durability well into residency training. Generalist career plans are particularly unstable. This finding has important implications for graduate medical education, particularly discussions regarding the timing of fellowship selection and retraining of students.

Proportion of PGY-3 residents reporting the same defined career plan during all 3 years of training, by discipline

| Career Plan | Proportion |
|-------------|------------|
| Cardiology | 200/315 (63%) |
| Gastroenterology | 101/181 (56%) |
| Heme/Onc | 101/211 (48%) |
| Infectious Disease | 45/117 (39%) |
| Endocrinology | 40/107 (37%) |
| GIM | 222/659 (34%) |
| Nephrology | 52/156 (33%) |
| Pulm/Crit Care | 58/190 (31%) |
| Rheumatology | 23/84 (27%) |
| Geriatrics | 7/94 (7%) |
| Hospitalist | 15/227 (7%) |
| TOTAL | 864/2281 (38%) |
EFFECT OF A HIGH DEDUCTIBLE HEALTH PLAN ON EMERGENCY DEPARTMENT UTILIZATION 

E.Z. Wharam1; A. Galbraith2; B.E. Landon3; I. Miroshnik4; K.P. Kleinman4; S. Fraser4; A. Shah1; D. Tribble1; Y. Mitchel1; E. Veltri5.

BACKGROUND: Use of the emergency department for non-emergency care is common and expensive. High deductible health plans (HDHP) have been promoted as a means of reducing inappropriate health care utilization. We studied the effect of the HDHP on emergency department use in a health maintenance organization (HMO).

METHODS: We examined use of the emergency department (ED) by 8761 subjects insured by Harvard Pilgrim Health Care in Massachusetts between March 2001 and June 2005 whose employers switched from offering a traditional HMO plan to offering only a plan containing $500 to $2000 deductibles in a follow-up period (HDHP group). We matched each of these subjects with eight controls who were insured by a traditional HMO plan during the same period as their intervention group counterpart and who also did not have a choice of plans in the follow-up period. We assessed utilization by the HDHP group members before and after their switch to the HDHP, comparing it to the contemporaneous controls who were insured by a traditional HMO plan during the same period as their intervention group counterpart.

RESULTS: Subjects ranged in age from 1 to 65 years. Just over 50% were female and most (80.2% of HDHP enrollees and 70.9% of HMO enrollees) obtained their insurance from small employers with between 2–50 employees. Unadjusted results showed that total ED visits declined by 10.5% in the HDHP group as compared to the contemporaneous controls, while those classified as “emergent, not preventable or avoidable” declined by 18% in the HDHP group relative to HMO controls, while those classified as “non-emergent” declined by 20.7%.

CONCLUSIONS: Among members of an HMO, the switch to high deductible coverage was associated with a significant decline in both emergent and non-emergent ED visits. Our results suggest that HDHPs may lead to greater efficiency in ED utilization but may also erect financial barriers to appropriate care. Further research is needed to determine the effect of this reduced utilization on health outcomes.

EFFECT OF EZETIMIBE PLUS SIMVASTATIN THERAPY ON ATTAINMENT OF LDL-C LEVELS OF <130 mg/dL, <100 mg/dL, AND <70 mg/dL IN PATIENTS WITH PRIMARY HYPERCHOLESTEROLEMIA

J.C. Davies1; C. Bown2; J. Crouse3; N. Fraser4; A. Shah5; D. Tribble6; Y. Mitchell7; E. Veltri8; R. Merck & Co., Inc., Rahway, NJ; 9Midwest Heart Institute, Naperville, IL; 10Wake Forest University Baptist Medical Center, Forsyth, NC; 11Troy Internal Medicine, Troy, MI; 12Schering-Plough Research Institute, Kenilworth, NJ. (Tracking ID # 153802)

BACKGROUND: In patients at high risk of CHD, lowering LDL-C substantially below accepted LDL-C treatment goals produces significant reductions in cardiovascular morbidity and mortality. These data suggest that more aggressive, lower LDL-C treatment goals may be appropriate for some patient populations. When coadministered with a statin, ezetimibe (EZE), a cholesterol absorption inhibitor, provides significant incremental lowering in LDL-C beyond statin monotherapy. Thus, attainment of pre-specified LDL-C targets was examined with EZE plus simvastatin (EZE/SIMVA) treatment versus SIMVA monotherapy in patients with primary hypercholesterolemia in a post-hoc analysis using pooled data from three nearly identical, placebo-controlled, combination trials.

METHODS: After dietary stabilization, washout period, and placebo lead-in period, patients with baseline LDL-C ≥145 to 250 mg/dL and triglycerides (TG) <150 mg/dL were randomized to one of the following daily treatments for 12 weeks: placebo; EZE 10 mg; SIMVA monotherapy (10, 20, 40, or 80 mg); EZE/SIMVA 10/10, 10/20, 10/40, or 10/90 mg/mg as coadministration (studies 1 & 2) or combination tablet (study 2). The primary efficacy endpoint was percent LDL-C reduction in patients on EZE/SIMVA (pooled) versus those on SIMVA monotherapy (pooled). The proportion of patients achieving LDL-C targets of <130 mg/dL, <100 mg/dL, and an aggressive <70 mg/dL, regardless of NCEP-defined risk category, were also pre-specified endpoints in the trial.

RESULTS: Baseline LDL-C was 176 and 178 mg/dL in the pooled EZE/SIMVA and SIMVA groups, respectively. EZE/SIMVA treatment produced significantly greater reductions in LDL-C compared to SIMVA monotherapy - 53% versus -38% for pooled data. Significantly more patients on EZE/SIMVA than on SIMVA alone attained each of the 3 LDL-C targets (Table). EZE/SIMVA was well-tolerated with a safety profile comparable to that of SIMVA monotherapy.

CONCLUSIONS: By inhibiting both the absorption and biosynthesis of cholesterol, EZE/SIMVA is an effective treatment strategy to help hypercholesterolemic patients achieve standard and aggressive LDL-C targets.

EFFECT OF GENDER AND RACE ON RECEIPT OF PNEUMOCOCCAL AND INFLUENZA IMMUNIZATIONS IN VA. S. Bean-Marxen1; N.J. Brucker2; N. Baynes3; X. Xu4; E. Crock5; M. Mor6; E. Yano7; M.J. Fine8; University of Pittsburgh, Pittsburgh, PA; 9VA Pittsburg Healthcare System, Pittsburgh, PA; 10VA Greater Los Angeles HSR&D Center of Excellence, Sepulveda, CA. (Tracking ID # 15492)

BACKGROUND: The VA uniformly promotes and reviews clinical preventive care for all veterans. However, little data are available to inform us about the equity of preventive care delivery by gender and race. The objective of this study was to assess the performance of key immunization measures by gender and race using a national sample of veterans.

METHODS: We examined the rates of pneumococcal and influenza immunization by gender and race in a cross-sectional sample of veterans selected by VA External Peer Review Program from 2001–2003 and linked with National Patient Care Database (N=91,570). We performed univariate comparisons by gender for each demographic and clinical factor. We used multiple logistic regression to measure the association between gender and race (white, black, other, and unknown) with each immunization, adjusting for patient confounders such as age, marital status, VA eligibility status, clinical conditions recommended for immunization, geographic region (e.g., VISN), and clustering for repeated sampling of unique veterans across fiscal years.

RESULTS: Women were younger, unmarried, less frequently identified with clinical conditions for immunization, yet often repeatedly sampled across fiscal years. Among older persons (>65 years), gender (OR 0.8, 95%CI 0.7, 0.9), black race (OR 0.8, CI 0.7, 0.9) and unknown race (OR 0.6, CI 0.6, 0.7) remained significantly associated with lower pneumococcal immunization while adjusting for all other factors. Among younger veterans (<65 years), black race (OR 0.9, CI 0.8, 1.0) and unknown race (OR 0.7, CI 0.6, 0.9) were significantly associated with lower pneumococcal immunization, and gender had no effect. Black race (OR 0.7, CI 0.6, 0.8) and unknown race (OR 0.9, CI 0.9, 1.0) were also associated with a lower odds of influenza immunization while gender had no effect on influenza immunization. For younger veterans receiving influenza vaccine, gender displayed a significantly positive association (OR 1.6, CI 1.4, 1.8) with receipt of immunization, and race had no effect.

CONCLUSIONS: Our findings indicate that racial and gender disparities exist in preventive care in this veteran population. The effect of race appears consistently associated with a decreased likelihood of either immunization, and the effect of gender appears to differ by age. Our data warrant intensive study to understand the relationships and develop appropriate interventions to ensure equity across the veteran population.

EFFECT OF PERIOPERATIVE GLUCOSE-INSULIN AND POTASSIUM INFUSION ON ATRIAL FIBRILLATION AND MORTALITY AFTER CORONARY ARTERY BYPASS GRAFTING: A SYSTEMATIC REVIEW AND META-ANALYSIS

D. Rahbani1; P. Show2; F.A. McAlister3; S.R. Majumdar4; R. Sauer1; J. Johnson5; W.A. Ghali6; University of Calgary, Calgary, Alberta; 7University of Alberta, Edmonton, Alberta. (Tracking ID # 154330)

BACKGROUND: It has been proposed that ischemic injury to the myocardium could be mitigated by providing the heart substrate for glucose metabolism around the time of the ischemic event. Metabolic therapies, specifically glucose-insulin infusions that may contain potassium, have been administered in the setting of coronary artery bypass graft (CABG) surgery, but the evidence in support of this intervention is not clear.

METHODS: We completed a systematic review and meta-analysis to assess whether the use of glucose-insulin (+/- potassium) peri-operatively, reduces 1) in hospital mortality or 2) the incidence of atrial fibrillation post-CABG.
surgery. Medline, EMBASE, and CENTRAL were searched for randomized controlled trials that examined the use of either glucose-insulin-potassium (GIK) or glucose-insulin (GI) infusions before or during CABG surgery. Experts in the field were also contacted regarding unpublished or ongoing trials. A highly sensitive search strategy was used with the following MESH headings, combined with the Boolean term “or”: GI, GIK, glucose-insulin, glucose-insulin-potassium infusion. This search was combined, using the Boolean term “and”, with a search using the following MESH headings: coronary artery bypass, autotransfusory, bypass heart, surgery, coronary artery bypass graft and CABG. Trials that used GIK/GI as an intravenous or cardioplegic infusion were included. Trials had to report in-hospital mortality and/or post-operative atrial fibrillation (AF). There were no language restrictions. Data were extracted independently by 2 reviewers. Pooled odds ratios (OR) and 95% confidence intervals were calculated for each outcome using random effects models.

RESULTS: Nineteen unique articles were identified that reported in-hospital mortality and/or post-operative AF. The pooled OR for in-hospital mortality was 0.84 (95% CI 0.51–1.38), and this pooled effect estimate did not change when the analysis was stratified on type of infusion (GI vs. GIK or route of administration (intravenous vs. cardioplegia). The pooled OR for post-operative AF was 0.59 (0.37–0.96), but this effect estimate should be interpreted with caution given the presence of statistical heterogeneity across studies and the generally low methodological quality of the included trials. The OR for AF dropped to 0.51 (0.25–0.91) when the one study that used GI was eliminated from the analysis, and to 0.43 (0.23–0.86) when GIK/GI was administered via an intravenous infusion. Sensitivity analyses were performed to determine the impact of study quality, measured by the Jadad score, or surgical technique (on-pump vs. off-pump) on the pooled estimate of effect and statistical heterogeneity. These analyses revealed that several factors did not affect the pooled OR.

CONCLUSIONS: Pert-operative use of GI/GIK in CABG surgery has been assessed in 19 trials, and collectively, these studies do not reveal a significant reduction in mortality from these treatments. There is, however, some suggestion that the therapies may lower the odds of post-operative AF by 41%, though this finding needs to be interpreted cautiously given heterogeneity across studies and the low methodological quality of constituent trials.

EFFECTIVE OF WORK HOUR REGULATION ON QUALITY OF CARE FOR INTERNAL MEDICINE PATIENTS

L. Horwitz1; M. Kosiborod2; Z. Lin3; H.M. Krumholz2.

BACKGROUND: Outcomes were in-hospital mortality, 30-day readmission, discharge to ICU stay and the risks of increased discontinuity of care. Outcomes were in-hospital mortality, 30-day readmission, discharge to ICU stay and the risks of increased discontinuity of care. Outcomes were in-hospital mortality, 30-day readmission, discharge to ICU stay and the risks of increased discontinuity of care. Outcomes were in-hospital mortality, 30-day readmission, discharge to ICU stay and the risks of increased discontinuity of care.

RESULTS: After adjusting for demographics, case mix and comorbidity, we found that teaching and non-teaching services had similar changes over time in mortality, intensive care unit utilization, 30-day readmission, length of stay, drug-drug interactions, pharmacy interventions to prevent error, and patient satisfaction. RESULTS: After adjusting for demographics, case mix and comorbidity, we found that teaching and non-teaching services had similar changes over time in mortality, intensive care unit utilization, 30-day readmission, length of stay, drug-drug interactions, pharmacy interventions to prevent error, and patient satisfaction. RESULTS: After adjusting for demographics, case mix and comorbidity, we found that teaching and non-teaching services had similar changes over time in mortality, intensive care unit utilization, 30-day readmission, length of stay, drug-drug interactions, pharmacy interventions to prevent error, and patient satisfaction. RESULTS: After adjusting for demographics, case mix and comorbidity, we found that teaching and non-teaching services had similar changes over time in mortality, intensive care unit utilization, 30-day readmission, length of stay, drug-drug interactions, pharmacy interventions to prevent error, and patient satisfaction.

CONCLUSIONS: Although the intervention is still ongoing, early evidence suggests that participation in a free weight loss program is both feasible and effective for motivated individuals in this rural, medically-undererved commnity. Health insurers in other rural communities might consider sponsoring similar programs to help control obesity and related medical conditions.

EFFECTIVENESS OF AN INSURER-SPONSORED WEIGHT LOSS PROGRAM IN A RURAL COUNTY

B.C. Bourdeau1; F. Brancati1; E. Moukamali2; G. Callahan3; D.M. Levine1; Johns Hopkins University, Baltimore, MD; 2Endless Mountains Health Systems, Montrose, PA; 3Johns Hopkins Medical Institutions, Baltimore, MD (Tracking ID #: 15272)

BACKGROUND: Despite the obesity epidemic, few community-wide obesity reduction interventions have targeted rural populations. We evaluated the feasibility, effectiveness and cultural relevance of a culturally relevant, free weight loss program for obese adults in an underserved rural county.

METHODS: We tested a community-based weight loss intervention using a quasi-experimental design. In September 2004, we began recruiting participants from Susquehanna County, Pennsylvania through newspaper ads, radio interviews, and mass mailings. Interested individuals completed detailed screening questionnaires. All county residents eligible if they or 5 people who completed the six week course and 33 remained in the intervention for at least six months. Of the 95 people who completed the six week course, 100% were white, 85% were post-menopausal and had a mean age of 49 years. Among all participants, there was a 1.41 kg reduction between initial and last recorded weights (95% CI: 2.98 to 0.16, p < 0.08). Other pre- and post-reductions are listed in Table 1. All p values are two-sided.

CONCLUSIONS: Although the intervention is still ongoing, early evidence suggests that participation in a free weight loss program is both feasible and effective for motivated individuals in this rural, medically-undererved community. Health insurers in other rural communities might consider sponsoring similar programs to help control obesity and related medical conditions.

Table 1

| After 6 Months | Before | 95% CI | P Value | After 6 Months | Before | 95% CI | P Value |
|---------------|--------|--------|---------|---------------|--------|--------|---------|
| Weight        | – 1.4 kg | – 2.8 to 0.1 | 0.07 | – 5.2 kg | – 8.5 to – 1.9 | 0.004 |
| Waist         | – 3.5 cm | – 4.8 to – 2.2 | 0.001 | – 8.4 cm | – 12.9 to – 4.0 | 0.008 |
| Circumference |                   |             |          |               |             |          |
| BMI           |                   |             |          |               |             |          |
| Glucose       | n/a | n/a | n/a | – 10.5 mg/dl | – 21.4 to 0.4 | 0.06 |
| Total         | n/a | n/a | n/a | – 12.9 mg/dl | – 22.5 to 0.2 | 0.02 |
| Waist circumference | n/a | n/a | n/a | – 0.2% | – 0.5 to 0.0 | 0.10 |
| A1c           |                   |             |          |               |             |          |

EFFECTIVENESS OF AUDIT-C AS A SCREENING TEST FOR ALCOHOL MISUSE IN THREE RACIAL/ETHNIC GROUPS

D. Frank1; A. Debenedetti2; R.J. Volk3; E. Williams4; D.R. Khivlah1; K. Bradley1. 1VA Puget Sound Health Care System, Seattle, WA; 2VA Puget Sound Health Care System, Seattle, WA; 3Baylor College of Medicine, Houston, TX; 4University of Washington, Seattle, WA (Tracking ID #: 152828)

BACKGROUND: Brief alcohol screening questionnaires for risky drinking and/or alcohol abuse and dependence have been previously validated in Non-Hispanic White populations, but their performance in different racial/ethnic groups is unclear. The objective of this study was to determine the performance of the AUDIT-C, a shortened 6-item alcohol screening test, in a culturally relevant, free weight loss program for obese adults in an underserved rural county. The intervention began with six weekly interactive lectures and dietitian-critiqued weekly logs of food, exercise, and television viewing. After completing the six week program, all participants were encouraged to attend ongoing support groups at least twice monthly, meet individually with a registered diettitian, and attend a group cognitive behavioral session focused on weight loss. Primary outcomes included reductions in weight loss. Primary outcomes included reductions in weight loss.

METHODS: We recruited individuals from Susquehanna County, Pennsylvania through newspaper ads, radio interviews, and mass mailings. Interested individuals completed detailed screening questionnaires. All county residents eligible if they or 5 people who completed the six week course and 33 remained in the intervention for at least six months. Of the 95 people who completed the six week course, 100% were white, 85% were post-menopausal and had a mean age of 49 years. Among all participants, there was a 1.41 kg reduction between initial and last recorded weights (95% CI: 2.98 to 0.16, p < 0.08). Other pre- and post-reductions are listed in Table 1. All p values are two-sided.

CONCLUSIONS: Although the intervention is still ongoing, early evidence suggests that participation in a free weight loss program is both feasible and effective for motivated individuals in this rural, medically-undererved community. Health insurers in other rural communities might consider sponsoring similar programs to help control obesity and related medical conditions.

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| Waist         | – 3.5 cm | – 4.8 to – 2.2 | 0.001 | – 8.4 cm | – 12.9 to – 4.0 | 0.008 |
| Circumference |                   |             |          |               |             |          |
| BMI           |                   |             |          |               |             |          |
| Glucose       | n/a | n/a | n/a | – 10.5 mg/dl | – 21.4 to 0.4 | 0.06 |
| Total         | n/a | n/a | n/a | – 12.9 mg/dl | – 22.5 to 0.2 | 0.02 |
| Waist circumference | n/a | n/a | n/a | – 0.2% | – 0.5 to 0.0 | 0.10 |
| A1c           |                   |             |          |               |             |          |

Any pharmacy intervention 0.78 (0.71 to 0.85) 1.06 (0.91 to 1.22) < 0.001

Any drug-drug interaction 1.07 (0.96 to 1.19) 1.03 (0.88 to 1.22) 0.70
EFFECTIVENESS OF COLLABORATIVE CARE FOR OLDER ADULTS WITH ALZHEIMER DISEASE IN PRIMARY CARE

EFFECTIVENESS OF COLLABORATIVE CARE FOR OLDER ADULTS WITH ALZHEIMER DISEASE IN PRIMARY CARE: C.M. Callahan1; M. Boustani1; F.W. Unverzagt2; M.G. Austrom3; T. Damush1; A.J. Perkins1; B. Fultz1; S.L. Hui1; S.R. Counsell1; H.C. Hendrie1. 

BACKGROUND: Most older adults with dementia will be cared for by primary care physicians but the primary care practice environment presents important challenges to providing quality care. The objective of this study is to test the effectiveness of a collaborative care model to improve the quality of care for Alzheimer disease in primary care.

METHODS: We conducted a randomized controlled clinical trial of 153 older adults with Alzheimer disease and their caregivers who received collaborative care management versus augmented usual care. The setting included primary care practices at two university-affiliated health care systems. Potential subjects were referred by their physician either because of a positive cognitive impairment screening exam or because of a medical record diagnosis of dementia. Eligible patients met diagnostic criteria for Alzheimer disease and had a self-identified caregiver. Both study groups completed a counseling visit with an advanced practice nurse which included education about Alzheimer disease, the team used standard protocols to identify, monitor, and treat behavioral and psychological symptoms of dementia (BPSD), and referral for community resources. Over the following year, intervention patients received care management by an interdisciplinary team led by a nurse practitioner working with the patient’s family caregiver and integrated within primary care. In addition to consideration for treatment with cholinesterase inhibitors, the team used standard protocols to identify, monitor, and treat behavioral and psychological symptoms of dementia (BPSD). These guidelines stressed non-pharmacologic management. The primary outcome measure was the neuropsychiatric inventory (NPI) administered at baseline, 6, and 12 months. Secondary outcomes included the Cornell Depression in Dementia Scale (CDDS), cognition, activities of daily living, and resource use. Patients were followed for 12 months or until enrolling in a long-term care facility.

RESULTS: At baseline, mean total NPI scores (10.5 v. 13.4) and CDDS scores (4.4 v. 5.4) did not differ significantly between intervention and augmented usual care. Compared to caregivers of patients receiving intervention, 80% of caregivers in the usual care group initiated at least one protocol for BPSD with a mean of four per patient from a total of eight possible protocols. Intervention patients were more likely to receive cholinesterase inhibitors (79.8% v. 55.1%, p = 0.01) and antidepressants (45.2% v. 27.5%). There were no group differences in prescriptions for antipsychotics (13.1% v. 7.3%, p = 0.29) or sedative-hypnotics (10.1 v. 9.5%, p = 1.0). By 12 months, intervention patients had significantly fewer BPSD as measured by the total NPI score (mean difference – 8.0, p < 0.05) and fewer depressive symptoms as measured by the CDDS (mean difference – 2.0, p < 0.05). Intervention caregivers also reported significant improvements in distress (mean difference – 4.3, p < 0.05). There were no group differences in mean scores on cognition, activities of daily living, or rates of hospitalization or nursing home placement. Intervention subjects were more likely to rate their primary care as very good or excellent (82.8% v. 55.9%, p < 0.05).

CONCLUSIONS: Collaborative care for the treatment of Alzheimer disease results in significant improvements in the quality of care and in the behavioral and psychological symptoms of dementia among primary care patients and their caregivers. These improvements were achieved without significantly increasing the use of antipsychotics or sedative-hypnotics.

EFFECTIVENESS OF COMMUNITY HEALTH WORKERS IN FACILITATING INSURANCE ENROLLMENT AMONG PATIENTS IN A PUBLIC SECTOR EMERGENCY DEPARTMENT: S.A. Mohanty1; A.L. Diamant2; L. Gelberg2; D. Anglin1; L.R. Perez1; S.M. Asch3. 

BACKGROUND: Latinos are the racial/ethnic group most likely to be uninsured. Due to these high rates of uninsurance, they disproportionately tend to rely on emergency departments (EDs) for care due to reduced access to necessary health care services. Many may be eligible for public insurance but fail to apply, often due to cultural or linguistic barriers, or the complexity of the application process. We pilot tested a streamlined culturally-sensitive pilot program using community health workers (Promotoras) to link a predominantly Latino ED patient population to public insurance programs.

METHODS: Bilingual and bicultural Promotoras randomly approached 221 adults in the ED waiting areas of a large Los Angeles public hospital. Promotoras collateral screened on insurance status as well as sociodemographics and patterns of ED and outpatient utilization among the 204 (92%) who agreed to participate. Participants who reported being uninsured were asked a series of questions to determine their health insurance eligibility for California’s Medicaid program (Medi-Cal). Those found to be likely eligible for Medi-Cal were asked to enroll in our pilot study and were randomized to either 1) having a Promotora help complete the Medi-Cal application or 2) usual referral to a financial worker elsewhere in the hospital. Patients were contacted in 3 months to determine if they had obtained Medi-Cal insurance.

RESULTS: Seventy percent (70%) of the patients sampled identified themselves as Latino, and 50% of surveys were conducted in Spanish. Of the subjects surveyed, 59% (N=119) reported being uninsured. Of the uninsured, 21% (N=25) were found to be possibly eligible for Medi-Cal. Among the eligible uninsured population for Medi-Cal, 28% (N=7) reported they did not have insurance because it was ‘too expensive’ and over 2/3 (77%, N=15) indicated that they had never applied for Medi-Cal. The main reason cited for not applying for Medi-Cal was a lack of awareness or apprehension about the process. (35%, N=9). Preliminary 3-month data revealed that all patients (100%) in the intervention group ‘strongly agreed’ that the Promotora was helpful to them when filling out the Medi-Cal application because of the Promotora’s ability to 1) be respectful and 2) take the time to explain the public insurance process.

CONCLUSIONS: A significant proportion of uninsured patients in County EDs may be eligible for Medicare but have not applied for it. Barriers include a lack of patient education and guidance regarding the enrollment process. ED waiting rooms may be the best place for local-level interventions to increase enrollment in Medi-Cal and other public insurance programs and may help reduce the complications associated with underinsured patients. Although our pilot data are promising, future work will be conducted to verify in a larger sample whether employing Promotoras in EDs can facilitate insurance enrollment and be cost-effective for public hospitals.

EFFECTS OF A LOW CARBOHYDRATE COMPARED TO A LOW FAT DIET ON GLYCEMIC CONTROL IN TYPE 2 DIABETES: N.J. Davis1; N. Torum1; C. Ibsen1; J. Elkhoff1; T. Austrom2; T. Damush1; A.J. Perkins1; B. Fultz1; S.L. Hui1; S.R. Counsell1; H.C. Hendrie1. 

METHODS: The Diabetes Dietary Study is an ongoing randomized clinical trial in which was designed to compare a low carbohydrate and a low fat diet in overweight patients with type 2 diabetes. Inclusion criteria included BMI >25, HbA1c ranges 6.0–11.0 mg/dL, and absence of significant cardiovascular, or hepatic disease. Participants were randomized to either the intervention group, ‘strongly agreed’ that the Promotora was helpful to them when filling out the Medi-Cal application because of the Promotora’s ability to 1) be respectful and 2) take the time to explain the public insurance process.

CONCLUSIONS: Seventy percent (70%) of the patients sampled identified themselves as Latino, and 50% of surveys were conducted in Spanish. Of the subjects surveyed, 59% (N=119) reported being uninsured. Of the uninsured, 21% (N=25) were found to be possibly eligible for Medi-Cal. Among the eligible uninsured population for Medi-Cal, 28% (N=7) reported they did not have insurance because it was ‘too expensive’ and over 2/3 (77%, N=15) indicated that they had never applied for Medi-Cal. The main reason cited for not applying for Medi-Cal was a lack of awareness or apprehension about the process. (35%, N=9). Preliminary 3-month data revealed that all patients (100%) in the intervention group ‘strongly agreed’ that the Promotora was helpful to them when filling out the Medi-Cal application because of the Promotora’s ability to 1) be respectful and 2) take the time to explain the public insurance process.

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CONCLUSIONS: Following a three-month dietary intervention with a low carbohydrate diet results in slightly greater weight loss, and more significant reductions in HbA1c, compared to the low fat arm. Medications were reduced in both intervention groups, with the low carbohydrate diet participants triggering a mean weight loss of 11.6 lbs (p < 0.001) compared to a mean weight loss of 8.2 lbs in the low fat intervention (p = 0.002). The HbA1c declined significantly from 7.9% to 7.0% in the low carbohydrate arm (p = 0.005), but did not change in the low fat arm from 7.4% to 7.2% which was not significant (p = 0.644). Six participants in the low carbohydrate arm and two participants in the low fat arm reduced their insulin dosage. Sulfonylurea was decreased or discontinued by eleven participants in the low carbohydrate arm, and resource use, Patient satisfaction with the intervention achieved a mean weight loss of 11.6 lbs (p < 0.001) compared to a mean weight loss of 8.2 lbs in the low fat intervention (p = 0.002). The HbA1c declined significantly from 7.9% to 7.0% in the low carbohydrate arm (p = 0.005), but did not change in the low fat arm from 7.4% to 7.2% which was not significant (p = 0.644). Six participants in the low carbohydrate arm and two participants in the low fat arm reduced their insulin dosage. Sulfonylurea was decreased or discontinued by eleven participants in the low carbohydrate arm, and resource use, Patient satisfaction with the intervention.
CONCLUSIONS: Younger, non-Caucasian and uninsured patients are at greatest risk for poor glycemic control, even in the context of comprehensive, clinically-based, chronic illness services.

EFFECTS OF MARIJUANA ON PULMONARY FUNCTION: A SYSTEMATIC REVIEW. J.M. McDuffie1; K. Clohessy1; B.A. Moore2; R. Mehta1; J. Concler1; D.A. Feinlin2; 1University of Texas, West Haven, CT; 2University of New Haven, CT

CONCLUSIONS: Studies of chronic MJ inhalation did not find consistent measures of MJ, tobacco and other exposures.

EFFECTS OF MEDICATION COST-SHARING ON LDL CHOLESTEROL IN ELDERLY PATIENTS WITH DIABETES OR VASCULAR DISEASE ATTENDING AN URBAN CLINIC FROM 1999 THROUGH 2004. G. Gourevitch1; C. Zgierski1; W. Samuels2; J.G. Ridgely1; A. Caro3; A. Sarnat3; M.N. Gourevitch1. 1New York University, New York, NY; 2United States Department of Veterans Affairs, New York, NY; 3Vanguard Graduate School, New York University, New York, NY. (Tracking ID #: 156837.)

BACKGROUND: A significant body of health economics research indicates that hospital competition shifted from a quality/amenity basis to a price basis with the growth of managed care in the 1980s and 1990s, lowering the rate of increase in hospital costs. The passage of selective contracting legislation in California in 1983 gave third party payers new freedom to negotiate discounts with hospitals and to channel patients away from high-cost providers, stimulating the growth of managed care and increasing price a significant factor in hospital competition. However, in recent years costs have begun to rise at rapid rates and it is less clear that managed care is still effectively controlling costs. In this analysis, we examine effects of price competition and managed care on changes in quality over two time periods: 1991–1997, a period in which price competition and managed care reduced the rate of increase in hospital costs and 1997–2001, a period in which our previous work shows that price competition still reduced the rate of increase in hospital costs but managed care no longer had these effects.

METHODS: Our analysis uses California OSPHD data from 1991 through 2001 linked with state death certificates and hospital financial data. We assess the effects of price competition and managed care penetration on 30-day mortality for patients with AMI, stroke, hip fracture, or GI bleed while controlling for patient severity and changes in hospital volume and case-mix. We use hospital-level fixed effects in a long-differences framework to assess whether the effects on quality of being in a market with high managed care penetration and/or high market competition have changed over time.

RESULTS: Neither the unadjusted nor the adjusted results suggest a shift in the effect of managed care on mortality corresponding to the shift in the rate of hospital cost growth. In both the earlier and later periods, the greatest decline in mortality is found in markets with high competition but low managed care. The smallest decline in mortality (or largest increase) is found in markets with low competition and high managed care. This would suggest that high competition is associated with improvements in quality but that high managed care penetration interferes with rather than enhances that effect. Higher managed care penetration alone is associated with relatively small differences in mortality, but the size of the difference does not differ substantially between the two periods.

CONCLUSIONS: If the fact that higher MCP ceased to have an effect on costs after the managed care backlash circa 1997 were due to a shift away from competition on price toward competition on quality, we might expect to see relative declines in mortality in high-MCP markets in the post-backlash period. For formal competition conditions as treated in previous settings, we find no evidence of this. These results are consistent with qualitative evidence that hospitals have simply gained negotiating power relative to managed care organizations, and that any change toward increased competition on quality of care has had little effect on clinical outcomes.

EFFECTS OF INSURANCE, RACE, DISTANCE FROM CLINIC, AND AGE ON A1C IN AN ACADEMIC GENERAL INTERNAL MEDICAL PRACTICE. A.S. Wallace1; M. Pignone2; D.A. Dawson3; V.A. Swanson4; S.T. Malott5. 1University of North Carolina at Chapel Hill, Chapel Hill, NC. (Tracking ID #: 153821.)

BACKGROUND: We examined the influence of demographic and insurance-related factors on glycemic control in an academic general internal medicine practice.

METHODS: We used data from our diabetes registry to examine the effect of age, race, distance from clinic, and insurance status on A1C values, using bivariate and multivariate analyses. We then used separate logistic regression analyses to better understand the impact of various measures of glycemic control for those aged 65 or older, and those unable to qualify for Medicare coverage through age alone, and for those 65 and older. For those younger than 65 years, we categorized payer source into the following groups: Privately insured, Medicaid only, dual Medicare-Medicaid, Medicare with Supplemental insurance, Medicare only, and Uninsured; for those 65 years and older, payer source was categorized into Medicare only, Medicare with supplemental insurance, dual Medicare-Medicaid, and private insurance.

RESULTS: We examined data for 1699 patients with a diagnosis of diabetes who had been seen within the previous 2 years. From bivariate analyses for factors that might affect glycemic outcomes, we found a significant influence of Hispanic (7.69, African-American =7.47, Caucasian =7.12; p < 0.001) and insurance status (Uninsured=7.71, Medicaid only=7.57, Private insurance=7.34, Private +Medicaid =7.18, Medicare + Medicaid =7.01). There was a negative relationship between age and A1C (r =.182, p < 0.001). We found no association between miles from clinic and A1C. An exploratory stepwise multiple linear regression analysis revealed that age (p<.01), insurance (p=0.006), dual Medicare-Medicaid insurance (p=0.03), and African-American race (p=0.003) to be statistically significantly associated with A1C values. For the 1118 individuals under age 65, the mean age was 52 years (21-64) and the mean A1C was 7.56 (7.17-7.97). In this sub-group, 23% had an A1C of 8.5 or greater. In this cohort, African-American (OR=1.65, p<.01) and race other than Caucasian (OR=1.966, p=.03), along with lack of insurance (OR=1.535, p=.03), were predictive of having an A1C of 8.5 or greater. For the 581 individuals aged 65 and older, the mean age was 76 years (65–96) and the mean A1C was 7.0 (4.4-14.0). 42% of this cohort had Medicare only, 31% had Medicare with some form of supplemental insurance, 24% had dual Medicare-Medicaid coverage, and 2% had private insurance. 66 patients (11%) had an A1C of 8.5 or greater. In this cohort, African-American race (OR=1.90, p=0.02) was the only significant predictor of having an A1C of 8.5 or greater.

CONCLUSIONS: Younger, non-Caucasian and uninsured patients are at greatest risk for poor glycemic control, even in the context of comprehensive, clinically-based, chronic illness services.
RESULTS: LDL decreased in both groups over time. Among all patients, average LDL decreased after the co-pay was introduced, from 115.2 mg/dL to 107.3 mg/dL (p=0.000). In the group which subsequently enrolled in EPIC, the LDL decreased further from 110.4 mg/dL before enrollment to 100.5 mg/dL after enrollment (p=0.005). Average LDL in the patients who did not receive EPIC decreased from 106.0 to 100.4 in the same time period (p=0.001). LDL decreased more in the group that received EPIC (~9.8% in the group that did not receive EPIC in changing difference in change LDL from group to group not reach statistical significance (p=0.218). There were no significant differences between groups in percent of patients achieving LDL<100 in each time period. In the combined sample, 27% of patients achieved LDL<100 prior to introduction of the co-pay in 2001, 42% after the co-pay and prior to EPIC enrollment, and 49% after EPIC enrollment.

CONCLUSIONS: In elderly patients with vascular disease or diabetes attending after EPIC enrollment.

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RESULTS FROM TWO DOUBLE-BLIND, PLACEBO-CONTROLLED TRIALS B. Kingsley1, D. Koehane1, J. Bell2, R. Farber21, Pfizer Inc, New York City, NY; 2Neurocrine Biosciences, Inc, San Diego, CA. (Tracking ID: 150558)

BACKGROUND: We present results from two studies which provide the first large-scale evaluation of the long-term efficacy and safety of indiplon, a novel, alpha-1 subunit-selective, GABA-A receptor potentiator, in adults diagnosed with chronic DSM-IV primary insomnia (Fig. 12).

METHODS: In study #1, patients (N=702) were randomized to 3 months of double-blind, nightly treatment with indiplon capsules 10 mg, 20 mg, or placebo. In study #2, patients (N=248) were randomized to 4 weeks of double-blind, nightly treatment with either indiplon tablets 15 mg or placebo. For both studies, responder-rated assessments included time to sleep onset and total sleep time. Responder status was defined as much-to-very much improved on the Investigator Global Rating, Change scale (IGR-C).

RESULTS: In study #1, treatment with indiplon 15 mg and 20 mg was associated with significant improvement in time to sleep onset (primary outcome) and total sleep time (Table 1). In study #2, treatment with the indiplon 15 mg was also associated with significant improvement in both sleep onset and total sleep time (primary outcome parameters (Table 2). In both studies, global responder ratings were significantly higher on all doses of indiplon at all time points. Indiplon was well-tolerated in both studies; most adverse events were transient, and mild-to-moderate in severity.

CONCLUSIONS: Taken together, the results of the two long-term studies provide data which indicate that indiplon is safe and effective in inducing and maintaining sleep in adult patients with primary insomnia. Improvement was observed on the first night of treatment and maintained throughout the treatment period.

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EFFECTS OF SELF-MANAGEMENT INTERVENTIONS ON HEALTH OUTCOMES OF PATIENTS WITH HEART FAILURE: SYSTEMATIC REVIEW OF RANDOMIZED CONTROLLED TRIALS T.L. LeCras1, D. Strass21, P. William, L. Graham, L. Hird, 1University of Toronto, Toronto, Ontario; 2Toronto Western Hospital, Toronto, Ontario. (Tracking ID: 52004)

BACKGROUND: Heart failure is the most common cause of hospitalization among adults over 65, and over 60% of patients die within 10 years of symptom onset. The objective of this study was to determine the effectiveness of self-management interventions on mortality, hospital readmission rates and health-related quality of life in patients diagnosed with heart failure.

METHODS: This study is a systematic review of randomized controlled trials. Data sources included MEDLINE (1966-Nov 2005), EMBASE (1980-Nov 2005), CINAHL (1982-Nov 2005), ACP Journal Club database (to Nov 2005), Cochrane Library (to Nov 2005), reference lists of relevant articles and experts in the field. Randomized controlled trials of self-management interventions that enrolled patients 18 years of age or older diagnosed with heart failure were included in the review. Three reviewers independently assessed the quality of each study and extracted relevant data. For each included study, the pooled odds ratios (OR) for death, all-cause hospital readmissions and heart failure readmissions, a novel, alpha-1 subunit-selective, GABA-A receptor potentiator, in adults diagnosed with chronic DSM-IV primary insomnia.

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EFFECTS OF PERIOPERATIVE MEDICAL CONSULTATION ON RESOURCE UTILIZATION AND QUALITY OF CARE IN PATIENTS UNDERGOING MAJOR SURGERY: A.D. Auerbach1, B. Ide2, B. Stone2, J. Maselli11, University of California, San Francisco, San Francisco, CA. (Tracking ID: 17525)

BACKGROUND: Higher burden of comorbidity in surgical patients and shorter lengths of stay are contributing to growing interest in collaboration between surgeons and medical consultants (MC) in managing patients at the perioperative stage. However, there is little information regarding the effects consultative models on quality of care or resource use.

METHODS: We analyzed data from the UCSF Perioperative Quality and Safety Initiative (PSQI), an observational trial of patients admitted for major surgery at UCSF Medical Center between January 1 2003 and March 31 2004. Operative data, clinical history, presence or absence of a consultation before or after surgery, and the reasons for consultation were collected chart review of patients meeting JCAHO/CMS criteria for reporting of surgical infection prevention performance data; costs and length of stay were collected from administrative data. We then performed multivariable analyses clustered at the level of the surgical service to determine whether consultation was associated with differences in quality of care measures or resource use.

RESULTS: Of 498 patients in our cohort, 129 (26%) had medical consultation (MC). MC patients more frequently had ASA class 3 or higher (78% vs. 44%, p<0.001), diabetes (27% vs 14%, p=0.004), peripheral vascular disease (27% vs. 7%, p<0.001) or end-stage renal disease (16% vs. 3%, p<0.001). Patients on the orthopaedic surgery service were less likely to receive MC, while those on the cardiology or vascular services were more likely (p<0.001). The most common reason for consultation was for care of a specific medical problem (70%); the Cardiac surgery service was consulted most often (50%) of all consultations. After adjusting for the presence and type of complication, medical comorbidities, surgical service, timing of and reason for consultation, and a propensity score representing the likelihood of receiving a consultation, MC patients were just as likely to receive a blood transfusion (200 mg/dL in the first or second 24 hours (adjusted odds for blood sugar <200 =1.1, 95% CI 0.3-4.7), or receive perioperative beta blockers appropriately (adjusted odds for receipt 1.1, 95% CI 0.3-3.4). MC patients were more likely to receive versus thromboprophylaxis prophylaxis appropriately (Adjusted odds for receipt 2.7, 95% CI 1.2-5.6). After adjustment, MC patients continued to have substantially longer length of stay (59% longer, p<0.001) and higher costs of care (64% higher p<0.001). Subset analyses focusing on patients who received consultation within 3 days of surgery suggested similarly inconsistent effects of MC on quality of care.

CONCLUSIONS: Even after accounting for severity of illness and other clinical factors associated with need for consultation, medical consultants had minimal effect on resource use or length of stay. Furthermore, consultation had inconsistent effects on care quality even within patient groups stringently defined as being eligible for specific quality of care processes. Future research should determine how medical consultants can improve quality and efficiency of perioperative care.

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EFFICACY AND TOLERABILITY OF INDIPLON IN ADULTS WITH CHRONIC INSOMNIA: RESULTS FROM TWO DOUBLE-BLIND, PLACEBO-CONTROLLED TRIALS B. Kingsley1, D. Koehane1, J. Bell2, R. Farber2, Pfizer Inc, New York City, NY; 2Neurocrine Biosciences, Inc, San Diego, CA. (Tracking ID: 150558)

RESULTS FROM TWO DOUBLE-BLIND, PLACEBO-CONTROLLED TRIALS B. Kingsley, D. Koehane, J. Bell, R. Farber2, Pfizer Inc, New York City, NY; 2Neurocrine Biosciences, Inc, San Diego, CA. (Tracking ID: 150558)

BACKGROUND: We present results from two studies which provide the first large-scale evaluation of the long-term efficacy and safety of indiplon, a novel, alpha-1 subunit-selective, GABA-A receptor potentiator, in adults diagnosed with primary insomnia. 

METHODS: In study #1, patients (N=702) were randomized to 3 months of double-blind, nightly treatment with indiplon capsules 10 mg, 20 mg, or placebo. In study #2, patients (N=248) were randomized to 4 weeks of double-blind, nightly treatment with either indiplon tablets 15 mg or placebo. For both studies, responder-rated assessments included time to sleep onset and total sleep time. Responder status was defined as much-to-very much improved on the Investigator Global Rating, Change scale (IGR-C).

RESULTS: In study #1, treatment with indiplon 15 mg and 20 mg was associated with significant improvement in time to sleep onset (primary outcome) and total sleep time (Table 1). In study #2, treatment with the indiplon 15 mg was also associated with significant improvement in both sleep onset and total sleep time (primary outcome parameters (Table 2). In both studies, global responder ratings were significantly higher on all doses of indiplon at all time points. Indiplon was well-tolerated in both studies; most adverse events were transient, and mild-to-moderate in severity.

CONCLUSIONS: Taken together, the results of the two long-term studies provide data which indicate that indiplon is safe and effective in inducing and maintaining sleep in adult patients with primary insomnia. Improvement was observed on the first night of treatment and maintained throughout the treatment period.
ELECTRONIC HEALTH RECORD USE AND THE QUALITY OF AMBULATORY CARE IN THE UNITED STATES. J.A. Lindberg1; J. Ma2; D.W. Bates3; B. Middleton1; R.S. Stafford2.
1Brigham and Women’s Hospital and Harvard Medical School, Boston, MA; 2Stanford University, Palo Alto, CA; 3Partners HealthCare Systems, Wellesley, MA.

BACKGROUND: Several prior studies have measured whether EHR use is associated with quality of care, but to date, no national studies have performed a cross-sectional analysis of visits in the 2003 National Ambulatory Medical Care Survey (N=25,288), a nationally representative probability survey. We examined the use of EHRs in outpatient practices throughout the United States and its association with performance on patient quality indicators. The sample size ranged from 410 visits to 11,476 visits for the individual quality indicators. Performance on the quality indicators was defined as the percentage of applicable visits receiving appropriate care.

RESULTS: EHRs were used in 16% (95% confidence interval [CI], 13% to 21%) of the 906 million (95% CI, 814 million to 998 million) ambulatory visits in the United States in 2003. There were no differences between visits with and without EHR use in patient age, sex, race, ethnicity, or insurance status. There were no differences between practices with and without EHR use in geographic region, rural versus urban location, private versus other type of practice, or solo versus non-solo practice. Visits at practices owned by a health maintenance organization, academic medical center, other hospital, or a health care corporation (28%; p=0.02). Performance did not differ between visits at practices that did and did not use EHRs for 12 of 18 quality measures, while 72% of practices with electronic decision support had quality measures that were better than those at practices without EHRs. Having computerized claims and/or billing systems (P=0.05), computerized prescribing systems (P=0.0001), and computerized scheduling systems (P=0.0001) were correlated with EHR adoption (P=0.0001), with fewer small practices adopting EHRs. For example, among practices that have EHRs with laboratory and radiology result retrieval capabilities, at least 88% of practices report that a majority of their clinicians actively use these function-

CONCLUSIONS: About 3 in 10 medical practices in Massachusetts have an EHR. Even among adopters, though, physician usage of EHR functions varied considerably from practice to practice. Many clinicians are not actively using functionalities that are necessary to improve quality and safety. Furthermore, among practices that do not have EHRs, about a third have no plan for adoption. Inadequate funding remains an important barrier to EHR adoption in ambulatory care practices.
ELEVATED TRIGLYCERIDES INDICATES A GREATER BURDEN OF INFLAMMATION IN ASYMPTOMATIC MEN

BACKGROUND: Although elevated levels of low-density lipoprotein cholesterol (LDL-C) remain the focus of cardiovascular disease (CVD) prevention, there is a growing body of evidence from epidemiological data indicating that elevated triglycerides (TG) levels are an independent risk factor for CVD events. Few studies have directly compared these different lipid variables in terms of the strength of their associations with subclinical outcomes such as inflammation. In this study we aim to compare the association of high density lipoprotein cholesterol (HDL-C), LDL-C and TG with white blood cell (WBC) count, a simple, inexpensive and specific inflammatory marker associated with an adverse CVD prognosis.

METHODS: We studied 559 asymptomatic men (46 ± 7 years) who presented for CVD risk stratification in Sao Paulo, Brazil. The study population was divided into tertiles according to TG (1st: <110, 2nd: 110–181, 3rd: ≥182 mg/dL), HDL (1st: <40, 2nd: 40–47, 3rd: ≥48 mg/dL) and LDL (1st: <114, 2nd: 115–139, 3rd: ≥140 mg/dL). The relationship between WBC count and lipid profile was assessed using univariate and multivariate linear regression analysis.

RESULTS: The WBC (× 10^9 cells/L) count increased significantly across increasing tertiles of TG (1st: 6.04 ± 1.49, 2nd: 6.21 ± 1.44, 3rd: 6.78 ± 1.73, p < 0.0001), whereas a trend of lower WBC was observed across increasing tertiles of HDL (1st: 6.52 ± 1.62, 2nd: 6.24 ± 1.50, 3rd: 6.21 ± 1.61, p = 0.08). On the other hand no relation between increasing LDL tertiles and WBC count was observed (1st: 6.32 ± 1.63, 2nd: 6.28 ± 1.49, 3rd: 6.35 ± 1.56, p = 0.91). Model 1 was adjusted for age, smoking status, asthenic blood pressure, glucose, body mass index, and metabolic equivalents (METs). In model 1, the adjusted mean WBC count was significantly higher across increasing levels of TG (p = 0.02). However, no relationship was found between WBC count and LDL or HDL. In model 2 all lipid variables were introduced in model 2 in addition to traditional CVD risk factors. In model 2 the association between TG and WBC count still persisted.

CONCLUSIONS: In this study among conventional lipid variables, only TG was independently associated with higher WBC count. Elevated TG levels are an independent risk factor for CVD events. There is also a strong and independent association between high TG and CVD risk. Inflammation is implicated in the pathogenesis of atherosclerosis and acute coronary syndromes. Our data suggest that higher TG levels may be a marker for greater burden of inflammation and thus increased CVD risk among asymptomatic individuals.

Adjusted Mean WBC (× 10^9 cells/L) count according to increasing lipid levels (data presented as means ± standard error of mean, SEM)

| Tertile | TG (mg/dL) | HDL (mg/dL) | LDL (mg/dL) |
|---------|------------|-------------|-------------|
| Tertile 1 | 6.04 ± 1.49 | 6.32 ± 1.63 | 6.35 ± 1.56 |
| Tertile 2 | 6.21 ± 1.44 | 6.28 ± 1.49 | 6.28 ± 1.50 |
| Tertile 3 | 6.78 ± 1.73 | 6.32 ± 1.63 | 6.40 ± 1.02 |

END OF LIFE DECISION MAKING IN ADVANCED GENETIC LUNG DISEASE

BACKGROUND: Cystic Fibrosis (CF) and Alpha-1 Antitrypsin Deficiency (AAT) cause progressive pulmonary failure in relatively young populations. We sought to understand how such patients approach end of life (EOL) decisions and the life experiences and circumstances which affect their decision-making processes.

METHODS: Iterative focus groups (3 CF and 3 AAT) and analysis conducted in a manner informed by Grounded Theory.

RESULTS: CF patients often view their illness as an intrinsic, developmental concern that affects their lives whereas AAT patients tend to consider their illness as a dormant event in an otherwise normal life. In both groups, individuals described progression from a state of relative normalcy and illness naïve to a state of progressive illness ascension (accumulating illness) and mortality. Progress along this spectrum was associated with an increased willingness to consider and discuss the end of life and its associated medical decisions. Participants described a desire to remain naïve and inexperienced in their illness. Progression in illness experience was marked by a series of transitions including experiences of disease progression, disability, and secondary illnesses, as well as portentious medical encounters (e.g. specialist and hospitalisations that increased their sense of control over their illness (spiritual faith, faith in medical care, faith in the efficacy of self-care regimens, and faith in emotional and cognitive resources like positive thinking) tended to delay or postpone progression through these
transitions, decrease their sense of their disease’s severity, and decrease their willingness to consider end-of-life and transplant decisions. Participants at all points of illness progression described a hypothetical end of desirable life; those early in their illness and those who had more difficulty viewing their illness in terms of end points, were less inclined to consider and discuss the end of life, and were less accepting of its eventuality than those who were more experienced. Participants described a number of fears and concerns about discussing EOL decisions including that therapy would be curtailed and their death would be hastened. For a number of participants, the thought of accepting their mortality would change their doctor’s focus, and that diagnostic information predating EOL discussions fails to account for their own personal resources and uniqueness. Participants expressed mixed feelings about physicians discussing illness progression, transplantation, and the end-of-life; some implying that such conversations could be harmful to their relationship with their providers.

CONCLUSIONS: Helping an individual with advanced lung disease make EOL decisions should be viewed as a continuous process, in a stages-of-change model. Physicians should be prepared to foster this discussion for patients in all stages of their illness and should be aware of the varying needs of patients at different places in their illness careers.

EPIDEMIOLOGY AND APPROPRIATENESS OF ACID SUPPRESSION THERAPY IN NURSING FACILITY RESIDENTS: T. Naviwali1; A. Stiltner1; S. Balogun1; K. Amir1; V. Dave1; M. Cantor2; R. Pearlman3.

BACKGROUND: The use of acid suppression therapy (AST) (H2 receptor blockers and Proton Pump Inhibitors (PPIs)) has increased steadily over the last decade. Although these drugs are typically indicated for short term treatment of symptomatic gastrointestinal disorders, increasingly these medications are used on a long-term basis. In addition, prophylactic treatment of hospitalized patients, ostensibly for prevention of stress ulcers, is a common practice which often results in continued drug use following hospital discharge. In an effort to reduce unnecessary and possibly harmful AST use, we undertook a study to determine the prevalence, duration, and indications for acid suppression therapy in a cohort of skilled nursing facility residents as well as to identify factors associated with AST use.

METHODS: Study Design: Retrospective cohort study. Population and sampling frame: All persons residing in either of 2 skilled nursing facilities (SNFs) in Charlottesville, Virginia, on November 1, 2005. Data Collection: Medical records and pharmacy data were reviewed and data elements of interest abstracted onto a standardized data collection form for further analysis. Data elements included type of acid suppression therapy, symptoms, indication for drug use, other prescription drug use, comorbid medical conditions, and duration of drug therapy.

RESULTS: Subjects ranged in age from 33 to 102 years (median 77.5); 64% were women. The median number of prescription drugs taken daily was 8 (range 0 to 20/9/day). Among 134 consecutive SNF residents, the point prevalence of AST use was 46% (n=62). PPIs accounted for 87% of AST drugs. Among 56 subjects taking PPIs at anytime since admission, drug therapy was discontinued in only 23 (5.6%). 54 current PPI users took PPIs for a median duration of 8 months (range 0.5 to 48 months). 8 Additional subjects took H2 blockers for a median of 3.5 months (range 1 to 7 months). The following drug indications were listed in the charts of subjects taking PPIs: GERD (52%), erosive esophagitis (2%), PUD (4%) other indications (9%) and unknown (53%). 85% of subjects taking AST suppressive drugs had no current symptoms at the time of chart review. AST drug use was strongly associated with admission from an acute care hospital where drug therapy typically began. AST did not vary significantly by gender or age, but was positively correlated with number of prescription drugs (r<.001) and negatively correlated with dementia diagnosis (r<.001).

CONCLUSIONS: AST drug use is quite common among elderly SNF residents, many of whom are first prescribed the drugs in the hospital and continue on them for a relatively long time while remaining asymptomatic. Although most subjects receiving AST have at least one diagnosis listed in the medical record as a justification for initiation of drug therapy, additional documentation to support initiation of therapy as well as continuation of therapy is generally lacking.

ETHICS AND QUALITY END-OF-LIFE CARE: OPPORTUNITIES FOR IMPROVEMENT: J. K. Dave; M. Canforo; R. Pearlman. 1Division of Aging, Brigham and Women's Hospital, Boston, MA; 2VA New England GRECC, Boston Division, Boston, MA; National Center for Ethics in Health Care (VHA), Seattle, WA (Tracking ID # 156721)

BACKGROUND: Ethics is at the core of quality end-of-life care. The first step in improving ethics practices in end-of-life care is assessing the quality of those practices to establish benchmarks. Despite the significance of ethics in the quality of end-of-life care, it has not been previously studied. The purpose of this four-site survey of Veterans Health Administration (VHA) staff was to assess the current knowledge of key ethical issues in end-of-life care and examine the similarities and variations across sites.

METHODS: The survey included a stratified random sample of VHA clinical staff members. Survey respondents, including physicians, nurses, and allied health staff, were chosen from four service lines: 1) medicine, 2) surgery, 3) mental health, and 4) geriatric, rehabilitation and extended care. The sample also included senior managers and chaplains to ensure that all relevant groups were included. The survey instrument was developed through an iterative process with feedback from experts in the field; focus groups of administrators, staff and patients; and individual interviews with staff. Both paper and web-based surveys were used. The respondents indicated their score on four- or five-point scales. We performed all analyses using Statistical Analysis Software (SAS), version 8.02. We calculated the frequency, percentages or mean with standard deviation. For simpler presentation of data we merged the responses into three categories: "Excellent" (usually a single most extreme response indicating best practice), "Acceptable" (usually the response immediately below the best practice), and "Needs Improvement" (the lowest categories). We used the Kruskal-Wallis test and a p-value of <0.01 to adjust for multiple comparisons.

RESULTS: In 13 of the 16 questions over 70% of the staff provided responses that fell into the "Acceptable" or "Excellent" categories. However, more than half the staff felt that intravenous hydration should be continued even when other treatments had been stopped. Responses to knowledge of ethics standards and health care ethics practices in end-of-life care were, except in three areas where significant variability across sites was observed. (Table 1.)

| Table 1. Variations in ethics practices in end-of-life care |
|----------------------------------|-----------------|
| Survey questions | Response (%) |
| 1. How often do clinicians or your facility discuss their interaction with patients about death? | Excellent: 40% (n=62) | Acceptable: 50% (n=78) | Needs Improvement: 10% (n=16) |
| 2. How well do clinicians or your facility avoid causing patient distress by discussing joint goals of care? | Excellent: 30% (n=47) | Acceptable: 55% (n=84) | Needs Improvement: 15% (n=23) |
| 3. How well do clinicians or your facility avoid causing patient distress by discussing joint goals of care? | Excellent: 20% (n=31) | Acceptable: 75% (n=114) | Needs Improvement: 5% (n=8) |
| 4. How well do clinicians or your facility continue treatment for patients who die? | Excellent: 50% (n=76) | Acceptable: 45% (n=69) | Needs Improvement: 5% (n=8) |

CONCLUSIONS: Within VHA, staff members reported similar, high-quality ethical practices in end-of-life care in the majority of measures. The one exception may be continuation of artificial hydration without clear goals. In three other areas responses significantly differed across sites. In order to know with certainty whether these findings identify opportunities for improvement, quality management staff need to drill deeper to understand the basis of the findings. If confirmed, one important implication relates to the VHA mission, which is to offer and provide high quality care to veterans, regardless of where they receive care. The variability in the reported ethics quality of end-of-life care across different facilities raises questions whether this aspect of quality is fairly distributed. Interventions to reduce these variations in ethics practices in end-of-life care may be needed.

ETHNIC DIFFERENCES IN TRUST IN THE MEDICAL CARE SYSTEM: A QUALITATIVE STUDY: L E. Espada. 1Medical University of South Carolina, Charleston, SC (Tracking ID # 156203)

BACKGROUND: Trust is defined as "the belief by an individual (the trusted) that another individual (the trusting) would act in one’s best interest in the future to prevent a potentially important negative outcome". Studies have shown that there are different objects of trust (i.e. one may trust an individual, but not necessarily trust the group they are part of). This study explored ethnic differences in patients’ perceptions of trust in the medicare care system.

METHODS: A random sample (n=48) of patients seen in an academic medical center participated in 9 focus groups. Focus groups were segmented by ethnicity and gender. Experienced moderators matched to participants ethnicity and gender used semi-structured guides to conduct the focus groups. Sessions were audiotaped. Full and accurate transcripts of each session were obtained. Data was analyzed using grounded theory methodology. Transcripts of each session and moderator notes were read to identify themes related to trust of the medical care system using inductive analysis and constant comparison. Themes that emerged were used to modify the topics for subsequent focus groups. Sessions were conducted until "theoretical saturation was reached. Triangulation techniques were used to establish validity of study findings.

RESULTS: Careful review of the transcripts showed that within ethnic groups, Black patients seemed more trusting of health care providers and less trusting of health care institutions; whereas White patients seemed less trusting of health care providers and more trusting of health care institutions. In both ethnic groups, there appeared to be low levels of trust in health care payers. We found that participants could be trusting of a health care provider or a health care institution, but distrustful of health care payers. We found that patients could be trusting of their health care provider and yet be distrustful of the health care institution where the provider worked. Similarly, it appeared that patients could be trusting of health care providers in a health care institution and yet be distrustful of the health care payer. Overall, there seems to be poor correlation among the different objects of trust (i.e. health care provider, health care institution, and health care payer).

CONCLUSIONS: These findings suggest that instruments designed to measure trust in the medical care system that target a single object of trust (e.g. health care provider, health institution, or health payer) may yield misleading results in both White and Black patients.
ETHNIC DIFFERENCES IN MICRONUTRIENT INTAKE AND ITS EFFECT ON BLOOD PRESSURE: A POPULATION-BASED STUDY  

D.J. Frisch1; S.R. Lipsitz2; S. Natarajan3; J.Y. Chen1; S.A. Fox1; S.E. Stockdale1; M. Kagawa-Singer1.

BACKGROUND: Studies have repeatedly demonstrated substantial ethnic differences in hypertension prevalence, blood pressure (BP) levels and hypertension control. This has been found despite controlling for confounders such as adherence to medications and access to care. Diet is a well-known risk factor for hypertension and for poor control. A careful population-based analysis of its role in hypertension in the context of ethnicity may provide important new insights. This study evaluated ethnic differences in micronutrient intake and its effect on BP levels by race and quantifies their contribution to BP differences.

METHODS: We evaluated data from the Third National Health and Nutrition Examination Survey, a population-based cross-sectional survey of the US adult non-institutionalized non-Hispanic population. The key nutrient categories evaluated were non-Hispanic whites (NHW), non-Hispanic-Blacks (NHB) and Mexican-Americans (MA). The mean of 3 standardized BP recordings was used. Dietary information was obtained from 24-hour recalls, and nutrient intake levels calculated. The United States Department of Agriculture’s conversion method. The amounts consumed by each ethnic group was examined and tested for differences while controlling for confounders. From their contribution to BP differences was evaluated in other multivariate models with systolic BP (SBP) as outcome. All analyses are reported from models that included age, gender, education, income, access to care, body mass index (BMI), urbanization, smoking, and vitamin supplementation. Analyses were conducted in SAS and SUDDAN and incorporated the strata and weighting variables to provide population estimates.

RESULTS: We included 18,162 adults in the analysis who provided dietary information and had their BP recorded. When compared to NHW, NHB (-580.52 mg) had significantly lower and MA (81 mg) higher potassium intake per day. MA also had lower sodium (-233 mg) intake per day. Compared to NHW, the daily intake of calcium (-182 mg), magnesium (-43 mg), phosphorus (-1.55 mg), and fiber (-5.63 g) was lower in NHB while it was higher in MA (5.63 g). Conversely, fat intake was higher in NHB (1.66 g) and lower in MA (-3.45 g). The effect of potassium intake on SBP was significant for NHW (-3.45 mg/Hg/mg/kcal/day) but not in NHB or MA. Fat and fiber intake had borderline (.05 < p < .10) significance among NHW and MA in age-adjusted analyses but not in multivariate models.

CONCLUSIONS: This analysis reinforces current recommendations on dietary management of hypertension and provides new insights into ethnic differences. Multivariate models, when controlling for medications and access to care, body mass index (BMI), urbanization, smoking, and vitamin supplementation, are associated with SBP differences. After adjustment for confounders, calcium, magnesium, phosphorus, and fiber intake had a significant or borderline effect on SBP. The results suggest that dietary management by ethnicity may provide important new insights. This study elucidates causes of racial/ethnic disparities in hypertension and provides insight on the relative effect of different micronutrients on BP levels in different ethnic groups. This may allow us to refine current recommendations to tailor dietary management by ethnicity in order to ultimately improve hypertension control.

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**ETHNIC VARIATIONS IN CAM USE AMONG ASIAN AMERICANS: RESULTS FROM THE 2002 NATIONAL HEALTH INTERVIEW SURVEY**  
D. Metre1; R.S. Phillips2; E.P. McCarthy2.

BACKGROUND: The use of complementary and alternative medicine (CAM) has increased in the United States. Many CAM therapies are embedded within Asian cultural and social traditions, yet little is known about CAM use by Asian Americans (AA) residing in the US. Using the 2002 National Health Interview Survey (NHIS), we compared the national prevalence of CAM use in the past 12 months between AA and non-Hispanic Whites (NHW), and identified factors associated with CAM use among AA. In addition, we examined variations in CAM use across the largest Asian ethnic groups surveyed.

METHODS: We used data from 9.7 AA and 20.4 NHW respondents to the 2002 NHIS Complementary and Alternative Medicine supplement. We examined use of 19 CAM therapies (excluding prayer) used in the past 12 months. We used bivariate analyses to compare the prevalence of CAM use between AA and NHW. Chi-square tests were used to examine the prevalence of herbal medicine use and other CAM therapies among AA. Odds ratios were computed to determine the strength of association among AA. We used logistic regression to identify factors associated with CAM use among AA. In addition, we examined variations in CAM use across the Asian ethnic groups.

RESULTS: The prevalence of herbal medicine use was greater among AA (24%) compared to NHW (19%). The odds of CAM use adjusted Odds Ratio = 1.19: 95% CI [0.89, 1.58] compared to NHW, but the difference was not statistically significant. An estimated 48% of US-born AA, 40% of foreign-born AA, and 43% of foreign-born NHW reported CAM use. CAM use did not vary by number of years in the US among foreign-born AA. Among AA, factors associated with increased CAM use in multivariate analyses included female gender, higher education levels, lower income, increased in the context of important confounders and provides insight on the relative effect of different micronutrients on BP levels in different ethnic groups. This may allow us to refine current recommendations to tailor dietary management by ethnicity in order to ultimately improve hypertension control.

**ETHNICITY SPECIFIC BARRIERS MAY ACCOUNT FOR INFLUENZA VACCINATION DISPARITIES**  
J.C. Oche1; S.L. Rockstroh2; P. Kamwana-Singer3.

BACKGROUND: Vaccination of persons at-risk from influenza is a cost-effective means to decrease mortality and morbidity. Significant racial/ethnic disparities in influenza vaccination rate exist between Whites and minority groups. To elucidate causes of racial/ethnic differences in influenza vaccination rates, this study examines influenza vaccination rates in five racial ethnic groups (White, Latino, African American, Filipino American and Japanese American) and employs the health belief model to identify modifiable determinants of vaccination by race/ethnicity.

METHODS: We used data from a 2004 telephone survey of 50 to 75 years of age in 76 randomly selected faith-based congregations in Los Angeles and Honolulu. Of those who completed the telephone interview in English or Spanish, 841 self-identified as White, 184 as African American, 410 as Latino, 307 as Japanese American, and 218 as Filipino American. The overall response rate was 88%. We assessed influenza vaccination rate, perceived susceptibility to influenza, perceived severity of getting influenza, and the self-reported main barrier to influenza vaccination by race/ethnicity. We also bivariant and multivariate models to adjust for confounding variables.

RESULTS: Over 71% of Whites and Japanese Americans reported receiving a flu vaccine in the past year compared to 46% of African Americans. 44% of Latinos, 58% of Filipinos and 44% of Asian Americans. The differences were statistically significant. In the multivariate model, being Asian American was associated with a 1.6% decrease in the rate of vaccination compared to Whites. Among African Americans, the rate of vaccination was 1.6% lower than Whites. Among Latinos the rate of vaccination was 1.6% lower than Whites. Among Filipino Americans, the rate of vaccination was 1.6% lower than Whites. Among Asian Americans, the rate of vaccination was 1.6% lower than Whites. Among Japanese Americans, the rate of vaccination was 1.6% lower than Whites.
CONCLUSIONS: Our study offers four main policy implications for increasing influenza vaccination rates in the United States. First, interventions to increase influenza vaccination rates should focus on increasing the public’s concern of contracting influenza. Second, we need larger or larger size African Americans are concerned over the issue of influenza vaccine causing influenza. Third, community outreach delivering linguistically appropriate information on how to practically obtain free or low-cost flu vaccination can help increase rates among Latinos. Finally, our study emphasizes the importance of investigating Asian American and Pacific Islander subgroups to examine health and receipt of health care; notably the low vaccination rates among Filipino Americans were masked by the high rates among Japanese Americans. Future research is needed to address why African Americans are concerned over the issue of influenza vaccine causing influenza.

ETHNIC SEX DIFFERENCES IN THE NEIGHBORHOOD-LEVEL FACTORS ASSOCIATED WITH SMOKING: N. Kandula1, M. Wen2, E. Jacobs3, D. Lauderdale4, N. Kandula1, M. Wen2, E. Jacobs3, D. Lauderdale4.

Background: Prior studies have documented associations between neighborhood-level characteristics and individual smoking behavior in non-Hispanic White, Asian, and other ethnic and gender groups. However, it is not known whether neighborhood-level characteristics are similarly associated with smoking prevalence for different ethnic-sex groups, among whom smoking behavior varies substantially. The objective of this study was to examine the associations between neighborhood-level SES, perceived neighborhood social cohesion, and smoking among ethnic-sex groups.

Methods: Data were from the California Health Interview Survey (CHIS), a cross-sectional, population-based telephone survey of 42,000 households. Our sample included 26,506 non-Hispanic White (NHW), 7135 Latino, 2691 Black, and 3875 Asian adults. We performed ethnicity/gender-stratified multiple regression models with robust variance estimates to account for correlations in smoking among residents of the same neighborhood. Our dependent variable, smoking behavior, was dichotomized into either current smoking or current non-smoking. Individual-level data, including smoking, age, gender, and ethnicity were obtained from the US, language-spoken at home was from CHIS. Perceived neighborhood social cohesion (a scale tapping the extent of connectedness, trust, and solidarity among neighbors; coefficient of alpha for NHW was constructed using principal component factor analysis with orthogonal rotation from four dimensions of SES that are highly correlated: concentration, concentrated poverty, % of college-educated residents, and % of house ownership (reliability coefficient was 0.83).

Results: Smoking rates varied significantly by ethnicity/sex: 19% of NHW men, 16% of NHW women, 22% of Black men, 18% of Black women, 21% of Latino men, 8% of Latino women, 22% of Asian men, and 7% of Asian women reported being current smokers. Among NHW men and women, perceived neighborhood social cohesion and increasing neighborhood SES were associated with a lower odds of smoking, independent of individual-level characteristics. Neither neighborhood social cohesion nor neighborhood SES had an association with smoking among Blacks. For Latino men, increasing neighborhood SES was associated with lower odds of smoking (OR=0.78, 95% CI=0.65, 0.95). For Asian men, perceived neighborhood social cohesion was associated with lower odds of smoking (OR=0.74, 95% CI=0.61, 0.90), but neighborhood SES was not. For Latino and Asian women, perceived neighborhood social cohesion and neighborhood SES were not associated with smoking.

Conclusions: The influence of perceived neighborhood social cohesion and neighborhood-level SES on smoking varies across ethnic-sex groups. The differing patterns of these associations by ethnicity/gender highlight the importance of conducting further research on specific neighborhood-level factors and the possible causal pathways that are relevant to smoking in different ethnic and gender groups.

EVALUATING A "FAIL-SAFE" SYSTEM TO FOLLOW UP ABNORMALLY MAMMOGRAMS IN PRIMARY CARE: E. Grossman1, M.D. Aronson1, R.S. Phillips1, S.N. Weingart2.

Background: Failure to follow up abnormal mammograms represents a significant risk to patient safety. In order to attenuate this risk, some health care organizations have developed tools for ensuring follow-up and communication of test results. To examine the utility of this approach, we studied the performance of a paper-based reminder system for abnormal mammograms ordered at adult primary care teaching practices at a Boston hospital. An administrator received a copy of all abnormal mammograms ordered at the hospital. An administrator sent the clinician a copy of the radiology report and a result notification survey (Table). Clinicians indicated that they were unaware of the abnormal result for 73% (8 of 871 returned surveys; neither the clinician nor the patient was aware of the abnormal result for 26% (22 of 871 returned surveys; the clinician was aware of the abnormal result but there was no follow-up plan in place for 43% (38 of 871 returned surveys; the patient was aware of the abnormal result but there was no follow-up plan in place for 12% (10 of 871 returned surveys; neither the clinician nor the patient was aware of the abnormal result but there was a follow-up plan in place for 9% (8 of 871 returned surveys).

Conclusions: A paper-based fail-safe system for follow-up of abnormal mammograms can detect critical test results that might "fall through the cracks." A fail-safe system is particularly important for trainees. The success of this approach may require mechanisms to enforce physician participation.

EVALUATING MOTIVATORS FOR EXERCISE ADHERENCE IN PATIENTS WITH PERIPHERAL ARTERIAL DISEASE: E. Caughey1, T.G. Coller2, M. Craig3, J. Cullen3, R. P. Harris1,2.

Background: Exercise therapy is an excellent noninvasive therapy for patients with symptomatic peripheral arterial disease. We explored perceptions of factors associated with exercise adherence in a racially diverse population of persons with PAD.

Methods: We conducted qualitative interviews of patients with objective evidence of PAD from one local VA hospital and several community-based outpatient clinics. Within patient interviews, we initiated a conversation on patient perceptions of the role of communication to increase exercise adherence. Based on factors identified within the social science literature, we re-analyzed these verbatim transcripts to identify patient perceptions that supported or refuted these factors in regard to exercise in addition to walking to exercise.

Results: Of the 35 patients (19 men and 16 women), there were 14 whites, 12 African Americans, and 9 Hispanics. Based on 23 factors that were identified within the literature and applied to our data, p < 0.05. Sixteen patient perceptions that supported these motivators. Five factors emerged as having a significant impact on patients’ willingness to adhere to exercise therapy for PAD. The factors included an attraction to the type of exercise, a coexisting illness that could complicate the role of exercise, a good relationship with a doctor, a family member or friend who wants to exercise with the patient, and an ability to adapt to the requirements of the type of exercise. Factors which were not supported by our focus group participants included lethargy or the belief that the intervention is needed to live, the likelihood that family and friends will comment if the exercise is not performed, the expectation of a benefit, or the concern that the exercise is useless.

Conclusions: Based on our additional analysis of this qualitative data, we were able to determine how previously defined factors believed to impact exercise adherence emerged as motivators for a cohort of persons with one chronic illness, PAD. This information will help to develop survey-type interventions for use in the primary care setting that will help to motivate patients with various atherosclerotic-type illnesses to exercise.

EVALUATION OF A PROSTATE CANCER SCREENING SHARED DECISION MAKING (SDM) PROGRAM THAT INCLUDES VALUES CLARIFICATION: A. Bunton1, B. Schwartz2, L. McCormack3, D. Disposti1, C. Soele1, R.P. Harris2.

Background: Medical associations recommend shared decision making (SDM) for PSA screening. Although values clarification is a critical component of SDM, existing SDM tools for PSA screening have generally not included it.

Methods: We analyzed a "fail-safe" follow-up system for abnormal mammograms (Fig. 15). Clinicians indicated that they were unaware of the abnormal result for 73% (8 of 871 returned surveys; neither the clinician nor the patient was aware of the abnormal result for 26% (22 of 871 returned surveys; the clinician was aware of the abnormal result but there was no follow-up plan in place for 43% (38 of 871 returned surveys; the patient was aware of the abnormal result but there was no follow-up plan in place for 12% (10 of 871 returned surveys; neither the clinician nor the patient was aware of the abnormal result but there was a follow-up plan in place for 9% (8 of 871 returned surveys).

Conclusions: A paper-based fail-safe system for follow-up of abnormal mammograms can detect critical test results that might "fall through the cracks." A fail-safe system is particularly important for trainees. The success of this approach may require mechanisms to enforce physician participation.
METHODS: We developed an SDM program for PSA screening that coupled an informational video with a structured values clarification (VC) tool and tested it in a randomized controlled trial of 128 men at 4 clinical sites. The video showed men discussing five aspects of PSA screening with a doctor (potential outcomes for each option; the accuracy of the test, potential side effects from treatment that could occur from a positive test, likelihood of dying from prostate cancer, degree of uncertainty regarding the benefit of PSA). In the VC tool, men chose and ranked four statements best representing how they felt about five aspects of the PSA test using color coded cards with two statements (one supporting and one not supporting PSA use) for each aspect. Men in the control arm watched a highway safety video. All participants completed self-administered surveys at baseline and post-intervention, assessing their desire to participate in the PSA decision, knowledge of PSA testing, and intent to have a PSA in the next 12 months.

RESULTS: For 3 of 5 aspects considered in the values clarification process, a majority of men chose a statement consistent with preferring not to have a PSA test (NO-PSA; 70% for treatment outcomes, 80% for risk of dying from prostate cancer, and 55% for test accuracy). For example, for “accuracy of the PSA” aspect, 55% of men chose “I would only want to have the PSA test if it could tell me for sure if I do or don’t have cancer” (NO-PSA) whereas 45% chose “The fact that the PSA test doesn’t give me a definite answer about whether I do or don’t have cancer does not bother me; nothing in life is 100%” (PRO-PSA). Overall, seventeen percent of men chose <1 NO-PSA statements, 55% chose 2–3 and 29% >4 NO-PSA statements and 80% reported that the implications of their 5 card choices seemed right in reflecting their overall feelings. In ranking the importance of various aspects, “Certainty of treatment outcomes” was most often ranked as “most important” and “Likelihood of dying from prostate cancer” was most often ranked as the “least important” factor considered when deciding whether or not to have a PSA. Despite these findings, 45% of men in the intervention arm still planned to be screened after viewing the decision aid. Men in the intervention arm reported having statistically significantly greater increases in their: (1) desires to participate in the PSA decision; (2) knowledge; and (3) intent to NOT be screened (Table 1).

CONCLUSIONS: Men who used a SDM tool that helped them clarify their values about PSA screening test became more engaged in medical decision making and had greater changes in their knowledge and intent to be screened compared with controls.

Percent of men in control and intervention arms who had an increase in their “Desire to Participate”, “Knowledge”, and “Intent to NOT be screened”

| Intervention | Desire to Participate increase (%) | p-value | Increased Agreemt “It is okay to decide not to have a PSA test” increase (%) | p-value | Increased INTOT increase (%) | p-value |
|--------------|-----------------------------------|---------|--------------------------------------------------------------------------|---------|---------------------------|---------|
| Control n=70 | 18%                                | 0.0052  | 54%                                                                      | 0.0044  | 50%                       | 0.001  |
| Intervention | 56%                                | <0.0001 | 100%                                                                     | <0.0001 | 100%                      | <0.0001 |

EVALUATION OF N-TERMINAL PRO-B-TYPE NATRIURETIC PEPTIDE (NT-proBNP) AS A DIAGNOSTIC TEST FOR VENTRICULAR DYSFUNCTION IN PATIENTS WITH STABLE CORONARY HEART DISEASE AND HISTORY OF HEART FAILURE

BACKGROUND: There is no gold standard for the quantification of lower extremity edema. The currently accepted clinical technique captures pit depth and recovery time as a single edema score. This and other tools used in the measurement of lower extremity edema lack reliability, reproducibility, sensitivity, and specificity. We evaluated 8 tools for inter-examiner agreement, correlation with physician assessment, and feasibility of implementation in clinical practice.

METHODS: A cross-sectional observational study was conducted at the Marshfield Clinic to assess the following tools: 1) Measurement of edema assessments of pit depth and recovery time at 3 locations, patient questionnaire, ankle circumference, figure-of-eight, edema tester (plastic card with holes of varying size pressed to the ankle with a blood pressure cuff at varying pressures), modified edema tester (edema tester) cartridge volume and direct ankle volume (water displacement). Each of the 3 examiners assessed 20 diabetic patients. Ten patients had mild edema, 3 moderate, 3 severe, and 4 had no edema. The tools were randomized to receive either figure-of-eight and indirect leg volume or the edema tester. The remaining tools were assessed in all patients.

RESULTS: In patients with stable CHD and no history of heart failure, NT-proBNP levels > 500 pg/ml indicate that ventricular dysfunction is highly likely, and NT-proBNP levels ≤ 100 pg/ml indicate that ventricular dysfunction is highly unlikely. NT-proBNP levels between 100–500 pg/ml are not as useful for assessing ventricular dysfunction in patients with stable CHD and no history of heart failure.

EVALUATION OF PHARYNGITIS IN ACTUAL PRACTICE: THE DIFFERENCE BETWEEN GUIDELINES IS LIKELY ACADEMIC: J.A. Linzer1; D.W. Bates1; Brigham and Women’s Hospital and Harvard Medical School, Boston, MA. (Tracking ID # 12724)

BACKGROUND: Guidelines from the American College of Physicians (ACP) and the Infectious Diseases Society of America (IDSA) concur that patients with 0 or 1 of the 4-point Center criteria are at low risk for streptococcal pharyngitis and recommend not testing nor antibiotic prescribing. However, clinicians, in response to the use of clinical criteria and microbiologic testing for patients with intermediate and higher risk of streptococcal pharyngitis. We sought to measure, in actual practice, the adherence rate to different management strategies and examine the hypothetical effect of perfect adherence to each strategy.

METHODS: We performed a retrospective analysis of visits to primary care clinics by adults with a billing diagnosis of pharyngitis from October 2003 to May 2007. We included patients aged 18 years or older, with a diagnosis of pharyngitis (ICD-9: 461, 460), patients with the following characteristics: absence of cough, tonsillar exudates, and tender anterior cervical lymphadenopathy with streptococcal testing, a positive test result, and antibiotic prescribing. Data were collected using a chi-squared test. We performed a cost analysis using the strategy with the lowest costs (no testing and antibiotic prescribing) and compared it to the ACP-Empric Strategy; 2) testing patients with 2 or 3 criteria and prescribing antibiotics to patients with a positive test or with 4 criteria (ACP-Test Strategy); and 3) testing patients with 2, 3, or 4 criteria. Then we used the ACC-Primary Care Treatment Guidelines (ACCP-Primary Care Treatment Guidelines) to compare the direct costs of each strategy. Finally, we examined the testing and treatment implications of hypothetical perfect adherence to each strategy.

RESULTS: The cohort had a mean age of 37 years, 71% female and 50% white. The Centor criteria were not predictive of streptococcal testing (for 0, 1, 2, 3, and 4 criteria the testing rate was 79%, 81%, 79%, 80%, and 74%, respectively; p = 0.63), but were predictive of a positive streptococcal test (8%, 13%, 22%, 31%, and 30%, respectively; p < 0.0001), and of antibiotic prescribing (25%, 34%, 63%, 80%, and 89%, respectively; p < 0.0001). Clinicians were adherent to the ACP-Empric Strategy in 12% of visits, the ACP-Test Strategy in 20% of visits, the IDSA Criteria in 30% of visits, and no strategy in 66% of visits. The most common reason for non-adherence to any strategy was being antibiotic prescribing at very low risk of streptococcal pharyngitis (10%) or not adhering to any strategy. Per cent adherence to the ACP-Empric Strategy would have resulted in 6 tests and 370 antibiotic prescriptions (18% of cohort); the ACP-Test Strategy in 799 tests (38%) and 323 antibiotic prescriptions (15%); and the IDSA Strategy in 869 tests (41%) and 281 antibiotic prescriptions (13%).

CONCLUSIONS: Although which guideline to use has been hotly debated, the major problem in actual practice in the management of adults with pharyngitis is not which guideline to follow, but that clinicians fail to follow any guideline. Perfect adherence to different guidelines for adults with pharyngitis would lead to only modest differences in antibiotic prescribing. To reduce antibiotic prescribing, strategies should focus on avoiding testing and antibiotic prescribing to patients at low risk for streptococcal pharyngitis, regardless of the guideline used.
FACTORS ASSOCIATED WITH APPROPRIATE RECEIPT OF PHARMACOLOGIC VE-NOUS THROMBOSIS PROPHYLAXIS IN PATIENTS UNDERGOING MAJOR SUR-GERY. L.E. Goldman1; B. Ide1; B. Stone1; J. Maselli1; A.D. Auerbach1; J.A. Clemmer1; J.P. Metlay2; L.D. Ward1.

Our study was to identify factors affecting VTEP implementation challenges. The validity of these measures will need to be confirmed in larger studies. The figure-of-eight, direct ankle volume, and ankle circumference showed strong agreement (ICC > 0.75) between raters. We focused our analysis on patients considered at high or moderate risk for VTE according to Chest guidelines and who were not ambulatory within 24 hours of surgery. All of whom received VTEP in a single center 6 mm-bump modified edema tester at 150 mmHg (ICC = 0.40, 0.75). Agreement for indirect leg volume was moderate (ICC = 0.53, 0.66). Correlation with phy-sician assessment was good for the clinical assessment and patient question-naire. The patient chart and ankle volume measures took 1 minute to complete. Several tools took >5 minutes to complete: indirect leg volume (6 min), direct ankle volume (8 min, excluding set-up time), and modified edema test (10 min).

CONCLUSIONS: The direct ankle volume pose implementation challenges.

FACTORS ASSOCIATED WITH DELAYS IN PATIENT CARE FOR SMALL BOWEL OBSTRUCTION IN THE EMERGENCY DEPARTMENT. U. Hassan1; N.A. Bickell1; Mount Sinai School of Medicine, New York, NY; (Tracking ID #: 528397).

BACKGROUND: Time-sensitive conditions such as small bowel obstruction (SBO) offer the opportunity to study patient and Emergency Department (ED) factors, and processes of care that may affect timeliness of patient care. We undertook this study to determine whether greater ED patient census, lower medical staffing levels, and decreased hospital bed availability would result in prolonged time to necessary care.

METHODS: This was an observational study of patients with SBO who were radiographically confirmed small bowel obstruction at an urban, tertiary care hospital. Patients were sampled prospectively (6/1/01-11/30/02). Detailed demographics, clinical data (patient signs & symptoms, lab, imaging and surgical findings), access to medical record (diagnoses), and time of care activities (ED arrival, & discharge, first patient exam, imaging, diagnosis, medical and surgical treatments), were abstracted from in & outpatient medical records. ED census & hospital occupancy were obtained for each ED patient. ED arrival & discharge time, imaging, diagnosis, medical and surgical treatments), were abstracted from in & outpatient medical records. ED census & hospital occupancy were obtained for each ED patient. ED arrival & discharge time, imaging, diagnosis, medical and surgical treatments), were abstracted from in & outpatient medical records. 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METHODS: Patients at least eighteen years old from three large university-affiliated primary care practices were eligible. Patients had received their medical care at the same practice for at least one year. Consecutive patient visits were reviewed for eligibility. Of all eligible patients who were not lost to follow-up, those who were not lost to follow-up were included. Patients were included if they reported a diagnosis of type 2 diabetes and were currently on insulin therapy. The research team identified eligible patients through chart review, and informed consent was obtained from all patients. Data were collected from medical records and patient interviews. We used logistic regression analysis to identify factors associated with adherence to insulin therapy. The factors included in the analysis were age, sex, race/ethnicity, educational attainment, income, employment status, and health insurance coverage. The primary outcome of interest was adherence to insulin therapy, defined as taking the prescribed therapy at least 80% of the time.

RESULTS: Of the 301 patients included in the study, 182 (60.4%) were adherent to insulin therapy. The factors associated with adherence to insulin therapy were age, sex, race/ethnicity, educational attainment, income, employment status, and health insurance coverage. Older patients, females, and patients with higher educational attainment were more likely to be adherent to insulin therapy. Conversely, patients with lower income, lower employment status, and no health insurance coverage were less likely to be adherent to insulin therapy.

CONCLUSIONS: Adherence to insulin therapy is a complex issue that is influenced by a variety of factors. Future research is needed to identify additional factors that may influence adherence to insulin therapy and to develop interventions that can improve adherence to insulin therapy.
alternate moral framework emphasizing a conventional, rather than contractual, obligation between patients and families, played a role in families’ moral thinking and sometimes came into conflict with the rational model.

CONCLUSIONS: Family decision making did not appear to involve rational deliberation among various options, but an assent to the inevitability of the patient’s decline and death. In addition to the considerations of the patient’s wishes and best interests, hospital staff and bioethicists may provide guidance to families by acknowledging the validity of alternative moral frameworks.

FAMILY EXPECTATIONS OF DEATH: THE ROLE OF FUNCTIONAL IMPAIRMENT AND RACE-ETHNICITY. B.A. Williams1; K. Lindquist1; S.Y. Moody-Ayers1; K.E. Covinsky1.

BACKGROUND: Families describe the ability to expect a family member’s death as critical to good end-of-life care, however death is often perceived as arriving unexpectedly. In the elderly, functional impairment is predictive of death; however, it is unknown whether functional impairment in older persons is associated with families’ perception of a death as expected or unexpected.

METHODS: Our cohort consisted of 2,237 family members of decedents from the Health and Retirement Survey (HRS), a nationally representative longitudinal cohort study of older persons. Families of subjects who died after enrollment in HRS were interviewed within two years of the decedent’s death in 1996–2000. Our outcome of interest was whether families reported that the death was expected, assessed by asking, “Was death expected at about the time it occurred or was it unexpected?” Our primary predictor was decedent’s functional impairment (need for assistance in any ADL including eating, dressing, transferring, toileting and/or bathing). We also assessed patient race-ethnicity, based on self-identification from the pre-death interview.

RESULTS: Median age at death was 79 for African Americans and Latinos. 51% of decedents were female, 70% had functional impairment. 39% of family respondents were spouses, 43% were adult children. Overall, 42% of families reported their family member’s death was unexpected, this varied according to the decedent: 40% of white decedents, African Americans and 44% of Latinos reported their family member’s death was unexpected (p < 0.001). Expecting death was strongly associated with functional impairment in the decedent. 71% of families of decedents with functional impairment expected death, compared to 24% of those without functional impairment (p < 0.001). After adjustment for age, gender, education, economic status, comorbidities, present symptoms, religious service attendance, time to interview, and place of death, there were still significant associations between expecting death and functional impairment (OR 3.53, CI 2.71–4.60) and families of African Americans expected death less often than families of white decedents (OR 0.48, CI 0.37–0.62). There were no significant differences in expectations of death by race among Latinos. 51% of decedents were female, 70% had functional impairment, compared to 24% of those without functional impairment (p < 0.001).

CONCLUSIONS: Family members of older adults expected death only 58% of the time. While families of functionally impaired elders were more likely to expect death when it occurred, the death expectation was significantly lower for families of African Americans than for whites. These results suggest opportunities where end-of-life communication can be improved.

FEASIBILITY AND OUTCOMES OF ON-SITE HEPATITIS C TREATMENT IN OPINATE AGONIST TREATMENT PROGRAMS. A.H. Lehen1; K.A. Hams Jr1; P.J. Zamar2; J.A. Sottile1; P.J. Tenhaaf1; F. Reum1; J.H. Arment1. 1Albert Einstein College of Medicine, Montefiore Medical Center, Bronx, NY; 2Albert Einstein College of Medicine, Bronx, NY; 3New York University, New York, NY.

BACKGROUND: Hepatitis C virus (HCV) infection affects nearly 5 million people in the United States and is a major cause of morbidity, mortality, and health care expenditure. Although injection drug users (IDUs) bear a particularly heavy burden from HCV and are likely to transmit it by sharing drug paraphernalia, few IDUs have received treatment for HCV. Physician reluctance to treat HCV in IDUs has been attributed to concerns about poor treatment adherence associated with ongoing substance abuse or comorbid psychiatric disorders. Prior studies have shown that linking drug abuse treatment with on-site primary medical care has improved adherence to on-site treatment for both tuberculosis and HIV, but this model has not been tested for HCV. We describe the implementation and preliminary outcomes of a model of co-located opiate agonist treatment and primary medical care that includes HCV-related care.

METHODS: We conducted a retrospective chart review in eight affiliated opiate agonist treatment clinics where on-site HCV treatment was provided between January 1, 2003 and December 15, 2005. All eight clinics included in the study were co-located substance abuse and primary medical care. Future studies should evaluate interventions designed to improve HCV treatment adherence and outcomes in this marginalized population.
“objective data” and the legitimate concerns about prescribing narcotics by the physician sets up a potential conflict in the patient-physician relationship. The majority of physicians feel that their training in medical school is inadequate to prepare them to work with patients with chronic pain. One common answer may be within the informal curriculum where chronic pain patients are known risk factors for delayed or absent follow-up. Minority status, lower SES, absent insurance and public-only insurance are known risk factors for delayed or absent follow-up. The feeling the students expressed were primarily empathy (45%) and sympathy (19%). Only of 8% students expressed irritation. The majority of students (70%) would recommend counseling, 72% of students would not prescribe the narcotics.

CONCLUSIONS: As a group the students showed a good understanding of the scenario and patient. Students expressing a physical and psychological standpoint. They have a good understanding of the patient's perspective in that she feels the drug helps her function and is frustrated with the doctor's reluctance to prescribe it. Her requests for a dose escalation and admitting to not being able to function without the drug indicate dependence. Interestingly, the predominant emotional responses from students were sympathy and empathy. The literature indicates that most residents would respond with frustration and anger. Students did wish to address the patient's emotional needs through counseling and giving to the root cause of her stress. Overall, these first-year students demonstrate a good patient-centered perspective of this scenario. Would a repeat of the study towards the end of medical school show a decline?

FOOD INSECURITY IS ASSOCIATED WITH DIABETES
H.K. Seliman1; A.B. Bindman2; E. Vittinghoff1; M. Kushel3.
1. University of California, San Francisco, San Francisco, CA. (Tracking ID: 152524)

BACKGROUND: More than 11% of the American population reports being food insecure, or having inadequate access to food, at some time during the previous year. Among women, mild food insecurity (food insecurity without hunger) is associated with obesity, while severe food insecurity (insecurity with hunger) is not. Both food insecurity with and without hunger are associated with diabetes (see table).

CONCLUSIONS: These data confirm the previously observed association between food insecurity without hunger and obesity in women. The association between food insecurity and diabetes has not been previously observed. Unlike the relationship observed with obesity, that observed with diabetes is graded; more severe forms of food insecurity are associated with higher diabetes risk, independent of body mass index. Further research should address whether food insecurity acts as a risk factor for diabetes or increases one’s awareness of inadequate access to balanced meals. Food insecurity may be one mechanism by which low socioeconomic status predisposes to diabetes.

Food Insecurity is Associated with Both Obesity and Diabetes

FOLLOW-UP AFTER ABNORMAL SCREENING IN A BREAST CANCER CONTROL PROGRAM
D. Mukherjee1; J. George1; R.C. Burack1.
1. Wayne State University, Detroit, MI. (Tracking ID: 153727)

BACKGROUND: The impact of mammography and a clinical breast exam (CBE) on breast cancer mortality is dependent on timely and complete resolution of abnormal screening findings. Minority status, lower SES, absent insurance and public-only insurance are known risk factors for delayed or absent follow-up among women with abnormal screening results. In our prior study conducted among Medicaid eligible minority women provided insurance through the Wayne County HMO, only 31% of women with highly suspicious mammograms (BI-RAD 4 and 5) followed up within 60 days. Thus simply providing insurance may be an incomplete intervention without active case management. The Michigan Wayne County Breast and Cervical Cancer Control Program (BCCCP), a federated state partnership, enrolls uninsured women, 40 to 64 years of age with household incomes less than 250% of Federal poverty income threshold. Enrolled women are provided “free” breast cancer screening plus case management to promote timely follow up after abnormal screening. Our objectives were to demonstrate the impact of added case management by describing follow-up patterns within the BCCCP and identify factors associated with timely follow-up among previously uninsured, economically disadvantaged, minority women.

METHODS: A retrospective review was performed on a BCCCP database of 5184 women who received a screening mammogram and a CBE from October 2004 to June 2005. Fifty-five percent of the study population was black and 70% had household incomes below the federal poverty income threshold. Women with abnormal CBE (breast lump), BI-RAD 0 (needing additional follow-up) and BI-RAD 4 and 5 (suspicious and highly suggestive of malignancy respectively) were identified as abnormal screening findings. Our primary outcome was defined as a diagnostic resolution confirming a cancer or a benign diagnosis within 60 days of the index abnormal screening finding, based on medical record review. Bivariate and multivariate logistic regression was used to examine factors associated with timely (within 60 days), delayed (greater than 60 days) or failed (never diagnosed) resolution.

RESULTS: Of the 5184 screened women, 796 (15.4%) had an abnormal screening result (abnormal CBE =296, BI-RAD 0 =472, BI-RAD 4.5 =28). Seventy-nine percent of women with BI-RAD 4 and 5, 68.5% with Abnormal CBE and 67.9% with BI-RAD 0 reached timely (within 60 days) diagnostic resolution. Overall, the type of screening abnormality (Abnormal CBE, BI-RAD 0, BI-RAD 4.5), age (40-49, 50-59, 60-64), ethnicity (black, white) and history of previous screening with or without abnormality (prior abnormal screening, prior normal screening and no prior screening) were not associated with timely resolution. In the multivariate model only higher socio-economic status (household income above federal poverty level compared to household income below the federal poverty threshold) was associated with timely resolution (OR, 1.51; 95% CI, 1.01–2.26).

CONCLUSIONS: Adding supportive case management to insurance resulted in timely diagnostic resolution after an abnormal screening for the majority of women enrolled in our cancer control program. Since prompt diagnostic resolution and treatment initiation depends on timely follow-up after abnormal screening, extension of similar case management in other settings could contribute to improved breast cancer control outcomes.

FOREIGN-BIRTHPLACE AS A BARRIER TO BREAST CONSERVING SURGERY FOR EARLY STAGE BREAST CANCER IN LATINA WOMEN
M.S. God1; D.W. Baker2; S.A. Khan1; E.P. McCarthy2.
1. Northwestern University, Chicago, IL; 2. Harvard University, Boston, MA. (Tracking ID: 156365)

BACKGROUND: Health care disparities have increased over time for Latina women in the US. Latinas who are foreign-born may be particularly vulnerable to health disparities because of reduced access to care or cultural differences. Although breast conservation has enjoyed a long-term mortality benefit to mastectomy for the treatment of early-stage breast cancer, studies have shown it is commonly underutilized by disadvantaged populations even after clinical characteristics are considered. Therefore, we aim to examine whether Latina women with early-stage breast cancer, particularly those who are foreign-born, are less likely than white women to receive BCS and to determine whether rates of BCS vary over time by ethnicity and birthplace.

METHODS: This nationwide population-based cohort study included women diagnosed with stage I or II breast cancer from the 1992–2002 public use Surveillance, Epidemiology, and Endogenous Risk Factors For Breast Cancer in Latina Women.
Results (SEER) database. We calculated unadjusted rates of BCS and then created a logistic regression model using generalized estimating equations to account for clustering by tumor registry. We adjusted for age, marital status, year of diagnosis, and cancer characteristics, and compared BCS use among U.S.-born Latina women (n = 104,650) with U.S.-born (n = 3,580) and foreign-born (n = 4,312) Latina women. We examined temporal trends in rates of BCS. We also further examined whether rates of BCS for U.S.-born and foreign-born Latinas increased at similar rates and whether the rates were more likely to be diagnosed with stage I disease (59%, 49%, 40%, respectively) in univariate analysis, foreign-born Latina women had lower rates of BCS than U.S.-born Latina and white women (53%, 59%, 61%, respectively, p = 0.01). After adjustment, foreign-born Latina women remained substantially less likely to have BCS than white women [adjusted odds ratio 0.81 (95% CI 0.69–0.96)]. However, no significant differences in BCS were observed between U.S.-born Latina and white women. Over all rates of BCS increased over time for each group; however, we found that differences in BCS use between foreign-born Latina women and foreign-born Latinas whether they contribute to disparities in health outcomes.

GENDER DIFFERENCES IN DYSLIPIDEMIA: ARE WOMEN WITH TYPE 2 DIABETES BEING TREATED LESS AGGRESSIVELY COMPARED TO MEN? Q. N. Metzger1, J. Billimek1, D. Roblin2, D. Sorkin1, J. Read1, S. Greenfield1, S. Kaplan1. 1University of California, Irvine, Irvine, CA; 2Kaiser Permanente Division of Research, Atlanta, GA.

BACKGROUND: We examined quality of diabetes care by comparing measurement rates and outcomes of hemoglobin A1c and LDL cholesterol in a sample of diabetic patients treated at Kaiser Permanente Orange County in 2002 (n =6100) and 2003 (n =14979). Glycemic control was defined as hemoglobin A1c (HbA1c) <8.0 and lipid control as LDL level <100 mg/dl. We compared rates of measurement and outcomes for men and women using bivariate and multivariate analyses. P < 0.001 was set a priori for multiple comparisons.

RESULTS: Women made up 49.5% of the sample in 2002 and 52.3% in 2003. There was no age difference between men and women in the 2002 sample. In the 2003 sample, the mean age for men was 56.2, for women 54.3 (p < 0.05).

Women were more likely to receive HbA1c test in 2002 (82.3% vs. 77.2%) and 2003 (82.6% vs. 78.7%). There were no differences in mean values of HbA1c between men and women in 2002 (7.0 ± 1.0 vs. 7.0 ± 1.0) and 2003 (7.0 ± 1.0 vs. 6.9 ± 1.0).

CONCLUSIONS: Despite comparable measurement rates, LDL outcomes are poorer for female than male patients. This gender difference suggests that female patients with diabetes may be less aggressively treated for dyslipidemia, and therefore be differentially at risk for cardiovascular disease.

(2002 Sample)  (2003 Sample)

| Men | Women | Mean Differences (≥ 95% CI) |
|-----|-------|---------------------------|
| N | 3078 | 3022 | 0.0 (–0.9, 2.9) |
| with Hba1c <8.0 | 80.1 | 81.0 | 0.9 (–2.9, 1.1) |
| with LDL <100 mg/dl | 77.0 | 77.5 | 0.5 (–2.6, 1.6) |

(2003 Sample)  (2003 Sample)

| Men | Women | Mean Differences (≥ 95% CI) |
|-----|-------|---------------------------|
| N | 7145 | 7834 | 0.0 (–0.0, 0.0) |
| with Hba1c <8.0 | 67.3 | 67.2 | 0.1 (–0.4, 0.6) |
| with LDL <100 mg/dl | 65.3 | 65.2 | 0.1 (–0.4, 0.6) |
| with Hba1c <8.0 | 53.4 | 57.3 | 3.9 (–5.5, 2.3) |
| with LDL <100 mg/dl | 56.9 | 61.3 | 4.7 (8.2, 10.2) |

(2003 Sample)  (2003 Sample)

| Men | Women | Mean Differences (≥ 95% CI) |
|-----|-------|---------------------------|
| N | 7145 | 7834 | 0.0 (–0.0, 0.0) |
| with Hba1c <8.0 | 67.3 | 67.2 | 0.1 (–0.4, 0.6) |
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The administration of health services within a correctional facility in New York State: Rikers Island. The investigation traces the organizational changes in the medical service at Rikers Island in order to understand its impact on prisoners care.

METHODS: Archival materials were searched, reviewed, and analyzed. A historical narrative was derived from the archival information. The materials included records from the mayor’s office, municipal archives, city hall library and “Rikers Island Tonight” Transcripts and private archives searched according to the following categories and terms: prison and jails, hospitals, Department of Correction, Department of Health, Health and Hospitals Corporation of New York, the New York Times database searched. Materials were arranged chronologically, read, and analyzed for patterns pertaining to the study question.

RESULTS: Between the 1930’s and early 1970’s, jurisdiction over medical care at Riker’s Island resided within the Department of Correction. This arrangement persisted until the early 1970’s when rising concern over the ethical treatment of prisoners led to heightened scrutiny of medical standards at the jail. In a series of reports commissioned by the New York City Department of Health, the dual role of the Department of Correction as incarcerator and caregiver was deemed a conflict of interest detrimental to prisoners’ health. In 1971, the city delegated responsibility for care at Rikers to the Department of Health. Two years later, the city contracted Montefiore Medical Center, a voluntary, non-profit hospital, to provide care at Rikers Island. Montefiore Medical Center provided comprehensive ambulatory services at Rikers Island between 1973 and 1997. This period was marked by the emergence of the dual epidemics of HIV and TB, for which standards of care were established and delivered. In 1997, mirroring national trends in health care financing, the city contracted St. Barnabas, a hospital-based model of care to provide care at Rikers Island. An unfortunate history was the nation’s largest correctional health contract to date and was subject to criticism of unprecedented profit margins for the HMO. After three years, the HMO was replaced with a private, for profit, prison health care corporation, Prison Health Services, Inc. The current contract has been subject to investigation by the State Commission of Correction for poor quality of care.

CONCLUSIONS: Over the past half a century, medical care for inmates at Rikers Island has shifted from the public domain into the hands of a private, for-profit, corporation. The introduction of market considerations into correctional health services threatens to compromise the right of prisoners to standard medical care. Further study is needed to determine how these organizational changes have affected the quality and outcomes of medical care for prisoners.
BACKGROUND: Controversy surrounding opioid use for treatment of chronic pain syndromes has limited prescribing these drugs in the past due to concerns of efficacy, tolerance, dependence and abuse. Recent studies on veterans with chronic pain suggest that age, depression, presence of personality disorder and history of substance abuse are closely linked to opioid use versus nonsteroidal anti-inflammatory use. These preliminary studies of veteran populations have not examined gender differences in opioid use to treat chronic pain syndromes as a result of limited inclusion of women. However, it has been noted in community-based studies that being female is a predictor of narcotic analgesic use.

METHODS: We identified all men and women veterans at the Durham VAMC in fiscal year (FY) 2002 between the ages of 21 and 60 that had a diagnosis of chronic pain. Men and women were age-matched at a 2:1 ratio. Women and men that died in 2002 or 2003 were excluded. We then obtained FY 2003 prescription data for our sample from the VA centralized pharmacy database. We compared opioid prescription information among veterans using Chi-square tests.

RESULTS: Mean age for both groups was 42.6 years (SD 8.5 for men, 8.6 for women). Common pain sites identified were: joint pain, back pain, headache, abdominal pain, limb pain, pelvic pain, chest pain and bone spur pain. We found that overall, 50% of the men and 43% of the women were prescribed opioid medications in FY 2003 (p = 0.01). Among our sample with a psychiatric comorbidity, 63% of men and 49% of women were being prescribed opioids (p = 0.001). Among veterans that were prescribed opioids for chronic pain issues, 51% of men were prescribed opioids, compared to 44% of service-connected women (p < 0.05).

CONCLUSIONS: This is the first study to examine gender differences in chronic pain and narcotics use among women. It was found that women veterans with chronic pain are using opioid medications less commonly prescribed opioid medications than men. Future studies should explore gender differences in appropriateness and efficacy of narcotics in this population.
as neighborhood quality could improve health and reduce health disparities. The mechanisms through which these effects are produced need to be explored.

GENERIC VS. BRAND HYPERTENSION MEDICATION USE BY SENIORS UNDER CARDIOLOGIST AND GENERALIST CARE. A.D. Federman1; E.A. Halm1; A.L. Siu1; D. Bekelman1; S.M. Dy2; D.M. Becker2; I. Wittstein2; N.S. Wenger1.

BACKGROUND: Specialists tend to prescribe newer agents more frequently than generalists. However, little is known about the differences in generic and brand medication use by adults who receive generalist and specialist care. We examined patterns of generic hypertension medication use among elderly Medicare beneficiaries by generalists and cardiologists.

METHODS: We conducted a cross-sectional analysis of data from the 2001 Medicare Current Beneficiary Survey (MCBS; n=12,964; 71% response rate). MCBS interviewers asked drug namesverbatim from pill bottles or pharmacy receipts 3 times per year. Physician specialty was determined by linking Medicare Part B claims with the Unique Provider Identification Number file. We included community-dwelling beneficiaries over 65 with hypertension, who had ≥1 office visits to a generalist or family practitioner or to a cardiologist or both, and who used angiotensin converting enzyme inhibitors (ACEI), beta-blockers (BB), or calcium channel blockers (CCB) that were available in a generic and a branded form. We compared the frequency of generic and brand medication use between the generalist and cardiologist offices. RESULTS: Of the 2784 subjects included in the analysis, 15% had ≥1 visits to a cardiologist. Compared to subjects receiving generalist-only care, those with ≥1 cardiologist visits more frequently lived in urban areas (16% vs. 11%, p=0.02), and had coronary disease or CHF (58% vs. 38%, p<0.001). The proportion of individuals taking each class of medication was higher for cardiologists. We used logistic regression models to examine the association between physician type and medication use controlling for age, sex, race, ethnicity, urban residence, Census region, income, type of prescription coverage, total number of prescription drugs, and cardiovascular disease, mental health conditions (anxiety and depression), and chronic illness status. A significant difference in the use of generics vs. brands was observed for CCBs (p=0.004; and ACEI 57% vs. 58%, p=.89). In multivariate analyses, those under cardiologist care were less likely to use generic CCBs than those seeing generalists only (OR 0.46, 95% CI 0.27 to 0.76, p=.002), whereas no significant differences were observed for ACEI and BB. CONCLUSIONS: Elderly Medicare beneficiaries with hypertension who have 1 or more annual visits to a cardiologist are more likely than those under generalist care to use branded calcium channel blockers when equivalent generic alternatives are available. Targeting cardiologists for interventions to increase generic calcium channel blocker prescribing may represent an opportunity to reduce out-of-pocket drug costs for elderly patients with cardiovascular disease.

GLOabal RATINGS OF HEALTHCARE BY PATIENTS–UNLIKE TECHNICAL QUALITY–ARE NOT RELATED TO PATIENT SURVIVAL. JGIM1; C.P. Roth2; T. Higashi3; N.S. Wenger1.

BACKGROUND: Patient-rated global ratings of care, unlike technical quality, are not related to survival. Assessments of care should include both patient ratings and independent assessments of technical quality.

GLOBAL RATINGS OF HEALTHCARE BY PATIENTS–UNLIKE TECHNICAL QUALITY–ARE NOT RELATED TO PATIENT SURVIVAL. JGIM1; C.P. Roth2; T. Higashi3; N.S. Wenger1.

BACKGROUND: Patient-rated global ratings of care, unlike technical quality, are not related to survival. Assessments of care should include both patient ratings and independent assessments of technical quality.

RESULTS: The median age of participants was 75 years, 63% were male, and 78% were white. Females were more likely to have higher depression scores (median GDS-SF for men =2, for women =4, p=0.04). Fourteen patients (23%) had clinically significant depression (GDS-SF ≥ 5). Figure 1 is a scatterplot showing the distribution of the total score of spiritual well-being. A regression line shows that greater spiritual well-being is associated with less depression (F=14.3, p<0.001). There was a strong correlation between greater spiritual well-being and less depression (Spearman’s correlation = 0.58, p<0.001). In particular, greater meaning/peace was strongly associated with less depression (r = 0.60, p<0.0001), while faith was only modestly associated (r = 0.38, p<0.01). Greater social support (r = 0.40, p<0.001), lower physical symptoms (r =0.38, p<0.01) and better health status (r =0.56, p<0.001) were also associated with less depression. In separate multivariate regression analyses accounting for social support, physical symptoms, and health status, greater spiritual well-being remained to be significantly associated with less depression. Between the two spiritual well-being subscales, only the meaning/peace subscale contributed to this effect and accounted for between 11–16% of the variance in depression in each multivariate model COGNITION: Among outpatients with symptomatic heart failure, greater spiritual well-being, particularly meaning/peace, was strongly associated with less depression. Enhancement of patients’ sense of spiritual well-being, a feature of palliative care, might reduce or prevent depression and thus improve quality of life and other outcomes in this population.

GROUP MEDICAL VISITS: PATIENT SATISFACTION IN V.A. CLINICS. L. Skotz1; D. Castro1; J. Sawada2; Loma Linda VA Healthcare System, Loma Linda, CA; 2Pitzer Inc., Irvine, CA.

BACKGROUND: Healthcare organizations are under pressure to lower costs and improve care including access to clinical appointments. Group visits have emerged as a way to decrease costs, yet improve clinical outcomes and patient satisfaction. Drop-in group medical appointments (DIGMA), developed in 1996, were designed to solve patient access problems using existing resources as well as help physicians manage large patient panels. DIGMAs are 90-minute appointments for 10–15 patients, led by a physician and behavioral health professional. Each DIGMA is a series of one-on-one patient encounters in a group setting. Advantages of DIGMAs include improved access and quality of care, more time with the physician, better management of large patient panels, increased productivity and enhanced patient and physician satisfaction. It is known that M.D. patients have a higher number of co-morbid medical and psychiatric conditions than the general population. Since there are no studies regarding DIGMA impact on patient satisfaction within the VA setting we set to determine whether DIGMAs in a VA Primary Care setting have a positive impact on patient satisfaction in the areas of access, provider interactions and overall satisfaction.

METHODS: A retrospective survey of patients who participated in a single provider’s Primary Care DIGMA during a 3-month period. The Survey of Healthcare Experiences of Patients (SHEP), developed in conjunction with the Picker Institute, is a 106-item survey that is mailed out monthly to a random sample of ambulatory care patients in the VA clinics. Our 60-item survey took 55
questions related to access and satisfaction from the SHEP survey and added 5 specific DIGMA-experience questions. Our survey was mailed to 100 consecutive DIGMA participants along with a self-addressed envelope: all surveys were returned and mailed, anonymous. RESULTS: Forty-eight out of 100 mailed surveys were completed and returned. The results for each of the questions in our survey were compared to results from corresponding questions on the SHEP survey during the same time period. When asked to compare our DIGMA results, 43 of 48 respondents received a better response (up to 26% better), 3 questions received an equivalent response; 5 questions were DIGMA specific without comparison responses. In areas of access to care, provider interaction, and overall satisfaction DIGMA patients scored the DIGMA experience higher than the SHEP survey results for our facility. Additionally, the provider reported improved patient access to appointments. DIGMA patients felt the group interaction and peer support was helpful to their care (69%); learned from other patients in the group (65%); would recommend a shared medical appointment to others (69%); when compared to the one-on-one interview, found DIGMA was equally or more useful (71%). At their next appointment patients preferred: DIGMA follow-up (68%), either DIGMA follow-up or one-on-one (31%), one-on-one (50%), unsure or no response (10%). CONCLUSIONS: DIGMA provides VA Primary Care patients increased access to care with enhanced satisfaction. DIGMAs are a useful tool for VA physicians to manage large patient panels and improve access to care. However, this setting may not be appropriate for all patients or providers. A majority of patients find the DIGMA appointments helpful, in fact, some would prefer it over the traditional one-on-one visit.

GROWTH OF HOSPITALISTS IN THE VETERANS ADMINISTRATION (VA) HEALTHCARE SYSTEM: 1997–2005. P.J. Kaboli1, T.W. Barrett2, S. Vazirani3, L. Osterberg4, A.D. C. Nicolaidis1, J. Gregg1, H. Galian1, B. McFarland1, M. Auerbach5.

BACKGROUND: The Veteran’s Administration (VA) is the largest single provider of healthcare in the U.S., with 129 hospitals providing acute inpatient medical care. The growth of hospitalists in academic medical centers and the private sector has been well described. Our objective was to describe the evolution of hospitalists in VA and explore the impact of residency work hour reform on inpatient care.

METHODS: A 24-item internet based survey was sent to the Chiefs of Medicine at 129 VA Medical Centers in 2005. The survey measured the use of hospitalist care in December 2005. Questions included past, current, and future use of hospitalists, and the structure of care in general medical and medical intensive care units (MICU).

RESULTS: 48 of 129 surveys were completed (37%), of which 69% (33) reported having hospitalists care for general medical patients. Of these, 12 were started in 2005, 11 from 2001–2004, and 10 from 1997–2000. At the initiation of the hospitalist programs, hospitals averaged 2.3 full time equivalents (FTEs) and cared for 38% of medical patients. Currently, the programs average 3.4 FTEs providing care to 71% of medical patients. Projecting forward 2 years, these programs estimated they will have 5.1 FTEs caring for 79% of medical patients. Of the 15 VAMCs without hospitalists, 12 (80%) anticipated hiring hospitalists in the next 2 years. 90% of current hospitalists are VA employees, while 10% were employed by both VA and university affiliated hospitals. MICUs were available in 46 of 48 hospitals, of which 17 (44%) were “open”, allowing for non-critical care physicians to admit patients. Of these MICUs, hospitalists admitted patients to 14 (82%). University medical centers were affiliated with 80% of the VAMCs, providing training to residents and medical students. When asked to changes in residency work hours, 44% reported that the changes were more likely to make them expand or start hospitalist programs. 45% said they were more likely to use mid-level providers. 71% agreed/strongly agreed that reductions in residency work hours have made it more difficult to provide high quality of care in a safe environment, 72% said it was harder to teach medical students, and 87% said it was harder to teach residents.

CONCLUSIONS: The growth of hospitalists in VA has paralleled the growth in other systems of care with almost 3 of 4 VAMC using hospitalists to care for over 70% of medical patients. Our findings suggest that the VA may be the largest single employer of hospitalist and that hospitalists in VA, a fully integrated healthcare system, may have significant impact on quality and outcomes of care. With reductions in residency work hours, the role of hospitalists and the number of programs will likely expand in VA. Further work to increase the survey response rate will improve the validity of the findings.

HEALTH CARE EXPERIENCES AND NEEDS OF STREET-BASED SEX WORKERS IN NEW YORK CITY. J. Waldorf1. Montefiore Medical Center, Bronx, NY. (Tracking ID # 153058)

BACKGROUND: Sex work is an occupation involving the exchange of sexual services for economic compensation. It has long been a means of economic self-sufficiency for women, especially for, though not limited to, women with limited education or other resources. Sex workers are at significant risk for poor health outcomes. Most of the research on sex workers’ health is focused on the prevalence of various health risks and disease rates in this population. However, little is known about the sex workers’ specific healthcare needs. There have been only a handful of studies that have addressed sex workers’ health agenda or experiences. These few studies suggest that these transmitted diseases may not be the primary concern of sex workers, nor the most common occupational hazard experienced by them. The objective of this qualitative study was to explore the self-perceived health care needs of street-based sex workers and the perceived barriers to receiving this care.

METHODS: Participants were recruited and interviewed during outreach work by two community based organizations in Brooklyn and the Bronx. In one-on-one, semi-structured interviews, they were asked to describe previous and idealized health care interactions and identify health care needs. Their responses were analyzed using a grounded theory approach to content analysis. RESULTS: Twenty women participated. They had been in sex work for an average of 11 years (range of 1 to 26 years-with over 200 person years of experience). There was a high degree of health care resource utilization: the majority of the women reported medical care at least every three months. Several women had frequent health care experiences because it is a requirement during arrest and processing on Riker’s Island. For two of the women, their only medical care occurred during their arrests. The communication skills of the medical providers was the most often cited as the reason for a perceivably positive or negative health care interaction. Negative health care experiences were most often due to perceived discrimination regarding drug use or sexual practices. More than half the women reported not disclosing their sex work to medical providers. Actual medical providers (presumably or present) were embarrassed that sex work was not frequently identified as current or past medical problems. Most of the women identified safer sex practices as the most important health care issue for sex workers. They also described insufficient access to reproductive health care and several identified this as an important health care issue. Fewer identified the emotional effects of the work as being of great importance. When asked to identify an ideal health care experience, the majority described greater interpersonal engagement by the medical provider. Several suggested that a mobile health care unit, which could reach them where they live and work, would most significantly improve their access to care.

CONCLUSIONS: This exploratory qualitative study begins to identify the perceived health needs and barriers to care for street-based sex workers. The results suggest both programmatic and provider-level strategies to improve health care experiences and outcomes for this population.
CONCLUSIONS: Following Hurricane Katrina, approximately 38% of our sample reported that their overall physical health was excellent prior to evacuating. People who evacuated within 24 hours of the hurricane had a significantly different than those who evacuated 24 hours prior to the hurricane’s landfall: respondents who evacuated less than 24 hours before the hurricane were more likely to have experienced severe mental distress. Of those who screened positive for PTSD or depression, 42% believed that their mental health status declined significantly and over half of those with the worst hyperkyphosis do not have vertebral fractures. We approached a total of 846 adults; 655 (78%) participated in the 1988–1991 osteoporosis visit. At this visit, 1,054 (89.1%) were identified; project staff contacted the medical providers for this subset of survey participants (with their explicit permission), to request confirmatory HBV serology test results. Of these, 21 (18%) had medical records that were consistent with current chronic HBV infection (positive for HBV surface or “e” antigen, or with detectable viral levels by serum DNA testing). Of the 35 HBV records from Seattle, and 11 of the 82 HBV records from Vancouver survey participants were consistent with chronic infection. Records from 21 (18%) were identified; project staff contacted the medical providers for this subset of survey participants (with their explicit permission), to request confirmatory HBV serology test results. Of these, 23 (18%) had medical records that were consistent with current chronic HBV infection (positive for HBV surface or “e” antigen, or with detectable viral levels by serum DNA testing). Hepatitis B among Chinese adults in Western Washington and British Columbia: Results from a review of laboratory serology records. J.H. Choe1, T. Hislop2, C. Teh3, H. Le4, A. Low5, E. Woodall6, V.M. Taylor1, University of Washington, Seattle, WA; BC Cancer Agency, Vancouver, British Columbia; Fred Hutchison Cancer Research Center, Seattle, WA. (Tracking ID # 154671)

BACKGROUND: Although chronic infection with hepatitis B virus (HBV) often is clinically asymptomatic, approximately 1/4 of cases develop chronic active hepatitis, cirrhosis, and subsequent sequelae, including cirrhosis and hepatocellular carcinoma (HCC). Chronic hepatitis B infection and its sequelae disproportionately affect Asian immigrants. More than half of the chronic HBV carriers in the United States (US) are of Asian ethnic descent, and the highest HCC incidence rates in US cancer registries are among Asian American men. The purpose of our study was to review and to describe serologic HBV laboratory test results among Chinese, the largest Asian ethnic population in the US and Canada. METHODS: In 2005 we conducted a series of population-based surveys focused upon hepatitis B and liver cancer. Participants were Chinese adults aged 18-64 years old, from households randomly selected by surname from Seattle, Washington and from Vancouver, BC. Surveys were collected in-person by trained multilingual field interviewers from 987 Chinese adults. Survey participants who reported having had HBV serologic testing during the preceding five years were identified; project staff contacted the medical providers for this subset of survey participants (with their explicit permission) to obtain laboratory HBV serologic test results. Results from review of these laboratory medical records are reported here.

RESULTS: We reviewed medical records from more than 175 survey participants that met our data collection criteria. Records from 117 included HBV serology test results. Of these, 21 (18%) had medical records that were consistent with current chronic HBV infection (positive for HBV surface or “e” antigen, or with detectable viral levels by serum DNA testing). Of the 35 HBV records from Seattle, and 11 of the 82 HBV records from Vancouver survey participants were consistent with chronic infection. Records from 21 (18%) were consistent with individuals who were not immune to HBV and susceptible to future infections (i.e., negative for HBV surface antibody). 50 (43%) individuals had serology test results that demonstrated immunity to HBV (i.e., positive for HBV surface antibody), either from prior acute infection or from previous immunization. For 25 (21%), the reviewed HBV serology results were insufficient to conclude whether the individual was chronically infected or immune. CONCLUSIONS: Public health authorities have recommended HBV testing among populations at risk for chronic HBV infection. Although a relatively small number of records were reviewed, our data suggest high rates of chronic HBV infection among adults in Chinese communities in North America. Serologic testing for HBV offers the opportunity for clinicians to identify patients who might benefit from timely initiation of antiviral therapies (e.g. interferon, lamivudine, or adefovir); to monitor the chronically infected for early development of HCC or cirrhosis; and to counsel lifestyle behavior changes (e.g. reduction of alcohol consumption). Serologic testing also can identify these susceptible individuals that might benefit from HBV vaccination. As part of a comprehensive strategy to reduce the disproportionate burden of chronic hepatitis B and hepatocellular carcinoma among Asian immigrants, clinicians should consider routine HBV serologic testing for Chinese adult patients and their families, and should consider offering HBV vaccination for those without evidence of immunity.

HEPATITIS B AMONG CHINESE ADULTS IN WESTERN WASHINGTON AND BRITISH COLUMBIA: RESULTS FROM A REVIEW OF LABORATORY SEROLOGY RECORDS.

J.H. Choe1, T. Hislop2, C. Teh3, H. Le4, A. Low5, E. Woodall6, V.M. Taylor1, University of Washington, Seattle, WA; BC Cancer Agency, Vancouver, British Columbia; Fred Hutchison Cancer Research Center, Seattle, WA. (Tracking ID # 154671)

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HEPATITIS B AMONG CHINESE ADULTS IN WESTERN WASHINGTON AND BRITISH COLUMBIA: RESULTS FROM A REVIEW OF LABORATORY SEROLOGY RECORDS. J.H. Choe1, T. Hislop2, C. Teh3, H. Le4, A. Low5, E. Woodall6, V.M. Taylor1, University of Washington, Seattle, WA; BC Cancer Agency, Vancouver, British Columbia; Fred Hutchison Cancer Research Center, Seattle, WA. (Tracking ID # 154671)
Lateral spine X-rays were obtained at a 1992–1995 follow-up visit. Thoracic spinal curvature was defined as the angle of intersection between lines drawn from the superior border of T4 and inferior border of T12. RESULTS: There were 196 women, aged 18–24 years, with no Pap smear in the past year and no history of hysterectomy. A multivariable model adjusted for age, sex, spine bone mineral density, and body mass index, the association between medical history of female’s home’s hump and kyphosis remained significant (OR = 1.76; 95% CI: 1.21–2.56, p = 0.0032). Additional adjustment for morphometric spine fractures or family history of fracture did not change these results. In a multivariable model, the association between mother’s history of dowager’s hump and worse degrees of kyphosis was also significant (p = 0.0036).

CONCLUSIONS: We cannot exclude possible recall bias as a potential explanation for our study findings, these results present preliminary evidence that hyperkyphosis is a heritable condition, and is not simply a manifestation of underlying osteoporosis.

HOME SCREENING AND CLINIC SCREENING GROUPS (21 vs. 25 infections per 100
(56.9% vs. 37.2%, p<.05))

Using a self-administered multivariable logistic regression model, there was no significant difference in the rate of infections between the home screening and clinic screening groups (21 vs. 25 infections per 100 (56.9% vs. 37.2%, p<.05)).

BACKGROUND: Despite recent progress, Latinas continue to have the highest incidence and the second highest mortality rate from cervical cancer. The human papilloma virus (HPV) has been etiologically linked to cervical cancer and HPV testing is currently recommended as an adjunct to Pap smears. However, HPV testing is not widely available and some methods for HPV detection may be less acceptable to Latinas.

METHODS: Lay health workers distributed self collections kits to Latinas at community schools, health fairs and other local events and door to door. Women age 18–24 who had not had a Pap smear in the past year and were not on cervical cancer were eligible for inclusion. Participants collected the vaginal sample in the place and time of their preference and returned the kits to the lay health workers. Hybrid capture II assay was tested for high-risk HPV types 16, 18, 31 and 33. All HPV positive cases were included.

RESULTS: A total of 881 Latinas were included in the study. Most women were 20–22 (49%). A majority of the residents were Central Americans (6.8%). Of the 881 kits returned, 13.3% tested positive for high risk HPV. Using physician collection as the gold standard, self-collection had a sensitivity of 90% and specificity of 88%. Participants reported excellent or very good satisfaction and understanding of procedures in case of a positive result (82%). Over half of the women reported physician collection as more convenient than self collection.

CONCLUSIONS: Home self collection of HPV samples for HPV testing had high sensitivity, specificity and satisfaction among Latinas. This approach may provide an additional tool for cervical cancer control, especially in populations with limited access to health care or with cultural or sociodemographic barriers to cervical cancer screening.

ABSTRACTS

HOT FLASHES AND BONE DENSITY IN POSTMENOPAUSAL WOMEN

A. J. Huang1, D. Grady2, H. Shen2, E. Vittinghoff2, K. C. Johnson3, D. C. Bauer4, V. A. Affairs Medical Center, San Francisco, CA; 2University of California, San Francisco, San Francisco, CA; 3University of Minnesota, Minneapolis, MN; 4University of Tennessee, Memphis, TN, (Tracking ID # 215935)

BACKGROUND: Hot flashes are among the most frequent complaints of women after menopause, affecting up to 80 percent of women in the immediate perimenopausal period, and persisting for up to 5 years after natural menopause in almost a third of women. Several recent studies have suggested that greater frequency of hot flashes may be associated with greater risk of bone loss during the menopausal transition. We sought to determine whether the presence or frequency of persistent hot flashes more than 5 years after menopause is associated with reduced bone mineral density (BMD) in older women.

METHODS: We performed a cross-sectional analysis using baseline data from the Ultra-Low-dose Transdermal Estrogen Assessment (ULTRA) study. Participants were women, aged 60 to 80 years, who had a uterus and were at least 5 years beyond menopause, and were required to have bone density normal for age (z score > -2.0 at the lumbar spine). Prior to randomization, women were asked to describe the characteristic frequency of their hot flashes using a 6-point Likert scale (i.e., “none,” “little,” “some,” “a good bit,” “most,” “vs. all of the time”)

Bone density at the L2-L4 lumbar spine and total hip was measured at this visit by dual X-ray absorptiometry (DXA). The least square means procedure was used to determine adjusted mean BMD at the total hip and lumbar spine for women with different frequency of hot flashes at baseline.

RESULTS: Of the 417 participants, 64 percent (n=266) had hot flashes “none of the time,” 20 percent (n=84) had hot flashes “a little of the time,” and 16 percent (n=67) had hot flashes “some of the time.” After adjusting for age, body mass index, race, and smoking status, the mean BMD at the total hip was lower for women with hot flashes “some” to “all of the time” versus “none” or “a little of the time,” although this difference did not reach statistical signifi-
HOT FLASHES AND VAGINAL DRYNESS PERSIST INTO THE LATE POST-MENO-
PAUSE
CONCLUSIONS: Menopausal symptoms remain prevalent throughout all me-
opausal stages and symptomatic women continue to consider them bother-
some. Further research is needed into menopause management strategies. We
recommended hormonal therapy for the minimal time necessary to manage symp-
toms. Yet the duration of menopausal symptoms is not well understood and symptoms are generally believed to be transient. The purpose of this paper is to describe baseline symptoms from a 5-year, longi-
tudinal, primary care based study, designed to elucidate the effect of the
menopausal transition on HRQOL.
METHODS: Women ages 40-65 years at varying menopausal stages seen in a
single general internal medicine practice were invited between January and
November 2005 to participate in STRIDE. Self-administered questionnaires
assessed demographics (age, education, marital status, race, and ethnicity),
menopausal status (based on standard bleeding pattern definitions), meno-
pause-specific symptoms (hot flashes and vaginal dryness), hormone therapy
use, medical comorbidities, attitudes towards menopause and aging, social
support, and HRQOL (RAND-36). Menopausal symptoms were characterized
on a 5-point response scale. Women with positive symptoms at least some of the
time (≥3) were asked to rate how “bothersome” those symptoms were on the
same scale. Baseline characteristics were described using frequencies and
measures of central tendency. Characteristics predicting symptom reporting
and identifying symptoms as bothersome were analyzed using χ2 and logistic
regression techniques.
RESULTS: 725 women, mean age 51 (SD=4.6), completed baseline questions. Most
(74%) were white, 53% were married or in a committed relationship, 35%
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HRQOL (RAND-36). Menopausal symptoms were characterized on a 5-point
response scale. Women with positive symptoms at least some of the time (≥3)
were asked to rate how “bothersome” those symptoms were on the same scale.
BACKGROUND: Enhancing patient safety by decreasing resident fatigue was an important factor in the institution of the resident work hour rules. However, decreasing resident work hours often leads to reduced continuity of care. Both resident fatigue and discontinuity of care may cause concern in hospitalized patients. These concerns, if present, could affect satisfaction and trust in the physician teams. We sought to determine the opinions of hospitalized patients about resident work hour limits, and their experience of physician discontinuity and resident fatigue during hospitalization.

METHODS: We surveyed general medical inpatients in 2004–2005 at four geographically diverse institutions, including 2 VA MCs. The anonymous written survey included an introduction defining the members of the physician team and emphasizing that the questions referred to their inpatient care. The survey included items about patients’ perceptions of resident work hours, fatigue, discontinuity of care, satisfaction, and trust in the physician team as well as demographics and general questions about the hospital stay. Patients were eligible if they spoke English, were able to give consent, were 18 years or older, and were likely to leave the hospital within the next 24 hours.

RESULTS: Response rates, recorded at 3 of the 4 sites, were 70%, 69% and 58%. Our sample (n=176) was 29% female, 16% African-American with a mean age of 60. Most patients (73%) were aware of the resident work hour issue. Half (49%) agreed that residents’ hours should be limited. Patients estimated that residents worked 60 hours weekly (SD = 15), but thought the maximum should be 51 hours (SD = 16) (p < 0.001). Most patients were satisfied with their physician teams (84%). Trust was high. Half (52%) believed that someone from the team should be in the hospital at all times. Interestingly, 29% believed that both resident work hours should be limited and that a team member should be available at all times. When asked which was more likely to lead to a problem, having new (but rested) doctors or their regular but tired doctors, 44% thought that the regular, tired doctors would be more problematic, while 38% chose new, rested doctors. The remainder (18%) did not respond. Other patient concerns are summarized in Table 1.

Table 1

| Concern                                      | % Answering moderately or very worried | % Answering agree or strongly agree |
|----------------------------------------------|----------------------------------------|------------------------------------|
| Residents are too tired to take care of me   | 9%                                     | 11%                                |
| No one from the team is around when I need them | 15%                                    |                                    |
| How often does hand over care to each other |                                        |                                    |
| I feel safer when one of the team doctors is in the hospital overnight | 48%                                    |                                    |

CONCLUSIONS: Patients are divided about limiting resident work hours. They also appear to be concerned about whether someone from the team should be around in the hospital. Few patients are worried about either fatigue in the residents caring for them or about the number of hand-offs in their care. Nearly equal numbers believe that problems could arise from having their regular (but fatigued) doctors versus new (but rested) doctors. Patients’ responses likely reflect the tension between the desire to have both familiar and rested doctors.

HOW DO PHYSICIANS’ RELIGIOUS BELIEFS SHAPE THEIR INTEGRATION OF UNCONVENTIONAL HEALING PRACTICES? A QUALITATIVE STUDY

F.A. Curlin1, J. Vemuri1,2,3, E. Miceli4, J. Kemeny1,2,3, R. Gorawara-Bhat1

1University of Chicago, Chicago, IL. (Tracking ID: 475865)

BACKGROUND: Religions and complementary and alternative medicines (CAM) appear to be related to one another in complex ways. Both practitioners of religious traditions and supporters of CAM have been critical of what they see as conventional polymeric biomedicine’s reductionistic and materialistic view of health care. Yet, religious persons may be skeptical of and resistant to those CAM practices which have historical connections to other religious tradi-

tions and esoteric spiritualities. To date, there has been a lack of studies of the ways physicians’ relate their religious (and secular) commitments to their approaches to CAM practices. This study sought to qualitatively explore the ways practicing physicians from a range of different religious (and secular) traditions judge the efficacy and legitimacy of different types of CAM practices.

METHODS: Semi-structured interviews with 28 physicians to date from multiple religious traditions including Protestant, Catholic, Jewish, Hindu, Buddhist, and ‘spiritual’. Participants were physicians who work in the hospital environment, or in their private practices, who would not, consider integrating different practices including acupuncture, botanicals, Reiki, the Relaxation Response, hair analysis, Vodun, intercessory prayer, and faith healing. These were selected as practices that represent different CAM categories. Interviews were transcribed, coded, and analyzed for emergent themes through an iterative process of qualitative textual analysis.

RESULTS: Physicians rarely invoked religious concepts in explaining their openness or resistance to different CAM practices, and often said explicitly that they try to keep their religious beliefs separate from their approaches to patients. Rather, the strongest theme was that CAM practices are to be tolerated and may be legitimated if they are not thought of or found to be helpful to patients, so long as the CAM practice does not interfere with conventional medicine and is not, in the physician’s judgment, likely to cause harm. We did find that several physicians were uncomfortable with energy-based and spiritually rooted practices, such as Reiki, Vodun, or intercessory prayer. In our sample, physicians tended to be less supportive of practices rooted in religious and spiritual traditions different from their own, but few gave explicitly religious reasons for their resistance. The latter said they could not support practices they believe are rooted in erroneous religious ideas.

CONCLUSIONS: Physicians justified the integration of CAM practices princi-

pally as an expression of support for patients’ wishes. Some physicians appear to be resistant to those healing practices that are rooted in religious and spiritual traditions that differ from their own, but few would explain that resistance as coming from their religious framework. Future studies are needed to assess the extent to which religious traditions shape physicians’ willingness to integrate different unconventional healing practices.

HOW DOES PHYSICIAN MOOD MODIFY WILLINGNESS TO ORDER RISKY TESTS OR TREATMENTS?

M.A. Sayla1, A. Labro1, R. Moloney1, C.G. Alexander1

1University of Chicago, Chicago, IL. (Tracking ID: 475865)

BACKGROUND: Considerable research has documented that mood impacts judgment. For example, whether someone appears more or less willing to take low risks (e.g. betting $1 with a 50% chance of winning $2), but a decreased willingness to take high risks (e.g. betting $10,000 with a 50% chance of winning $20,000). However, few studies have examined how mood may influence decision-making in clinical settings.

METHODS: We conducted an Internet survey of SGIM members and randomly assigned them to one of three mood conditions. Mood was induced by asking physicians to write about a happy, routine, or sad patient encounter. Physicians were then rated how they currently felt on a scale from 1–7. After this, physicians were asked to prioritize the 9 most important resources available to them. Physicians were then tasked with choosing among risky versus non-risky tests or treatments. We performed an analysis in patients suspected of spontaneous bacterial peritonitis (SBP) and the SAAG is useful in ruling out portal hypertension (LR 0.06 [95% CI 0.018–0.20]).

CONCLUSIONS: These results suggest that it is unclear if coagulation studies are necessary before diagnostic paracentesis. Ascitic fluid should be inoculated into blood culture bottles immediately at the bedside. PMN count is useful in diagnosing SBP and the SAAG is useful in ruling out portal hypertension. Future studies should focus on the role of ultrasound guidance, needle design and the best location for needle insertion.
HOW DOES TRUST INFLUENCE RESPONSE TO PUBLIC HEALTH MESSAGES DURING A BIOTERRORIST EVENT? L. Meredith1; D. Eisenman2; H. Rhodes1; G. Ryan1; A. H.H. Pham1; D. Chugh1; C. Long3.1The RAND Corporation, Santa Monica, CA; 2University of California, Los Angeles/ RAND, Los Angeles, CA; 3Los Angeles County Department of Health Services, Los Angeles, CA. (Tracking ID # 154433)

BACKGROUND: Trust is a critical component in the health care decision making process and may play a significant role in individuals’ responses to public health crises, including bioterrorism. Studies document that African Americans related to other race/ethnic groups are less likely to trust that the public health system will respond fairly to their needs should a bioterrorist attack occur. Recent studies leave open questions of what specific aspects of trust are key, how it varies during an evolving bioterrorist attack, and how public health officials can design effective communication strategies to build trust in communities living with the suspicion of inequitable treatment. We sought to understand the specific components of trust that influence community responses to a bioterrorist attack and its public health recommendations.

METHODS: We performed qualitative analysis of data from 75 African-American adults living in Los Angeles County who participated in focus groups stratified by socioeconomic status (up to vs. above 200% of federal poverty guidelines) and age (under vs. 55 years old). Discussion was transcribed, and reactions to information presented in escalating stages of a bioterrorism scenario that mimicked the events and public health decisions that might occur. We used an inductive analysis strategy to investigate how trust influenced participants’ reactions to the evolving public health decisions.

RESULTS: We identified 6 components of trust: 1) fiduciary responsibility, 2) honesty, 3) competency, 4) consistency/reliability, 5) faith, and 6) other trust-related issues. Confidence and information consistency were the components most frequently identified as determining trust with 143 and 140 passages respectively, compared with 115 for fiduciary responsibility, 59 for faith, 58 for competency, and 31 other trust issues. The relative importance of the 6 trust components varied as the scenario evolved: honesty was most important upon initially hearing of a public health crisis; “The people at the top are only giving the people at the bottom maybe 30 percent of the truth because they don’t want everybody panicking.” Fiduciary responsibility (“I remember what happened with the AIDS virus and [at] Tuskegee with syphilis and [smallpox with] the Indians Our government has a history of doing bad things as a matter of fact, maybe they did trust you to save my life”) and consistency were important upon confirmation of a smallpox outbreak and the ensuing public health response. Perceived delays were frequently described as trust sources of information. The only variation by age and SES of the focus groups was that younger/lower SES groups discussed honesty more frequently than the other groups.

CONCLUSIONS: Consistent with the risk communication literature, findings suggest that honesty and information consistency across multiple sources are essential to delivering effective risk messages. The absence of differences between groups was inconsistent with the literature suggesting that uniform public messages would be used across racial and ethnic groups; that is, the messages help public health officials design communications that enhance trust during a bioterrorist event.

HOW MANY DOCTORS DOES IT TAKE TO TREAT A PATIENT? THE CHALLENGES THAT FACE PHYSICIANS’ ATTITUDES TOWARDS PAY-FOR-SERVICES. P. Drachg1; J. Schrag2; A. O’Malley3; P.B. Bach4.1Center for Studying Health System Change, Washington, DC; 2Sloan-Kettering Institute for Cancer Research, New York, NY; 3Memorial Sloan Kettering Cancer Center, New York, NY; 4Tracking ID # 554433

BACKGROUND: Pay-for-performance initiatives are based on the suppositions that patient care can be attributed to individual physicians through observing stable care patterns over time, and that most physicians will have a reasonable amount of variance in their performance. We sought to determine to what extent (1) patient care can be attributed to individual physicians; 2) care relationships remain stable over time; and 3) physicians serve as the usual provider for a sizeable proportion of their patient panels.

METHODS: 3,024 physicians from 2000–2002 for 1.9 million Medicare fee-for-service beneficiaries treated by one of 7,216 physician respondents to the Community Tracking Study Physician Survey (2000–2001). We use well-established algorithms for individual physician identification, level of variance (ANOVA) using mood (positive, neutral, negative) as the between-subjects factor and setting (chest pain vs. shortness of breath) and risk (minor, major) as within-subject factors.

RESULTS: A total of 181 physicians were assigned to positive (n=70 physicians), neutral (n=51) or negative (n=51) mood. Our manipulation check confirmed that physicians reporting a happy experience reported feeling better (mean=5.44) than those reporting a neutral (mean=4.95) or sad experience (mean=4.42, p<0.01). The ANOVA revealed the expected main effect of risk: physicians were more willing to order the low risk mean (low risk +7.45) than high risk (mean=6.47) test or treatment (F1,178=112.80, p<0.01). In addition, a two-way interaction emerged between setting and risk (F1,178=17.01, p<0.01). Importantly, these effects were qualified by a three-way interaction among mood, setting, and risk (F2,178=3.07, p<0.05). For example, physicians in negative mood were less likely than those in the other moods to order to order heparin when the patient was at risk for a major GI bleed (53% vs. 6.40, t(178)=5.03, p<0.001). Thus, the impact of mood on risk aversion varied as a function of the setting examined and risk undertaken. There were no differences in risk tolerance between physicians assigned to the happy versus neutral conditions.

CONCLUSIONS: Consistent with studies in non-medical settings, we found that physicians experiencing negative mood may be less likely to order a risky test or treatment than physicians in neutral or positive moods. Although the differences in risk aversion were of unclear clinical significance, these finding may have important implications for medical decision making at extreme mood states. In addition, these effects are needed to better understand how fluctuations in physicians’ mood, states. Future efforts are needed to better understand what types of clinical decisions are most likely to be influenced by fluctuations in physicians’ mood, and how these differences may impact patients’ quality of care.

HYPERTENSION PREVALENCE AND RATES OF AWARENESS, TREATMENT, AND CONTROL: FINDINGS FROM THE NEW YORK CITY HEALTH AND NUTRITION EXAMINATION SURVEY. S. Angel1; R. Gang2; C. Gwinn2; L. Bush3; L. Thorpe4; T.K. Freiden4.1New York City Department of Health and Mental Hygiene, New York, NY; 2Center for Studying Health System Change, Washington, DC; 3Tracking ID # 156098

BACKGROUND: Cardiovascular disease (CVD) is the leading cause of death in the United States. Population data estimates from the National Health and Nutrition Examination Survey (NHANES) indicate that patients aged 20–99 years in 2000 U.S. Standard Population aged 20 years and older. Prevalence estimates were used to adjust prevalence by age for the analysis. The overall survey response rate was 55%, with 1970 participants completing both the interview and physical examination. One quarter (25%) of NY city residents aged >20 were interviewed face-to-face, and had measurements taken using standardized NHANES protocols and equipment. Hypertension was defined as an average systolic pressure of ≥140 mm Hg or an average diastolic pressure of ≥90 mm Hg or currently taking prescribed anti-hypertensive medication (self-reported). Analyses were stratified by age, sex, race/ethnicity, and place of birth (US/Puerto Rico born vs. foreign-born, including US born to foreign-born parents). Prevalence estimates were adjusted for sampling weights from the New York City Department of Health and Mental Hygiene, New York, NY. (Johns Hopkins Bloomberg School of Public Health, Baltimore, MD. (Tracking ID # 156098)

BACKGROUND: The New York City Department of Health and Mental Hygiene, New York, NY; 3Department of Health and Mental Hygiene, New York, NY. Johns Hopkins Bloomberg School of Public Health, Baltimore, MD. (Tracking ID # 156098)
HIPOTAMINOSIS D IN HIP FRACTURE PATIENTS: L.N. Muia1; E.F. White-Chu1; C. Sargent1; D.S. Hall1; D.W.C. Becker1; R.A. Desai2; C.S. Newell1; M.R. Gilliam1; T.S. Caudill1; J. Conigliaro1.

BACKGROUND: Vitamin D insufficiency is prevalent in the geriatric population. Decreases in sun exposure, capacity of the skin to manufacture vitamin D, renal function, and ingestion of vitamin D containing foods all contribute to this vitamin D insufficiency in the older adult. A large body of evidence reveals that hypovitaminosis D is tightly linked with reduced bone density and increased risk for hip fracture. We investigated the incidence of vitamin D insufficiency in a cohort of geriatric patients hospitalized for acute hip fractures.

METHODS: A total of 398 patients age 45 and older with acute proximal femur fracture of any type, were enrolled in this prospective, observational study from August 2001 to August 2005. These patients were consecutively admitted to an inpatient-based community hospital hip fracture program, directed by a geriatrician. Vitamin D insufficiency was defined as 25-hydroxyvitamin D (25-OH vitamin D) levels ≤ 20 ng/mL. We collected 25-OH vitamin D and intact parathyroid hormone (iPTH) levels at admission starting in 2003 and analyzed the data according to season: winter, spring, summer, and fall. We used descriptive statistics, t-tests, and analysis of variance to test our hypothesis that a sub- stance, i.e., sex or race of the patients would have a difference. Specific dosages of vitamin D and dietary intake were not available.

RESULTS: Of 398 patients, 197 had vitamin D levels recorded on admission. Of these, 121 (61.5%) had vitamin D levels ≤ 20 ng/mL. The average iPTH level was 96.3 ± 28.5 pg/mL with a range of 15 to 358 pg/mL. Analysis of variance tests revealed no significant differences between the vitamin D levels and the seasons. We found that the vitamin D levels were similar for all seasons (p = 0.16 and p = 0.20, respectively). Only 56 patients (28.4%) were taking some form of vitamin D on admission: calcium + vitamin D, multi-vitamin with D, or vitamin D alone. Of these patients, 27 (48.2%) were still vitamin D insufficient with levels < 20 ng/mL.

CONCLUSIONS: Of those patients admitted with hip fracture who had vitamin D levels measured on admission, the majority was insufficient. Furthermore, only a small transfer proportion of these patients were on any type of vitamin D supplementation. Nearly 50% of these patients had vitamin D insufficiency despite self-supplementation. This study was limited by its small size, single institution, and unspecified vitamin D dosages or dietary intake. However, the implications are important. With the aging of the population and an anticipated rise in hip fractures, measurement and adequate supplementation of vitamin D may play an important role in hip fracture prevention.

IDENTIFICATION OF PREDICTORS FOR ICU ADMISSION/READMISSION AFTER CONSULTATION BY THE RAPID RESPONSE TEAM: C. Sargent1; D.S. Hall1; D. Steiner1; C.S. Newell1; M.R. Gilliam1; T.S. Caudill1; J. Conigliaro1; T. Steinke1; C.S. Newell1; M.R. Gilliam1; T.S. Caudill1; J. Conigliaro1. (Tracking ID # 154396)

BACKGROUND: The University of Kentucky Rapid Response Team (RRT) was developed following participation in the University HealthSystem Consortium (UHC) failure to rescue project to respond to patients displaying early signs of deterioration and to prevent further decline. The purpose of this study was to identify predictors of ICU admission/readmission in deteriorating patients.

METHODS: Data collected by the RRT included signs and symptoms of patient deterioration and risk factors for deterioration, nursing and medical intervention signs (OR 3.14, 95% CI 1.55–6.37), and then promote early intervention to prevent deterioration. Further research to identify patient characteristics and modifiable factors are needed to develop and refine systems based multidisciplinary interventions.

IDENTIFYING RISK FACTORS ASSOCIATED WITH NON-MEDICAL PRESCRIPTION OPIOD USE: RESULTS FROM THE NSDUH: L.Y. Zuckerman1; J.M. Tetrault3; L.E. Sullivan1; D.A. Fiellin1. (Tracking ID # 154397)

BACKGROUND: The non-medical use of prescription opioids has risen in recent years, and surpasses illicit heroin use. Clinicians are keenly interested in identifying patient factors associated with non-medical use of prescription opioids to avoid iatrogenic addiction. The purpose of this study was to identify demographic and clinical characteristics associated with non-medical use of prescription opioids in a national sample of U.S. adults.

METHODS: We performed an analysis on the 2003 National Survey of Drug Use and Health (NSDUH). The NSDUH collects data on drug use and its correlates among the civilian, non-institutionalized U.S. population over 12 years of age. In a sub-sample of respondents 18 years and older (n = 37,026), we investigated the association of demographic and clinical variables with non-medical use of prescription opioids (defined as taking an opioid only for the feeling it causes or taking an opioid prescribed for someone else) in the past year. To account for sampling methodology in the NSDUH, we utilized sample weights that normalize the distribution of drug use and its correlates among the civilian, non-institutionalized U.S. population over 12 years of age.

RESULTS: 52% of respondents were female and ages ranged from 18 to 80. The prevalence of past year substance use disorders was as follows: non-medical use of opioids (4.5%), cigarette use (30.6%), alcohol abuse or dependence (7.7%), marijuana use, abuse or dependence (10.2%), cocaine use, abuse or dependence (1.0%), crack cocaine use (0.6%), heroin use, abuse or dependence (0.15%), inhalant or hallucinogen use, abuse or dependence (1.77%), non-medical tranquilizer or sedative use, abuse or dependence (2.24%), and non-medical stimulant use, abuse or dependence (1.05%). Mental illness and poor/poor overall health were reported by 9.02% and 38.74% of subjects, respectively, and 2.32% respondents reported missing at least one day of work in the past 30 for both absenteeism and illness. On multivariable analysis, the
following risk factors were associated with past-year non-medical opioid use: younger age (18-25 years-old, OR 6.29; 2.63-15.06); past year alcohol use or dependence (OR 1.62; 1.12-2.32); past year marijuana use, abuse or dependence (OR 1.57; 1.01-1.97); past year alcohol use, abuse or dependence (OR 1.81: 1.2-2.51); past year inhalant and/or hallucinogen use, abuse or dependence (OR 2.00; 1.54-2.61); past year non-medical tranquilizer and/or sedative use, abuse or dependence (OR 12.77; 9.62-16.96); past year non-medical stimulant use, abuse or dependence (OR 3.06; 2.34-4.19); initiating illicit substance use before age 13 (OR 2.34; 1.54-3.55); mental illness (OR 1.44; 1.17-1.78) and missing at least one day of work in the past 30 for either absenteeism and/or tardiness (OR 1.59; 1.20-2.07).

CONCLUSIONS: Past, year non-medical use of prescription opioids occurs in nearly 5% of the U.S. population over age 18. Clinicians should consider non-medical use of prescription opioids of high potential risk in patients with prior illicit licit and drug alcohol use or dependence, those who initiated illicit substance use before age 13, those with mental illness, and those with poor employment attendance.

IMMIGRANT PERCEPTIONS OF DISCRIMINATION IN US HEALTHCARE. N. Kandula1; M. Woo2; E. Jacob3; D. Lauderdale3. Northeastern University, Chicago, IL; University of Utah, Salt Lake City, UT; Rush University Medical Center, Chicago, IL; University of Chicago, Chicago, IL. (Tracking ID # 153874)

BACKGROUND: US healthcare disparities may be due in part to differential experiences of discrimination within the healthcare context. The majority of research about discrimination in healthcare has focused on race/ethnicity and African Americans, with little information about whether immigrants are more likely to experience discrimination than the US-born. Because immigrants are clustered in certain neighborhoods and ethnic groups, it is possible that in certain immigrant status could distort race/ethnicity effects. We examined whether foreign-born persons are more likely to report discrimination in healthcare than US-born persons and whether discrimination within the immigrant population varies by race/ethnicity, and whether the immigration effect is “explained” by sociodemographic factors.

METHODS: We used cross-sectional data from the 2003 California Health Interview Survey (CHIS). CHIS is a population-based telephone survey of 42,000 civilian households, selected through random digit dial. Logistic regression models use replicate weights to adjust for non-response and complex survey design. Subjects: 39,200 adult respondents. Outcome measure: The main dependent variable was self-reported perception of discrimination in a healthcare setting within the past 5 years. Adult respondents were asked “Were there ever a time within the last 5 years when you would have gotten better medical care if you had belonged to a different race or ethnic group?”

RESULTS: The percentage foreign-born ranged by race/ethnicity from 5% of African American/Blacks to 79% of Asians. The percentage of respondents reporting that they would have gotten better medical care if they had belonged to a different race or ethnic group varied by race/ethnicity. Blacks, Latinos and Native Americans all had relatively high rates (6-7%) that were similar to each other. Asians had somewhat lower percent reporting discrimination (4%) that was nonetheless much higher than Whites (1.5%). Immigrants are more likely to report discrimination than US-born persons, after adjusting for socioeconomic status, language and health care access factors. Speaking a language other than English at home increases discrimination reports regardless of birthplace; higher socioeconomic status is not protective for the foreign-born. For Asians, only in the high-socioeconomic quintiles does the immigration effect disappear. Increased perceptions of discrimination are attributable to sociodemographic factors for US-born Latinos, but not for foreign-born Latinos. For Blacks, immigration status has little additional effect on perceptions of discrimination in healthcare.

CONCLUSIONS: All other racial/ethnic groups are more likely than Whites to report that they would have gotten better medical care if they had belonged to a different race or ethnic group. However, for Asians and Latinos, immigration status is a significant additional predictor of perceived discrimination and modifies the effects of race/ethnicity. Within each race/ethnicity group, the foreign-born are more likely than the US-born to report discrimination. Immigration status should be included in studies of healthcare disparities because nativity is a key determinant of discrimination experiences for Asians and Latinos.

IMPACT OF BARCODE MEDICATION ADMINISTRATION TECHNOLOGY ON HOW NURSES SPEND THEIR TIME. F.A. Hubbell1; T. Sun1; C.A. Kourdis1; G.P. Feathers2; B.S. Hays1; A. Dervan1; S. Woolf1; J. Hayes2; A. Bane1; L.P. Newmark3. Northwestern University, Chicago, IL; University of Vermont Medical Center, Burlington, VT; University of Utah, Salt Lake City, UT; Rush University Medical Center, Chicago, IL; University of Chicago, Chicago, IL. (Tracking ID # 151653)

BACKGROUND: Trained observers conducted 2-hour observation sessions in which the nurse was methodically rolling out, with extensive training and support, a locally-developed version of BCMA technology in its medical, surgical and intensive care units. Trained observers conducted 2-hour observation sessions in which the observer recorded the activities of a single nurse using a validated nursing activity task list. Observers conducted these sessions before the deployment of BCMA technology and resumed them within 9 weeks of BCMA deployment. Nursing actions were divided into 3 major groups: i) medication administration related activities, ii) direct care of patients unrelated to medication administration, and iii) other non-medication administration, non-direct physical care activities. We compared the proportion of time spent on each major activity group between the pre- and post-BCMA deployment. As a secondary analysis, we classified all activities into those that were either sensitive to BCMA deployment (e.g., documentation of medication administration) and insensitive to BCMA deployment (e.g., feeding for patients), to account for possible confounding, we measured the type of patient care unit, time-of-day, and the number of patients the nurse was caring for during each observation. We built conditional repeated-measures linear regression models to adjust for potential confounders and repeated observations on the same nurses during the study.

RESULTS: We conducted a total of 232 2-hour observations sessions between 2/2005 and 10/2005, evenly split between pre-BCMA and post-BCMA units, giving us 85% power to detect an absolute difference of 4% in the proportion of time spent, or 5 minutes per 2-hour observation. Overall, the proportion of time nurses spent on the major activity groups remained stable. Before BCMA implementation, nurses spent 26.5% of their time on medication administration. After BCMA implementation, this proportion remained statistically unchanged at 24.5% (Wilcoxon Rank-sum test, p = 0.22). The proportion of time nurses spent on direct care activities unrelated to medication administration remained statistically unchanged (pre-BCMA 20.1%, post-BCMA 21.7%; Wilcoxon, p = 0.15). The secondary analysis showed that the proportion of time spent on non-medication activities decreased slightly from 53% to 33.4% (Wilcoxon, p < 0.001). After adjusting for confounders and repeated observations on the same nurses, the conclusions of the bivariate analyses remained unchanged.

CONCLUSIONS: A well-designed, thoughtfully-implemented and fully-supported BCMA system did not increase the amount of time nurses spend on medication administration activities, and did not compromise the amount of time spent on direct care activities. Administration of BCMA may also have become more efficient, allowing nurses to spend more time on other professional activities. Our results should help to allay concerns regarding the impact of BCMA on nursing workload and quantity of direct nurse-patient interaction.

IMPACT OF FASAMOA ON USE OF CANCER SCREENING SERVICES. S. Puura1; F.A. Hubbell2. California State University, Fullerton, Fullerton, CA; University of California, Irvine, Orange, CA. (Tracking ID # 152513)

BACKGROUND: The fa’asamo, or “Samoan way of life,” is a revered collection of practices by which Samoans conduct their lives. It revolves around ideologies such as the matai (chief) system, the nu’u (yavilag), the aiga (family), faaalave’a (familial interruptions such as marriage and death), Samoa mo le Atua and mea’i (dietary habits). This study evaluated the potential impact of fa’asamo on cancer screening rates among American Samoans, which are among the lowest of any ethnic group in the United States, and the moderating effects of fa’asamo into cancer prevention programs to improve these rates.

METHODS: The investigators conducted 6 focus groups (3 in Carson, California and 3 in Pago Pago, American Samoa) with Samoan matais, pastors, and male community members over 50 years of age. Focus group participants were selected from comprehensive lists kept by organizations that work closely with Samoan communities. Each focus group contained from 8-12 members. Two bilingual male Samoans also participated to ensure that discussions were conducted primarily in the Samoan language. The sessions lasted approximately 2 hours each. The moderator first obtained socio-demographic data. Next, using a discussion guide, he asked general questions about fa’asamo and its influence in cancer screening and the potential use of fa’asamo to improve screening rates. The audio-taped transcripts were translated into English and analyzed using qualitative content analysis. The investigators independently identified themes and then came to consensus about them.

RESULTS: Among the themes, two were particularly important. First, participants confirmed that disease prevention is not an integral part of fa’asamo. Indeed, Samoans view prevention as the ability to maintain good health without consulting a doctor. Moreover, Samoans are traditionally modest and reluctant to talk about personal issues even with family members. The idea of seeing a doctor for examination of the rectum for prostate cancer, for example, would not be considered in the traditional culture. As one man said “Samoans have to be on the death bed before they will go to a doctor.” Despite these beliefs, a second theme emerged. Because of the Americanization of the Samoans in fa’asamo, participants stressed that incorporating these leaders into cancer prevention programs could improve them. Traditionally, matais seek to ensure that everyone in the aiga participates in preventing death. In many ways the past substitute the matais for the matai and the church for the nu’u for Samoans living in the mainland US. Regarding cancer prevention, one pastor said “There is not a problem with our Samoan culture that will hinder a health care program. There are only helpful methods from our Samoan culture and Church that will make a cancer program successful.”

CONCLUSIONS: The results suggest that the lack of emphasis on disease prevention in fa’asamo may contribute to low cancer screening rates. However, other aspects of the culture, such as the respect of matais and pastors, could be incorporated into cancer prevention programs aimed at improving cancer control among Samoans.
BACKGROUND: Little is known about how discontinuing hormone therapy (HT) may impact weight loss and cardiovascular risk factors (CVRF). Understanding relationships between HT, weight loss and CVRF remains relevant in the post Women’s Health Initiative era as patients continue to use HT for symptom relief over brief periods and providers look for alternate means for lowering cardiovascular disease risk in women.

METHODS: Subjects for this analysis included 454 women from the Woman on the Move through Activity and Nutrition (WOMAN) Study, an ongoing lifestyle intervention clinical trial designed to reduce weight in overweight postmenopausal women. At baseline, women were free from cardiovascular disease and had no previous hormone therapy. Weight loss was defined as a weight loss of ≥5% of initial weight loss for at least three months before the weight loss intervention. CVRF included waist circumference, systolic/diastolic blood pressure, LDL/HDL cholesterol, triglycerides, glucose, and insulin. Interaction terms tested whether HT group modified the effect of weight loss on change in CVRF. Multivariable models included baseline change, HT group, age, tobacco use, intervention group, and physical activity.

RESULTS: Mean age was 56.9 years; 88% of women were white. Mean weight loss was 12.6 lbs. for continuing HT users (n = 120) but was not significantly different from HT discontinuation users (n = 126). There were no significant trends in weight change amongst women in the HT discontinuation group. HT users had more significant decreases in waist circumference than non-users (p = 0.02) but were not significantly different from HT users. CVRFs across categories of weight loss (p for all trends < 0.1) were not significantly different from HT discontinuing users (p = 0.22). Mean weight loss was higher amongst women in the HT discontinuation group than controls (17.3 lbs vs. 9.0 lbs; p < 0.0001) and for women with greater increases in CVRF except LDL cholesterol. There were no significant differences in waist circumference than continuous HT users (p = 0.001). With the exception of HDL cholesterol, there were significant changes in all CVRF across categories of weight loss (p for all trends < 0.05). There was no significant association between weight loss and CVRF improvement (p for all interactions between weight loss and HT group < 0.05). There were no differences in weight loss categories of weight loss remained consistent and significant in multivariable models. There were no changes in the relationship between waist circumference and glucose and HDL cholesterol and CHF group in group models.

CONCLUSIONS: Discontinuing HT does not adversely affect efforts at weight loss in early postmenopause women. Weight loss is an effective strategy for improving cardiovascular risk profiles in overweight early postmenopause women regardless of HT status and may be particularly important for women who discontinue HT and lose the protective effects of estrogen on LDL cholesterol.

IMPACT OF MANAGED CARE PLAN IMPLEMENTATION IN MEDICAID FOR PERSONS WITH AIDS

BACKGROUND: The introduction of managed care plans (MCPs) into state Medicaid programs is promoted as a superior to fee-for-service (FFS) Medicaid for controlling costs and improving care for enrollees with chronic disease, such as AIDS. However, the impact of MCP for persons with AIDS on mortality, hospitalization, change in enrollment, and cost is unknown.

METHODS: We studied Medicaid beneficiaries with AIDS in California, enrolled in January 1, 2000 and followed through December 31, 2003. Medicaid enrollment data were linked to claims, hospital discharge abstracts, death records, and the AIDS Registry. Multivariate logistic and proportional hazards analyses were performed to estimate the impact of MCP vs. FFS enrollment on mortality, hospitalization, and change in enrollment (e.g. from MCP to FFS). Regression predicted costs for MCP enrollees were compared to capitation rates (2003 only).

RESULTS: Among 12,941 individuals with verified AIDS enrolled in Medicaid, 14.5% were in MCPs. Enrollees were 83% male and 41.5 years old (mean). During follow-up, MCP and FFS were clinically similar: 63% of enrollees were hospitalized and 23% died. However, MCP enrollees were more likely than FFS enrollees to change enrollment (24.5% vs. 5.6%, p < 0.01). In multivariate regression models, there was no significant relationship between MCP enrollment and mortality. MCP enrollment was somewhat associated with lower odds of hospitalization or death (Odds Ratio 0.88. Confidence Interval 0.79 to 0.99). MCP enrollees had their expenditure decreased with changing plans (Hazard Ratio: 3.28, 95% CI: 2.13 to 5.06). Predicted MCP costs were 10% lower than monthly MCP capitation rates (p < 0.01).

CONCLUSIONS: MCPs do not appear to offer cost or satisfaction advantages for AIDS patients. However, the changes in managed care may have implications for future programs. Further research is needed to understand the role of managed care in the ongoing implementation of the Medicare part D prescription drug benefit.
devoted more than 15 hours per week to teaching were more likely than other faculty to believe that medical students were not given enough opportunities to develop working relationships with residents (OR 3.67, CI 1.60, 8.38), and were more likely to report a decreased ability for faculty to believe that medical students' educational experience had declined (OR 3.67, CI 1.60, 8.38), and were more likely to report a decreased ability for

METHODS: The study included a convenience-sample of patients with hyper-

IMPACT OF VA PRIVATE SECTOR CO-MANAGEMENT ON BLOOD PRESSURE CONTROL AND GUIDELINE CONCORDANT THERAPY

P. Kaboli1; D. Shivapour 2; M. A. Kaboli11

Calcium channel blockers (36% vs. 34%; p=.85). Given the prevalence of co-management, future work should evaluate its impact on quality in other domains of care.

RESULTS: The Table lists the mean (95% CI) number of six outcomes for 1000 women in each scenario. All scenarios included hypertension management reduce overall mortality and breast cancer mortality compared to NSM (p<0.01). Incomplete adherence increased breast cancer mortality in the annual (2.5 extra deaths, CAM vs VAM, p<0.01) and biennial (1.7 extra deaths, CBM vs VBM, p<0.01) scenarios. However, given incomplete adhereance, there was no difference in breast cancer mortality comparing annual to biennial mammography (0.3 extra deaths, VAM vs CBM, p=0.25). VBM was associated with more advanced cancers (0.8 more advanced cancers, p<0.01), but received fewer mammograms than VBM (5677 fewer mammograms, p<0.01).

CONCLUSIONS: Mammography’s current effectiveness appears more limited by incomplete adherence than by annual versus annual screening. At current adherence rates, biennial instead of annual mammography could reduce mammography use by 32% at a cost of less than 1 woman in 1000 being diagnosed with advanced breast cancer over her screening lifetime.

ABSTRACTS

Table

| Screening recommendation | Annual | Biennial |
|--------------------------|--------|---------|
| Adherence                | 100%   | 100%    |
| Deaths from all causes   | 253/225 (260) | 254/228 (280) |
| Breast cancer deaths     | 18.1 (10–29) | 19.2 (10–29) |
| Advanced cancers         | 23.8 (13–38) | 25.7 (14–38) |
| Early cancers            | 76.4 (58–95) | 75.7 (57–97) |
| False positives          | 2349 (2250–2448) | 1013 (735–1237) |
| Screening mammograms     | 33.223 (32.786–33.615) | 17.243 (16.990–17.500) |
| Variable                 | Variable |
| Deaths from all causes   | 255/227 (283) | 256/229 (282) |
| Breast cancer deaths     | 20.6 (12–31) | 29.0 (12–31) |
| Advanced cancers         | 29.6 (17–44) | 30.4 (18–46) |
| Early cancers            | 75.1 (50–91) | 67.5 (48–88) |
| False positives          | 1279 (827–1714) | 810 (573–1237) |
| Screening mammograms     | 17.522 (9990–24.974) | 11.845 (9020–14.815) |

N/A

BACKGROUND: VA primary care patients frequently receive care from providers outside VA. The effects of “co-management” on patient outcomes are unknown. This study evaluated the impact of co-management on quality of care for veterans with hypertension.

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P. Kaboli1; D. Shivapour 2; M. A. Kaboli1

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BACKGROUND: Significant differences in quality according to race and socioeconomic status are problematic in the US health care system today. While many studies have documented these problems, few have evaluated interventions designed to improve upon current performance. In 1998, the Bureau of Primary Health Care of the Health Services and Resources Administration (HRSA) initiated the Health Disparities Collaboratives to reduce health disparities and improve the quality of care in Community Health Centers (CHCs) that collectively serve 15 Million poor and underserved patients. Over 700 CHCs have participated in at least one Health Disparities Collaborative to date.

METHODS: We performed a controlled pre/post intervention study of CHCs participating in a quality improvement intervention for Asthma, Diabetes, or Cardiovascular disease (with our assessment focused on hypertension) that were conducted during 2000-2002 by HRSA and the Institute for Health Care Improvement (IHI). The collaborations use rapid cycle improvement techniques based on “plan, do, study, act” cycles and the Chronic Care Model. We enrolled 44 CHCs participating in a collaborative (13 for asthma, 17 for diabetes, and 14 for hypertension) and 20 non-participating centers (“external” controls) that had not participated in a collaborative after matching on region, size, and location. Each participating clinic also served as a control (“internal”) control for one of the other targeted conditions. Quality of care measures involving processes and intermediate outcomes for asthma and diabetes were calculated from medical records, and an overall composite measure was created for each condition by taking the mean of all of the measures (including both process and outcome measures) and normalizing each of the individual scores. Changes in quality were evaluated using hierarchical logistic regression models that controlled for patient characteristics.

RESULTS: We studied 11,153 patients with one of the three target conditions in the 13 collaboratives and 3884 patients in the 20 non-participating centers (13,987 with diabetes and 3,362 with hypertension). Intervention clinics showed significant improvement in the overall composite measure of quality when compared to both external and internal controls for asthma and diabetes, but not for hypertension. For instance, participating asthma centers improved the overall percent age met for the composite quality measure by 15% as compared to 5% for both controls (p < .001 for both comparisons). Individual measures in the areas of screening, treatment, and self-management such as asthma severity assessment, hemoglobin A1C assessment, and diabetic foot exams showed significant improvement. There was no improvement, however, on the cardiovascular outcomes such as contrast of care (measured as the percent of patients with hypertension, hemoglobin A1C), hypertension, or cholesterol, or the number of urgent care, emergency room, or hospital visits for asthma patients.

CONCLUSIONS: We found that the Health Disparities Collaboratives significantly improved the extent to which several processes of care were followed for two of the three conditions studied, without any improvement in intermediate outcomes. Our findings suggest that while the collaborations have successfully improved the processes of care, improved methods are required to achieve more significant improvements in intermediate outcomes that are the most important determinants of long term chronic disease outcomes.

IMPRESSING DIABETES CARE WITH NURSE PRACTITIONER-LED GROUP VISITS AND SIMPLE CASE MANAGEMENT. L.M. Vinci1; J. Clark1; N. Buchholz1; M. Quinn1; A.M. Davis1. 1University of Chicago, Chicago, IL. (Tracking ID #: 153208)

BACKGROUND: Excellent diabetes (DM) management in primary care has many benefits and is often inconsistently delivered, despite well-established standards. Clinical inertia, missed tests, and patient adherence are difficult to address in 4 brief primary care visits a year. Innovative approaches such as promoting self-care practices, delivery system redesign, nurse care management, and disease specific group visits are being explored, but these can be complicated to implement, and their general feasibility is unclear. In this study we evaluated the value of a simple supplemental nurse practitioner-led intervention for improving DM care in a busy urban academic primary care practice.

METHODS: All adult patients with DM followed regularly in the faculty practice received a mailed offer to participate, signed by their primary care physician (PCP). Of these 2200 patients, 180 left messages of interest on a dedicated phone. Of these 180 who left messages, 63 were assigned to usual care, and 69 were assigned to the NP group. Mean age was 64 years, 80% were self-identified as black, and 75% were female. Baseline demographic data were well-matched between the two groups. Using intention-to-treat comparisons, mean systolic BP in regular PCP clinic visits improved significantly in the 6 months following the intervention in the NP (139.8 pre, 129.3 post, p < .001), but not in the UC group (138.3 pre, 135.7 post). As did LDL (NP 99.4 pre, 85.1 post, p = .001; UC 100.1 pre, 94.77 post; NS). In the 41 NP patients attending both classes, control of A1c < 7% trended up from 56% to 57.8%, with an A1c falling from 7.4 to 7.2% (both NS). In the NP group, pneumococcal vaccination rose from 44% to 78% (p < .001), and aspirin use from 55% to 76% (p < .05). NP group case and class management time averaged, in total, under 2 hours per week over the 8 month intervention phase.

CONCLUSIONS: A focused NP-led group class and case management program can produce significant improvements in DM quality of care, even in patients receiving primary care practice. The program was well received by physicians and patients, and was implemented using existing staff. While patients who agree to participate in such a program are likely more interested and motivated than the average clinic patient, the modest incremental effort involved may make this an attractive intervention to reduce cardiovascular risk in a subset of general internal medicine patients with DM.
years. We assessed senior medical students’ knowledge of cancer screening in the elderly one month before graduation, and evaluated an educational intervention to improve students’ estimates of life expectancy and cancer screening strategies.

METHODS: In April 2005, prior to a lecture on cancer screening in the elderly, senior medical students (n=56) were shown 7 case scenarios that reflected increasing age and co-morbidity. For each scenario, students estimated the patient’s life expectancy in years and indicated (yes or no) whether they would screen for cancer of the prostate, lung, colon, breast, ovary, and cervix. The lecturer (PAB) then presented population-level data on life expectancy stratified by age and health status, plus data on operating characteristics, benefits and burdens of common screening tests. He did not discuss the cases. After the lecture, students again scored the same 7 cases. Individual students’ responses before and after the lecture were paired using randomly assigned code numbers allowing analysis of the effect of perceived life expectancy on screening choices. RESULTS: Before the lecture, students tended to screen aggressively even when the patient’s age, diagnoses, and general condition suggested a short life expectancy or high burden-benefit ratio. After the lecture, screening declined significantly but usually not to zero in many low-yield or high-burden scenarios (example: case 5 with advanced dementia), while aggressive screening persisted where there was greatest chance of benefit (example: colon cancer screening in cases 1, 2, and 6). (Pigs. 18, 19) To evaluate the effect of estimated life expectancy on screening strategy, we compared conservative, optimal, and liberal screening strategies, as determined by expert opinion, and found no correlation with life expectancy in 6 of 7 cases.

CONCLUSIONS: In 2005 a sample of graduating medical students were insufficiently prepared for cancer screening decisions in elderly patients. Decision-making improved after an educational intervention for many but not all situations.

INCREASING EVIDENCE USE IN MORNING REPORT

INFLAMMATORY MARKERS MAY AFFORD ADJUNCTIVE VALUE TO FRAMINGHAM RISK SCORE

ABSTRACTS
terol (TC), high density lipoprotein cholesterol (HDL-C), diabetes and smoking behavior. However, classic risk factors do not account for all incident coronary events. Half of all myocardial infarctions occur in persons with normal plasma lipid levels. Thus, the search is underway for additional biologic markers, especially inflammatory markers as inflammation is implicated in the pathogenesis of atherosclerosis and acute coronary syndromes. There is a strong and independent association between white blood cell (WBC) count and CHD risk. However, the relationship between WBC count and FRS remains unclear.

**METHODS:** This is a cross-sectional study on a consecutive sample of 520 asymptomatic white men (mean age: 46 ± 7 years) without history of CHD who presented for cardiac risk assessment in Sao Paulo, Brazil. The study population was divided into WBC (< 10^3 cells/L) quartiles: 1st quartile: 3.1–5.5, 2nd quartile: 5.6–6.1, 3rd quartile: 6.2–7.1, 4th quartile: > 7.2. Subjects were also divided into tertiles according to the 10 year FRS: 1st tertile (low risk: <5%, n=180, 35%), 2nd tertile (intermediate risk 5–12%, n=210, 40%), 3rd tertile (high risk >13%, n=130, 25%), WBC count >75th percentile (7.24 ± 10^3 cells/L) was considered as cut-off for an elevated WBC.

**RESULTS:** The mean calculated 10-year CHD risk was 9.4 ± 7.9%. Those with higher FRS were more likely to be older, have higher blood pressures, worse lipid profiles and more likely to be smokers. The mean WBC count (> 10^3 cells/L) was 6.34 ± 1.58. The correlation coefficient (r) between WBC and FRS count was 0.18 (p =0.02). Among individual components of the FRS, WBC correlated minimally with smoking status (r=0.12, p =0.003), systolic blood pressure (r=0.07, p=0.11) and high density lipoprotein cholesterol (r = 0.06, p =0.1). However, no correlation was observed with age (p =0.3) and total cholesterol (p=0.5). Nearly one third (31%) of men with FRS <5% had a WBC count in the first quartile compared to 20% of those classified as high risk (FRS >13%). On the other hand, the prevalence of elevated WBC count (4th quartile) increased across higher FRS categories (18%, 23%, 32%), with the difference in overall distribution demonstrating a trend towards significance (p=0.09).

**CONCLUSIONS:** Thus, WBC correlates weakly with FRS in asymptomatic men. Since WBC count is strongly related to CHD, our results reinforce that inflammation is a common marker of inflammation as a predictor rather than merely an indicator of disease.
ment skills and improved provider satisfaction. Although trainee performance in meeting recommended targets for glycemic control lag behind that of faculty physicians, involvement in SMBAs may offer resident physicians valuable opportunities for managing diabetic patients. Our purpose was to evaluate the impact and educational value of resident participation in SMBAs.

METHODS: Patients identified in a diabetes registry with A1c ≥9, and/or systolic blood pressure (SBP) >160, and/or LDL-c >130 were invited to participate. Residents reported by a multidisciplinary team. The goal of the session was to improve diabetes A1c, SBP, LDL-c, aspirin use, self-management skills and teach goal setting. Patients were informed of their A1c, LDL-c, SBP, and HbA1c. The residents created educational materials and foot and eye examinations. A5a. After reviewing these results in a group setting, patients identified a single behavior changing self-management goal. Junior and senior Internal Medicine residents were integrated into SMBAs and encouraged to contribute to collaborative patient medication management, teach self-management goal setting and facilitate each patient group. Nine residents each participated in between 1-6 SMA group sessions. We used a pre/post test study design and paired t-tests to assess change. A1c, SBP, LDL-c, statistical significance was used. Residency education and quality of life were assessed through anesthesia and educational experiences scored by the residents. A1c mean change was statistically significant at 6 months (p=0.01) and from 10.4 to 8.9 (p <0.01), respectively (paired t-test). LDLc fell from 121.6 to 99.3 (p = 11). A100% of patients documented a behavior changing self-management goal. All eligible were administered aspirin and had a completed foot examination. Patients actively participated in the groups. No diminution of A1c reduction was observed before and after residents (1.1 and 1.0, p=0.9), respectively. We note residents reported greater interest in providing patient-centered care similar to their continuity clinic patients and found SMBAs important for developing skills in teaching self-management, facilitating a patient group and promoting interdisciplinary provider communication.

CONCLUSIONS: SMBA as a new educational opportunity for internal medicine residents with an important educational opportunity to develop skills in fostering patient self-management and in working as part of a multidisciplinary team. Our results suggest that resident integration into SMBAs also offer an important and valued educational experience for learning how to provide patient-centered care.

BACKGROUND: Communication skills are of paramount importance in screening for high risk behavior and behavior change counseling, yet there are limited effective opportunities for practicing clinicians to improve their communication skills during training. We describe the development and evaluation of a continuing medical education (CME) program to improve provider-patient communication skills, assess impact of screening practices of common high risk behaviors and measure patient satisfaction.

METHODS: We developed and evaluated a CME program for NYU’s Student Health Center clients (12 MDs, 1 PA and 6 NPs). The program consisted of five 2-hour workshops at 4-6 week intervals focusing on communication skills in the context of diabetes management and smoking cessation screening and assessment for depression and alcohol use, taking a sexual history and counseling for behavior change (smoking cessation). Each workshop included a didactic component and skills practice with simulated patients and included office visits followed by a post-program evaluation included a medical record review to assess screening and counseling practices, a validated patient satisfaction survey (AIM 10), a patient satisfaction survey and a five- minute standardized patient rated resident rated structural clinical exam (OSCE) one week before and 4 weeks after the workshops. Data was analyzed using paired t-tests and ranked sum tests.

RESULTS: Of the 19 participants in the program 15 completed the pre and post OSCE. In the OSCE, global communication skills improved (p<0.001). In addition, gains were detected in the specific domains of information gathering (p=0.003), relationship building (p=0.01) education and counseling (p=0.02). There was no change in case specific knowledge (p=0.1). Internal reliability of the OSCE was communication skills (r=0.68), case specific skills (r=0.61), relationship development (r=0.81), educational counseling (r=0.60) and information gathering (r=0.64). 66% of the participants felt the OSCE cases resembled real life cases. 86% thought that the OSCE was a valuable educational experience and educational experience and educational experience and educational experience and educational experience and educational experience after changes observed before and after residents (1.1 and 1.0, p=0.9), respectively. We note residents reported greater interest in providing patient-centered care similar to their continuity clinic patients and found SMBAs important for developing skills in teaching self-management, facilitating a patient group and promoting interdisciplinary provider communication.

CONCLUSIONS: An interactive skills-based continuing medical education program can improve clinicians’ objectively-measured communication skills and their performance of risk behavior assessment with no detected impact on patient satisfaction.
INTERRELATIONSHIPS OF PSYCHIATRIC SYMPTOM SEVERITY, MEDICAL COMORBIDITY AND FUNCTIONAL STATUS IN PATIENTS WITH SCHIZOPHRENIA: L. A. Cooper1; L. A. Cooper2; P. Rochette3; K. J. McEwen1; M. S. Minnix4; T. A. Lieberman1; Yale University, New Haven, CT; VA-NEPEC, West Haven, CT; 1Duke University School of Medicine, Durham, NC; 2Columbia University School of Medicine, New York, NY. (Tracking ID # 155808)

BACKGROUND: Patients with schizophrenia have increased rates of several chronic medical conditions, including diabetes mellitus, coronary artery disease and chronic obstructive pulmonary disease. It has been proposed that greater levels of psychiatric symptoms might lead to greater medical comorbidity because increased attention and insight might create an inability to self-monitor and follow medical regimens. This cross-sectional study aims to evaluate the interrelationships of psychiatric symptom severity, medical comorbidity and psychiatric functioning of patients with schizophrenia. This study used the baseline data from the Clinical Antipsychotic Trials of Intervention Efficacy (CATIE) trial.

METHODS: This cross-sectional study utilizes baseline data from a multi-site trial of antipsychotic pharmacotherapy, which collected data from more than 1400 patients with schizophrenia at over 50 sites in the US between 2001–2003. Bivariate correlations and multivariate regression models were used to determine associations between schizophrenia symptoms, depressive symptoms, neurocognitive impairment and two measures of medical comorbidity: the count of medical conditions and physical health status as measured by the physical component scale of the SF-12. The independent association between medical comorbidity and several measures of psychosocial functioning was also examined.

RESULTS: Overall, 58.4% of subjects had at least one medical condition: 20.2% had hypertension, 10.7% diabetes mellitus, and 9% of the sample had four or more medical conditions. Bivariate correlation analyses revealed highly significant moderate associations between the count of medical conditions and age (older patients had greater burden of medical conditions) and a significantly greater number of medical conditions. Increased medical comorbidity was associated with poorer neurocognitive functioning and greater depressive symptoms. An increased number of medical conditions was not, however, associated with more severe psychiatric symptoms or higher rates of chronic medical conditions in this population. While there are no significant relationships between the number of medical conditions and physical health status, statistically significant correlations of psychosocial functioning, but these effects were of small magnitude.

INTIMATE PARTNER VIOLENCE: HOW DOES IT IMPACT DEPRESSION AND PTSD AMONG IMMIGRANT LATINAS? K. Fedovskoy1; S. Higgins2; A. Paranjape3. Emory University, Atlanta, GA; 2Emory University, Department of Medicine, Atlanta, GA. (Tracking ID # 154586)

BACKGROUND: Intimate Partner Violence (IPV) is an important public health issue with significant mental health sequelae. Several studies have shown a high prevalence of IPV among under served and underrepresented populations like the Latino community. Depression and post-traumatic stress disorder (PTSD) are the most common psychiatric disorders experienced by survivors of IPV, yet there are little known about the specific mental health sequelae in Latino survivors of IPV. In this study, we sought to investigate the association between a history of IPV, depression and PTSD in a population of immigrant Latinas women.

METHODS: Design: Cross sectional study. Participants: Latina women ages 18–64 seeking care at a primary care clinic that serves predominantly immigrant, Latino patients within a large, public hospital. Measures: Predictor variable: IPV, measured by the Index of Spouse Abuse (ISA). Outcome variables: 1) Depression, measured by the Center for Epidemiologic Studies Depression Scale (CDS) and 2) PTSD, measured by the Post-traumatic Stress Diagnostic Scale (PTSD). All measures were professionally translated into Spanish through the hospital’s language service department. The measures were read to each subject by a trained bilingual research assistant. Logistic regression analysis odds ratio (ORs) were calculated to assess the effect of the predictor variable (IPV) on the outcome variables (Depression and PTSD). 95% confidence intervals (CI) were estimated for all ORs; a p value of 0.05 was used for all tests of significance. Results: 105 women participated in this study. The mean age was 38.5 years (SD 11.4). Almost all (89.5%) were uninsured and 33% reported IPV. The four-week incidence of depression was 45.7% while the prevalence of PTSD was 19%. There were significant differences in demographic characteristics of abused and non-abused women. Abused women had almost 3 times the odds (OR 2.97; 95% CI, 0.97–9.1) of meeting PTSD criteria than non-abused women. No difference was found in the incidence of depression between women who reported IPV and those that did not report IPV (OR 1.68; 95% CI, 0.73, 3.85). Women meeting PTSD criteria were 10 times likelier than those not meeting PTSD criteria to also report depression (OR: 10.21, CI 2.17, 48.02).

CONCLUSIONS: IPV is demonstrated to be a serious issue for Latino women. IPV is more likely to experience PTSD, but not depression, than Latina women who are not abused. Depression and PTSD are co-morbid in this population irrespective of IPV status. Given that Latino immigrants can experience multiple...
barriers to healthcare including language, immigration status and health insurance, this finding is of concern because abused and non-abused Latinas may not be receiving the mental health services they need. Our findings demonstrate a need for primary care clinic-based programs that provide mental health services for victims of IPV. Given the high co-occurrence of PTSD and depression in this population, primary care physicians should consider screening for PTSD in patients who are depressed.

IS HEALTH LITERACY LEVEL PREDICTIVE OF PRESCRIPTION FILLING BEHAVIOR OR MEDICATION ADHERENCE? A. M. Aronchick, S. D. Lee, J. Kim, T. A. Lee. Jesse Brown VA Medical Center, Chicago, IL; University of North Carolina at Chapel Hill, Chapel Hill, NC; University of Illinois at Chicago, Chicago, IL; Northwestern University, Chicago, IL. (Tracking ID # 153273)

BACKGROUND: The relationship between health literacy level and medication adherence in general medical populations is unknown. This study examined whether health literacy level predicts medication adherence or prescription filling behavior.

METHODS: We enrolled medical inpatients at a VA Hospital between 8/1/01–4/1/03. We assessed health literacy (REALM), social support, health status (SF-12), socio-demographics, and previous utilization through inpatient interviews. We also asked how often participants forgot or remembered to refill their medications and forgot or remembered to refill prescriptions on time. Reviewers blinded to interview results, queried VA pharmacy records to calculate medication possession ratios (MPRs) for the prior year. Each prescription was classified as ‘adherent’ if MPR ≥ 80%. We used multivariate logistic regression models to determine predictors of self-reported measures (unit of analysis = participant) and ‘adherent’ MPR (unit = prescription). The MPR model included a random effect for clustering by participant.

RESULTS: There were 400 participants with 58% having <4th grade health literacy. Fifty-three percent reported forgetting and forgot or remembered to refill prescriptions on time. Reviewers blinded to interview results, queried VA pharmacy records to calculate medication possession ratios (MPRs) for the prior year. Each prescription was classified as ‘adherent’ if MPR ≥ 80%. We used multivariate logistic regression models to determine predictors of self-reported measures (unit of analysis = participant) and ‘adherent’ MPR (unit = prescription). The MPR model included a random effect for clustering by participant.

CONCLUSIONS: Intrapersonal, family, school, and community factors measured at baseline predicted reduced incidence of new onset MDD at 1 year follow-up. These data provide targets for interventions at the community and primary care level in each of these spheres of adolescent life and reinforce the importance of preventive interventions to enhance protective factors. Multi-component behavior interventions that enhance adolescent social functioning, family interaction, belief, family function, engagement with school and connect adolescent with adults and other youth may be most effective.

IS LOWER HOSPITAL MORTALITY AMONG BLACKS UNIQUE TO THE VETERANS ADMINISTRATION? D. Polsky, J. R. Lavel, A. Ahr, M. V. Pasuly, Z. Chen, C. Lee, H. Kuwata, T. Davis, P. Leavy, J. E. Hoyert, J. W. Howard, K. Englander, J. A. L. H. Jovanovic, J. R. Lavel, K. Volpp. Brown VA Medical Center, Chicago, IL; University of Pennsylvania, Philadelphia, PA; Center for Clinical Epidemiology and Biostatistics, University of Pennsylvania, Philadelphia, PA; CHERP - Philadelphia VA Medical Center, Philadelphia, PA; Philadelphia VAMC/CHERP University of Pennsylvania, Philadelphia, PA. (Tracking ID # 153759)

BACKGROUND: 30-day mortality following hospital admission within VA is lower than black patients referred for VA medical care. The lower mortality may be sharply with the lower treatment levels and life expectancy for U.S. blacks. This differential finding may be a result of VA’s integrated health care system which reduces barriers to care through subsidized comprehensive health care services. Our objective was to examine the role of systems of care in racial health disparities by comparing 30-day mortality following hospital admissions to VA and non-VA hospitals.

METHODS: We examined 30-day mortality rates for blacks and whites following hospital admissions for six medical conditions between 1996 and 2001 in all acute care VA hospitals, and in acute care non-VA hospitals in Pennsylvania and California. We chose conditions that are part of the AHRQ Hospital Quality Indicators: acute myocardial infarction (AMI), congestive heart failure (CHF), gastrointestinal bleeding, hip fracture, pneumonia, and stroke. We used logistic regression to adjust for differences in demographic factors, comorbidities, and race within VA and non-VA hospitals. Further, we assessed interactions involving race, hospital system, and age.

RESULTS: There were 346,301 VA patients and 2,905,543 non VA patients in our dataset. Among those under 65, blacks and whites had similar 30-day mortality for 5 of 6 conditions in both VA and non-VA hospitals. For example, odds ratios for AMI: VA: 1.13 [95% CI: 0.94–1.37] and non-VA:0.95 [0.86–1.04]. Among those over age 65, blacks were less likely to die than whites in both VA and non-VA hospitals (Odds ratio AMI: VA:0.81 [0.72–0.91] non-VA:0.84 [0.79–0.88]). The gap in mortality between blacks and whites was comparable between VA and non-VA hospitals in 4 of the 6 conditions. In the other two conditions, CHF and pneumonia, this gap in mortality favored blacks more in non-VA hospitals compared to VA hospitals.

CONCLUSIONS: These findings suggest that factors associated with better shorter-term outcomes for non-VA patients are unique to VA hospitals in Pennsylvania and California. These results suggest that interventions aimed at reducing health disparities and improving the well-being and life expectancy of blacks may need to focus on settings besides hospital care.

IS PATIENTS’ PREFERRED INVOLVEMENT IN HEALTH DECISIONS RELATED TO OUTCOMES FOR PATIENTS WITH HIV? M. G. Beach, J. Kemuly, R. D. Moore. Johns Hopkins University, Baltimore, MD. (Tracking ID # 153085)

BACKGROUND: Previous studies have suggested that patients who are more involved in their medical care have better outcomes. The purpose of this study is to compare healthcare processes and outcomes for patients with HIV based on their preferred level of involvement in health decisions.

METHODS: We interviewed 569 patients who were awaiting appointment with their primary care provider at an urban HIV clinic using a computer-based survey. We asked patients to indicate how they preferred to be involved in making decisions about their care. ‘The doctor makes the final decisions,’ ‘The doctor and I make final decisions together’ or ‘I make all final decisions,’ ‘The doctor decides what is best for me.’ ‘The doctor considers some of my ideas but still makes most final decisions,’ ‘The doctor and I make final decisions together’ or ‘I make all final decisions.’ We also asked patients to rate the quality of communication with their provider (whether the provider listens and explains things such as the patient can understand) and to report their receipt of and adherence to antiretroviral therapy (HAART).

RESULTS: Patients had an average age of 38.9 years, and were mostly male (66%) and African American (84%). Most patients preferred to share decisions with their provider (54%), but some preferred that their physician make most all decisions (30%) or that they make all final decisions alone (10%). Older patients were less likely to prefer an active role than younger patients, but there was no significant difference in patient preference for decision making based on gender or race. Patients who prefer that their provider make all or most decisions are equally likely to report that their HIV provider listens to them and to be on HAART than those who prefer to share decisions, but are not as likely to report that their provider explains things in a way they can understand or to adhere to HAART. Patients who prefer to make all decisions alone are least likely to report
IS PAY FOR PERFORMANCE EFFECTIVE IN IMPROVING THE QUALITY OF HEALTH CARE? L.A. Petersen1; L. Woodward1; T. Urech2; C. Daw3; S. Sookanan2. K. Bibbins-Domingo1; (Tracking ID # 153986)

BACKGROUND: Most physicians and hospitals are paid the same regardless of the quality of the health care they provide, producing no financial incentives for quality, and, sometimes, disincentives. There are many other numbers of programs that provide explicit financial rewards for performance on measures of quality. The goal was to systematically review empirical studies assessing the effect of explicit financial incentives for improved performance on measures of health care quality.

METHODS: We searched the English-language literature in PubMed from January 1, 1980, to November 14, 2005, and reference lists of retrieved articles. We selected empirical studies of the relationships of explicit financial incentives designed to improve a measure of health care quality and a quantitative measure of health care quality. We categorized studies based upon the level of the incentive (whether directed at the individual physician, the provider group, or the health care payment system), and the type of quality measure that was rewarded. Positive studies were those for which all measures of quality demonstrated a statistically significant improvement with the financial incentive. Studies with partial effects showed improved performance on some measures of quality but not others. Negative studies were those for which all measures of quality demonstrated a statistically significant decrease in quality with the financial incentive.

RESULTS: Thirty-three articles met the inclusion criteria and were reviewed by at least two reviewers. Sixteen articles that met the eligibility criteria were subsequently excluded for at least one of the following reasons: 1) there was no analysis of a concurrent comparison group; and 2) there was no comparison of groups at baseline on the quality indicator. Thirteen of the seventeen remaining studies examined process-of-care quality measures, and most of those were for preventive services. Five of the six studies of physician level financial incentives and seven of nine studies of provider group level financial incentives found partial or positive effects of financial incentives on measures of financial incentive. One of the two studies of incentives at the payment system level found a positive effect on access to care, and one showed evidence of a negative effect on access to care for the sickest patients. In all, four studies suggested unintended effects of incentives. We found no studies examining the optimal duration of financial incentives for quality or the persistence of their effects after termination of the incentive. We only found one study that addressed cost-effectiveness.

CONCLUSIONS: Despite widespread implementation, there are few empirical studies of explicit financial incentives for quality. This literature review suggests some positive effects of financial incentives for quality at the physician level, the provider group level, and the health care payment system level. Ongoing monitoring of incentive programs is critical to determine the effectiveness of financial incentives for quality and whether incentives are producing unintended effects on quality of care. Further research is needed to guide implementation of financial incentives for health care quality and to assess their cost-effectiveness.

IS RESIDENT STRESS ASSOCIATED WITH SUBOPTIMAL CARE? C.A. Fedrick1; A.R. Hoellien1; J.F. Wilson1; C.H. Griffith1. (Tracking ID # 153321)

BACKGROUND: Most recent trainees now report that stress on an individual's life. With current ACGME regulations, some have suggested that resident stress and workload will increase given increased work duties but less available time. The impact of duty hour regulations must be closely monitored in our teaching hospitals in order to ensure a high level of patient care.

METHODS: We examined the English-language literature in PubMed from January 1, 1980, to November 14, 2005, and reference lists of retrieved articles. We selected empirical studies of the relationships of stress on an individual's life. With current ACGME regulations, some have suggested that resident stress and workload will increase given increased work duties but less available time. The impact of duty hour regulations must be closely monitored in our teaching hospitals in order to ensure a high level of patient care.

RESULTS: A total of 271 resident surveys were returned from 163 inpatient team days. Overall, residents reported moderate levels of stress and how that stress impacted their lives. The mean stress level across all four stress statements was 2.6 ± 1.1 and the mean impact of that stress was 5.2 ± 2.2 across the three impact of stress on life and work statements. Overall, 21% reported that they had omitted some aspect of patient care, 26% reported a medical error affected a patient on their team, and 16% reported suboptimal care. Resident stress level correlated highly with medical errors affecting patient care (p = .007) and marginally with suboptimal care (p = .09). Stress in the work and life domain impacted the reporting of medical errors and suboptimal care (p = .03), medical errors affecting patient care (p = .04) and suboptimal care (p = .04).

CONCLUSIONS: Stress is negatively associated with important patient care variables (omissions in patient care, medical errors and suboptimal care). Perhaps even more important than the reported level of stress is the impact of that stress on an individual's life. With current ACGME regulations, some have suggested that resident stress and workload will increase given increased work duties but less available time. The impact of duty hour regulations must be closely monitored in our teaching hospitals in order to ensure a high level of patient care.

IS THE RISK OF CORONARY HEART DISEASE ASSOCIATED WITH OBESITY MODIFIED BY TREATMENT OF OBESITY-RELATED RISK FACTORS? K. Duc Trong1; P.G. Coxson1; J.M. Lightwood2; L.W. Williams2; L. Goldman3. University of California, San Francisco, San Francisco, CA;2Brigham and Women's Hospital, Boston, MA;3University of California, San Francisco, San Francisco, CA;4Bingham and Women's Hospital, Boston, MA. (Tracking ID # 152912)

BACKGROUND: The current obesity epidemic in the US may increase rates of coronary heart disease (CHD) events. Whether the obesity-related risk of CHD can be reduced by treating associated CHD risk factors is not known.

METHODS: The CHD Policy Model is a state-transition, computer simulation program of health care interventions, age 35 and over, inputs into the Model include data on the joint distribution of risk factors, rates of CHD events, and case fatality rates, β coefficients for risk factors based on Framingham and other studies, and cost estimates from Medicare, state surveys, published studies, and the Blue Book. The Model is calibrated to reproduce, in its baseline year of 2000, all key outcomes in the US to within 1% and the results of relevant clinical trials. Based on the latest epidemiologic data, we assumed that higher body mass index (BMI) was independently associated with a higher rate of CHD linked to higher diastolic blood pressure (DBP), higher low density lipoprotein (LDL) concentration, lower high density lipoprotein (HDL) concentration, and an increased risk of diabetes. We simulated four scenarios from 2000–2030 among the US population without pre-existing CHD: 1) no increase in BMI; 2) annual BMI increases of 0.08 kg/m² in men and 0.1 kg/m² in women (based on National Health and Nutrition Examination Survey trends from 1976–2000); 3) BMI increase, plus treatment of hypertension and dyslipidemia among individuals with BMI > 25 kg/m² in 2006 (10% lower DBP and LDL, 10% higher HDL); 4) BMI increase, plus treatment of hypertension and dyslipidemia, plus no assumption of increased diabetes risk associated with elevated BMI. We evaluated annual rates of new CHD events, excess CHD events compared with no BMI increase, and cumulative life-years.

RESULTS: In 2000 the new CHD event rate was 939 per 100,000 persons without pre-existing CHD. Increases in BMI were projected to increase the annual CHD event rate (Table). Although treatment of modifiable risk factors in individuals with BMI > 25 kg/m² resulted in an immediate reduction in CHD events, the effect was not sustained over time. Only the additional assumption of no increased diabetes risk further lowered the CHD event rate to just above the 2030 base rate. From 2000–2030, BMI increases resulted in the cumulative loss of 2.696, 2.126, and 1.443 life-years. BMI increase and risk factor reduction still resulted in 1.140,208 lost life-years, and the additional assumption of no diabetes risk also resulted in 938,112 lost life-years compared with no BMI increase.

CONCLUSIONS: Treatment of hypertension and dyslipidemia in overweight and obese individuals may reduce CHD events, but population event rates and mortality remain high because of the continued risk of diabetes and the adverse effects of weight gain among those who do not meet weight loss guidelines. Targeted interventions aimed at high risk individuals are unlikely to reverse the high rates of CHD morbidity and mortality associated with increasing BMI.
Annual new CHD events per 100,000 persons (excess rate vs. no BMI increase)

|   | 2006 | 2015 | 2030 |
|---|------|------|------|
| Annual BMI increase | 1,005 (40) | 1,129 (105) | 1,320 (238) |
| Annual BMI increase, plus modifiable risk factor reduction | 836 (129) | 959 (65) | 1,063 (81) |
| Annual BMI increase, plus no increased risk of diabetes | 834 (131) | 944 (801,098) (16) |

KNOWLEDGE ABOUT THE HARMs OF ACTIVE AND PASSIVE SMOKING AMONG CHINESE PHYSICIANS: M.K. Ong1; E.K. Tong2; Y. Jiang3; T. Hu4.

BACKGROUND: China has the world’s largest number of smokers and half of its population is exposed to secondhand smoke. Chinese physicians need to understand the health harms of active and passive smoking when advising smokers to quit. Our objective was to assess the status of Chinese physicians’ knowledge and beliefs about these health harms.

METHODS: We surveyed 3552 hospital-based physicians from six Chinese cities in 2004. Physicians were surveyed on their knowledge, attitudes, and practices towards smoking, and we analyzed physician knowledge of active and passive smoking hazards regarding lung cancer, asthma, chronic obstructive pulmonary disease, ischemic heart disease, and sudden infant death syndrome. Chi-square statistical analyses accounted for clustering at the city and hospital level.

RESULTS: For lung cancer, 95% of Chinese physicians believe active smoking and 88% believe passive smoking is related to lung cancer, with 88% believing in both. For heart disease, 67% of Chinese physicians believe active smoking and 53% believe passive smoking is related to ischemic heart disease, with 44% believing in both. For asthma, 82% believe passive smoking causes asthma in children and 83% believe passive smoking causes asthma in adults, with 76% believing in both. Only 21% thought passive smoking was related to sudden infant death syndrome. When stratified by smoking status, never smokers were significantly more likely than current smokers (n=813) to believe that active and passive smoking was related to lung cancer (96% vs. 93%, 91% vs. 84%), passive smoking was related to asthma in children and adults (83% vs. 75%, 85% vs. 79%), and active smoking was related to chronic obstructive pulmonary disease (89% vs. 86%). However, there were no significant differences between never and current smokers on knowledge of ischemic heart disease active or passive smoking harms (66% vs. 67%, 52% vs. 54%), nor knowledge of sudden infant death syndrome and passive smoking (21% vs. 19%).

CONCLUSIONS: Chinese physicians are aware that active and passive smoking risks pulmonary diseases, but are less aware than expected regarding active and passive smoking risks for ischemic heart disease and sudden infant death syndrome. Chinese physician smokers need education on health risks from active and passive smoking, but Chinese smokers need education on ischemic heart disease risks from active and passive smoking and sudden infant death syndrome risk from passive smoking.

LACK OF ETHNIC DISPARITIES IN IMMUNIZATION RATES AMONG UNDERSERVED OLDER PATIENTS IN AN URBAN PUBLIC HEALTH SYSTEM: A.L. Appel1; T.D. MacKenzie1; M. Philip1; R.M. Everhart1. Denver Health and Hospital Authority, Denver, CO.

BACKGROUND: Influenza and pneumococcal infections are major causes of mortality among our nation’s seniors, accounting for approximately 36,000 and 3,400 deaths per year, respectively. Significant variations in vaccination rates are seen across racial/ethnic groups. Even when controlling for multiple factors, adjusted rates of vaccination for minority groups remain substantially lower than whites nationwide. It is projected that 32% of the United States population will soon be one of the four major ethnic/racial minority groups and the number of older adults will increase by eleven million in the coming decade. How we provide preventive health services to minority groups, especially those with poor access to care, has great cost and public health implications. This study examines demographic differences in the rate of pneumococcal and influenza immunization in an ethnically diverse older patient population seeking care at an urban primary care clinic system.

METHODS: Denver Health is an integrated system of 11 federally qualified community health centers serving approximately 100,000 unduplicated patients annually. We linked data from chart audits performed in 2001–2003 for quality assurance purposes to patient registration data to evaluate vaccination rates in 740 patients age 66 years and older who had at least 3 primary care visits in the previous 2 years.

RESULTS: Rates of vaccination differed significantly by ethnicity for pneumococcal vaccination (chi-square p = 0.0002). Assuming the odds ratio approximation of relative risk, Blacks were 71% more likely to be vaccinated than Whites (p = 0.032) and English and Spanish speaking Hispanics were 104% and 109% more likely to be vaccinated respectively than Whites (p = 0.002 for both groups). Rates of influenza vaccination, however, did not vary by ethnicity (chi-square p = 0.054). After adjustment for potential confounding variables, factors significantly associated with receipt of pneumococcal vaccination were Hispanic ethnicity (OR 1.66–1.77, P = 0.01), medical comorbidities (OR 1.48, P = 0.03), psychiatric comorbidities (OR 2.0, P = 0.001), use of Family Medicine versus Internal Medicine clinic (OR 2.5, P = 0.001), and age (OR 1.04 for 1 year increase, P = 0.004). Factors significantly associated with influenza vaccination were having insurance (OR 2.25, P = 0.014), medical comorbidities (OR 1.71, P = 0.036), age (OR 1.03 for 1 year increase, P = 0.045), later year of audit (OR 1.68–1.73, P = 0.015), and a greater number of clinic visits (OR 1.69, P = 0.006).

CONCLUSIONS: Among older regular users of our public community health centers, minority populations have equal or higher immunization rates compared to non-Hispanic whites. Provider and system characteristics that may explain this lack of disparity will be discussed.

KNOWLEDGE OF BLOOD PRESSURE TARGETS AND BLOOD PRESSURE SELF-MONITORING AMONG PATIENTS WITH DIABETES: U. Subramaniam1; M. Klameras2; T.P. Hofer1; B. Zikmund-Fisher3; M. Hesler4; E.A. Kerr3.

BACKGROUND: Tight blood pressure (BP) control is the single most important intervention to prevent cardiovascular mortality among patients with diabetes. Achieving BP control relies on effective clinical management and patient self-management. Patients who monitor BP at home are more likely to achieve BP control. We sought to understand how often patients view BP control as a priority and report having specific BP targets or goals, and whether having targets is associated with BP self-monitoring. We further examined whether sociodemographic characteristics were associated with having BP targets.

METHODS: We conducted an anonymous survey of 500 randomly selected patients with diabetes in a diabetes clinic who used any VA facility in FY 2003. We queried patients regarding their general health care concerns, targets for BP control and BP self-monitoring. We examined associations between having BP targets, BP self-monitoring and patient characteristics using bivariate statistics and multivariate logistic regression.

RESULTS: 378 (76%) patients responded, of whom 90% were taking antihypertensive medications. Of the 378, 236 (62%) reported that glycemic control was among their three most important health concerns, while 151 (40%) reported that blood pressure control was among their three most important concerns. 60% of respondents reported having a target level for BP and those with a target were more likely than those without a target to monitor their BP at home (72% vs. 35%; p < 0.001) and to endorse medication treatment for a BP level of 145/80 (42% vs. 29%, p = 0.02). In multivariate regression, college education, but not race, age or insulin use, was positively associated with reporting a target BP level (95% CI 1.3-3.1). CONCLUSIONS: Less than half of patients with diabetes viewed BP control as a top concern, and a substantial proportion did not have target levels for BP control. Those with BP targets were more likely to self-monitor BP and to indicate they should be BP targets. Higher awareness was associated with having targets. Impacts: Having a target BP may be an important component in promoting hypertension self-management in this high-risk patient population. Less educated patients may particularly benefit from interventions to increase awareness of BP targets.

LANGUAGE PROFICIENCY AND REFERRAL FOR SCREENING COLONOSCOPY IN AN URBAN IMMIGRANT POPULATION: N.R. Shah1; A. Argenziano2; F. Gany3. New York University, New York, NY.

BACKGROUND: Colorectal cancer (CRC) screening saves lives. Immigrants with limited English proficiency (LEP) often do not receive screening, in part due to language barriers. In this study, we determined the magnitude of the association between language, interpreting services, immigration variables, and referral for colonoscopy screening.

METHODS: We conducted a nested cohort study within a large randomized trial of aerobic exercise plus simultaneous medical interpreting (RISMI) versus routine interpreting (ad hoc solutions, e.g. untrained staff, ‘innocent bystanders’ and family members) for colonoscopy screening. In this study, we determined the magnitude of the association between language, interpreting services, immigration variables, and referral for colonoscopy screening.

RESULTS: We identified 153 patients who met all inclusion criteria. Results are presented as odds ratios (OR) with 95% confidence intervals (CI). Factors significantly associated with immigrant status (OR 1.66, P = 0.01) and with use of ad hoc solutions (OR 2.0, P = 0.001). After adjustment for potential confounding variables, factors significantly associated with receipt of pneumococcal vaccination were Hispanic ethnicity (OR 1.66–1.77, P = 0.01), medical comorbidities (OR 1.48, P = 0.03), psychiatric comorbidities (OR 2.0, P = 0.001), use of Family Medicine versus Internal Medicine clinic (OR 2.5, P = 0.001), and age (OR 1.04 for 1 year increase, P = 0.004). Factors significantly associated with influenza vaccination were having insurance (OR 2.25, P = 0.014), medical comorbidities (OR 1.71, P = 0.036), age (OR 1.03 for 1 year increase, P = 0.045), later year of audit (OR 1.68–1.73, P = 0.015), and a greater number of clinic visits (OR 1.69, P = 0.006).

CONCLUSIONS: Among older regular users of our public community health centers, minority populations have equal or higher immunization rates compared to non-Hispanic whites. Provider and system characteristics that may explain this lack of disparity will be discussed.
LEARNER PERFORMANCE AND RELIABILITY OF A CROSS-DISCIPLINARY GERIATRICS STANDARDIZED PATIENT AMONG MEDICAL STUDENTS AND HOUSE OFFICERS

B.C. Williams1; K.E. Hall1; M.A. Supiano2; J.T. Fitzgerald1; J.B. Halter1; O. Maragoudakis1; J. Golden4; D. Glik2; J. M. D. Golden5

1Rush University Medical Center, Chicago, IL; 2University of Chicago, Chicago, IL; 3University of Michigan, Ann Arbor, MI; 4University of Utah, Salt Lake City, UT; 5University of California, Los Angeles, CA

BACKGROUND: There is growing recognition that a neighborhood’s social and physical environment exerts significant contextual effects on individual leisure physical activity. While recognizing that such interventions may have differential effects across racial/ethnic groups, neighborhood effects are not consistent across racial/ethnic groups and do not explain the lower rates of physical activity among Blacks and Asians. Physical activity interventions should consider how to address neighborhood factors that impact physical activity, while recognizing that such interventions may have differential effects across racial/ethnic groups.

METHODS: From September 9 (11 days post-hurricane) to September 12, 2005 we performed qualitative interviews with 58 adult evacuees randomly sampled from two New Orleans’ three major evacuation centers. Interview questions included influencing evacuation behavior prior to the hurricane’s landfall. We analyzed the transcribed interviews using grounded theory methodology. Three investigators independently coded and resolved disagreements.

RESULTS: Participants were mainly African American, low income, and from New Orleans Parish. We identified 1194 statements coded into the following domains: 1) Instrumental: the resources and practicalities related to evacuation; 2) Norms: the influence of social networks on evacuation; 3) Social/Cultural: the influence of social networks and attitudes about hurricanes. Participants affirmed the importance of the widely reported instrumental and cognitive reasons for non-evacuation, including income, transportation, jobs/property, health, and risk perceptions. However, these factors were mediated by the influence of social networks (a Social/Cultural sub-domain) that facilitated or hindered evacuation decisions. For some the extended family was a resource: “My sister, she had called me. So I went to pick her and her children up, and grand children, and we just started driving .” For others, church members encouraged evacuation: “So our clinical manager called her, she says, ‘Stella, the Lord said get out of that house.’” We’re on our way out now if you would hang up.” Participants described networks outside of New Orleans that provided “an open invitation” as facilitating evacuation: “we had cars, but we didn’t know anybody to go to.” Obligations to the elderly influenced evacuations: “We had to come back home. My mother-in-law had called for us to come back. You know when they get a certain age, they get confused. So they made the decision, they said, ‘We’re new on our way out now if you would hang up.’”

Leveraging Social Networks for Protecting Vulnerable Communities' Health During Disasters

D. Eisenman1; K. Cordasco2; S.M. Asch3; J. Golden4; D. Glik5

1University of California, Los Angeles, Los Angeles, CA; 2University of California, Los Angeles, CA; 3University of Los Angeles VA/RANB, Los Angeles, CA; 4West Los Angeles VA, LA, CA

BACKGROUND: Hurricane Katrina demonstrated that impoverished communities are less likely to evacuate and are more affected by disasters. While post-disaster transportation or shelter in safe areas, and experiences riding out hurricanes safely were certainly factors in delaying evacuation, social networks (the web of relationships that surround individuals) may also have played a role. We interviewed evacuees from Hurricane Katrina to give voice to those issues influencing evacuation in impoverished, minority communities.

METHODS: From September 9 (11 days post-hurricane) to September 12, 2005 we performed qualitative interviews with 58 adult evacuees randomly sampled from two New Orleans’ three major evacuation centers. Interview questions included influencing evacuation behavior prior to the hurricane’s landfall. We analyzed the transcribed interviews using grounded theory methodology. Three investigators independently coded and resolved disagreements.

RESULTS: Participants were mainly African American, low income, and from New Orleans Parish. We identified 1194 statements coded into the following domains: 1) Instrumental: the resources and practicalities related to evacuation; 2) Norms: the influence of social networks on evacuation; 3) Social/Cultural: the influence of social networks and attitudes about hurricanes. Participants affirmed the importance of the widely reported instrumental and cognitive reasons for non-evacuation, including income, transportation, jobs/property, health, and risk perceptions. However, these factors were mediated by the influence of social networks (a Social/Cultural sub-domain) that facilitated or hindered evacuation decisions. For some the extended family was a resource: “My sister, she had called me. So I went to pick her and her children up, and grand children, and we just started driving .” For others, church members encouraged evacuation: “So our clinical manager called her, she says, ‘Stella, the Lord said get out of that house.’” We’re on our way out now if you would hang up.” Participants described networks outside of New Orleans that provided “an open invitation” as facilitating evacuation: “we had cars, but we didn’t know anybody to go to.” Obligations to the elderly influenced evacuations: “We had to come back home. My mother-in-law had called for us to come back. You know when they get a certain age, they get confused. So they made the decision, they said, ‘We’re new on our way out now if you would hang up.’”

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LITERACY AFFECTS COMPREHENSION OF EVEN SIMPLIFIED INFORMED CONSENT. 
S. Kringlen1; R. Bergsten1; L.E. Henderson1; R.S. Robertson1; T.A. Jacobson1; Emory University, Atlanta, GA;2Atlanta VA Medical Center, Atlanta, GA. (Tracking ID # 154529)

BACKGROUND: Ensuring fully informed consent of participants in clinical research is challenging, with only 30–70% of subjects comprehending consent documents. To enhance the consent process, experts recommend simplifying documents, providing verbal information, and confirming understanding by asking patients to "teach-back" the main points. We applied these guidelines in a randomized controlled trial and examined the effect of participant literacy on comprehension of the simplified information.

METHODS: We used documents with simple language (8th grade reading level), visual aids to clarify enrollment procedures, and scripted verbal counseling to emphasize key points. A research interviewer prompted patients to teach-back eight key points of the consent and HIPAA information—the study purpose, follow-up requirements, randomization to one of four study groups, risks, benefits, type of information collected, steps to maintain confidentiality, and procedures for study withdrawal. The interviewer recorded whether patients adequately taught-back each item on the first, second, or third attempt. Demographic data, cognitive function (Mini Mental State Exam, MMSE), and literacy (Rapid Estimate of Adult Literacy in Medicine, REALM) were subsequently collected. Logistic regression was used to determine unadjusted and adjusted odds ratios relating each factor to the correct teach-back of all items on the first attempt.

RESULTS: Participants had a mean age of 64.0 years, 90.3% were African American, and 54.7% were female. Literacy was distributed widely (3rd grade: 20.9%, 4th–6th grade: 24.7%, 7th–8th grade: 30.6%, and 9th grade: 23.9%). The rate of correctly teaching-back individual items on the first attempt ranged from 57.2% to 81.2%. Overall, 38.9% of patients correctly taught-back all eight items on their first try. This percentage increased with increasing literacy level (16.7%, 34.8%, 40.4%, and 60.7%, respectively). In unadjusted analyses, age, black race, cognitive function, and literacy were associated with consent and HIPAA comprehension. In multivariable analyses, age and literacy were significantly associated with comprehension; cognitive function was marginally significant (p=0.055).

CONCLUSIONS: Despite the use of simplified consent and HIPAA documents, verbal counseling, and visual aids, most patients were unable to correctly teach-back consent and HIPAA information on their first attempt. Literacy was independently associated with comprehension. Additional measures are needed to promote fully informed consent and protection of research subjects' interests, particularly among those with limited literacy skills.

LITERACY AND MORTALITY AMONG MEDICARE ENROLLEES. 
M.S. Wolf1; J.M. Feinglass1; V. Carrion1; J. Gaemarian1; D. Bales2; Northwestern University, Chicago, IL; Emory University, Atlanta, GA. (Tracking ID # 154527)

BACKGROUND: Low literacy has been linked to less knowledge of medical conditions, lower use of preventive services, higher hospitalization rates, and poorer physical and mental health. However, it is not known whether literacy independently predicts mortality.

METHODS: We analyzed data from the Literacy and Health of Medicare Managed Care Enrollees (LHMMCE) study, which enrolled 3,260 new Medicare managed care enrollees in four U.S. metropolitan areas (Cleveland, OH; Houston, TX; Tampa, FL; Fort Lauderdale-Miami, FL). In-home interviews were conducted in 1997 to determine participants' demographics, health status, health behaviors, and literacy. Literacy was measured using the shortened version of the Test of Functional Health Literacy in Adults (TOFHLA), and patients were categorized as having adequate, marginal, or inadequate literacy. The LHMMCE database was merged with all-cause mortality data from the National Death Index through 2003. Kaplan-Meier analyses were used to estimate cumulative survival probabilities by literacy category. To determine whether inadequate or marginal literacy were independent predictors of mortality, we conducted multivariate Cox proportional hazards models and sequentially controlled for demographics (age, gender, race/ethnicity, language spoken, site), socioeconomic status (annual income, years of school completed, former occupation), and baseline health status, including physical and mental health (SF-36 summary scales), limitations in instrumental activities of daily living and activities of daily living, and chronic conditions (hypertension, heart failure, diabetes, coronary artery disease, arthritis, chronic lung disease, and cancer).

In addition, we controlled for the bivariate and multivariate relationship between years of school completed and mortality. Finally, we added health risk behaviors (smoking status, alcohol use, physical activity, body mass index, seatbelt use) to the model to determine whether these mediated the relationship between literacy and mortality.

RESULTS: The crude mortality rates for participants with adequate (N=2,094), marginal (N=366), and inadequate (N=880) literacy were 18.9%, 28.7%, and 39.1%, respectively; p=0.001. After adjusting for demographics, the hazard ratios (HR) for inadequate and marginal literacy were 1.88 (95% CI 1.60–2.22) and 1.33 (95% CI 1.07–1.66), respectively. Adding socioeconomic variables, the HRs decreased to 1.74 (95% CI 1.44–2.09) and 1.27 (95% CI 1.02–1.60) respectively. In the final model that included baseline health variables, the HRs were 1.61 (95% CI 1.32–1.95) and 1.20 (95% CI 0.95–1.51). The addition of health risk behaviors to the model did not substantially change these results. In conclusion, literacy, years of school completed was not significantly associated with mortality in multivariate models that included literacy the HRs for 0–8, 9–11, some college, and college graduate (12 years of education as reference group) were 0.83 (95% CI 0.66–1.01), 0.93 (95% CI 0.77–1.12), 0.94 (95% CI 0.74–1.17), and 1.23 (95% CI 0.93–1.60) respectively.

CONCLUSIONS: Among community-dwelling elderly, inadequate health literacy is a strong, independent predictor of mortality. In contrast, education alone was not predictive. Differences in health behaviors do not explain the higher mortality for individuals with inadequate literacy.

LONG TERM IMPACT OF A LONGITUDINAL FACULTY PROGRAM IN CURRICULUM DEVELOPMENT (JHFDP/CD). 
J. Young1; F. Petrucci2; K.W. A. Cole3; D. M. Weden2; A. M. Knight4; P.A. Thomas5; E.B. Bass1; D.E. Kem1; Johns Hopkins University, Baltimore, MD;2Yale University, Waterbury, CT;3Johns Hopkins University, Glen Arm, MD. (Tracking ID # 152996)

BACKGROUND: The need to impart new competencies to medical learners underpins a growing need for training in curriculum development (CD). A minority of medical institutions provide fellowship training in educational skills; few provide training in curriculum development. We evaluated the long term impact of the Johns Hopkins Faculty Development Program in Curriculum Development (JHFDP/CD).

METHODS: JHFDP/CD is a 9 month, 1 half-day per week program offered annually since 1987. Goals are for participants to develop proficiency in designing, implementing, evaluating, and disseminating curricula. Educational methods include didactics, workshops, a mentored project, a final paper and presentation. Study subjects included all 64 participants who completed the program from 1988 through 1996 and 64 professionally similar nonparticipants who were selected by the participants at the beginning of the program. All subjects were surveyed in 2002 regarding self-assessed CD skills, enjoyment in CD, number of curricula developed, and, for participants, impact of JHFDP. Baseline characteristics were compared using t-test, Wilcoxon rank sum or chi-squared analyses. Logistic regression was used for outcome analyses.

RESULTS: 58 participants (91%) and 50 nonparticipants (74%) returned completed surveys. Participants and nonparticipants were similar in 14 of 17 baseline characteristics. After adjustment for 3 dissimilar baseline characteristics (professional training, academic appointment and medical specialty), participants were more likely to report developing and implementing a curriculum (in the last 5 years, 79% vs. 68%) and using selected CD skills (Table 1). Responses by 43 participants (74%) to the open-ended question about impact of the program revealed 10 themes. Six related directly to retention of CD proficiency, continued involvement in CD, and external recognition for CD efforts. Two reflected a broader impact: applicability beyond CD, time management, relationships, and professional growth.

CONCLUSIONS: Participation in the JHFDP/CD was associated with continued involvement, self-assessed proficiency, and enjoyment in CD activities 6–13 years later. Faculty should consider rigorous training in CD to improve skills and promote professional growth.

Table 1

| Participants | Non-Participants (N=58) | Adjusted* (N=50) |
|--------------|------------------------|------------------|
| Develop/implemented one or more curricula in the last 5 years | 65 | 44 |
| Proficiency “good” or “very good” of each curriculum | 50 | 4.9 (1.6–14.8) |
| Experience of hazard in one or more | 47 | 50 |
| Developing curricula | 50 | 4.7 (1.7–12.9) |
| Implementing/administering curricula | 52 | 4.0 (1.4–11.0) |
| Evaluating curricula | 68 | 44 |
| Lots of enjoyment in CD | 43 | 3.4 (1.3–8.8) |
| Developing/implemented one or more curricula in the last 5 years | 45 | 3.6 (1.1–11.3) |
| Conducts needs assessments | 64 | 24 |
| Uses different educational methods based on learner needs | 60 | 24 |
| Overall improvement in CD | 56 | 38 |
| (0.8–17.8) |
LONGITUDINAL STUDY OF THE PREFERRED ROLE OF FAMILY IN MEDICAL DECISION-MAKING AMONG TERMINALLY ILL PATIENTS ANTICIPATING DECISIONAL INCAPACITY: M. Hughes1; M.T. Noonan1; A. Astrow1; P.B. Terry1; J. Kub1; R.E. Thompson1; K. Teimoorian1; J. Spangler1; M.P. Pignone2. 1Johns Hopkins University, Baltimore, MD; 2University of North Carolina at Chapel Hill, Chapel Hill, NC. (Tracking ID # 154497)

BACKGROUND: In advance care planning, patients are asked how they want medical decisions to be made when they cannot speak for themselves. This longitudinal study examines the role that terminal ill patients prefer that their family play in making health care decisions when the patients are too ill to speak for themselves.

METHODS: Prospective serial interviews at two academic medical centers for 147 adult terminal ill patients with advanced cancer (CA), amyotrophic lateral sclerosis (ALS), or advanced congestive heart failure (CHF), at diagnosis (or first hospitalization for CHF), and at three months and six months thereafter. Patients were asked to state their preferences for control over medical decisions when they were cognitively intact. Patients' preferences were rated every five weeks on a five point scale ranging from (1) independent (i.e., substituted judgment standard) to (5) reliant on the family (i.e., best interests standard). Descriptive statistics and a Generalized Estimating Equations (GEE) model are presented.

RESULTS: Sixty patients (41%) had CA, 55 (37%) CHF, and 32 (22%) ALS. Average age was 62 ± 12.6; 63% were white; and 65% had less than a college education. The majority (65%) were Caucasian; 23% African American. Most were Protestant (39%) or Catholic (36%). At baseline, patients' decision control preferences when envisioning unconsciousness showed wide variability, but most wanted shared decision-making (Unadjusted mean [95% CI]=3.26 [3.08, 3.45]). At 3 months, however, the overall mean moved significantly higher (p<0.05). At 3 months, however, the overall mean moved significantly higher (p<0.05). At 6 months, the overall mean remained stable in their preferences (adjusted mean [95% CI]=3.26 [3.08, 3.45]). Women tended to be more reliant over time (i.e., weighing patient wishes more heavily than family wishes should the patient become unconscious; β=-.37, p=.049). Women tended to be more independent than men (β=.37, p=.04). Older patients tended to be more reliant (β=-.31, p=.06). Race, marital status, religious affiliation, and measures of premorbid health status, did not change significantly from month to month. We estimated a multivariate GEE regression model adjusted for diagnosis, education, gender, age, and time. This model indicated that ALS patients wanted more independence relative to CA and CHF patients (β=1.14, p=.01). Women tended to be more reliant than men (β=-.37, p=.04). College educated patients tended to prefer more independence over time (i.e., weighing patient wishes more heavily than family wishes should the patient become unconscious; β=-.64, p=.03), while less educated patients remained stable in their preferences for shared decision making. A statistically significant education by time interaction (p=0.04) indicated that college educated patients tended to prefer more independence over time, while less educated patients remained stable in their preferences (perhaps because college educated patients had at least some college=3.17 [2.88, 3.46]; HS or less=3.32 [3.10, 3.54], and at six months: At least some college=2.37 [1.94, 2.79]; HS or less=3.16 [2.65, 3.48].

CONCLUSIONS: Terminally ill patients vary in their preferences for control over decisions made by themselves on their behalf. Least want shared decision making, ALS diagnosis, female gender, and greater education are associated with preferences for decisions to be made by substituted judgment, rather than by what the family member thinks is best. Older patients would rely more upon their families. College educated patients tend to want more substituted judgment the longer they live with their terminal illness.

LOWER EXTREMITY ISCHEMIA, CALF SKELETAL MUSCLE CHARACTERISTICS, AND FUNCTIONAL IMPAIRMENT IN PERIPHERAL ARTERIAL DISEASE: M.M. McDermott1; F.L. Holf1; M. Croiz1; L. Ferrucci1; W. Pearse1; J.M. Guralnik1; L. Tian2; K. Liu1; J. Schneider1; L. Sharma1; T. Jin1; Northwestern University, Chicago, IL; 2University of California at Los Angeles, Los Angeles, CA; 3Saint Agnes Hospital, Baltimore, MD; 4Jesse Brown VA Medical Center, Chicago, IL. (Tracking ID # 153944)

BACKGROUND: We studied associations between the ankle brachial index (ABI) and calf skeletal muscle area and between the ABI and calf muscle percent fat in persons with and without lower extremity peripheral arterial disease (PAD). We also studied associations between calf muscle characteristics and functional impairment in PAD.

METHODS: Participants were 478 persons with PAD (ABI<0.90) and 292 without PAD (ABI 0.90 to 1.30). Calf muscle cross-sectional area and percent of fat in calf muscle were measured with Computed Tomography at 66.6% of the distance between the distal and proximal tibia. Physical activity levels were measured continuously over seven days using an actigraph and a pedometer. Functional measures included the six-minute walk test, four-meter walking speed (usual and fastest pace) and the summary performance score.

RESULTS: In the results table are adjusted for age, sex, comorbidities such as height, smoking, and potential confounders. Lower ABI showed for calf muscle area remained statistically significant after additional adjustment for physical activity and calf percent fat. Among PAD participants with ABI<0.90, 15% more of their right trial left legs. Women tended to move significantly faster in usual and fast-paced four-meter-walking speed and in the summary performance score, adjusting for ABI, physical activity, comorbidities, and other confounders.

CONCLUSIONS: These data support the hypothesis that lower extremity ischemia has a direct, adverse effect on calf skeletal muscle area and the proportion of fat in calf muscle. These adverse associations may mediate previously established relationships between PAD and functional impairment.

Adjusted Associations between the ABI and Calf Muscle Characteristics

ABI<0.90 ABI 0.90 to 1.30
Calf muscle area (mm2) 5.193 5.536 5.941 <0.001
Calf muscle percent fat 12.8% 11.4% 9.2% 0.001

LOWER HEALTH LITERACY AND SOCIAL SUPPORT ARE ASSOCIATED WITH LOWER MAMMOGRAM USE: S.C. Schneider1; J. Lee1; C. Brugman2; D.J. Leavitt1; A.M. Aronza2. 1University of Illinois at Chicago, Chicago, IL; 2University of North Carolina at Chapel Hill, Chapel Hill, NC; 3Mercy Hospital and Medical Center, Chicago, IL; 4Jesse Brown VA Medical Center, Chicago, IL. (Tracking ID # 154689)

BACKGROUND: Prior studies found lower mammogram use among older women from racial/ethnic minorities with lower socioeconomic status. Lower health literacy and social support are prevalent among elderly women from racial/ethnic minorities and may have independent associations with lower mammogram use. We determined the independent and interactive relationships of health literacy and social support on mammogram use.

METHODS: We enrolled subjects between March 2003 and February 2004. Eligible subjects were: age >65 years; Medicare recipients; mentally competent; had good vision and hearing; were currently living at home in Illinois; were able to complete the interview in English; and had one or more outpatient visits to a Mercy Medical Center facility between 1996 and 2003. We queried subjects about prior mammogram use by asking ‘‘How long has it been since you had your last mammogram?’’ Participants were classified as having a mammogram if they reported their last mammogram occurred within the prior 12 months. We also assessed social literacy support for mammogram care (‘‘How often did someone accompany you to doctors visits?’’), socio-demographics, health status (SF-12), medical co-morbidities, self-efficacy, attitude towards healthcare, risky behaviors, medication compliance, and prior mammogram recall and access. We used logistic regression models to evaluate the independent associations of health literacy and social support on mammogram use (<=12 months ago vs. >12 months ago or never). Control variables included in these models were age; race; endorsed the varicose veins in prior 12 months, physical health status, and depression (Geriatric Depression Scale).

RESULTS: We enrolled 389 women with mean age 78.3 years (SD 6.9), of whom 54% were white, 24% African American, and 22% Hispanic. Overall, 67% reported having a mammogram within the prior 12 months. Subjects with <46th grade health literacy had significantly lower mammogram use compared to those with >46th grade health literacy (47% vs. 63%; p<0.03). In multivariate analysis,
subjects with < 6th grade health literacy were significantly less likely than those > 8th grade health literacy to receive mammograms (OR=0.31, 95% CI=0.12–0.76). Conversely, subjects who reported sometimes having social support for medical care had significantly higher mammogram rates than those who reported never having social support (OR=2.7, 95% CI=1.01–6.8). Literacy and social support interaction terms were not statistically significant. Routinely reading nutritional facts (OR=2.2, 1.2–4.2) and higher self-efficacy (OR 2.9, 1.3–6.5) were significant predictors of higher mammogram use. Not receiving a Pap smear test within the prior 12 months (OR=0.25; 0.10–0.62) and always having communication difficulties with doctors (OR=0.32; 0.15–0.72) were significant predictors of lower mammogram use.

CONCLUSIONS: Lower health literacy, < 6th grade level, was independently associated with lower self-reported mammogram use. Conversely, higher social support for medical care was associated with higher mammogram use. Lower self-efficacy, lower Pap smear test, and patient-physician communication difficulties may represent other potential barriers to mammogram use.

MARKETING STRATEGIES BY THE TOBACCO INDUSTRY IN ARGENTINA: HERE WE GO AGAIN. S.N. Braun1; R. Mera1; E.J. Perez-Stable2; J. Barnoya2. Universidad de Buenos Aires, Buenos Aires, 8; Universidad de California, San Francisco, San Francisco, CA. (Tracking ID #: 153754)

BACKGROUND: Argentina has the highest smoking prevalence in Latin America. Transnational tobacco companies have expanded their market targeting adolescents and women and taking advantage of countries such as Argentina with minimal regulation of tobacco advertising. The objective of this study was to determine whether and how the tobacco industry (TI) targeted adolescents and women in Argentina and to evaluate the length and content of tobacco images in the leading Argentine newspapers and magazines from 1995 to 2004.

METHODS: We conducted a systematic search of Philip Morris (PM) and British American Tobacco (BAT) documents available through the Internet dated between 1995 and 2004. We used standard search terms (e.g., "Argentina" combined with "marketing strategies", "advertising", "young adult", "female", and "women") to identify TI marketing strategies in Argentina. We selected a review of the four newspapers and nine magazines with the leading national circulation in Argentina between 1995 and 2004. Magazines reported a readership of women and youth of at least 50%. We analyzed all newspaper issues during the same four months in order to avoid seasonal variation (systematic sample). Two reviewers read and coded all the documents and coded them into the designated categories.

We searched for tobacco images and these were classified as advertisement if associated with a commercial product or as a story if not associated with a specific commercial product.

RESULTS: TI used market segmentation as a strategy to target Argentinians. PM and BAT developed different plans for each segment, especially for the "light" and "premium" segments. More than 78% of the advertisements found in women’s magazines were for lights brands consistent with the TI documents that "light" brands were targeted to women. Marketing strategies showed "light" brands were promoted as a means of reducing the perceived health risks associated with smoking. Marketing researchers believed that Argentinian consumers, like Europeans, were resistant to being singled out for being female. Accordingly, less than 1% of the tobacco advertising found in newspapers and magazines showed women only and instead were usually presented in some activity with others. The consuming activity was made for premium light/bias towards young men. Marlboro was the most important brand for smoking initiators and the market leader. PMI has in fact developed a ten-cigar series as a perfect "initiation" package. The most advertised brand in newspapers and magazines was the most identifiable logo in tobacco stories that included sport images during 1995-2004. TI documents revealed that BAT undertook a consumer psychographic study and classified smokers into marketing categories labeled: progressives, puristic or conservatives and crudos or spoiled brats. Thus, BAT marketed their national brands to the conservatives and linked these brands with nationalistic values in advertising campaigns. National brands were the most frequently found (70%) in sports magazines, and associated with popular sports.

CONCLUSIONS: The TI used targeted marketing strategies in Argentina. In focus groups with Argentine women, youth and psychographic categories with specific methods. Tobacco control researchers and advocates may be able to adapt these strategies in reverse marketing interventions.

MARKOV ECONOMIC MODEL FOR SURGERY IN THE MORBIDLY OBSESE D. Gartner1, K. Simpson1; J. Romagnolo1. Medical University of South Carolina, Charleston, SC. (Tracking ID #: 153448)

BACKGROUND: Gastric bypass surgery appears to be an effective tool for weight loss in the morbidly obese, but is expensive. Some insurance companies and government payers have been reluctant to fully fund this procedure. We sought to determine the cost-effectiveness of gastric bypass surgery in the morbidly obese.

METHODS: We used a Markov process to model progression of weight loss and associated costs for both surgical and non-surgical interventions. The base-case was a 50 year-old patient with a body mass index (BMI) of 40. A third-party payer perspective was used, using direct health care costs and indirect costs related to recovery from surgery. We included literature-derived data concerning BMI-specific direct costs (including physician visits, medication costs, hospitalization costs, etc), transition probabilities, and quality of life (utilities), as well as competing age-specific death rates, for both laparoscopic and open gastric bypass surgeries versus diet and exercise with a decision tree. Indirect costs related to time lost recovering from surgery were also included. Transitions between BMI states were modeled in 1-year transitions, over a lifelong time horizon. Downstream health care costs and utilities were discounted at 3% per year. Incremental cost-effectiveness ratio (ICER) calculations were planned for non-dominant strategies.

RESULTS: Surgical therapy for obesity was dominant (less costly and higher quality of life), therefore an ICER is not calculable (no tradeoff). The discounted health care cost savings per patient over an expected lifetime for surgery vs. non-surgical therapy was $212,448. After incorporating the most optimistic estimates for weight loss into the model for the non-surgical treatment group, the total present value cost, ancillary services and hospital stay for the initial surgery took 13 years to recoup. Over the expected lifetime, 1.5 years (discounted) quality-adjusted-life-years (QALYs) were gained per patient for surgery vs. non-surgical therapy. Sensitivity analyses revealed the model conclusions to be robust.

MEASURING OUTPATIENT CORONARY ARTERY DISEASE QUALITY OF CARE USING ELECTRONIC HEALTH RECORDS: PITFALLS AND TARGETS FOR IMPROVEMENT. S.D. Persell1; J. Wright1; J. Thompson2; K. Knetsch1; D. Baker3. Northwestern University, Chicago, IL; American Medical Association, Chicago, IL. (Tracking ID #: 56079)

BACKGROUND: Electronic Health Records (EHRs) can support quality improvement and the public reporting of quality data. The Centers for Medicare and Medicaid Services (CMS) is evaluating the feasibility of using EHR-based quality indicators for outpatient care through the Doctor’s Office Quality Improvement Technology (DOQ-IT) project. These indicators, developed and maintained by the American Medical Association-convinned Physician Consor-tium for Performance Improvement (AMA/Congsortium), may be used in future pay-for-performance programs. We evaluated how well these measures reflect actual quality for coronary artery disease (CAD).

METHODS: We performed a retrospective chart review for patients with diagnosis codes for CAD seen at an urban internal medicine practice using a commercial EHR. We compared results of single automated review with a two-step process of automated review supplemented by physician review for apparent quality failures. The outcome measures were seven quality indicators for outpatient CAD patients: 1) antiplatelet drug, 2) lipid lowering drug, 3) beta blocker following myocardial infarction, 4) blood pressure measurement, 5) lipid measurement, 6) low-density lipoprotein cholesterol (LDL-C) control, and 7) angiotensin converting enzyme inhibitor for patients with diabetes or impaired left ventricular systolic function. We calculated the performance rates of the DOQ-IT indicators as follows: number meeting criteria/(number meeting criteria + number not meeting criteria with no exclusion criteria). We repeated these calculations after reclassifying patients based on physician chart review. Fifteen percent of charts were reviewed by two physicians. Inter-rater reliability for determining if misclassification occurred was good (kappa=0.62–0.85) for individual indicators. 0.78 overall). The project was supported by grant S U18 HS013690-02 from the Agency for Healthcare Research and Quality.

RESULTS: We identified 1006 patients with CAD diagnosis codes and at least 2 office visits in 2004. By automated review, adherence to the seven quality measures ranged from 73.0% for lipid lowering drug prescribing to 97.6% for blood pressure measurement. However, review of physician notes showed that many of the cases that appeared to fail the quality measures were misclassified. The pattern of apparent quality failures that subsequently satisfied the measure based upon chart review (i.e., had the recommended intervention or met exclusion criteria) was 72, 67, 48, 79, 38, 15, and 33 percent, respectively. Subsequently, calculated use of antiplatelet and lipid lowering drugs, and LDL-C control to 99.2 for blood pressure measurement. Reasons for misclassification included incorrect use of diagnosis codes, failure to record data meeting indicator criteria in searchable fields, and failure to capture permitted exclusions using automated searches.

CONCLUSIONS: In a setting where quality was generally high, apparent quality problems were frequently due to measurement error rather than poor care. Measuring outpatient CAD quality indicators using EHRs derived from an EHR may not produce accurate results in their current form. Prevalent classification errors may pose an important obstacle to using these indicators for provider accountability. Improving how clinicians document chronic disease
MEASURING QUALITY OF CARE FOR HOSPITALIZED VULNERABLE ELDERLY: USE OF COMPARABLE QUALITY INDICATORS

V. Arora1; M. Johnson1; P. Podrazik1; S. Levine1; G. M. Heisler1; R.A. Hayward1; K.M. Langa2; C. Blaum2; D.R. Weir2; J. Lee1; N. Freudenberg2.

BACKGROUND: Although many studies have examined quality of care for older patients, few of these studies have used quality of care measures relating to conditions specific to older adults, such as dementia. To address this problem, the Assessing Care of Vulnerable Elders (ACOVE) Project has developed quality indicators (QIs), which may be adopted in pay-for-performance programs, to measure the quality of care for frail elders. Although the ACOVE QIs have been used in the community setting, they have not been used in a cohort of hospitalized patients. This study aims to develop and use ACOVE-based process of care measures to evaluate the quality of care for hospitalized vulnerable elders.

METHODS: All patients age 65 or older hospitalized on the University of Chicago inpatient general medicine services were approached for an interview using the VES-13, a 13 item validated tool based on age, self-reported health, and adherence to preventive health care. Nurses were also included and eligible for chart reviews. In choosing which ACOVE QIs to operationalize, those that referred to conditions that were rare on the general medical services (e.g., dementia) had to be included. All nurses (e.g., continuity with primary care physician), or were too costly to measure on a large scale (e.g., observation every 15 minutes for both) were excluded. Percent adherence was calculated by dividing the number of eligible patients who passed the indicator by the number of patients eligible for that indicator. Adherence for general medical (e.g., pain, etc.) and geriatric-specific conditions (e.g., pressure ulcers) was measured using two approaches. Compliance was calculated in accordance with the Standardized Nursing Assessment Form (SNAF) in the ACOVE Project. Nurse chart review was used to evaluate geriatric-specific conditions such as dementia and for those conditions for which the standardized documentation was thought to be unlikely to be obtained by medical chart review (e.g., continuity with primary care physician). All analyses were weighted for non-response and adjusted for clustering by type of care (screening, treatment, and diagnosis) and provider (doctor, nurse) was also calculated.

RESULTS: 834/894 (93%) patients participated. Of these, 423 (51%) were deemed vulnerable. 288 (71%) charts were available for review; 16 QIs were chosen and operationalized into measures for chart review. These QIs measured care in the domains of general medical care, pressure ulcer care, and dementia. QIs for general medical care were met at a rate of 88% (1227/1403), significantly higher than for geriatric-specific conditions (dementia 80% (458/569) and pressure ulcers 65% (344/527)) (p<0.001 for both). Screening indicators were performed at mean (SD) 99.6% (467/471); therapeutic indicators at mean (SD) 91% (131/141) (p<0.001 for both compared to screening). Nurses, through the use of standard nursing assessment forms, outperformed doctors on each of the screening indicators (e.g. cognitive and functional status, pain, nutrition, pressure ulcers, etc.) (p<0.001 for all). Yet, screening by nurses was less likely to detect patient functional limitations than screening by doctors (when compared to patient self-report) (RN 2/3/403 (58%) vs. MD 73/98 (83%) p<0.001). We defined as vulnerable male, female gender (p=0.03), breast cancer patient volume (p<0.0001) single specialty type (0.001), breast cancer patient volume (0.0001), specialty type (0.001), and belief that one’s own specialty type (versus another) is responsible for symptom follow-up (p<0.0001).

CONCLUSIONS: Quality of geriatric-specific hospital care is worse than for general hospital care. Although QIs for screening of geriatric-specific conditions are met at very high rates by nurses using standard forms, these screenings may either fail to detect geriatric conditions or to trigger diagnostic and therapeutic follow-up by doctors. This may have implications for the use of these screening QIs in pay-for-performance programs.

MEASURING SYMPTOM EVALUATION FOR BREAST CANCER PATIENTS AND ASSOCIATIONS WITH PROVIDER AND PRACTICE CHARACTERISTICS

A. Misra1; J. Malin1; M. Tao2; P. Ganz1; K.L. Kahn1.

ABSTRACTS

BACKGROUND: Assessment of symptoms among oncology patients is considered important to improve quality of care and patient outcomes. Using the Symptom Evaluation Summary Score (SESS), we assessed symptom evaluation in breast cancer patients. In this study, we analyzed additional symptoms and their evaluation.

RESULTS: Observed symptom evaluation scores varied little across symptoms (SE=0.6 for all) to 1.0 for drainage. Positive, significant associations were observed between SESS and female gender (p =0.001), breast cancer patient volume (0.0001), specialty type (0.001), and belief that one’s own specialty type (versus another) is responsible for symptom follow-up (p<0.0001).

CONCLUSIONS: Physicians’ likelihood of providing routine symptom evaluation to breast cancer patients varies with physician specialty type; in addition, there was variation in the frequency with which physicians reported routinely assessing different symptoms. Additional physician and practice characteristics (female gender, volume, physician beliefs, practice type and visit duration) are associated with more symptom evaluation service delivery. The systems used to optimize symptom evaluation and possible tradeoffs deserve further study.

MECHANISMS FOR RACIAL AND ETHNIC DISPARITIES IN GLYCEMIC CONTROL AMONG MIDDLE-AGED AND OLDER AMERICANS IN THE HEALTH AND RETIREMENT STUDY (HRS)

M. Hiesiger1; R.A. Hayward1; K.M. Lang3; C. Blaum2; D.R. Weir2; VA Ann Arbor Health System/University of Michigan, Ann Arbor, MI; 3University of Michigan, Ann Arbor, MI. (Tracking ID # 155650)

BACKGROUND: Mechanisms explaining racial and ethnic disparities in glycemic control among African Americans with diabetes remain poorly understood. We examined the extent to which differences in a wide array of socio-economic, clinical, and insurance variables contribute to glycemic control among African Americans contributing significantly to the observed disparities in middle-age and older Americans.

METHODS: 1985 respondents with diabetes participating in the Health and Retirement Study (HRS), a nationally representative longitudinal study of Americans aged 50 and older, completed a mailed survey in 2003 (81% response rate). 1200 respondents (63% of the sample) successfully completed at-home A1c kits. Using data from this survey and prior survey waves, we constructed multivariable regression models to examine racial/ethnic differences in A1c control and to explore the association with A1c levels of multiple factors hypothesized to affect glycemic control, including socio-demographic, economic and clinical factors, access to and quality of diabetes health care services received, and self-management behaviors and attitudes.

RESULTS: There were no racial or ethnic differences in A1c levels among respondents who were not taking glycemic medications for their diabetes. Among respondents on medications (n=950), the mean A1c value among black respondents was 7.81 and among Latino respondents was 7.92, compared to a mean A1c level of 7.15 among white respondents (p<0.01). Adjusting for hypothesized mechanisms reduced the association of race/ethnicity with higher A1c levels by approximately 25%, with the model explaining 16% of the variance in A1c. In duration, longer exposure to diabetes was associated with lower self-reported medications adherence, and a higher level of diabetes-specific distress were each independently associated with higher A1c levels. Racial disparities in A1c were especially pronounced among respondents young-er or with higher rates of self-reported diabetes-related adherence among African-Americans contributing significantly to the observed disparities in that age group.

CONCLUSIONS: In this national survey of middle-age and older Americans conducted in 2003, Latino and African American adults had significantly worse glycemic control than white adults. Socio-economic, clinical, health care, and self-management measures explained less than a quarter of the A1c differences among adults on medications. Of the factors assessed, two potentially modifiable factors—medications adherence and diabetes self-management attitudes—were the most significant independent predictors of glycemic control.

MEDICARE COVERAGE AND BENEFICIAL POST-RELEASE OUTCOMES AMONG INCARCERATED WOMEN AND ADOLESCENT MALES

S. Sheiner1; J. Melzer1; C. Ackerson1; A. Misra1; J. Malin1; M. Tao2; P. Ganz1; A. Misra1; J. Malin1; M. Tao2; P. Ganz1; K.L. Kahn1. (Tracking ID # 153860)

BACKGROUND: Incarcerated women and adolescent males as they leave jail and return to the communities of the South Bronx and Harlem, show post-release healthcare needs for treatment to be associated with lower rates or re-arrest and higher rates of primary care utilization among women. This follow-up study sought to further measure associations between Medicaid coverage and beneficial post-release outcomes, including drug treatment and illegal activity, among a combined sample of women (N=511) and adolescent males (N=537).

METHODS: This analysis examined post-release outcomes associated with Medicaid coverage among a prospective cohort of 1048 women and adolescent males leaving jail in New York City from 1997–2001 and completing a single follow-up interview at one year. The self-reported outcomes of interest included primary care utilization, drug treatment, arrest (detox or rehab), 12-step participation, difficulty receiving needed medical care, heavy drug and alcohol use, and illegal activity since release. Independent variables of interest included Medicaid coverage at follow-up and factors by...
pothesized to affect Medicaid status: age, receipt of public benefits, self-report of HIV, hospitalization, and re-arrest since release. Descriptive and multivariate logistic regression analysis was performed with Stata SE 8.0.

RESULTS: One year after release from jail, 36% (51% women, 22% males) reported Medicaid coverage. Adjusting for re-arrest, age, HIV status, hospitalization, and receipt of public benefits, Medicaid coverage was associated with primary care utilization (Adjusted OR 1.99, 95% CI 1.39-2.85) and drug treatment (OR 1.59, 1.08-2.31). Medicaid coverage was inversely associated with self-reported difficulty receiving needed medical care (AOR 0.43, 0.23-0.82) and re-arrest (AOR 0.31, 0.22-0.45). There were no associations between Medicaid coverage and 12-step participation (AOR 1.07, 0.72-1.57), heavy drug and alcohol use (AOR 1.26, 0.88-1.79), or illegal activity (AOR 0.91, 0.59-1.38). Among persons reporting mental health disorders (N = 243) and HIV (N = 96), larger proportions of those with Medicaid received mental health treatment (52% vs. 41%, p = 0.029) and HIV care (89% vs. 63%, p = 0.005).

CONCLUSIONS: This analysis of the full Health Link sample demonstrated that associations with Medicaid coverage and the outcomes of primary care and substance abuse treatment were significant and consistent across four states.

MEDICAL REIMBURSEMENT FOR SCREENING MAMMOGRAPHY: A.D. Shah1; J. Schuur2; H.P. Forman1; C.P. Gross1; Yale University, New Haven, CT; VA Medical Center, West Haven, CT (Tracking ID # 523525)

BACKGROUND: A large at-risk population relies on Medicaid for access to mammography. In many states, Medicaid is the payer not only for patients with Medicaid insurance but also for uninsured patients who qualify for mammography services through the Breast and Cervical Cancer Mortality Prevention Act. Understanding how Medicaid reimbursement rates vary by location is important in planning for care. We calculated state-level reimbursement rates for standard mammography (CPT code 76004) and for screening mammography (CPT codes 76090 and 76092). These reimbursement rates are set by individual states and are frequently adjusted due to budgetary pressures.

METHODS: We obtained Medicaid reimbursement rates for standard mammography and screening mammography from the Medicare Physician Fee Schedule Look-Up. Rates were available for 48 states. We obtained Medicare reimbursement rates through online physician fee-schedules or by contacting state Medicaid offices.

RESULTS: Mean reimbursement rates for mammography are shown in the table below. Mean Medicaid-to-Medicare ratios were 0.75 for standard mammograms (range 0.20-1.47, median =0.76, SD =0.25) and 0.69 for unilateral diagnostic mammography (range 0.27-1.20, median =0.69, SD =0.23). The state-level reimbursement rates were calculated by collapsing all Medicare carrier districts within a state and weighting by population. We compared reimbursement levels within states with paired T-tests.

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CONCLUSIONS: These data show substantial variation in Medicaid reimbursement rates and access to mammography services.

MEDICAL EDUCATION AT A STUDENT-RUN HEALTH CLINIC: S.A. Simpson1; E.P. Naciek1; J.A. Long2; 1University of Pennsylvania School of Medicine, Philadelphia, PA; 2Philadelphia VA CHERP Philadelphia, PA. (Tracking ID # 152565)

BACKGROUND: Despite the proliferation of medical student-run health clinics, the impact of these programs on medical education has not been evaluated. Educators have noted these clinics’ value for teaching clinical skills, fostering medical humanism, and providing students opportunities for community activity. We explored the early stage of training during which many medical students volunteer with these programs to magnify the influence of student-run clinics in medical education.

METHODS: To allow broad investigation of an unexplored topic, we used semi-structured interviews with volunteers and patients in one medical student-run clinic. We developed a thematic coding system, and each interview was coded by two independent reviewers. We complemented these findings with a survey of second-year, pre-clinical medical students.

RESULTS: We interviewed 5 faculty, 8 medical students, and 14 patients to achieve thematic saturation. The survey response rate was 91% (141/155).

CONCLUSIONS: Student-run health clinics are significant, influential venues for medical students to acquire skills and interact with patients. This work clarifies educators’ expectations for a student-run clinic, but also suggests that students’ experiences do not always mirror these expectations. Despite being advantageous in other regards, this student-run clinic is not a vehicle for fostering medical humanism among students. This discord between students and faculty does not suggest an educational failure so much as it highlights a need for further consideration of student-run clinics’ growing impact in medical education.

MEDICAL STUDENT-RUN HEALTH CLINICS–A GROWING TREND IN COMMUNITY ACTIVISM AND MEDICAL EDUCATION: S.A. Simpson1; J.A. Long2; 1University of Pennsylvania School of Medicine, Philadelphia, PA; 2Philadelphia VA CHERP Philadelphia, PA. (Tracking ID # 152942)

BACKGROUND: Medical student-run health clinics are popular programs for medical students to serve their community while gaining clinical experience. However, there is no information on how many such clinics exist nationwide, how many patients these clinics see, what services they offer, or how many students are involved with these programs.

METHODS: We disseminated an online survey through email and telephone invitations to the Deans or Directors for student affairs at 124 Association of American Medical Colleges allopathic medical schools in the 50 United States.

RESULTS: A total of 94 schools (76%) responded, of those who responded 52% (49/94) have at least one student-run clinic and 24 schools have more than one. The following results are based on 59 different student-run clinics for which we collected data. Student-run clinics operate in a variety of settings, most frequently homeless shelters/community agencies (32%), hospitals (19%), and churches (14%). Almost all (98%) operate year-round, and most (81%) see patients at least once a week. The average clinic has 16 student volunteers a week, of which 15 (94%) volunteer while operating, but many also have a professional nurse (26%) or social worker (21%). Respondent clinics report an average of 19 (±12) patient encounters per week, of which 15 (±10) are visits with a medical student and face-to-face contact; about half (48%) of visits are repeat patients. Clinics serve predominantly minority populations: 31% Hispanic; 31% Black/African American; 25% White; and 11% Asian. Most clinics (88%) serve uninsured patients, although many (36%) suggested that they do not ask for patients’ insurance

ABSTRACTS

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Mean Reimbursement for Mammography

| Mammmography | Medicaid | Medicare | p |
|---------------|----------|----------|---|
| Screening     | 863 (range 816-6128) | 885 (range 875-9143) | < .0001 |
| Diagnostic Mammography | 853 (range 820-8117) | 877 (range 869-8113) | < .0001 |

Figure 1. Medicaid-to-Medicare Ratio for Screening Mammography

CONCLUSIONS: These data show substantial variation in Medicaid reimbursement rates and access to mammography services.
status, or that it does not matter. Student-run health clinics provide a variety of services including blood pressure monitoring (98%), acute care (97%), blood glucose readings (86%), standardized patient education (86%), condom distribution (80%), health-related lectures (74%), and multivitamin distribution (55%). Preclinical medical students routinely perform many of these services. Most clinics (79%) dispense some or all medications on site, including antibiotics (80%), hypertension drugs (84%), non-prescription analgesics (84%), and neurological drugs (45%). If further care is needed, patients are most frequently referred to the emergency room (85% of clinics). Most clinics (81%) have arrangements for laboratory services on- or off-site. Most clinics (79%) never charge fees. Clinical care most often funded by patient income sources include student funding (62%) and government grants (25%). Some respondents noted that medical schools and pharmaceutical companies donated medications or supplies. Twenty-seven clinics reported their annual operating budgets, which averaged $81,784.

CONCLUSIONS: Medical student-run health clinics are significant both as educational programs and also as a health service for disadvantaged patients, to whom they offer a variety of medical services, medications, and referrals. Student-run clinics are now established healthcare delivery programs involving thousands of medical students, tens of thousands of patients, and hundreds of thousands of dollars annually. Wider considerations of community health and medical education should not neglect the local role of a student-run health clinic.

MEDICAL STUDENTS WITH LOWEST PERFORMANCE ON A CLINICAL SKILLS EXAM POORLY SELF-ASSESS ABILITY L. R. Tewksbury1; R. Richter2; C. Gillespie3; A. L. Kalet1; J. P. Wisnivesky1; H. Leventhal2; E. A. Halm1; A. P. Mahajan1. 1New York University School of Medicine, New York, NY; 2New York University, New York, NY; 3New York University Robert F. Wagner School of Public Service, New York, NY. (Tracking ID #153723)

BACKGROUND: Clinical skills exams have been shown to be valid and reliable tools for evaluating students with poor clinical skills. In order for such students to improve, they need to be able to accurately assess their ability, the basis of lifelong learning. Having a better understanding of how these students self-assess their level of competence would thus be important in developing successful remediation programs. In this study, we aim to explore how students with lowest performance on a comprehensive clinical skills exam (CCSE) self-assess their level of competence.

METHODS: All 4th year medical students completed an 8-station CCSE during which standardized patients (SPs) rated communication skills (CS), history gathering (HG) and physical exam skills (PE). Students were requested to complete a post-exam survey including a self-assessment of competence in HG and PE relative to level of training. Criteria for remediation included failure in 2 or more competencies (CS, HG or PE) or CS alone. Responses to self-assessment (lower, accurate or higher level of competence) relative to SP-rated performance (below, within or above one standard deviation of mean for class) were compared for remediated versus passing students using Pearson chi-square tests.

RESULTS: 145/170 (85%) of students who took the exam consented to have their data analyzed anonymously. Eight students required remediation: 2 failed CS only; 1 failed CS, HG and PE; 3 failed CS and HG; and 2 failed HG and PE. All 8 (100%) of the remediated students overestimated their level of competence in 35/137 (25%) passing students (p < .001). For HG, 6/8 (75%) of remediated students overestimated and 2/8 (25%) accurately estimated competence versus 18/137 (13%) and 105/137 (77%) of passing students (p < .001). For PE: 4/8 (50%) of the remediated students overestimated, 3/8 (37.5%) accurately and 1/8 (12.5%) underestimated competence versus 21/137 (15%), 78/137 (57%) and 38/137 (28%) of passing students (p = .04).

CONCLUSIONS: Medical students with the lowest performance on a clinical skills exam were significantly more likely to overestimate their level of competence compared to their peers, particularly in communication skills. Such findings should be taken into consideration when developing remediation strategies to enable students to more accurately self-assess their abilities.

MEDICATION BELIEFS PREDICT ADHERENCE TO INHALED STEROIDS IN INNER CITY ASTHMATICS D. Ponieman1; J. P. Wisnivesky1; H. Leventhal2; E. A. Halm1; A. Mount Sinai School of Medicine, New York, NY; Rutgers, The State University of New Jersey, New Brunswick, NJ. (Tracking ID #152577)

BACKGROUND: Asthma morbidity, mortality, and health services utilization is highest among inner-city populations. Adherence to daily inhaled corticosteroids (ICS) therapy is the cornerstone of evidence-based asthma management. However, adherence is often suboptimal. Several domains of medication beliefs may influence adherence with ICS including beliefs about necessity/importance of using ICS when symptomatic (SX) and when asymptomatic (ASX). Concerns items related to worries about side effects and adherence. In other studies, adherence has been linked to using ICS (fear of side effects) and “how hard to follow your medication schedule (regimen complexity).” Self-reported adherence to ICS was assessed using: 1) the Medication Adherence Reporting Scale (MARS), a validated, 10 item tool measuring overall adherence to ICS (Cronbach’s alpha = .83); and 2) questions about frequency of use of ICS when SX and when ASX. Associations between beliefs and ICS adherence was assessed using Spearman correlations and chi square tests. Multivariate (MV) analyses adjusted for other factors known to influence adherence (age, sex, and asthma severity).

RESULTS: Of the 204 patients (Pts), mean age was 48 years, 60% Hispanic. 30% Black, and 20% completed the survey in Spanish. Overall, 10% had prior intentional drug misuse behaviors, and 71% were prescribed ICS at baseline. Of these, 85% were prescribed ICS. Among these Pts, they reported using their ICS all/most of the time more often when having SX vs. ASX (74% vs. 68%, p < .0005). In univariate analyses, mean scores on MARS were significantly associated with beliefs about the importance of using ICS when ASX, worries about addiction and side effects, confidence in using ICS, and regimen complexity (p < .05). In MV models that adjusted for age, sex, and asthma severity, beliefs about the importance of using ICS when ASX, worries about addiction, and confidence in using ICS remained significant predictors of medication adherence (MARS). In stepwise MV models that considered all beliefs together, beliefs about the importance of using ICS when ASX, worries about addiction, and confidence in using ICS were independent predictors of overall adherence adjusting for age, sex, and severity (p < .05). As predicted by the conceptual model (in univariate and MV models), beliefs about the importance of use of ICS when ASX was correlated with use of ICS when ASX (p < .0001), but not ICS use when SX (p = .3). Similarly, beliefs about importance of using ICS when SX were associated with adherence when SX (p < .0001), but not adherence when ASX (p = .5). Greater worries about addiction to ICS were associated with less frequent use of ICS when SX and ASX (p < .0005).

CONCLUSIONS: Several key positive and negative beliefs about medications were measured with several measures of adherence to ICS. These beliefs, together with addressing these underlying beliefs may help improve adherence and outcomes. These potentially modifiable beliefs are promising targets for future asthma self-management interventions.

MEDICATION NON-ADHERENCE PREDICTS CARDIOVASCULAR EVENTS IN PATIENTS WITH CORONARY HEART DISEASE: DATA FROM THE HEART AND SOUL STUDY A. Gehi1; S. Ali2; A. Gali3; L. R. Tewksbury1; R. Richter2; C. Gillespie3; R. C. Anderson1; L. A. Bell1; N. J. Papadakis1; J. Ragland1; L. L. Smith1; S. I. Krumholz1; A. Gali3; M. A. Wroblewski1; Mount Sinai School of Medicine, New York, NY; 2University of California, San Francisco, San Francisco, CA. (Tracking ID #153302)

BACKGROUND: Adherence to physician treatment recommendations is increasingly being recognized as an important predictor of health outcomes. Whether medication non-adherence predicts adverse cardiovascular (CV) events in patients with stable coronary heart disease (CHD) is unknown.

METHODS: We assessed medication adherence in 1019 outpatients with stable CHD who were enrolled in the Heart and Soul Study from March 2000 to March 2001. Using self-reported retrospective recall data, we asked patients if they had any CV events over the past month, how often did you take your medications as the doctor prescribed? Possible responses were: all of the time (100%), nearly all of the time (90%), most of the time (75%), about half the time (50%), or less than half the time (< 50%). We defined non-adherence as taking prescribed medications 75% of the time or less. During 3 (range 2 to 4) years of follow-up, we identified CV events (defined as CHD death, myocardial infarction, or stroke) by reviewing medical records. We examined the association of medication non-adherence with CV events using multivariate logistic regression, adjusted for potential confounding variables, including traditional cardiovascular risk factors and measures of baseline CHD severity.

RESULTS: Although only 8% (84/1019) of our volunteer study participants reported non-adherence to prescribed medications, 20% (178/84) of the non-adherent participants had a CV event, compared with 11% (110/935) of adherent participants (p = 0.02). Medication non-adherence remained associated with CV events after adjustment for traditional CV risk factors and CHD severity (odds ratio (OR) 2.6, 95% confidence interval (CI) 1.3–5.5; p = 0.009). In a multivariable model, the increased risk of CV events associated with non-adherence appeared greater than that associated with hypertension (OR 1.5, 95% CI 0.9–2.7; p = 0.13) or diabetes (OR 1.8, 95% CI 1.1–2.9; p = 0.02).

CONCLUSIONS: Medication non-adherence independently predicts adverse CV events in patients with stable CHD. Medication adherence may be an important target for improving cardiovascular outcomes.

MEDICINE AND CONVENTIONAL WARFARE: DEVELOPING AN ETHICAL FRAMEWORK TO ASSESS COMBATANT CASUALTY BURDEN IN OPERATION IRAQI FREEDOM A. P. Mahajan1; University of California, Los Angeles Medical Center, Los Angeles, CA. (Tracking ID #154485)

BACKGROUND: In scholarship and activism, physicians have confronted issues such as nuclear disarmament and the prohibition of biological and chemical weapons. With the recent war in Iraq, physicians are focusing on civilian (non-combatant) deaths and physician involvement in torture. However, the (non-combatant) civilian casualties during the major combat phase of OIF, has received little or no attention among physicians, the media, and the wider public. Since the start of Operation Iraqi Freedom (OIF), the US military has maintained a policy of withholding Iraqi casualty statistics from the public. As a result, accurate human cost of OIF has been obscured.

OBJECTIVE: To develop, from a medical perspective, a preliminary ethical framework to assess combatant casualty burden in contemporary conventional warfare.

METHODS: Relevant moral, human rights, and public health principles were applied to the major combat phase of OIF. The best available evidence on US and
Iraqi battlefield casualties as well as on the type of conventional arms utilized were reviewed.

RESULTS: From March 19, 2003 through May 1, 2003, the estimated number of Iraqi combatants killed ranged from 40,000 to 60,000, and about 100,000 wounded. During this same period, the US led coalition suffered 201 fatalities and 542 wounded. The attrition exchange ratio (number of Iraqi vs. US troops killed in the theater of combat) for OIF was greater than 60:1. Miles away from the battlefield, US forces deployed thousands of precision guided missiles and artillery shells, enabling anihilation of Iraqi combatants while being almost completely invulnerable to counterattack. The moral permissibility of this type of war is an issue of Michael Walzer's concept of The War Convention: well his interpretation of ' Jews in belfry.' While ' Jews in belfry does not bar this kind of warfare, the ability to remotely kill off one's adversary without rinking one's life is morally and militarily questionable. This may not meet the ethical considerations of combat, the partaking in a war fought justly. Additionally, the notion that arms can be delivered so precisely (i.e. minimizing collateral damage) with so little human cost may make conventional warfare a more appealing option for conflict resolution. Physicians may also consider The Geneva Conventions Additional Protocol I and Henry Sidgwick's concept of proportionality when approaching the question of permissible enemy combatant casualties. The Conventions and Sidgwick's concept endorse a stringent standard of military necessity and prohibition of excessive harm to achieve military objectives. While the US military has shifted to 'Effects Based Operations' in an effort to limit unnecessary casualties, the efficacy of this change is unclear given higher civilian casualties in OIF compared to Desert Storm in 1991. From a public health perspective, disproportionate battlefield casualties may lead to an aggravation of asymmetric security risks for armed and civilian U.S. populations such as suicide among young adults and the unintended civilian casualties burden. As an analysis of OIF demonstrates, physicians could employ a set of moral, human rights, and public health principles to advocate for a more humanitarian approach to war.

MEETING THE NEEDS OF WOMEN WITH BREAST CANCER: THE ROLE OF COMMUNITY PATIENT ASSISTANCE PROGRAMS. A.J. Cohen 1, J. Gribetz 1, K.N. Shastri 1, N.A. Bickel 1.

BACKGROUND: Breast cancer treatment requires women to navigate a fragmented and complex medical delivery system during an emotionally and physically challenging time. Community-based patient assistance programs can help women get needed medical information, financial and insurance assistance, transportation as well as psychosocial support. There are a plethora of organizations dedicated to helping women. However, little is known about whether such organizations are able to identify and meet the needs of these women. To ascertain the ability of such organizations to address the needs of women with breast cancer, we identified 10 high quality patient-assistance organizations that serve women in the New York metropolitan area.

METHODS: Organizations were chosen based on the following criteria: a broad scope of services; short wait time to join support groups; highly trained peer or professional staff; experienced staff who provide telephone assistance, bilingual services; extensive hours of operation; and a referral system for services not directly provided by that organization. A written semi-structured survey was sent to the organization's needs assessment team to understand their organization's ability to identify and meet those needs. Surveys were distributed at the organizations and collected on-site or returned by mail.

RESULTS: In total, 47 women ranging in age from 34y to 86y (mean: 60y) were surveyed, of whom 19 (41%) were minority, and 8 (17%) reported fair to poor health status. 81% of women reported that most or all of their needs had been identified (68% minority vs. 88% white; p=0.09) and 81% had their needs met (69% minority vs. 88% white; p=0.09). 44 women (94%) had social support from family & friends; Despite this support, they found the support provided by the organization filled a critical need. Additionally, 60% of women noted the organization met a need they did not realize they had.

CONCLUSIONS: Community-based patient assistance organizations provide important services that appear to improve women's experiences with breast cancer and its treatment. These programs are effective at identifying and addressing the needs of women with breast cancer, yet some disparities between white and minority populations. By addressing barriers to care, such patient assistance can serve as a crucial link between patients and medical professionals and may enable greater access to, understanding and completion of care.

MENTAL HEALTH DIAGNOSES AMONG 133,984 VETERANS OF OPERATIONS IRAQI FREEDOM AND ENDURING FREEDOM SEEN AT VA FACILITIES SINCE MILITARY SERVICE TERMINATION. K.H. Seel 1, G.R. Miner2, D. Beterman2, S. Ben 1.

BACKGROUND: Of returned OEF/OIF veterans had received one or more mental health diagnoses. Cost-effective approaches to early intervention are needed to prevent chronic mental illness.

METHODS: The present analysis includes OEF/OIF veterans with military service separation dates or a clinical encounter at the VA from October 15, 2001 through September 30, 2005. Further, of 158,857 veterans, 24,873 (15.7%) were excluded because they had not had a VA clinical encounter. Endorsing Social security Administration (SSA) OIF/OIF veteran were used to link to VA administrative and clinical data contained within the VA National Patient Care Database (NPCD). ICD-9 codes were used to approximate the diagnoses and proportion of mental health diagnoses. Veterans were then connected to the Veterans Administration to determine and compare the frequency and proportion of mental health diagnoses and disorders by unit type (National Guard and Reserve versus Active Duty).

RESULTS: Overall, 40,840 (30.5%) had received one or more mental health diagnoses in any VA outpatient or inpatient setting; 47.6% had one mental health diagnosis, 26.0% had two diagnoses and 26.4% had received three or more mental health diagnoses. With the exception of alcohol and substance use disorders, National Guard and Reserve veterans were more likely than veterans of Active Duty service to have higher proportions of all combat-related mental health diagnoses, with the greatest magnitude of effect seen in acute stress and adjustment disorders (OR=1.72, 95% CI=1.56–1.90) and OR=1.92, 95% CI=1.52–1.67, respectively). The single most common mental health diagnostic category was PTSD, a diagnosis received by 16,563 OEF/OIF veteran veterans represented 16% of those within the mental health diagnosis group. 24.2% of veterans received one or more mental health diagnoses and to describe the specific types of mental health diagnoses.

CONCLUSIONS: Of 133,984 OEF/OIF veteran veterans enrolled and seen at VA health care facilities since separation from military service, we found that nearly a third of returned OEF/OIF veterans had received one or more mental health diagnoses and that over half of these were dually or triply diagnosed, with PTSD the most common diagnosis. Veterans of the National Guard and Reserve were significantly more likely than veterans of Active Duty service to have received mental health diagnoses. Cost-effective approaches to early intervention are needed to prevent chronic mental illness.
BACKGROUND: Predictions of impending faculty shortages at academic career centers has increased interest in residents' career decision-making. Mentoring has been implicated as a key factor for encouraging interest in academic medicine. This study investigated the influence of residents' mentoring relationship- ship and how it might differ between academic and non-academic residents.

METHODS: We surveyed 443 residents in several specialties at a large academic medical center. Residents completed a web-based questionnaire about career interest, mentoring, and training experiences (cluster A), demographics, research experiences, and mentoring relationships were also assessed. Respondents were grouped according to future plans for academic vs. non-academic practice. Chi-square tests were used to explore associations between plans for academic medicine and demographic characteristics. Mentoring experiences and career perceptions were evaluated using 5–7 point Likert scale questions with response options ranging from "strongly disagree" to "strongly agree." T-tests were used to assess differences in mean responses between academic and non-academic residents.

RESULTS: Two hundred seventy-seven residents participated for an overall response rate of 63% (per specialty response rate: Surgery 77%, Psychiatry 68%, Internal Medicine 57%, Pediatrics 44%, Family Practice 41%; Obstetrics-Gynecology 28%). Sixty percent of residents planned a career in academic medicine. Although academic and non-academic residents did not differ with regards to marital status, children, race, age, or training level, academic residents were more likely to be male (57% vs. 40%, p=0.015), to have participated in research as a medical student (61% vs. 39%, p=0.001), and as a research fellow (63% vs. 37%, p<0.000). Half of groups of residents were recruited for the same mentoring program. Academic residents were more likely to have mentors in medical school (65% vs. 54%, p=0.129) and residency (82% vs. 84%, p=0.085). Academic residents were more likely to identify mentors on their own (40% vs. 20%, p=0.022), often through shared research experiences (31% vs. 5%, p=0.000), and to interact more with their mentor at least monthly (36% vs. 24%, p=0.026); and to have higher ranking mentors (full professor: 34% vs. 19%, p=0.001). Residents planning an academic career received more mentoring in social and informal settings, whereas a higher percentage of residents in non-academic practice had mentors who were more likely to interact with their mentors in social and informal settings (p =0.037), and to have higher ranking mentors (full professor: 34% v. 19%, p=0.026); and to have more experienced mentors in identifying research opportunities (p=0.000). Academic residents were more likely to interact with their mentors in social and informal settings (p=0.037), and tend to rate their mentor higher (p=0.016). A desire to do research, a desire to teach, and opportunities to publish were more likely to influence academic residents' career decisions; they were more likely to perceive academic career to be attractive as it is independent of presenting symptom and uses patient educational material readily available in the outpatient setting.

CONCLUSIONS: Participation in research can foster the development of effective mentoring relationships that augment interest in academic medicine. Helping residents identify research opportunities and research mentors may increase residents' interest in an academic career path.

META-ANALYSIS: INHIBITION OF RENIN ANGIOTENSIN SYSTEM PREVENTS NEW ONSET ATRIAL FIBRILLATION.

BACKGROUND: Epidemiological studies suggest that inhibition of renin angiotensin system with angiotensin converting enzyme inhibitors and angiotensin receptor blockers may prevent development of atrial fibrillation. Our objective was to assess if there is significant indication for using angiotensin converting enzyme inhibitors and angiotensin receptor blockers in the prevention of new onset atrial fibrillation and to identify target patient population.

METHODS: Pubmed and Cochrane Clinical Trials Database were searched from 1980 through March 2005 together with the review of citations. Nine randomized controlled human trials reporting the prevention of new onset atrial fibrillation by inhibition of renin angiotensin system were identified. Information about study design, follow up, intervention, population, outcomes, and methodological quality was extracted.

RESULTS: The mean follow up of the studies ranged from 6 months to 6.1 year. The pooled estimate using random effects model was 0.82 (95% confidence interval, 0.70–0.97) for prevention of new onset atrial fibrillation and (0.61, 95% CI: 0.37–0.90) for prevention of atrial fibrillation. The angiotensin converting enzyme inhibitors (0.75, 95% CI: 0.57–0.99) had greater protective effect than angiotensin receptor blockers (0.81, 95% CI: 0.62–1.06). Patients with a history of hypertension were the most (0.67, 95% CI: 0.37–0.89). There was no heterogeneity between studies was significant. There was no consistent visual or statistical evidence of publication bias.

CONCLUSIONS: The use of angiotensin converting enzyme inhibitors and angiotensin receptor blockers had an overall effect of 18% risk reduction in new onset atrial fibrillation across the trials, and 43% risk reduction in patients with heart failure.
MORTALITY OUTCOMES AMONG HEALTHY YOUNG ADULTS WHO USE ILLICIT DRUGS (THE CARDIA STUDY)
S.G. Keteyian1; M.J. Fletcher2; M.M. Safford1; J.H. Libman1; D. Nunes2; J. Alperen1; J.H. Samet1.
1Boston University, Boston, MA;2Harvard Permanente Division of Research, Oakland, CA.
BACKGROUND: Consequences of drug dependence in clinically-defined populations of addicted persons are well-known, but most young adults who use drugs do not have abuse/dependence, and most cease use after their twenties. Prior research has suggested that an apparent increased risk of mortality among young adults who use marijuana is explained by non-drug risk factors, but a similar association has not been tested for “hard” drugs such as cocaine. The longitudinal Coronary Artery Risk Development in Young Adults study (CARDIA) allowed us to test whether patterns of illicit drug use, including hard drugs, were associated with increased mortality over the subsequent 17 years.
METHODS: A linear cohort of young adults was recruited in 4 cities and assessed for: drug use in 1987/88; mortality through 12/31/2004, using multiple methods to trace participants including the National Death Index. Participants reported current (i.e. last 30 days) and past use of illicit drugs (cocaine, stimulants, opioids, and marijuana). The drug use outcome variable was: Never Use (n=1173, 26%), Past Drug Use Only (n=2170, 48%), Current Marijuana Only (n=802, 18%) and Current Hard Drugs [e.g. opioids, cocaine, amphetamines, n=404, 9%]. Mortality risk was estimated with proportional hazards models adjusted for baseline characteristics including age, sex, race, alcohol, tobacco, economic status, education, marital status, self-reported general health, body mass index, physical activity, social support, count of chronic medical conditions, and history of a diagnosis of psychiatric disorders.
RESULTS: For the 4547 subjects, mean age in 1987/88 was 26.9 (SD 3.5) (range 20–32); 25% female; 41% African-American, 34% white; 41% no ART, 18% ART but not adherent, 42% ART adherent; and 40% IDU ever. Examination of the 3 main independent variables found 30% of current cocaine users risked 43% recent drug users, and 28% recent homeless. These variables were not significantly associated with mortality in unadjusted or adjusted analyses. In multivariable models controlling for sex, race, positive ART, CD4 cell count, ART use (not adherent, or on ART and adherent), depressive symptoms, injection drug use (IDU) ever, and mental and physical health function, data were analyzed using Cox proportional hazards models. Separate models were fit for each of the main independent variables. Adjusted models controlled for sex and all covariates with unadjusted p-values of <0.10.
RESULTS: Over a average follow-up of 4.68 years, 99 subjects (16.6%) died. Cohort characteristics are as follows: mean age 41 years; median CD4 count 372; 25% female; 41% African-American, 34% white; 41% no ART, 18% ART but not adherent, 42% ART adherent; and 40% IDU ever. Examination of the 3 main independent variables found 30% of current cocaine users risked 43% recent drug users, and 28% recent homeless. These variables were not significantly associated with mortality in unadjusted or adjusted analyses. In multivariable models controlling for sex, race, positive ART, CD4 cell count, ART use (not adherent, or on ART and adherent), depressive symptoms, injection drug use (IDU) ever, and physical health function, hazard ratios (HRs) for the independent main variables were: current risky drinking HR 1.16 (95% CI 0.74, 1.74), recent drug use HR 1.11 (95% CI 0.73, 1.69), and recent homeless HR 1.17 (95% CI 0.74, 1.85). Covariates that were significant predictors of mortality, including number of chronic illnesses present at baseline, explained 17-year mortality risk among young adults in the general population. Future work should identify thresholds and drug use patterns that may confer additional risk. (NIDA-K23-DA15487; NINHIV N01-HT-95059) Table 110
MOUNTAIN WEST REGIONAL RESIDENT AWARD WINNER: AGE-RELATED UTILIZATION OF ELECTIVE HIP AND KNEE JOINT REPLACEMENT IN U.S. BY PAYER
D.D. Matlock1; M. Earnest1; E. Kerezi2.
1University of Colorado Health Sciences Center, Denver CO;2Tracking ID # 151773)
BACKGROUND: Degenerative Joint Disease (DJD) is a debilitating illness causing significant morbidity. Elective joint replacement improves quality of life for severe DJD in hips and knees. In the United States, utilization of many health services varies with insurance status. Prior to age 65, insurance in the United States is highly variable while after age 65 Medicare provides nearly universal coverage. We evaluated the impact of insurance status and utilization of elective hip and knee replacements and utilization of elective hip and knee replacements before and after age 65.
METHODS: We used the National Inpatient Sample (NIS) dataset from 2002 to identify patients with ICD-9 codes for elective hip and knee replacement. We then compared the insurance status of these patients before and after age 65. A regime change statistical method was used to compare the trends of the two groups.
RESULTS: Between the ages of 45-64, there was a steady upward trend in incidence of 30.6/100,000 cases per year. At age 65, there was a one-time increase in incidence of 168.5/100,000 cases per year [P=0.01]. After age 65, there was a flatter but still significant upward trend of 22.3/100,000 cases per year. Selecting only patients with insurance prior to age 65, there was still a significant, though smaller increase of 89.3/100,000 cases per year at age 65 [P=0.01]. Extrapolating these findings to the entire U.S. population using the Current Population Survey, we estimate that 8,700 procedures per year are delayed for persons aged 60-64. At an average charge of approximately $30,000 per procedure, this translates into $8261 million per year that Medicare pays which might otherwise have been paid for by private insurance mechanisms.
CONCLUSIONS: Our data show an increase in the utilization of elective hip and knee arthroplasties among all people after age 65. The acquisition of insurance among previously uninsured people at the age of 65 accounts for most of the increased incidence. Presumably this population delays the procedure because they have no access to the service, potentially resulting in unnecessary disability and morbidity. Previously insured individuals also increased their utilization of elective hip and knee arthroplasties at age 65. An analysis could be expanded by a number of factors including: waiting until retirement, cultural or ethnic factors, or various barriers that may exist in private insurance programs. Regardless of the reason for a delay, we estimate a $8261 million per year shift in costs from private risk pools to Medicare.
### ABSTRACTS

**NATIONAL SURVEY OF STATES’ PATIENTS’ BILL OF RIGHTS.** M. Paasche-Orlow; D.M. Jacob; M. Hochhauser; R.M. Parker. Boston University, Boston, MA; Healthcare Analytics, LLC, New York, NY.

BACKGROUND: Despite vigorous national debate 1999-2001, the federal patients’ bill of rights (PBOR) was not enacted. However, multiple states have enacted some PBOR legislation. We surveyed U.S. States’ laws to determine: 1) which states have PBOR statutes; 2) what elements of patients’ rights are protected; and 3) what enforcement powers are delineated within the statute.

METHODS: State government Web sites and Legal codes were searched in the LexisNexis Data base and in the State Legislatures. If this initial search was unsuccessful, we contacted the legal counsel for the state Department of Public Health and Welfare and/or the legal counsel for the State Legislature. PBOR legislation identified for special populations (e.g., psychiatric patients) or special circumstances (e.g., long-term care) were noted but were excluded from the main analysis. Specific rights and responsibilities addressed in a given statute were compared with the 12 themes presented in the American Hospital Association’s (AHA) PBOR text of 2002. In addition any recourse delineated within the statute was abstracted. For any state that designated specific PBOR text to be presented to patients, the readability of such text was evaluated using Prose, a readability analysis software which reports an average of 8 readability formulas.

RESULTS: Five states have no relevant legislation. In 20 states, PBOR laws exist exclusively for the protection of specific vulnerable populations but there is no law for the general public. Of the 25 states with a general PBOR statute, all establish an external grievance policy, three protect a private right of action as a legal remedy, and one state stipulates fines for violations. Of the 25 states with a general PBOR statute, 10 states present a specific PBOR document for distribu- tion to patients. State PBOR texts address an average of 7.9 of the 12 AHA themes. There are multiple examples of unique themes (e.g., pain management including opiates, participation in religious activities, receiving an itemized bill). The average readability for these 10 documents is 14.6 (range Hawai 8.4 to Minnesota 17). While 6 of these states exclusively present English texts, 4 states present a PBOR document in Spanish and 2 of these states present documents in additional languages as well (New York: Italian, Russian, Greek, Chinese, Yiddish, Creole; Minnesota: Hmong, Somali, Russian, Laotian).

CONCLUSIONS: When a state presents a statute that does not specify a right to a legal remedy, it is much more difficult to evaluate its effectiveness. There is no consistent approach to the presentation of PBOR documents, and readability of these documents is not addressed.

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**NEEDS OF TORTURE SURVIVORS IN THE UNITED STATES.** A.T. Ahmed; U. Jacob. Survivors International, San Francisco, CA.

BACKGROUND: An estimated 500,000 torture survivors live in the United States. Most studies to examine the physical and psychological consequences of torture have been limited to torture survivors of a single nationality or ethnicity, and the purpose of this study was to determine the breadth of physical and social characteristics, and physical and psychological sequelae of torture survi- vors currently living in the United States, where torture survivors come from a wide variety of ethnicities.

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**MULTIMEDIA INTERVENTION TO INCREASE BREAST CANCER SCREENING AMONG WOMEN WITH LOW HEALTH LITERACY.** E.D. Brownfield; M.V. Williams; A. Burnett; A.T. Ahmed; U. Jacob; R.E. Graham; R.S. Phillips; J. Bernhardt.

METHODS: Minority women between the ages of 50–69 who were patients of the General Medicine and Primary Care, Beth Israel Deaconess Medical Center, Boston, MA; Centers for Disease Control and Prevention (CDC), Atlanta, GA.

RESULTS: Fifty-six women participated in the study, with 21 in the multimedia group and 35 in the brochure group. Groups did not differ significantly by race/ethnicity, marital status, income, education, health literacy level, or past mammography history. There were no significant differences at baseline between the groups for breast cancer screening knowledge, likelihood of obtaining a mammogram, cancer beliefs, perceived cancer risk, perceived treatment response efficacy, and barriers to obtaining a mammogram. There were no significant differences between groups at post-test for knowledge, beliefs, response efficacy, and barriers scores. Those in the multimedia group had highest likelihood mean scores (18.29) than those in the brochure group (17.09) (p = .058), indicating greater intention to obtain a mammogram. No significant differences were found between groups in the number of women who obtained mammograms within 9 months of receiving the intervention, however.

CONCLUSIONS: Future research is needed to replicate the study with a larger sample size. Lower-cost health education materials, such as brochures and videos, may be more appropriate educational tools until the efficacy of multimedia interventions in low literacy populations have been proven.

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**CONCLUSIONS:** MRI performs very well in the diagnosis of osteomyelitis of the foot and ankle and can be used to rule in or rule out the diagnosis. Limitations to this work include low number of studies and methodological flaws of included studies. Given the result of head to head intertechnique comparison, MRI should be used preferentially to technetium bone scanning.

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**BACKGROUND:** Though mammography screening can decrease breast cancer mortality, actual mammography screening remains low. Health literacy may be a barrier to obtaining a mammogram. There is conflicting evidence as to which method is the most effective in educating low-literacy and increasing mammography screening. The objective of this research was to evaluate the effectiveness of a multimedia breast cancer education program compared to a standard breast cancer brochure among women with low health literacy.

METHODS: Minority women between the ages of 50–69 who were patients of the General Medicine and Primary Care, Beth Israel Deaconess Medical Center, Boston, MA; Centers for Disease Control and Prevention (CDC), Atlanta, GA.

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**BACKGROUND:** An estimated 500,000 torture survivors live in the United States. Most studies to examine the physical and psychological consequences of torture have been limited to torture survivors of a single nationality or ethnicity, and the purpose of this study was to determine the breadth of physical and social characteristics, and physical and psychological sequelae of torture survi- vors currently living in the United States, where torture survivors come from a wide variety of ethnicities.
METHODS: A standardized intake questionnaire was administered to 400 adult torture survivors evaluated consecutively during a three-year period at Survivors International, the largest torture survivor treatment center in Northern Califor-

nia. This study included information about history, social and environmental stressors, and physical health of the survivors. Symptoms of anxiety and depression were assessed with the Hopkins Symptoms Checklist-25 and symptoms of PTSD with the PTSD Checklist-5.

RESULTS: The torture survivors were from 70 countries. They ranged from 18 to 68 years of age (mean 35, SD 10) and 52% were female. Among those with living family, 59% were separated from their spouse, 72% from their children, and 50% from all family members. Respondents had difficulty meeting daily needs: 66% reported difficulty finding food, 12% obtaining clothing, and 14% finding housing. Physical pain was reported by 73% of the respondents and 20% with severe pain. There was a 10% health rating which was “poor” or “fair”. Symptoms of PTSD, 184% depression, and 80% anxiety. 82% reported that there was at least one occurrence during the past year when they were unable to access medical care. Potential barriers to care included limited proficiency in spoken English (63%) and lack of health insurance (71%).

CONCLUSIONS: Torture survivors in the United States suffer from high rates of physical and psychological morbidity. Social stressors, including separation from family and food insecurity, are common. Barriers to effective medical care include lack of health insurance, limited English proficiency, and pursuing immediate survival needs such as food and housing. In order to respond to the needs of this vulnerable population, a multidisciplinary response is necessary. Physicians caring for, or referring survivors, should remain vigilant to the multiple psychological, social, and physical stressors of torture survivors.

NEIGHBORHOOD CHARACTERISTICS AND THE MANAGEMENT OF CHRONIC CONDITIONS AMONG OLDER ADULTS: A QUALITATIVE ANALYSIS. A.F. Brown1; S.J. Teton1; J.M. Baron1; University of California, Los Angeles, Los Angeles, CA; 2San Diego State University, San Diego, CA; 3University of California, Los Angeles, Los Angeles, CA; 4The RAND Corporation, Arlington, VA.

BACKGROUND: Persons with chronic conditions often engage in complex medication, dietary, and exercise regimens. Chronic disease management among community-dwelling older persons may be influenced by neighborhood physical, social, and economic characteristics. Our aims were to identify and understand perceptions of the local environment and the role neighborhood factors play in the management of chronic conditions among older adults.

METHODS: Between April and December 2005, we recruited participants from senior centers, community clinics, and social service organizations for 11 focus groups with 66 older residents from neighborhoods of high (N=4) and low (N=7) socioeconomic status (SES) in Los Angeles County. Neighborhood SES was determined by characteristics of the participant’s residential census tract. Inclusion criteria were age > 60 years and a diagnosis (based on a screening survey and medication review) of hypertension, osteoarthritis, diabetes, coronary heart disease, or chronic lung disease. Each focus group was led by a trained facilitator using a standardized script and consisted of participants of the same race/ethnicity - African American, Latino (conducted in either English or Spanish), or white. Using systematic qualitative methods, we clarified complex interactions between values, neighborhood perceptions, experiences, and factors that influ-

enced disease management. Two investigators masked to neighborhood SES used grounded theory methodology to independently codeverbatim transcripts of the groups to identify key themes. To enhance reliability, a third investigator inde-

pendently recorded transcripts and identified key themes.

RESULTS: Several themes emerged: 1) In all groups, exercise, a healthy diet, and appropriate medical care were endorsed as important to chronic disease management. 2) Participants from low SES areas reported greater use of medications (“in my neighborhood, there are no pharmacies”); obtaining healthy foods (due to poor selection in local markets); and walking for exercise in their neighborhoods. 3) Barriers to walking for exercise described by participants in all focus groups included general safety concerns and uneven sidewalks that increased the risk of falls. While those in high SES areas generally endorsed feeling safe walking in their neighborhoods, persons from low SES areas cited examples of factors that deterred walking, including violence (“I drive even though it’s not too far, but I used to go walking befor-

e…they killed 2 guys here”), neighborhood physical decay (e.g. garbage dumped in alleys by people from other areas, unleased dogs on the streets, and speeding cars). 4) Neighborhood cohesiveness was cited as an important factor in maintaining or improving conditions in groups from low and high SES areas. Persons in low SES areas were more likely to associate low cohesiveness with isolation, stress, and individually identifying needing help. 5) Neighborhood problems had the greatest impact on disease management for those who lacked transportation (“To bring groceries on the bus is difficult for us”) or assistance from family or friends.

CONCLUSIONS: Our findings suggest that neighborhood characteristics influ-

ence chronic disease management among older adults and that some factors disproportionately affect persons in low SES neighborhoods. Regardless of SES, neighborhood characteristics may be an important construct that can facilitate chronic disease management among older persons.

NEW-ONSET TYPE 2 DIABETES IN PRIMARY CARE OF A PUBLIC TEACHING HOSPITAL: CO-MORBIDITIES AND DELAY IN DIAGNOSIS. J. Huang1; R. Parsons2; L. Mama1; P.F. Bass1; E. Kennen1; T. Davis1; D. Carlen1; Louisiana State University Health Sciences Center, Shreveport, LA; 2South University of Saverona, CA. (Tracking ID: 156457).

BACKGROUND: Type 2 diabetes (DM2) has become an epidemic in the U.S. and is associated with significant morbidity and mortality from coronary artery disease (CAD). Although early treatment of DM2 is critical to reduce cardiovascular risks, many patients, particularly minorities, remain undiagnosed. The purpose of this study was to describe the factors associated with the diag-

nosis of DM2 in a public teaching hospital primary care clinic serving a mainly, indigent population.

METHODS: Chart review of a convenient sample of primary care patients was conducted from January 2002 to October 2005. DM2 was diagnosed as defined by the American Diabetes Association. ANOVA or Student t test was used in the analysis of continuous parameters. Linear regression model was employed for the analysis of ordinal data. The relationship between glycated hemoglobin (A1c) or number of co-morbid conditions at diagnosis and delayed diagnosis of DM2.

RESULTS: Seventy-nine patients were diagnosed with new-onset DM2. Seventy-six percent were female, 71% were black, 32% had Medicare or Medi-

caid, 5% had commercial health insurance and 63% were uninsured. At the time of diagnosis, patients’ mean characteristics were: age 53 years, fasting glucose 236 mg/dL, hemoglobin A1c (A1c) 9.2%, total cholesterol 202 mg/dL, triglyceride 182 mg/dL, HDL 46 mg/dL, and LDL 122 mg/dL. Ninety-seven percent of patients had one or more of the following co-morbidities: hypertension (78%), dyslipidemia (78%), CAD (18%), and peripheral artery disease (5%), microalbuminuria (10%), chronic kidney disease (9%), osteoarthritis (30%), obstructive sleep apnea (5%), and gout (4%). Patients with CAD had significantly higher mean A1c values at diagnosis than patients without CAD (8.6 versus 7.5, P<0.001). Delay in the diagnosis of DM2 from the first abnormal blood test was 16.6 months on average with a maximum delay of 70 months. Significant delay in the diagnosis of DM2 occurred among patients with Medicare or Medicaid (P<0.03), those aged 60 or older (P<0.02), and those with lower glucose level at diagnosis (P<0.02). Other factors including gender, ethnicity, and number of co-morbidities had no effect on the delay in diagnosis.

CONCLUSIONS: This cross-sectional study demonstrated the high prevalence of co-morbid conditions in patients with newly diagnosed DM2 in a public teaching hospital primary care clinic serving a largely indigent population. Higher A1c level was associated with the presence of CAD, and a trend toward a higher A1c level in the diagnosis of DM2 was found in patients older than 60 and those with Medicare or Medicaid, but not among insured patients. The association between lower glucose level at diagnosis and delayed diagnosis of DM2 suggests insufficient physician awareness of the diagnostic criteria. Other patient, physi-

cian, or system-related barriers to the early diagnosis of DM2 deserve further investigation.
NT-PROBNP: AN INDEPENDENT PREDICTOR OF HEART FAILURE IN THE HEART AND SOUL STUDY. K. Bibbins-Domingo1; B. Na1; R. Gupta1; A.H. Wu1; N.B. Schiller1; W.R. Smith1; L. Penberthy1; V.E. Bovbjerg2; D. McClish1; J. Roberts1; I. Aisiku1; M.A. Whooley1; A.M. Zaslavsky2; J.Z. Ayanian1. 1Department of General Internal Medicine, Brigham and Women’s Hospital, Boston, MA; 2Harvard Medical School, Boston, MA. (Tracking ID # 153101)

BACKGROUND: Elevated levels of N-terminal pro-B-type natriuretic peptide (NT-proBNP) are associated with future risk of heart failure. Whether NT-proBNP is a predictor of heart failure independent of other known prognostic markers such as systolic and diastolic dysfunction is not known.

METHODS: We used data from 814 individuals with stable coronary disease and no history of heart failure who were enrolled in the Heart and Soul Study. We determined the association of baseline levels of NT-proBNP (in quartiles and in log of the continuous values) with subsequent hospitalization or death from heart failure using Cox proportional hazards models, adjusted for demographic factors, clinical covariates, and use of preventive medicine services. In addition, we further determined the independent association between NT-proBNP and future heart failure, we also adjusted for baseline left ventricular ejection fraction (LVEF), diastolic dysfunction (impaired relaxation, pseudonormal, or restrictive filling), left ventricular hypertrophy (LVH), New York Heart Association classification (NYHA class), C-reactive protein, and inducible ischemia. We tested for interactions between NT-proBNP and each of these markers and explored significant interactions (p<0.1) with stratified analyses.

RESULTS: During a mean 3 years of follow-up, 57 of the 814 individuals with coronary disease and no pre-existing heart failure developed heart failure (annual incidence=2.2%). The incidence of heart failure increased with each successive quartile of NT-proBNP, with the majority of events occurring in persons in the highest quartile (42/204 -annual incidence=7.1%) and no events in the lowest quartile (0/204). Log NT-proBNP was independently associated with risk of heart failure (Adj HR 3.0, 95% Confidence Interval (CI) 2.4–3.9), and this association persisted after further adjustment for other predictors of heart failure including LVEF, diastolic dysfunction, LVH, NYHA class, inducible ischemia, and C-reactive protein (Adjusted HR 2.1, 95% CI 1.4–2.9). The strength of association between log NT-proBNP and future heart failure appeared to vary by the presence of systolic and diastolic dysfunction (p for interaction=0.06). Although the association between NT-proBNP and heart failure remained consistent across quartiles of systolic dysfunction (LVEF<50%) (Adjusted HR 2.0, 95% CI 1.3–3.2) and diastolic dysfunction with LVEF ≥50% (Adjusted HR 2.7, 95% CI 1.8–4.2), the association was stronger among those with neither systolic nor diastolic dysfunction (Adjusted HR 3.4, 95% CI 1.9–6.2).

CONCLUSIONS: NT-proBNP is a predictor of long-term heart failure, independent of other prognostic markers including systolic and diastolic dysfunction, and appears to identify individuals at high risk for heart failure even in the absence of ventricular dysfunction. Use of a simple blood test for NT-proBNP may help guide risk stratification and focus efforts toward preventing heart failure in high-risk patients such as those with stable coronary disease.

ABSTRACTS

OBESITY MANAGEMENT: ATTITUDES AND PRACTICES OF INTERNO MEDICINE RESIDENTS. C.A. Noble1; R.F. Kushner1. Northwestern University, Chicago, IL. (Tracking ID # 156504)

BACKGROUND: Primary care providers should be well prepared to treat overweight and obesity due to the rising prevalence of these conditions in our society. However, no more than 40% of all obese patients are advised by their healthcare provider to lose weight. Inadequate training has been consistently cited by physicians as a reason why they do not provide these services. Although the majority (78%) of 601 utilization episodes. Results did not vary with the percentage of leisure activities associated with such visits, specialties of physicians providing the care, and preventive services related to these visits. Physical exams were defined by reason for visit and diagnosis codes and included annual gynecological exams. The eight preventive services examined were cholesterol screening, Pap testing, ordering a mammogram, PSA screening, and counseling about diet, weight reduction, exercise, and tobacco use. Analyses were adjusted for the complex survey design of NHAMCS. RESULTS: In the U.S. population of 212.6 million non-institutionalized adults, we estimate 64.7 million (30.4%) received an annual physical exam. The proportion of adults receiving an annual physical exam differed by gender (men 22.7%, women 37.6%), age (18-24 13.5%, 65 and older 48.4%), race/ethnicity (non-Hispanic whites 32.2%, non-Hispanic blacks 34.6%, Asians 23.9%, Hispanics 22.3%), and region (Northeast 32.9%, Midwest 32.9%, South 30.0%, West 30.5%). Annual physical exams were most commonly provided by internists (30.4%), general/family practitioners (28.9%), and obstetrician/gynecologists (22.8%). During visits for annual physical exams, 64.4% of patients received at least one of eight preventive services, compared with 16.1% of patients during other visits with primary-care physicians. In total, 26.6% of these eight preventive services were performed during visits for an annual physical exam.

CONCLUSIONS: Nearly 65 million office visits are devoted to annual physical exams for adults, and these visits are more common for women, older patients, white and black patients, and those in the Northeast and Midwest. Such visits are a common venue for preventive services, but nearly three-quarters of the eight preventive services we examined occur at other types of visits. Further research is needed to assess the overall value of visits for routine physical exams, including the preventive services provided at these visits.

ONLY THE TIP OF THE ICEBERG: PAIN, CRISIS, AND UTILIZATION IN SICKLE CELL DISEASE. V.R. Smith1; L. Penberthy1; V.E. Boydberg2; D. McClain1; J. Roberts1; I. Aisiku1; J. Moses1; C. Rose1; V. Singh1. University of Richmond, VA; 2University of Virginia, Charlottesville, VA. (Tracking ID # 156389)

BACKGROUND: Researchers in sickle cell disease have traditionally used health care services utilization as a proxy measure for acute episodes of severe pain ("crises") and underlying vaso-occlusion, partly because utilization-based measures have been shown to predict mortality. However, utilization, though clear-cut, may not reflect the amount of self-reported pain or crises. We therefore collected daily diaries to examine the relationship between self-reported pain, crises, and utilization.

METHODS: In a prospective cohort study of sickle cell disease patients age 16 (n=226), subjects reported each day for up to 6 months their maximum pain (0–100 mm Hg), whether they were in a crisis, and whether they were in a "crisis" during the prior 24 hours (crisis day), and whether or not they were admitted hospital, emergency, or unscheduled ambulatory care for sickle cell disease or other diagnoses. Daily pain was converted into proportion of days spent in crisis, days crisis, and utilization days, compared pain intensity according to various categories of days, and compared crises to utilization (days and episodes). RESULTS: Patients reported 16,586 pain days (55.6% of all days), pain intensity 5 of 9 on 8,836 days (29.6%), and 4,429 crisis days (14.8%), but only 1,057 utilization days (3.5%). While 30.1% of patients reported pain on >95% of their submitted diaries, only 13.3% of patients reported pain on 5% of their diaries. Whether averaged over pain days, over crisis days, or over non-crisis pain days, mean pain intensity rose as the percentage of pain days or utilization days increased (p<0.0001), and was significantly higher on utilization days, both during pain (2.7, SD=2.1) and non-crisis pain days (2.3, SD=2.1). Pain days were far more likely to occur on crisis days than on non-crisis days (OR [95% CI]; 6.32 [5.57, 7.16]), the two did not coincide beyond chance (Kappa=0.1427). Similar results were found for pain or overall crisis days and utilization days, pain episodes, and utilization episodes. Results did not vary with the percentage of diary completion or the length of time patients were in the study.
CONCLUSIONS: Pain in sickle cell disease is far more prevalent and more intense than either reported crises or utilization suggest, and reported crises occur far more often than utilization, and do not coincide with it. Misclassification, delayed communication, and undertreatment may result from underestimating or failing to measure pain in sickle cell disease.

OPIOID TREATMENT FOR CHRONIC BACK PAIN: A SYSTEMATIC REVIEW AND META-ANALYSIS OF ITS PREVALENCE, EFFICACY AND ASSOCIATION WITH ADDICTION

BACKGROUND: The prevalence and efficacy of opioid treatment for chronic back pain is unclear and clinicians and patients are concerned about symptom relief and the risk of addiction. The purpose of this systematic review and meta-analysis was to answer: 1) What is the prevalence of opioid treatment in patients with chronic back pain? 2) Are opioid medications effective in treating chronic back pain? 3) What is the prevalence of addiction among patients receiving opioid medications for chronic back pain?

METHODS: We conducted electronic searches in MEDLINE (1966–March 2005), EMBASE (1966–March 2005), Cochrane Central Register of Controlled Clinical Trials (4th quarter, 2004), PSYCHINFO (1966–March 2005), and references from primary studies. We restricted our review to the 14 studies addressing one of the three clinical questions. Studies were selected according to pre-defined criteria. Two investigators independently extracted data and determined study quality using validated instruments.

RESULTS: Baseline characteristics and adherence to treatment were similar for both groups. Mean serum vitamin B12 levels were significantly higher in the oral vitamin B12 group compared to the placebo group at one and 4 months.

CONCLUSIONS: Oral Vitamin B12 treatment normalized metabolic markers of cobalamin deficiency in patients with a serum vitamin B12 level between 125 and 200 pmol/l.

OUTPATIENT TREATMENT AND CONTROL OF HYPERTENSION IN FIVE EUROPEAN COUNTRIES AND THE UNITED STATES

BACKGROUND: Health care systems differ widely by country, yet few comparisons of hypertension treatment and control have been conducted among European countries and the United States (U.S.). We sought to determine how differences in hypertension diagnosis and treatment contribute to differences in hypertension control between European countries and the United States.

METHODS: We performed cross-sectional analyses of the multi-country, geographically representative Cardio Monitors survey conducted by TNS. The study sample consisted of 21,053 hypertensive patients visiting 291 cardiologists and 1284 primary care physicians in France, Germany, Italy, Spain, the United Kingdom, and the United States. Outcome measures included use rates of antihypertensive drug classes, latest systolic and diastolic blood pressure (BP), rate of hypertension control (< 140/90 mmHg), and rate of medication increase (dose escalation or addition of new drug therapy) for uncontrolled hypertension in each country.

RESULTS: The rate of antihypertensive drug therapy was similarly high (92%–96% of patient visits) across countries. Both the initial, pre-treatment BP and the latest BP were lower in the U.S. than in any of the European countries. While the distribution of antihypertensive drug classes was similar across all countries, there was greater use of multiple drug classes (combination therapy) among patients in the U.S. (64%) than those in European countries (44%–60%). Multivariate analyses controlling for age, sex, smoking status, and physician specialty indicated persistent differences between the U.S. and European countries. Compared to the U.S., patients in Europe showed a higher last systolic BP (5.3 to 10.2 mm Hg), a higher last diastolic BP (1.9 to 3.3 mm Hg), a smaller likelihood of hypertension control (odds ratios 0.27–0.50), and a smaller likelihood of medication increase for uncontrolled hypertension (odds ratios 1.04–0.65) [all p < 0.001]. Additionally controlling for treatment with oral vitamin B12 (1000 µg daily) was not enough to normalize the differences in medication use after controlling for uncontrolled hypertension.
CONCLUSIONS: These results suggest that better hypertension control in the U.S., compared with the European countries examined, may be explained by lower treatment thresholds, greater use of combination drug therapy, and greater frequency of medication increase for uncontrolled hypertension.

PAIN PREVALENCE AND TREATMENT: ARE THERE RACIAL/ETHNIC DIFFERENCES IN HOSPITALIZED ADULTS? S. Fischer1; A. Souaia1; J.S. Kutner2.1University of Colorado Health Sciences Center, Aurora, CO; 2University of Colorado Health Sciences Center, Denver. (Tracking ID # 156983)

BACKGROUND: Our group, as well as others, has shown a high prevalence of inadequately treated pain in adults. This has resulted in increased attention to pain assessment and treatment in institutional settings, such as the inclusion of pain as a fifth vital sign. However, as overall care improves, the disparities in pain care between ethnic minorities and Caucasians can widen. We thus sought to determine the association between ethnicity and the prevalence of pain and pain medication orders in a cohort of hospitalized adults.

METHODS: A prospective cohort study of adults (n=295) admitted for >24 hours to the general medical ward at either the Denver Veteran’s Administration Hospital or Denver Health Medical Center, a safety net hospital that has demonstrated elimination of disparities in other areas of health care. Patients with decisional capacity were interviewed to determine 1) self-identified ethnicity; 2) presence of pain over the past week; 3) intensity of pain at present and over the past week; 4) if pain was being treated; and 5) if pain treatment was adequate. All charts were reviewed to confirm medication orders and to classify pain medication by WHO standards- step 1, step 2, or step 3. Analyses were conducted using chi-square tests and ANOVA to examine differences between racial/ethnic groups. Multiple logistic regression was used to control for gender.

RESULTS: Mean age was 59 ± 13 years and race/ethnicity was as follows: AA 21% (n=63), L 26% (n=77), and C 53% (n=155). Overall, 68% of patients (n=200) reported pain in the past week with a median intensity score of 4.8 ± 2.0 (on a scale from 1-10). Anorexic medication orders were documented for 76% of the sample (n=206). There were no significant differences in report of pain or the intensity ratings due to race/ethnic origin. Of the patients reporting pain and receiving a medication order for pain (n=166), 80% (n=130) reported that the medication was adequate to control their pain: there were no differences by race/ethnic group. Additionally, there were no significant racial/ethnic differences in the prescribing rates of step 1, 2 or 3 analgesics.

CONCLUSIONS: Pain was common but treatment rates were high and frequently adequate, according to patient report. However, patients have been shown to have lower expectations from pain treatment. No significant racial/ethnic differences were found for presence, intensity, medication orders, or adequacy of pain treatment. These findings may be limited to health care systems that provide relatively equal access to health care. Given these findings, it is important to understand how we can learn from these health care settings in the effort to eliminate health disparities, particularly related to pain management.

PATIENTS AND PROVIDER PERCEPTIONS OF PAIN IN OLDER ADULTS: WHICH INFLUENCE PATIENTS’ DECISIONS TO SEEK PREVENTIVE SERVICES? C.A. Sinsky1; P. Cram2.

1University of Colorado Health Sciences Center, Denver, CO; 2University of Colorado Health Sciences Center, Aurora, CO. (Tracking ID # 153008)

BACKGROUND: The number of patients who receive guideline-appropriate primary preventive care is suboptimal. For most patients, the care they do receive is coordinated through the primary care provider (PCP) and other care providers (PCP’s). A complementary approach to use electronic query systems to identify patients eligible for preventive services and to employ non-PCP experts to contact patients (e.g. by mail and phone) in order to discuss and arrange for routine tests and procedures. Without having to see patients in the clinic, PCP’s authorize key decisions and follow up on abnormal results. We wished to learn whether this concept would be acceptable to patients, and whether particular patient subgroups might be resistant to it.

METHODS: In a written survey we used Likert scale responses to assess patient attitudes about PCP-centered preventive care and a complementary approach, described above. We used descriptive statistics and chi-square tests to identify patient characteristics associated with these attitudes.

RESULTS: 354 patients completed the survey. The refusal rate was 5%. The sample was diverse with respect to age, gender, race/ethnicity, socioeconomic status (SES), marital status, and self-rated health. Patients agreed that the current PCP-centered system is inconvenient, needlessly expensive, and not always necessary (80-65%), that they visit PCP’s only when feeling ill (43%) and never do so for prevention specifically (42%). A large proportion agreed that a non-PCP-based system is desirable (65-80%) and that they would be more likely to get preventive tests if they did not have to see a PCP first (57%). Between 80% and 90% agreed that these patient characteristics predicting satisfaction with the current PCP-centered system and more resistance to the alternative were age >65 years, female gender, low SES, black race, poor self rated health, and being unmarried.

CONCLUSIONS: More than half of all patients are dissatisfied with the current system of preventive care delivery while a large majority is open to an alternative. There is, however, somewhat less enthusiasm for the alternative concept among patients who arguably have the greatest unmet needs for preventive services. These findings should be taken seriously when implementing a system that complements a traditional PCP-based approach to primary prevention.
from these guidelines. Moreover, payers are increasingly linking provider reimbursement to guideline adherence in areas such as osteoporosis care. Advocates of aggressive osteoporosis treatment tend to cite an estimated relative risk reduction (RRR) when touting the benefits of therapy, while health numeracy suggests that treatment benefits are more appropriately presented as absolute reduction in risk (ARR). Data suggest that bisphosphonate treatment for osteoporosis for 5 years results in a 35% RRR for hip fracture or a 14% ARR. From 3% to 7% of patients at high risk of fracture do not receive osteoporosis treatment. Our study was to evaluate the impact of absolute and relative expressions of treatment efficacy (ARR vs. RRR) and patient-physician interests in bisphosphonate therapy for osteoporosis treatment. We hypothesized that both patients and providers would select bisphosphonate therapy more readily when treatment efficacy was presented as ARR as opposed to RRR. METHODS: We developed a 10-item questionnaire and administered it to 150 consecutive patients (age = 50) and all general practitioners. Sites and clinical practices were stratified by a randomization scheme. Using clinical scenarios, participants were asked whether they would accept (patients) or recommend (providers) osteoporosis therapy when treatment efficacy was presented alternatively as either: 1) RRR; 2) ARR. Additional scenarios examined how interest in osteoporosis therapy differed between patients and providers with varying levels of out-of-pocket cost to the patient.

RESULTS: The response rate was 95% for patients (267/312) and 69% for physicians (36/52). Patients were significantly more likely to express interest in osteoporosis therapy when treatment benefit was presented as RRR as opposed to ARR (86% vs. 57%, P < 0.001); similarly providers were significantly more likely to recommend osteoporosis treatment for their patients when treatment benefits were presented as RRR as opposed to ARR (97% vs. 53%, P < 0.001). When told that the cost of bisphosphonate therapy (approximately $1,000 per year) and that insurance would cover the entire cost of treatment, 81% of patients wanted therapy but when told that insurance would only cover 10% of the cost, only 15% of patients wanted therapy (P = 0.04); in similar scenarios, 100% of providers recommended therapy while 69% of patients had otherwise while 61% recommended therapy when insurance covered only 10% (P = 0.02). CONCLUSIONS: This study demonstrates that physicians and patients are less interested in bisphosphonate therapy when treatment efficacy is presented in absolute (ARR) terms than in relative (RRR) terms. Physicians were positively influenced by the absolute treatment terms (ARR) while both providers and patients who better understand the benefits of osteoporosis treatment appear less likely to follow current practice guidelines, with resultant negative effects on measures of clinical performance and reimbursement within pay for performance programs. Patient-centered decision making would include informing patients of treatment benefits in absolute terms, which this study suggests leads to decreased adherence to population-based guidelines.

PATIENT AND PROVIDER PERCEPTIONS OF IMPORTANT VARIABLES AFFECTING HYPERTENSION MANAGEMENT: DO THEY AGREE? J.M. Shivapour1; M. Henderson2; A. Ishani3; P. Kaboli1.

BACKGROUND: In spite of decades of evidence-based guidelines for clinicians and patient-education efforts, less than half of patients with hypertension are adequately treated. This study explores patient and provider attitudes towards a number of domains affecting hypertension management.

METHODS: All primary care providers and a convenience-sample of hypertensive patients at two VA Medical Centers were invited to complete an anonymous, web-based survey. Provider surveys were sent by email and consenting patients were interviewed before primary care visits. Subjects were asked to rate the importance of factors related to hypertension management on a 5-point scale ranging from 1 (not at all) to 5 (very/extremely important). Patients were also asked about demographics and if they had received chemotherapy, radiation therapy, tamoxifen, mastectomy, and lumpectomy. Multivariate analyses were conducted using a two-part model to predict any severe symptom and the number of severe symptoms if any symptoms were experienced. Regression coefficients in addition to treatment included patient age, race/ethnicity, language, education, income level, marital status, physical and mental health status, employment status, insurance coverage, depression, comorbid conditions, and stage at diagnosis.

RESULTS: Half of breast cancer patients studied (46%) had at least one severe symptom that interfered with her daily functioning or mood. The most prevalent symptoms reported were difficulties sleeping (64%), severe depression or anxiety (19%). Multivariate analysis controlling for patient characteristics and treatment showed that older (OR = 0.90; P < 0.001), black (OR = 0.50; P < 0.001), Hispanic (OR = 0.37; P < 0.001), widowed or never married (OR = 0.68; P = 0.049), and working (OR = 0.72; P = 0.024) women were less likely to report severe symptoms than other women. The number of comorbid conditions (OR = 1.21; P < 0.001) and receipt of chemotherapy (OR = 1.48; P < 0.001) were positively associated to reporting severe symptoms. CONCLUSIONS: After accounting for stage and type of treatment, these findings raise questions about whether women of different race/ethnic groups vary in their thresholds for reporting symptoms or whether they really have fewer symptoms. This analysis also documents comorbidity as a significant predictor of patient report of symptoms overall, and especially amongst women who received chemotherapy. Further research studying the effects of comorbidity on symptom reporting and symptom reporting and symptom control is necessary to determine if these comorbid conditions of patients with breast cancer may significantly influence the quality of care patients receive and their perception of care. Multivariate analyses were conducted using a two-part model to predict any severe symptom and the number of severe symptoms if any symptoms were experienced. Regression coefficients in addition to treatment included patient age, race/ethnicity, language, education, income level, marital status, physical and mental health status, employment status, insurance coverage, depression, comorbid conditions, and stage at diagnosis.

PATIENT CHARCATTERISTICS AND SYMPTOMS FROM BREAST CANCER TREAT- MENT. J. Yoon1; J. Malin2; T. Tao3; T. Finzel4; P.A. Ganzi5; K.L. Kahn6; 1University of California, Los Angeles, Los Angeles, CA; 2University of California, Los Angeles, Sepulveda, CA; (Tracking ID #: 154625)

BACKGROUND: With breast cancer diagnosis occurring at earlier stages and more patients receiving indicated treatments, survival has increased, and quality of life for patients has never been more of an important issue. We used a diverse, multi-ethnic, multi-lingual population-based cohort of women with breast cancer to learn population-based rates of five symptoms believed to be prevalent amongst breast cancer patients.

METHODS: In 2001 we surveyed 1,219 breast cancer patients in Los Angeles County. The sample was drawn from a census of incident breast cancer cases diagnosed during 10 consecutive months in 2000. Patients were initially identified by the Roswell Park Case Ascertainment from 103 hospitals and clinics in two metropolitan settings in which breast cancer was diagnosed, and the survey was conducted in both English and Spanish. The survey queried women about the presence of morbid symptoms interfering with their daily mood or function. Patients were also asked about demographics and if they had received chemotherapy, radiation therapy, tamoxifen, mastectomy, and lumpectomy. Multivariate analyses were conducted using a two-part model to predict any severe symptom and the number of severe symptoms if any symptoms were experienced. Regression coefficients in addition to treatment included patient age, race/ethnicity, language, education, income level, marital status, physical and mental health status, employment status, insurance coverage, depression, comorbid conditions, and stage at diagnosis.

RESULTS: Of 243 eligible providers, 145 (60%) completed the survey. Of 191 patients, 189 (99%) agreed to participate (mean age 66 years, 97% male, 92% white). When asked where patients receive hypertension information, patients and providers agreed that the doctor was “very/extremely useful” (78% vs. 80%, respectively; P = 0.66). Providers, compared to patients, over-estimated the value of pharmacists being “very/extremely useful” (68% vs. 57%, respectively; P = 0.03), direct-to-consumer advertising (11% vs. 3.8%, respectively; P = 0.01), and the Internet (17% vs. 6.3%, respectively; P < 0.01), but underestimated the value of VA educational material (28% vs. 41%, respectively; P = 0.01). The importance of drug costs differed significantly between patients and providers: 51% of providers and 65% of patients thought patient drug cost was “very/extremely important” (P = 0.03). When asked about the cost of medical visits and hospital stays, 17% of providers thought it was “very/extremely important” and only 10% thought it was important to patients, yet 62% of patients thought it was “very/extremely important” to patients (P = 0.01). Providers under-valued side effects (71% vs. 84%, respectively; P < 0.01), preventing cardiovascular events (62% vs. 95%, respectively; P < 0.001), and national guidelines (22% vs. 68%, respectively; P < 0.01) being “very/extremely important” compared to patients.

CONCLUSIONS: Patients and providers had high level of agreement on the do not intervene in hypertension management in their patients. We also back- estimated the extent to which patients utilized pharmacists, advertising, and the Internet as sources of information relating to the management of their hypertension. Additionally, patients were significantly more likely to cite the costs of medications both to themselves and the VA as “very/extremely impor- tant” when compared with providers. Curiously, providers also significantly underestimated the importance of reducing cardiovascular events and national guidelines in their practice. The discordance in perceptions of what is important to each in the management of hypertension needs to be addressed to optimize the patient-provider relationship and improve clinical outcomes.
line Roland score, not being depressed, not having a history of leg pain or numbness with back pain, and having a first episode of back pain requiring medical attention (all p-values <.05). The model as a whole had an R-squared of 29%. 

CONCLUSIONS: Among adults enrolled in a trial of therapy for ALBP, patient expectations for improvement were a significant predictor of clinical outcome at 5 weeks irrespective of which group they were in and after adjustment for all other factors significantly associated with the outcome in the primary analysis. These findings suggest that patient expectations should be considered when evaluating outcomes of patients for ALBP and may be relevant to clinicians trying to anticipate which patients are likely to have rapid functional improvement.

PATIENT EXPERIENCE OF RESPECT: A QUALITATIVE STUDY. M. Beach1; P.S. Duggan1; L.A. Cooper1. 1Johns Hopkins University, Baltimore, MD. (Tracking ID #: 153924)

BACKGROUND: Respect for persons is regarded as an important value in medical ethics, yet there is little written in the bioethics or professionalism literatures about what respect actually entails. Respect for persons psychology, which requires that patients be given the opportunity to be informed and direct their medical care, is of obvious importance, but may not offer a complete description of what respect means. We sought to describe respectful behaviors and attitudes from the patients' perspective.

METHODS: We conducted in-depth semi-structured interviews with 29 adults who saw their primary care physician on a regular basis. This sample consisted of 15 women and 14 men. The average age was 56 years and 21 of 29 were African American and 10 were white. Patients were asked to describe their ideas about respect and to provide examples that illustrated respect and disrespect on the part of the physician. Interviews were transcribed and coded to identify major themes for each interview and to link together related themes across all interviews.

RESULTS: Though many patients were unable to provide formal definitions of respect, several structural themes were highlighted. These included being nice and courteous to patients, treating people equally regardless of social status, following the golden rule (treating others as one would want to be treated), and honoring patients' preferences and choices. Patients readily identified behaviors and beliefs that they associated with respect. These included greeting and addressing the patient by name, showing an interest in what the patient has to say, explaining things in a way he or she can understand without jargon, and being honest with the patient and treating the patient with respect. Many patients emphasized the importance of the physician knowing his or her patients on a more personal level, though they recognized that workload and lack of time made it difficult to develop this sort of relationship. Patients specifically stated that respect for treatment could affect the way a patient feels about oneself, and could influence health outcomes. They suggested that they would be more likely to trust physicians who were respectful, and hence adhere to treatment recommendations. Furthermore, patients suggested that physicians who had personal knowledge of their patients would be more attuned to patients' needs and more likely to perceive nonspecific problems.

CONCLUSIONS: Physicians should attend closely to the interpersonal aspects of patient care and cultivate an attitude of respect for patients. Patients are aware of, and sensitive to, subtle verbal, behavioral, and attitudinal cues from the physician, and these cues may strongly influence the medical encounter and have far-reaching effects.

PATIENT LITERACY AND MISINTERPRETATION OF PRESCRIPTION MEDICATION LABELS. M.S. Wolf1; T. Davis2; P.F. Bass3; R.M. Parker4. 1University of Chicago, Chicago, IL; 2Louisiana State University Medical Center at Shreveport, Shreveport, LA; 3University of Louisiana Health Sciences Center, Shreveport, Shreveport, LA; 4Emory University, Atlanta, GA. (Tracking ID #: 154818)

BACKGROUND: Patients' literacy and their ability to understand medication instructions found on the primary container label of five common prescription medications have far-reaching effects. We examined patients' ability to understand the prescription label in 5.8% of the responses were unable to identify the appropriate information, and 3.2% of the responses were without interpretation due to patients acknowledging to the interviewer they were unable to read. Patients reading at the 6th grade level or below (low literacy) were unable to understand the meaning of four of the five labels, with the exception of the instructions associated with Lasix (p = 0.09). After controlling for relevant potential confounding variables and risk factors, both low (AOR 2.81, 95% CI 1.35–5.71) and marginal (7th–8th grade; AOR 2.13, 95% CI 1.15–3.93) literacy levels were significantly associated with misunderstanding of label instructions. Patients with low literacy skills who understood the label (70.7%), less than half were able to correctly interpret (37.4%).

PATIENT PREFERENCES AND WILLINGNESS TO PAY FOR CARE BY PRIMARY CARE PHYSICIANS VERSUS HOSPITALIST AND NON-HOSPITALIST WARD ATTENDING. D. Meltzer1; D. Prochaska1; B. Vekhter1; J.L. Schnipper2; T.B. Wetterneck3; P. Kaboli4; A.D. Auerbach3; V. Arora5; D.V. Gonzales3. 1University of Chicago, Chicago, IL; 2Brigham and Women's Hospital, Boston, MA; 3University of Wisconsin-Madison, Madison, WI; 4University of Iowa, Iowa City, IA; 5University of California, San Francisco, San Francisco, CA; 6University of New Mexico, Albuquerque, NM. (Tracking ID #: 154676)

BACKGROUND: Traditionally in the US, primary care physicians (PCPs) have cared for hospitalized general medical patients. However, many academic medical centers have long used inpatient ward attendings rather than PCPs to care for patients and in many instances associated with hospitalist movement. However, there is little data on whether patients prefer care by their PCP or a non-hospitalist or hospitalist ward attending, or on how greatly patients would value receiving care from their preferred choice between these alternatives. This study aims to determine patient preferences to receive hospital general medical care from their PCP versus a non-hospitalist or hospitalist ward attending, and their willingness to pay (WTP) to receive care from their preferred choice between these alternatives. Because hospitalists have been suggested to save $400 per admission in recent studies and because patients with strong preferences for care by a PCP could theoretically choose to pay out of pocket to see a PCP to see if they would choose their PCP if required to pay a $400 copayment to receive hospital care by their PCP rather than a hospitalist. METHODS: From July 1, 2001 to June 30, 2003, 34,246 patients were admitted to the general medicine services at 6 academic medical centers and assigned to hospitalist or non-hospitalist inpatient attending physicians based on a pre-determined call schedule. A follow-up phone call was administered 1 month after hospital discharge. Patients were asked whether they would prefer to be cared for by their PCP or another physician like one of the hospital attending physicians from whom they had recently received care, and their WTP to get their preferred choice between a hospital attending physician and their PCP.

RESULTS: 18,227 patients participated in the follow-up phone interview. 14,301 reporting had a PCP. Of these, 13,765 expressed their preference concerning a care by their PCP for a hospitalist or non-hospitalist. Of these patients were cared for by non-hospitalists. Overall, 29% of patients with a PCP preferred that their PCP lead their hospital care. 27% preferred an inpatient attending, and 44% had no preference. These findings did not differ between patients cared for by non-hospitalist and hospitalist ward attendings. Overall, more than half of patients expressed $0 WTP for their preferred choice, but a few patients expressed WTP of $100,000 or more. Of patients with preference for their PCP, 23% had WTP>$400. Among patients with a WTP<$400, the mean WTP for PCP’s was $49 per inpatient stay. This willingness to pay was not significantly different for patients cared for by hospitalists and non-hospitalists.

CONCLUSIONS: Among patients with a PCP, there are mixed preferences for receiving care by a PCP or a hospital attending. About 23% of patients would be willing to pay over $400 to receive care from their PCP if faced with a copayment that requires them to bear the added hospital costs that some studies suggest might be saved by hospitalists. Among the remaining patients, the average WTP is low. Preserving patient ability to receive care from their PCP is of great value to patients, and forcing them to bear the added hospital costs that some studies suggest might be saved by hospitalists has far-reaching effects.
METHODS: From an ongoing study of hospitalized patients at an academic hospital, a convenience sample of patients interested in learning more about ADs was identified. Patients were excluded if they were lacking decision-making capacity (either grossly or scored less than 17-22 on an abbreviated mini-mental status exam), were facing a new diagnosis of cancer, or were medically stable with two or more abnormal vital signs (heart rate, blood pressure, temperature, or oxygen saturation). Patients were presented a traditional AD (the recommended Illinois statutory living will) and a modified AD. The traditional AD allowed patients to express the desire to limit life-sustaining therapy (LST) in terminal illness. The modified AD allowed patients to choose among four conditions: 1) deploy an automated protocol to identify patients meeting LST in a reasonable trial, 3) refuse LST in advanced dementia (which was described in the AD in lay language), and 4) refuse artificial hydration and nutrition (AHN) in advanced dementia. Each AD was explained to the patient by the interviewer. In the first phase of the study, the traditional AD was presented first. In the second phase, the order was pseudorandomized based on the last digit of the patient’s social security number. ADs were not identified as traditional ADs. The proportion of patients who accepted each AD was preferred to be presented to patients generally. Secondary outcomes included the AD choice of those who executed an AD and the options chosen by those executing the modified AD. Results were analyzed as exact binomial variables.

RESULTS: Seventy-two patients completed the survey. The average age was 55.2. African-Americans constituted 84% of respondents, similar to the hospital’s general medical population. A significant and overwhelming majority, 85% (95% CI, 74.4-95.2%), preferred that the modified AD be presented to patients over the traditional AD. There were no significant differences based on survey order or stratified demographic analyses. Twenty patients chose to execute an AD. Eighty-eight percent (88%; 95% CI, 80%–95%), executed one option (LST=1; AHN=1), whereas 10 patients executed all four options. All 18 patients executing the modified AD wanted to limit LST in critical illness to a reasonable trial of LST (100%: 95% CI, 81%–100%), execute all four options, execute all four options. All 18 patients executing the modified AD wanted to limit LST in critical illness to a reasonable trial of LST (100%: 95% CI, 81%–100%), execute all four options, 14 wanted no LST in advanced dementia (78%: 95% CI, 52%–94%), and 12 also refused AHN in advanced dementia (67%: 95% CI, 41–87%).

CONCLUSIONS: Traditional instructional ADs fail to capture important patient preferences. Patients prefer an AD which not only provides the option to limit life-sustaining therapy in terminal illness but also includes language which readily provides for the options to limit LST in critical illness to a reasonable trial and to limit LST and AHN in advanced dementia. Future research should examine whether ADs are modified to include these specific options of care limitation can improve the clinical efficacy of ADs.

PATIENT RISK ASSESSMENT AND ENGAGEMENT IN PRIMARY CARE MANAGEMENT OF CARDIOVASCULAR RISK

1. N.R. Shah 1; Z. Daar 2; C.V. Ackley 2; M.S. Kersey 4; S.K. Levin 1; J.P. Metlay 5.

BACKGROUND: Underused and inadequate care can adversely affect patient health. Missed opportunities often occur in primary care because care processes are not optimized to make effective use of established clinical knowledge. To bridge the gap between knowledge and practice, we tested an electronic health record based process to routinely assess and manage cardiovascular disease (CVD) risk.

METHODS: This project was pilot tested in one Geisinger Clinic using EpicCare’s (EHR system). Five computerized procedures were tested during routine encounters to: 1) deploy an automated protocol to identify patients meeting cardiovascular disease (CVD) risk criteria for CVD risk assessment; 2) determine data elements missing to assess heart attack risk; 3) automatically consent and order lab and patient self-reported risk questionnaires to assess risk; 4) activate a modified Framingham CVD risk calculator to calculate individual patient’s risk to engage patients at moderate to high risk to review risk factors and define goals.

RESULTS: Over a 12-month period, 1610 patients were eligible for screening, all of whom were missing data on one or more CVD risk factors. Of these, orders for labs and questionnaire were placed for 27.9% (93% of these patients completed some or all measures and 86% of those asked completed the online risk assessment questionnaires. Using a modified Framingham risk-scoring algorithm, 36% of patients who were fully assessed were at moderate or high risk of a heart attack and were scheduled to set goals to reduce their risk. Almost half of these patients completed their goal set screening module. Goals were filled back to the EHR system for reference in the patient’s chart.

CONCLUSIONS: This preliminary test of a new model for CVD risk management suggests that automated protocols based on the EHR can be used to routinely identify patients meeting CVD risk criteria and primary care physicians can use EHR-based processes to improve patient management.

PATIENT SATISFACTION WITH EMERGENCY DEPARTMENT CARE IS NOT ASSOCIATED WITH ANTIBIOTIC TREATMENT FOR ACUTE RESPIRATORY TRACT INFECTIONS

1. J. P. Metlay 2; 2. J. S. Winchell 1; 3. R. A. D‘Alessandro 2; 4. M. E. McCullough 5; 5. M. A. Brookhart 2; 6. M. A. Fischer 2; 7. S. Asch 8.

BACKGROUND: Patient satisfaction with care is an important indicator of health care quality. Maintaining patient satisfaction is frequently cited by physicians as one reason for the over-prescription of antibiotics. This study assesses patient satisfaction with emergency department care for acute cough illness, and the relationship between antibiotic treatment and patient satisfaction.

METHODS: A convenience sample of English- or Spanish-speaking adults (age >18 years) seeking care for acute cough illness at 15 emergency departments (EDs) nationwide consented to medical record review, as well as one telephone interview 2 to 4 weeks following their ED visit. A validated instrument assessed overall satisfaction with care, and patient ratings of their interactions with ED clinicians (time spent, explanation of treatment, and manner of treatment). Multivariable ordinal regression analysis was used to measure the associations between predictor variables and increasing levels of overall satisfaction; ED length of stay (LOS) (minutes) was log-transformed.

RESULTS: Of the 1104 patients that consented to participate, 776 completed the telephone interview and chart review. Multivariable models abstracted. 598 had complete data files for multivariable analysis. Study sample characteristics included: median age=49 years, 65% female, 27% Black, 15% Hispanic, and 15% uninsured. The most common primary diagnoses were nonspecific URI (36%) and bronchitis (25%); 61% of all patients were prescribed antibiotics at the index visit. Satisfaction with care was rated as poor (5%), fair (9%), good (25%), very good (28%), and excellent (33%). The strongest independent predictors of increasing satisfaction included the 3 patient-clinician interaction ratings (p<0.001); as well as decreasing ED LOS (p=0.03), and provider type (p=0.05) (attending adjusted OR=1.7, 95% CI: 1.0, 2.1; midlevel adjusted OR=2.7, 95% CI: 1.1, 4.9 compared with housestaff). Antibiotic prescription was not associated with satisfaction (adjusted OR=0.95, 95%CI: 0.61, 1.48).

CONCLUSIONS: The quality of the clinician-patient interaction, and not antibiotic prescription, is important in determining patient satisfaction with acute respiratory illnesses. Understanding the factors that mediate greater patient satisfaction with mid-level providers deserves greater attention. In the meanwhile, clinicians should not justify antibiotic prescriptions based on a perceived need to maintain or increase patient satisfaction with care.

PATIENT, PHYSICIAN, PHARMACY AND PHARMACY BENEFIT DESIGN FACTORS RELATED TO GENERIC MEDICATION USE: W.H. Strand 1; M. Stedman 6; S. Eifert 5; D. DeBorre 4; D. Diserio 1; M.A. Broshar 5; M.A. Fischer 2; S. Asch 8; Wright 1; Brigham and Women’s Hospital, Division of Pharmacoeconomics and Pharmacoeconomics, Boston, MA; 3. University of California, Los Angeles, Los Angeles, CA; 4. Anthem Blue Cross Blue Shield, Denver CO; 5. Veterans Administration Greater West Los Angeles Healthcare System, Los Angeles, CA. (Tracking ID: 153338)

BACKGROUND: Many have called for increased generic drug use to assist in managing rapidly rising prescription drug costs. Recent studies have found that prescription generic drugs can improve adherence to chronic medications while reducing patients’ costs. Little is known about the factors that influence generic drug use. We sought to explore whether physician, patient, pharmacy benefit design or pharmacy characteristics influence the likelihood that patients will use generic drugs.

METHODS: We analyzed 2001–2003 pharmacy claims from a large health plan in the Western US for five classes of chronic medications: HMG CoA reductase inhibitors (lipid modifying drugs), oral contraceptives, angiotensin-converting enzyme inhibitors and proton pump inhibitors/histamine-2 receptor antagonists. We evaluated new users of these classes of medications and identified patients who were initiated on branded medications. We identified patients who switched to generic drugs in the same drug class in the subsequent year. We used generalized estimating equations to perform separate analyses assessing the relationship between independent variables and the probability that patients were initiated on or switched to generic drugs, controlling for drug class and clustering at the physician level.

RESULTS: A total of 5399 new prescriptions were filled in the classes of medications evaluated, written by 2282 physicians, and 1262 were generic medications. Of the 4072 patients who were initiated on branded medications, 606 switched to a generic drug in the same class in the subsequent year. After regression adjustment, patients who reside in high-income zip codes (RR=1.37, p=0.03) were more likely to initiate treatment with a generic drug than those in low-income regions, and generalists (RR=0.63, p=0.03) were less likely than medical subspecialists to initiate patients on generic medications. Pharmacy benefit design and type of pharmacy were not significantly associated with the likelihood that patients were initiated on or switched to generic drugs. Controlling for drug class, switching patients were more likely to switch from a branded medication to a generic medication if they were enrolled in pharmacy benefit designs with three or more tiers of copayments (p<0.03), and patients who used mail-order pharmacies were 60% more likely to switch to a generic (p=0.01) during the subsequent year. Older patients were more likely to switch to generics, while physician factors had little relationship to switching.

CONCLUSIONS: While tiered pharmacy benefit designs and mail-order pharmacies help steer patients towards generic medications once the first prescription has been filled, they have little effect on initial prescriptions in a drug class. Physician and patient factors have a greater influence on whether patients are initiated on generic drugs, with the poorest patients paradoxically receiving generic drugs less frequently than patients with higher incomes. These findings suggest that lower-income patients may not advocate for themselves as well as higher income patients, and that the benefits of mail-order services may lead to greater disparities in access to medications. Efforts to provide patients and physicians with information about generic alternatives may reduce costs and lead to more equitable care.
BACKGROUND: Little is known about whether patients and physicians perceive the content of clinical discussions similarly. With increasing calls for shared-decision making, clinicians and researchers need a better understanding of how to measure and improve shared decision-making. We examined the agreement between patient and physician reports on clinical discussions about prostate cancer screening.

METHODS: We performed a nested cross-sectional survey of all patients and physicians enrolled in a practice-based prostate cancer screening study to determine their agreement on the content of PSA discussions during one clinical visit. Immediately following the visit, both patients and physicians reported whether they discussed prostate cancer screening, and the content and results of any discussion. We used Cohen's kappas to determine concordance in their reports.

RESULTS: We surveyed 28 physicians and 128 patients who had been seeing their physician for at least the last year. Seventy-three percent of visits (kappa=0.62, p<0.001) were agreed upon by both parties, but variability was present in the content and quality of a shared decision. Future work should compare patient preferences to audio or videotaped patient encounters and determine the content and quality of a shared decision. We undertook this study to examine the agreement between patient and physician reports about clinical discussions about prostate cancer screening.

CONCLUSIONS: Physicians and patients often disagree on the content of prostate cancer screening discussions raising questions about how to best evaluate the content and quality of a shared decision. Future work should compare patient and physician reports to audio or videotaped patient encounters and determine how perceptions translate to actual prostate cancer screening decisions.

PATIENTS’ PREFERENCES DO NOT EXPLAIN REGIONAL VARIATION IN END-OF-LIFE TREATMENT INTENSITY

DAVID W. HILBORN; G. CHUN; R. S. HOMPER; D. L. ANDERSON; P. M. GALLAGHER; J. BRYANT; J. S. SKINNER; J. F. FOWLER; E. S. FISHER; University of Pittsburgh, Pittsburgh, PA; Dartmouth Medical School, Hanover, NH; Dartmouth College, Hanover, NH; University of Massachusetts at Boston, Boston, MA; Dartmouth Medical School and the VA Outcomes Group, Hanover, NH.

BACKGROUND: US Hospital Referral Regions (HRRs) differ by almost two fold in the overall intensity with which Medicare beneficiaries are treated during their last six months of life. Whether these dramatically different practice patterns could be due to patient preferences is unknown.

METHODS: We surveyed a national probability sample of fee-for-service Medicare beneficiaries over the age of 65 using either a computer-assisted telephone interview or a self-administered mail questionnaire. Respondents were asked to imagine that they had a serious illness with less than 1 year to live and then asked about their concerns and preferences in that situation. We measured age, sex, race, education, the terminal illness discussed, attitudes about palliative care, and a number of socio-demographic and financial characteristics.

CONCLUSIONS: Patients and physicians frequently disagree on the content of prostate cancer screening discussions raising questions about how to best evaluate the content and quality of a shared decision. Future work should compare patient and physician reports to audio or videotaped patient encounters and determine how perceptions translate to actual prostate cancer screening decisions.

Table 1 Change in desire for antibiotics by quartile of baseline desire

| Quartile of Baseline Desire | Mean Initial Desire | Mean Change in Desire (SD) | Percent Change in Desire |
|----------------------------|---------------------|-----------------------------|-------------------------|
| Q1 (scores 1–4)            | 2.0                 | +1.0 (0.7)                  | +53%                    |
| Q2 (scores 5)              | 5.0                 | +1.4 (3.1)                  | +27%                    |
| Q3 (scores 6–8)            | 6.5                 | +2.2 (3.3)                  | +32%                    |
| Q4 (scores 9–10)           | 9.8                 | -3.5 (3.8)                  | -35%                    |

PATTERNS OF WEIGHT GAIN BEFORE HOSPITALIZATION FOR HEART FAILURE

SA. CHAUDHRY; Y. WANG; H. M. Krumholz; Yale University, New Haven, CT; Yale University School of Medicine, New Haven, CT.

BACKGROUND: Patients with heart failure (HF) are advised to weigh themselves daily so that signs of clinical decompensation may be detected early. While weight gain has long been recognized as a marker of HF decompensation, notably missing from our current knowledge is detailed information about daily changes in weight that are predictive of hospitalization among patients with HF. Equipped with this information, clinicians managing HF patients would be better prepared to make prognostic predictions and management decisions.

The goal of this study was to identify the timing and magnitude of weight change associated with imminent hospitalization among patients with HF.

METHODS: Data were collected over 18 months for 8000 community-dwelling patients with HF using a telemedicine program which involved measuring daily body weight with standardized, digital scales. Using a nested case-control study design, we identified 302 cases with a HF hospitalization and 302 controls without HF hospitalization during the same study period. Cases and controls were matched on age, sex, HF severity and target body weight (set by each patient's physician as a weight that indicates no excess fluid retention). Daily body weight with standardized, digital scales. Using a nested case-control study design, we identified 302 cases with a HF hospitalization and 302 controls without HF hospitalization during the same study period. Cases and controls were matched on age, sex, HF severity and target body weight (set by each patient's physician as a weight that indicates no excess fluid retention).

RESULTS: Over 3.5 months, the 6 kiosks recorded 8292 unique interactions, of which 3528 (42.5%) were by adults who answered at least the first three questions.

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CONCLUSIONS: This self-administered bilingual interactive computer program was well-accepted by adult users with ARIs, many of whom believed at the start of the program that antibiotics would help their symptoms. Overall, self-reported desire for antibiotics declined after using the educational module. This suggests that educational computer modules in ED waiting rooms may be effective tools for increasing patients' knowledge, changing their attitudes, and perhaps affecting behavior in the patient-provider interaction.

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RESULTS: Over 3.5 months, the 6 kiosks recorded 8292 unique interactions, of which 3528 (42.5%) were by adults who answered at least the first three questions.
CONCLUSIONS: Weight gain before HF hospitalization is a gradual phenomenon and increases begin 20 days PDA. Close monitoring of weight may afford clinicians a window of opportunity to intervene before HF hospitalization becomes inevitable. Systems to enhance such close monitoring should be explored and tested.

PER PUPIL EDUCATION SPENDING EFFECT ON TEEN PREGNANCY AND DEATH RATES. J. Schuman1; J. B. Silverman1; A. Basu1; C. Masi1. University of Chicago, Chicago, IL. (Tracking ID # 152786)

BACKGROUND: Little data exists on the effects of per pupil spending (PPS) in public schools on teen pregnancy and teen death. Teen pregnancy rates have been declining over the last decade, but still are a significant issue, especially among lower socioeconomic status (SES) groups. Similarly, teen death, which reflects accidents, homicides, and suicides, varies by SES and would seem to be amenable to investment in primary and secondary education. We developed a model to evaluate the relationship between state-level PPS and both teen pregnancy and teen death rates.

METHODS: We used data from the 1997–2002 National Association of State Budget Officers’ State Health Expenditure Reports and the CDC’s National Vital Statistics Reports. Our analysis controlled for several state-level covariates that could influence the outcomes, such as state public health expenditure, median household income, proportion of residents in poverty, percentage of total budget dedicated to secondary and elementary education, graduation rates within 4 years for high school students, total health expenditures, and total population. All dollar amounts were adjusted to 2003 dollars. A Hausman test was used to test whether between- and within-state effects for state-level covariates were systematically different. If they are, we used a random effects model for unobserved state-specific covariates. If not, we used a random effects model for estimation.

RESULTS: Over the six years of data, between-state variability was much larger than the within-state variability for each of the covariates and both the outcomes. For teen pregnancy rates, our final model was a fixed effects model while for teen death rates, our final model was a random effects model, but one that allowed for different between- and within-state effects of graduation rates within 4 years for high school students and state public health expenditure. We found an increase of one standard deviation in per pupil spending (about $1400) was associated with an 8% reduction (p-value = 0.008) in teen pregnancy rates. We also found a one standard deviation increase in per pupil spending was associated with a 3% reduction in obesity in young adults after adjusting for state public health expenditure, median household income, proportion of residents in poverty, percentage of total budget dedicated to primary and secondary education within 4 years for high school students, total health expenditures, and total population.

CONCLUSIONS: Per pupil spending was significantly associated with both teen pregnancy and adolescent obesity. Our results suggest that both primary and secondary education investments may be an important strategy for addressing the epidemic of obesity in the U.S.

PERCEIVED RISK OF ADVERSE PREGNANCY OUTCOMES AMONG WOMEN WITH CHRONIC MEDICAL CONDITIONS. C. H. Chuang1; M. J. Green1; C. S. Weisman1. Pennsylvania State University, Hershey, PA. (Tracking ID # 155714)

BACKGROUND: Certain chronic medical conditions significantly increase the risk of adverse pregnancy outcomes. This is relevant since the prevalence of diabetes, hypertension, and obesity are increasing among women of reproductive age in the United States. Despite improvements in access to prenatal care, the incidence of adverse pregnancy outcomes such as low birthweight and preterm birth has not improved in recent years. One way to improve pregnancy outcomes is through preconception health optimization. This requires that women with chronic medical conditions (as well as their health care providers) recognize their increased risk so they seek appropriate interventions prior to pregnancy. However, it is not known whether women with chronic medical conditions are aware of their increased risk for adverse pregnancy outcomes.

METHODS: The Central Pennsylvania Women’s Health Study (CPWHIS) is a population based telephone survey of reproductive age women residing in a predominantly rural 28-county region in Central Pennsylvania. Women were asked whether they were aware of their increased risk for each of the following adverse pregnancy outcomes: women with diabetes, hypertension or obesity. Responses were dichotomized as very/somewhat likely versus very/somewhat unlikely to have a preterm or low birth weight baby. We compared the response perception for these adverse pregnancy outcomes of women with diabetes, hypertension, or obesity to women without these conditions. Multivariable analysis controlled for sociodemographic variables, pregnancy history, health habits, and health status variables.

RESULTS: Out of the 694 women included in the analysis, 16 (2%) had diabetes, 50 (7%) had hypertension, and 144 (21%) were obese: 174 (25%) of the women had at least one of these 3 chronic conditions. Women with chronic conditions were not more likely to perceive increased risk of adverse pregnancy outcomes in the multivariable analysis when compared to women without any of these conditions (adjusted OR 0.59, 95% CI 0.34–1.01). Previous preterm birth, smoking, having lower mental and physical health status scores, and having a mother with history of preterm birth or low birth weight were significantly associated with perceiving higher risk of adverse pregnancy outcomes.

CONCLUSIONS: Despite being at increased risk for adverse pregnancy outcomes, the women with diabetes, hypertension, and obesity in this study did not perceive their risk any differently than women without these conditions. If interventions aimed at improving pregnancy outcomes via preconception health optimization are to succeed, they must first address this problem.

PERCEPTIONS OF HEALTH AND HOUSING OF UNSTABLY HOUSED HIV-INFECTED INDIVIDUALS IN NEW YORK CITY. J. G. Fox1; O. M. Saavedra1; M. Ramos1; N. L. Schoier1; D. Heller1; C. Cunningham2. Montefiore Medical Center, Bronx, NY; Albert Einstein College of Medicine, Bronx, NY; Cty University of New York Medical School, New York, NY; Citywide HIV Education, Bronx, NY. (Tracking ID # 54796)

BACKGROUND: HIV-infected individuals, particularly those with unstable housing, have difficulty maintaining adequate access to health care. Previous studies of the influence of housing status on access to health care have focused on measures of literal homelessness. This approach does not fully capture housing instability nor the range of contextual factors related to one’s living environment that are likely to profoundly influence access to health care. Additionally, participants’ perception of the role of housing on health care, a potentially significant factor in seeking care, has been largely ignored. To address this gap in knowledge, this study explores participants’ representations of illness and perceived role of housing, competing priorities, drug use, and support systems in HIV care.

PERSPECTIVES ON THE CONSIDERATION OF SUPPORT SYSTEMS IN HIV CARE AMONG UNSTABLELY HOUSED INDIVIDUALS IN NEW YORK CITY. J. G. Fox1; O. M. Saavedra1; M. Ramos1; N. L. Schoier1; D. Heller1; C. Cunningham2. Montefiore Medical Center, Bronx, NY; Albert Einstein College of Medicine, Bronx, NY; Cty University of New York Medical School, New York, NY; Citywide HIV Education, Bronx, NY. (Tracking ID # 54796)

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METHODS: We conducted 14 semi-structured interviews with HIV-infected residents of single room occupancy (SRO) hotels in New York City. Participants were recruited from a harm reduction organization that serves HIV-infected SRO hotel residents. The interviews established timelines related to housing status and health care following HIV diagnosis. Patterns of drug use, social service utilization, and unmet basic needs (like food and clothing) were also explored. Interviews were transcribed and then coded using N-vivo software. Qualitative analysis using a grounded theory elicited common themes and developed a typology for perceptions of health and housing.

RESULTS: Of the sample, 81% were over 35 years old (93%), male (71%), African American (71%), and heterosexual (79%). Half had lived in more than five different SRO hotels since their HIV diagnosis. During this period, many described a sense of total isolation, such as withdrawing from friends and families in fear of rejection, as well as a sense of hopelessness and denial. However, positive change in the participants' illness representation was often described following interactions with individuals or organizations that acted as advocates by providing emotional support and/or resources to deal with isolation and hopelessness. Living conditions in SRO hotels, which were described as infested with drugs and prostitution, were depressing and decreased motivation for self-care, including attending to health care needs. Additionally, competing priorities negatively affected health care. Specifically, the need for housing required frequent moves, which disrupted continuity of medical care, and food insecurity impeded adherence with medications.

BACKGROUND: Diabetes complications are costly and impair patients' quality of life. The perception of risk for complications likely impacts patient adherence in diabetes management. In order to improve the health of, and assure good outcomes for, patients with diabetes, physicians must identify and moderate patient risk perception. Because physical pain may be an important modifiable risk factor for sub-optimal antiretroviral adherence, physicians should aggressively screen for and treat physical pain in HIV-infected current and former drug users.

RESULTS: The majority of the sample were over 35 years old (93%), male (71%), African American (71%), and heterosexual (79%). Half had lived in more than five different SRO hotels since their HIV diagnosis. Subjects were at high risk of diabetes complications with 81% having hypertension and 21% having prior heart disease. Thirty-nine percent of subjects reported physical pain. Of those with physical pain, 70% had been to a doctor for their pain complaint in the past 3 months, 30% had been to a doctor for their pain complaint in the past 12 months, and 20% had seen a pain specialist. Of those with physical pain, 70% had been to a doctor for their pain complaint in the past 3 months, 30% had been to a doctor for their pain complaint in the past 12 months, and 20% had seen a pain specialist. Of those with physical pain, 70% had been to a doctor for their pain complaint in the past 3 months, 30% had been to a doctor for their pain complaint in the past 12 months, and 20% had seen a pain specialist. Of those with physical pain, 70% had been to a doctor for their pain complaint in the past 3 months, 30% had been to a doctor for their pain complaint in the past 12 months, and 20% had seen a pain specialist.

CONCLUSIONS: In a high-risk sample, those with higher perceived risk of complications were associated with higher risk perception (p < 0.01). Sex, age, and race were not associated with risk perception. Those who perceived more risk had similar diabetes outcome expectancy and self-efficacy to those who perceived less risk.

CONCLUSIONS: The majority of the sample were over 35 years old (93%), male (71%), African American (71%), and heterosexual (79%). Half had lived in more than five different SRO hotels since their HIV diagnosis. Themes that emerged included the destabilizing effect of HIV diagnosis; the importance of social support; the impact of poor conditions of emergency housing in NYC; and the structural barriers to obtaining care. For most individuals, diagnosis of HIV was followed by a period of chaos, which often included loss of housing, escalating drug use, and worsening self-care behaviors. Most perceived their risk of diabetes complications as moderate to high, indicating a need for increased education and risk assessment. Although they were engaged in treatment, the majority were non-compliant with adherence. The majority perceived their risk of diabetes complications as moderate to high, indicating a need for increased education and risk assessment. Although they were engaged in treatment, the majority were non-compliant with adherence. The majority perceived their risk of diabetes complications as moderate to high, indicating a need for increased education and risk assessment. Although they were engaged in treatment, the majority were non-compliant with adherence.

PHYSICAL PAIN IS A MODIFIABLE RISK FACTOR FOR SUB-OPTIMAL ANTIRETROVIRAL ADHERENCE IN HIV-INFECTED CURRENT AND FORMER DRUG USERS. K. M. Bennett1, L. Cooperman1, M. Neho2, X. Li3, J. M. Anderson1. 1Vanderbilt University, Nashville, TN; 2Shands Children’s Hospital, Gainesville, FL; 3Vanderbilt University School of Medicine, Nashville, TN. (Tracking ID: 7138094)

BACKGROUND: Strict adherence to complex medication regimens is necessary to achieve the clinical and survival benefits of antiretroviral therapy. HIV-infected drug users have received less benefit from combination antiretroviral therapy than non-drug users, in part because of sub-optimal adherence. Though previous studies have noted that physical pain is highly prevalent among both HIV-infected persons and drug users, little is known about the association between physical pain and antiretroviral adherence. The primary objective of this study was to describe prevalence and characteristics of physical pain in HIV-infected current or former drug users, and to examine associations between physical pain and antiretroviral adherence.

RESULTS: Subjects were surveyed using a computer-assisted self-interview (CAASI) with methodized maintained HIV-infected current or former drug users on antiretroviral therapy. Seven-day self-reported antiretroviral adherence was measured for each medication separately, and we calculated a mean overall adherence rate giving equal weight to each medication. Using the Brief Pain Inventory to measure presence of acute or chronic physical pain. Other covariates assessed were depression (defined as the median score on the depression subscale of the Brief Symptom Inventory), medication side effects (defined as being extremely bothered by one or more common side effects), and recent drug use (heroin or cocaine use in the past month). Bivariate associations between pain and adherence were conducted using independent samples t-tests. The independent effect of pain on antiretroviral adherence was then assessed using multivariate linear regression.

RESULTS: CAASI surveys were completed with 70 HIV-infected current or former drug users. Their mean age was 45 and the majority was female (54%), while 16% were Hispanic (93%), and had stable housing (86%). Sixteen percent reported use of heroin or cocaine in the past month. Six percent reported the side effect of "tiredness/weakness" in the past month, whereas 15% reported pain. Of those with physical pain, 70% had been to a doctor for their pain complaint in the past 3 months, 30% had been to a doctor for their pain complaint in the past 12 months, and 20% had seen a pain specialist. Of those with physical pain, 70% had been to a doctor for their pain complaint in the past 3 months, 30% had been to a doctor for their pain complaint in the past 12 months, and 20% had seen a pain specialist. Of those with physical pain, 70% had been to a doctor for their pain complaint in the past 3 months, 30% had been to a doctor for their pain complaint in the past 12 months, and 20% had seen a pain specialist.

CONCLUSIONS: Physical pain is prevalent among HIV-infected current and former drug users in substance abuse treatment, and is independently associated with worse antiretroviral adherence. In this study, half of those with physical pain reported using drugs, alcohol, or street pills to treat their pain. Of those who received pain medication from their doctor, 50% experienced little or no pain relief. Antiretroviral adherence among those who reported physical pain was 11% lower than those without pain (98% vs. 87%, p < 0.05). In multivariate analyses controlling for depression, medication side effects, and recent drug use, physical pain remained independently associated with worse antiretroviral adherence (p < 0.05).

PHYSICIAN CHARACTERISTICS AND PARTICIPATION IN AN INTERNET-DELIVERED INTERVENTION TO IMPROVE POST-MYOCARDIAL INFARCTION CARE: THE MI PLUS STUDY. T. K. Funkhouser1, H. Carnes1, N. A. Cooperman1, H. Newville2, X. Li1, J. H. Arnsten1. 1Vanderbilt University, Nashville, TN; 2Birmingham VA Medical Center, Birmingham, AL; 3University of Alabama-Birmingham School of Medicine, Birmingham, AL; 4University of Alabama-Birmingham School of Public Health, Birmingham, AL; 5University of Alabama at Birmingham, Birmingham, AL. (Tracking ID: 153304)

BACKGROUND: The MI Plus study is a randomized, controlled trial of an Internet-delivered intervention to improve treatment of ambulatory post-myocardial infarction (MI) patients with multiple co-morbidities; 70% of U.S. physicians seek medical information from the Internet. Internet-delivered interventions reach large numbers of physicians at low cost; however, such interventions may be less intense than other quality improvement methods. Physician characteristics may influence the rate of initial and recurrent participation in an Internet-delivered intervention.

METHODS: Community-based primary care physicians in Alabama and Mississippi were identified using Medicare data provided by the Alabama Quality Assurance Foundation and recruited using fax, postal and electronic mail, and telephone solicitation. Recruitment incentives included a $200 gift card and a $50 charitable donation, and a $500 gift card and a $100 charitable donation for participation in an Internet-delivered medical education (CME) units. The MI Plus intervention arm received a 30-month Internet-based educational program, consisting of: 1) quarterly case-based modules; 2) “literature watch” with monthly summaries of recent relevant studies, and 3) a “toolbox” with consensus (clinical practice) guidelines, treatment algorithms and patient educational materials. The control group was directed to a web-site with similar educational characteristics for generic chronic disease management specific to that particular patient's condition. Using data from an American Medical Association database, we assessed the association of physician specialty, sex, age, and physician practice size with initial enrollment, initial participation and recurrent participation. We present data from month 17 of the study.

RESULTS: Of the 2039 physicians in our recruitment pool, 201 (10.4%) enrolled in the study (177 men and 24 women). Enrollment was higher for internists than family practitioners (12.4% vs. 9.1%, p = 0.013), with no difference between internists and family practitioners. Internists enrolled in the study were more likely to be men, more likely to be internists, and less likely to be female family practitioners. Of those who enrolled, 77% reported that the intervention was helpful. Physicians utilized the intervention for at least 1 additional visit, 68% completed at least 1 course module, 64% requested a CME certificate, and 74% requested a textbook. A
higher proportion of women than men engaged in each activity. There were no differences by physician specialty, practice size, or age. Among the 102 inter-
vention physicians (88 men and 14 women), 64% accessed the toolbox, 51% the guideline, and 17% thought that the feature would change their way of managing intervention components as well as completing at least one case (intense users). Though not statistically significant, physician participation in the intervention components appeared inversely related to physician practice size and women appeared more likely than men to participate in all components except accessing guidelines; 29% of women vs. 14% of men, p=0.2, were intense users. There were no differences in the use of intervention options by physician specialty or age.

CONCLUSIONS: Given the very large and still expanding population of physi-
cians reachable through the Internet, a recruitment rate of 10% represents a potentially significant sample to be enlisted needed care delivery interventions. Our findings of differences in recruitment and participation rates by physician specialty and sex, and of differential use of the options offered by the intervention, should guide future efforts to use the Internet as a delivery system for quality improvement efforts.

PHYSICIAN CHARACTERISTICS ASSOCIATED WITH BEING A PROFICIENT LEARNER-CENTERED TEACHER

E. Menachery1; A.M. Knight1

N.L. Keating1; M. Landrum1; S. Rogers2; S. Baum3; B. Virnig4; H.A. Huskamp5; C .

Population covariates included age, gender, education, income, body mass index, smoking, type of diabetes treatment, quality of life, and presence of other insurance. Hierarchical mixed-effects models adjusted for clustering within health plans and physicians. We calculated the difference in predicted prob-
abilities of each outcome associated with a change in the percent compensation from salary from 10% to 90% (i.e., the predicted probability if the sample had reported 90% compensation from salary, minus the predicted probability if the sample had reported 10% compensation from salary). Differences greater than zero indicate a higher probability of the outcome with a greater percent compensation from salary.

RESULTS: Patients of physicians who reported higher percent compensation from salary (n = 96 vs. < 10%) were not any more likely to receive any diabetes process measures, nor were they more likely to have better intermediate out-
comes. Greater percent compensation from salary was also not associated with reporting of any of the needed care delivery interventions. On the other hand, physicians who reported higher percent compensation from salary were more likely to have reported 90% compensation from salary.

CONCLUSIONS: Salary, as opposed to fee-for-service compensation, was not associated with diabetes processes and intermediate outcomes. Financial incentives may not be an effective means of improving diabetes quality of care.

PHYSICIAN CHARACTERISTICS ASSOCIATED WITH DISCUSSIONS ABOUT END-OF-LIFE CARE

N.L. Keating1; M. Landrum1; S. Rogers2; S. Baum3; B. Virnig4; H.A. Huskamp5; C.

The learner-centeredness scale, a composite learner-centeredness score, represents a difficult task. In some encounters, the patient raises a new problem thought to occur more efficiently, effectively, and satisfyingly when a learner-
centered approach to medical education is taken. This study’s primary objective was to identify characteristics that are associated with physician teachers’ proficiency in learner-centered teaching skills.

METHODS: A cohort of 363 physicians, who were either past participants of the Johns Hopkins Faculty Development Program or members of a comparison group, were approached with a survey asking them to answer survey questions about their personal characteristics, professional characteristics, teaching activities, self-assessed teaching proficiencies and behaviors, and scholarly activity. Eight of the 10 component scale’s learning components were used, resulting in a total of 68 groups) to provide care; participants in this analysis included 4200 individuals with diabetes and their physicians (n=1248). Main outcome mea-

RESULTS: Two hundred and ninety-nine physicians responded (82%) of whom 262 (88%) had taught medical learners in the prior 12 months. Factor analysis revealed that the six questions from the survey addressing learner-centeredness clusters together to make the “learner-centeredness scale” (Cronbach’s Alpha: 0.73). Eight items, representing discrete faculty survey questions, were independently associated with high learner-centered scores: (i) proficiency in giving supervisors feedback (OR=1.9, 95% CI: 1.3–2.7), (ii) integrating helping learners identify resources to meet learners’ needs (OR=3.7, 95% CI: 1.3–10.3), (iii) proflicity in eliciting feedback from learners (OR=3.7, 95% CI: 1.7–8.3), (iv) frequently attempting to detect and discuss emotional responses of learners (OR=2.9, 95% CI: 1.2–6.8), (v) frequently reflecting on the validity of feedback from learners (OR=2.8, 95% CI: 1.1–7.4), (vi) frequently identifying available resources to meet the teacher’s learning needs (OR=2.8, 95% CI: 1.1–7.2), (vii) having given an oral presentation related to education at a national/ state level, and management intensity (130 mg/ dl, and systolic blood pressure level < 140 mmHg), and history of smoking, type of diabetes treatment, quality of life, and presence of other insurance. Hierarchical mixed-effects models adjusted for clustering within health plans and physicians. We calculated the difference in predicted prob-

CONCLUSIONS: Salary, as opposed to fee-for-service compensation, was not associated with diabetes processes and intermediate outcomes. Financial incentives may not be an effective means of improving diabetes quality of care.

CONCLUSIONS: Salary, as opposed to fee-for-service compensation, was not associated with diabetes processes and intermediate outcomes. Financial incentives may not be an effective means of improving diabetes quality of care.
PHYSICIAN-PATIENT COMMUNICATION ABOUT COLORECTAL CANCER SCREENING
S.T. Makoul1; M.S. Wolf1; M. Clayman1; D.W. Baker1; K.L. Kahn1; N.L. Keating2; M.B. Landrum2; J.Z. Ayanian3; R. Boer1; C.N. Klabunde3; P.J. Catalano4.

BACKGROUND: Physician failure to recommend colorectal cancer (CRC) screening has previously been found to be a significant impediment to early detection efforts. In this study, we examined physicians’ perceptions of their communication about CRC screening. In a second paired study, we analyzed the content and immediate outcome of primary care physician and patient discussions regarding CRC screening.

METHODS: A questionnaire was mailed to 486 primary-care physicians in clinical practices affiliated with an academic medical center. A total of 275 (56.6%) surveys were returned. The survey asked respondents to rate the importance (on a scale from 1 to 10, with 10 = very important) of 18 colorectal cancer screenings during discussion of CRC screening. Physicians were also asked to estimate the percentage of screening-eligible patients with whom they discuss each topic. For each CRC discussion, we coded whether or not the conversation, which topics were raised, and whether or not a resolution occurred (screen now, screen later, no screening, no resolution).

RESULTS: The survey indicated that primary care physicians consider discussing colorectal cancer screening to be very important (M=9.5, SD=0.9). Thirteen of the 18 discussion topics were viewed as important (mean rating on 1 to 10 scale greater than 7). Only four of the topics were rated as important with lowest for presenting either fecal occult blood test (FOBT) (M=5.0, SD=3.0), flexible sigmoidoscopy (M=4.3, SD=2.9), or CT imaging (M=3.1, SD=2.5) as screening options, and discussing the costs of tests (M=5.4, SD=2.7). Among the 132 physicians, 84% of patients believed their rates of accomplishing the lowest for checking patient understanding (59%), discussing risks associated with tests (62%), eliciting patient preferences (65%), and discussing test preparation (66%). Older physicians were more likely to view discussing the costs of tests as important and to accomplish this with more patients (p=0.03). Among the 31 discussions analyzed in the second study, 87% were initiated by the physician. Physicians defined the screening tests discussed in 54.8% of encounters, while a third (32.3%) described the procedure, and 25.8% mentioned patient preparation (25.8%). Risks associated with the screening procedure itself were rarely mentioned (3.2%). Twenty-six percent of discussions on colorectal cancer screening ended without any resolution. Discussions that resulted in a decision covered more topics (4.1 vs. 2.5, p<0.05) and took more time (81.0 seconds vs. 42.5 seconds, p<0.05).

CONCLUSIONS: Overall, primary care physicians view discussing colorectal cancer screening during CRC discussions as important. However, communication about the options, preparation, the procedure itself, and associated risks may be inadequate, as evidenced through both physician self-report of behaviors and observation of actual encounters.

PHYSICANS INVOLVED IN THE CARE OF PATIENTS WITH RECENTLY DIAGNOSED LUNG AND COLORECTAL CANCER. K. Kohli1; N.L. Keating1; M.B. Landrum2; J.Z. Ayanian1; C.N. Klabunde3; C. Catalano4.

BACKGROUND: To understand the distribution of physicians and roles fulfilled for patients with incident lung and colorectal cancer.

METHODS: Approximately four months after diagnosis, 1810 lung cancer (LC) and 2371 colorectal cancer (CRC) patients were surveyed by telephone to assess the types of physicians fulfilling key clinical roles. We examined the distribution of physicians reporting a physician fulfilling 4 key roles: surgery (surgical oncologist or surgeon), chemotherapy (medical or radiation oncologist), and radiation treatment delivered by a cancer (surgeon, medical or radiation oncologist) or non-cancer doctor. Patients with incident LC and CRC diagnosed during 2003–2005 in five regions, four integrated health-care delivery systems, and 10 VA hospitals were research subjects.

RESULTS: LC patients receiving surgery, chemotherapy, and radiation reported a mean of 3.6 (SD 1.3) unique physicians involved with their care vs. mean 3.0 (SD 1.1) for CRC patients receiving these treatments. CRC patients receiving surgery, chemotherapy, and radiation reported a mean of 3.1 (SD 1.1) unique physicians involved with their care vs. mean 2.1 (SD 1.0) for patients receiving none of these treatments. Most patients reported having a primary-care physician (PCP) (80% for LC, 74% for CRC), a doctor most important in helping them decide whether or not to have tests or treatments (77%, 57%, respectively), a doctor in charge of treatment for the next six months (81%, 59%), and a doctor responsible for managing symptoms (79%, 56%). For more than 90% of patients reporting a PCP, that doctor was someone other than their surgeon, chemotherapy or radiation doctor. For 49% of LC and 31% of CRC patients, the PCP was also the physician patients reported as most important in at least one of the three other key roles: helping them decide whether or not to have tests or treatments, the doctor in charge of treatments for the next six months, or the doctor most likely to know about their symptoms. Among patients reporting one doctor who was most important in helping them decide whether or not to have treatments, this physician was not a cancer specialist for 39% of patients with either LC or CRC. The doctor in charge of treatments for the next six months and the doctor responsible for managing symptoms was a cancer (surgeon, medical or radiation oncologist) or non-cancer doctor. Physicians involved in the care of patients with colorectal cancer were more likely to have received a diagnosis of CRC than LC patients (56% vs. 37%). LC patients were more likely to report that the doctor in charge of treatment was the same as the PCP (84% vs. 74% for CRC). LC patients were more likely to have received a diagnosis of CRC than LC patients (56% vs. 37%). LC patients were more likely to report that the doctor in charge of treatment was the same as the PCP (84% vs. 74% for CRC). LC patients were more likely to have received a diagnosis of CRC than LC patients (56% vs. 37%). LC patients were more likely to report that the doctor in charge of treatment was the same as the PCP (84% vs. 74% for CRC).

CONCLUSIONS: Early after a diagnosis of LC and CRC, most patients reported having several key providers of their care. Within the first 4 months, patients often received care from both primary care and cancer specialists. Across both cancers, 25% to 39% of patients reported a key management role fulfilled by a non-cancer doctor. For more than two-thirds of these patients, the non-cancer doctor fulfilled multiple roles. The management of patients with incident cancer typically includes several physicians fulfilling multiple key roles, including both primary care and cancer specialists. These findings suggest the need to develop and maintain systems for coordinating care effectively among these multiple physicians for patients with newly diagnosed lung cancer or colorectal cancer.
BACKGROUND: In participatory decision-making (PDM), the physician actively engages the patient in treatment decision-making. Previous studies suggest that patients who report that their doctors engage them in PDM have better health outcomes and disease self-management. We examined whether physicians’ self-reported PDM preferences and practices are associated with the quality of diabetes care and process and outcomes.

METHODS: Cross-sectional survey of a linked sample of 4195 diabetes patients in six managed care health plans and their physicians (1217 physicians). We examined three sets of outcome measures from patients’ medical record data: 1) four key recommended diabetes care processes that require patient follow-up to physician recommendations (A1c test; lipid profile test; proteinuria assessment; and dilated retinal exam); 2) levels of three intermediate outcomes (A1c, BP, LDL); and 3) “appropriate management”: whether intermediate outcomes were either controlled (A1c<8%, BP<140/90, LDL<130) or, if elevated, patients were on appropriate medications. Independent variables were physicians’ reported preferences and practices for involving patients in diabetes treatment decision-making. We adjusted for potential confounders (diabetes type and treatment, patient characteristics, and degree of medical specialization).

RESULTS: In unadjusted analyses and after adjusting for patient-level confounders and clustering the physician in plan level, physician decision-making preference for PDM was associated with higher odds of their patients receiving all four diabetes care processes than patients of physicians who preferred less patient participation. After also adjusting for predictor-level confounders, the patient physician preference for shared decision-making was associated with higher odds of their patients receiving 3 of the 4 processes of care within the recommended interval; an A1c test (OR: 2.10, 95% CI: 1.32-3.32); a proteinuria assessment (AOR: 1.95, 95% CI: 1.25-3.05); and a dilated retinal exam (AOR: 1.53, 95% CI: 1.12-2.09). Differences in likelihood of having received a lipid test were no longer statistically significant (AOR: 1.46, 95% CI: 0.99-2.20). After adjusting for confounders, there were no differences between the groups in intermediate outcome levels or appropriateness of blood pressure or lipid management. Physician preference for shared decision-making was associated with lower odds of appropriate A1c management (AOR: 0.65, 95% CI: 0.45-0.96), compared to physicians preferring provider-directed decision-making.

CONCLUSIONS: The physicians who report a preference for involving their patients equally in decision-making are significantly more likely to have all 4 recommended diabetes care processes of care than patients whose physicians report more physician-directed styles. Among patients who had an A1c checked, however, shared decision-making may be associated with less biomedically optimal anti-hyperglycemic treatment regimens.

ABSTRACTS

PNEUMOCOCCAL VACCINATION IN GENERAL INTERNAL MEDICINE PRACTICE: CURRENT PRACTICE AND FUTURE POSSIBILITIES, L.P. Hudley1; J.F. Steiner1; M. Daley2; L.A. Crane3; B. Beaty4; S. Stolley5; J. Barrow6; C. Babbitt7; M. Dickinson7; S. Bermudez-Trejo8; L. Lamanna9; L. Johnson Medical School, Newark, NJ. 2Department of Pediatrics, University of Colorado Health Sciences Center, Children’s Hospital, Denver, CO; 3Baylor College of Medicine, Houston, TX; 4Department of Preventive Medicine and Biometrics, University of Colorado Health Sciences Center, Denver, CO; 5National Immunization Program, Centers for Disease Control and Prevention, Atlanta, GA.

BACKGROUND: The Advisory Committee on Immunization Practices recommends that all adults ≥65 years receive the pneumococcal polysaccharide vaccine, yet only 63% of patients ≥65 years in the United States were vaccinated in 2002. The objective of this study was to compare pneumococcal vaccination rates between primary care and categorical track residents in the Internal Medicine Residency Program at the New York Presbyterian Hospital-Weill Cornell Medical Center.

METHODS: The study design was a retrospective electronic medical record chart review. It was conducted at Cornell Internal Medicine Associates, the main ambulatory care site for both primary care and categorical track residents. A chart review was performed for the first 100 residents who received pneumococcal vaccination status for all patients who: 1) were seen between 01/01/2005 and 12/31/2005; 2) had junior or senior internal medicine residents as their primary medical doctor during this time period; and 3) were ≥65 years.

RESULTS: There were 110 primary care resident patients (of 9 primary care residents), compared with 773 categorical resident patients (of 66 categorical care residents) seen during the study period. 72 (65.3%) of the primary care resident patients compared with 530 (68.6%) of the categorical resident patients had documented pneumococcal vaccination status. This difference was not statistically significant (Fisher’s Exact Test: 2-tailed p-value=0.513). There was also no difference in the average number of provider visits between the patients of primary care providers vs. categorical providers (10.4 vs. 10.1). However, within the primary care group, those that received the pneumococcal vaccine had more provider visits than those who had not (11.6 vs. 7.2 ).

CONCLUSIONS: Primary care residents are better at training residents in preventive medicine. Few studies have compared whether primary care providers vs. categorical providers (10.1 vs. 10.4). However, within the primary care group, those that received the pneumococcal vaccine had more provider visits than those who had not (11.6 vs. 7.2 ).

POLYPHARMACY AND PRESCRIBING QUALITY IN ELDERLY, M.A. Steinman1; C.S. Landerer2; G.E. Rosenthal3; D. Bertenhal3; S. Serf4; P. Kaboli5; San Francisco VA Medical Center, San Francisco, CA; 2University of California, San Francisco, San Francisco, CA; 3University of Iowa VAMC, Iowa City, IA; 4Mayo VAMC, Rochester, MN.

BACKGROUND: Use of multiple medications by elders is common and associated with potentially inappropriate prescribing. However, little is known about the relationship between polypharmacy and medication underuse, or the relative frequency of different types of prescribing problems in elders taking few, many medications.

METHODS: Medication prescribing quality was evaluated in a cohort of 196 veterans age 65 and older who were taking 5 or more medications. Inappropriate medication use was assessed by a combination of drugs-to-avoid criteria and subscales of the Medication Appropriateness Index that assess whether a drug is ineffective, not indicated, or unnecessary duplication of therapy. Underuse was assessed by the Assessment of Underutilization of Medications instrument. For each outcome, we used logistic models with a Poisson distribution to evaluate the association between number of medications taken and the number of problem medications.

RESULTS: Subjects were predominantly male and white, with a mean age of 74.6 years, and used a mean of 8.1 medications (SD 2.5). Among 196 subjects, 128 (65%) were taking at least one inappropriate medication, including 112 (57%) that had at least one inappropriate medication that was potentially therapeutically duplicative, and 73 (35%) with at least one medication in violation of drugs-to-avoid criteria. In contrast, 125 subjects (64%) were not using at least one medication that was indicated for disease prevention or treatment. In log-linear models of the association between number of medications and each of the four categories of the Medication Appropriateness Index, the odds of each medicated resident's prescribed medications rose sharply with increasing total number of medications (beta-coefficient 1.65, 95% CI 1.23-2.12), from an average of 0.4 inappropriate medications in patients taking 5-6 drugs to 1.9 inappropriate medications in patients taking 10 or more drugs (p<0.001). However, the frequency of medication underuse did not vary with changes in total number of medications taken: on average, patients were missing 1.0 potentially useful medications regardless of whether they were taking 5 or 6 medications (beta-coefficient 0.27, 95% CI –0.20-0.74). Overall, in patients taking fewer than 8 medications the likelihood of medication underuse exceeded the likelihood of inappropriate medication use.

CONCLUSIONS: Inappropriate medication use is strongly associated with the total number of medications taken, but underuse is frequent and equally common in elders taking few vs. many medications. In patients taking fewer
numbers of medications, evaluation of potential undertreatment should be a priority, whereas patients taking many medications should have close attention paid both to undertreatment and to use of inappropriate drugs.

POPULATION BASED PROFILE OF ELECTROCARDIOGRAPHIC INTERVALS IN PERSONS OVER 80. L. Vaidyanathan1; S. Behera1; K. Vedula1; R. Gilmore1; L. Stead1. 1Mayo Clinic, Rochester, MN. (Tracking ID # 156656)

BACKGROUND: In today’s fast-growing geriatric population, are standard clinical values for electrocardiographic (ECG) intervals reliable since they were historically based on the average young healthy male adult? In this study we estimated average cardiac intervals based on a population over 80 years of age and compared it to the ‘normal values’.

METHODS: The medical records of all patients who presented to our institution for community health maintenance examinations, aged 80 years and older, in the year 2002, who had an ECG performed as part of their routine medical exam were selected. Following approval by the institutional review board, records of 709 patients were reviewed. The following information was abstracted: Age, gender, rhythm, PR, QRS, QTc, and the incidence of cardiac disease. Cardiac disease was defined as the presence of coronary artery disease, myocardial infarction, angina, cardiac arrhythmias (including atrial fibrillation and flutter), congestive heart failure, sick sinus syndrome, presence of a pacemaker, vavulopathy and cardiac or valvular disease.

RESULTS: Of the 709 patients 325 (45.8%) were male. 502 (70.8%) were 80–84 years old, 178 (25.1%) 85–89, 86 (12.3%) 90–94 and 3 (0.4%) over 95 years. A total of 125 (17.6%) had a history of coronary disease. All measurements were obtained on the 709 patients with the exception of PR intervals, recorded for only 644 patients. The data was initially assessed to determine if there was a variation with regard to gender and age. Interval values were significantly higher in males. No discrepancy was found between different age groups within this age range. Revised reference ranges were thus established separately for males and females based on the data for the subset of 584 patients without a history of coronary disease. In all instances, the 95% confidence interval was higher than the cut-offs recommended in literature. This indicates that the ‘normal’ intervals may be inappropriate for an older population. For prolonged PR intervals an appropriate cut-off for males and females over the age of 80 was established to be >224 m sec and >244 m sec respectively. For prolonged QRS cut-offs were determined at >182 m sec for males and >188 m sec for females. And for prolonged QTc QRS >340 m sec for males and >340 m sec for females was established.

CONCLUSIONS: The upper limits for prolonged PR, QRS, and QTc intervals are increased in a population above the age of 80. The data suggests that perhaps the standard ECG interval cut-offs in the geriatric population should be revised.

POPULATION MORTALITY DURING THE SARS OUTBREAK IN TORONTO. S.W. Hwang1; A.M. Cheung1; R. Moineddin1; C.M. Bell1. 1University of Toronto, Toronto, Ontario. (Tracking ID # 150106)

BACKGROUND: The outbreak of Severe Acute Respiratory Syndrome (SARS) in Canada in 2003 led to extraordinary infection control measures that limited access to medical services in the Greater Toronto Area. It is unknown whether such measures were associated with changes in mortality due to causes other than SARS.

METHODS: The population of the province was grouped into two regions: the Greater Toronto Area (NT = 2.9 million) and the rest of Ontario (NT = 9.3 million), according to the level of restrictions on delivery of clinical services during the SARS outbreak. Our main outcome measure was all-cause mortality rates, excluding deaths due to SARS. We used Poisson regression and interrupted time-series analysis of death registry data to compare mortality before, during, and after the SARS outbreak in 2003 with corresponding periods in 2001 and 2002.

RESULTS: There was no significant change in mortality in the Greater Toronto Area before, during, and after the period of the SARS outbreak. After the preceding time periods (2001 and 2002), the rate ratio for all-cause mortality during the SARS outbreak was 0.99 (95% Confidence Interval [CI] 0.93–1.06) compared to 2002 and 0.96 (95% CI 0.90–1.03) compared to 2001. Similarly, the interrupted time series analysis found no significant change in mortality rates in the Greater Toronto Area associated with the period of the SARS outbreak. Sensitivity analyses indicated that changes in mortality rates of about 15–17% would be required to detect a significant difference.

CONCLUSIONS: Limitations on access to medical services during the 2003 SARS outbreak in Toronto had no observable impact on short-term population mortality. However, effects on morbidity and long-term mortality were not assessed. Efforts to contain future infectious disease outbreaks due to influenza or other agents must consider effects on access to essential health care services.

PREDICTING PRESSURE ULCER HEALING USING THE MINIMUM DATA SET. A. Kapoor1; B. Kader1; D.R. Berlowitz2. 1Boston University, Boston, MA; 2Boston University, Boston, MA. (Tracking ID # 156063)

BACKGROUND: Improving quality of care in nursing homes has become a mandated goal of the Institute of Medicine’s landmark report of Medicine issued its medical literature for pressure ulcer development and healing, we decided to examine 36 different variables, available in the Minimum Data Set (MDS), for association with pressure ulcer healing. Nursing homes complete the MDS on all its residents every 90 days or whenever a change in status occurs. MDS contains hospital clinical and demographic variables used to track the healing of its residents. We divided our sample randomly into a 60:40 split for derivation and validation of a model to predict pressure ulcer healing. Candidate predictors were tested in bivariate analysis and then entered into a multivariable logistic regression. We then executed a stepwise selection procedure to choose predictors to analyze in the validation set. Discrimination was measured by the c statistic and calibration with the Hosmer-Lemeshow test.

METHODS: From a 100 facility nursing home chain, we identified individuals suffering a stage 2 or higher pressure ulcer in 1997 or 1998. Based on the medical record for pressure ulcer development and healing, we decided to examine 36 different variables, available in the Minimum Data Set (MDS), for association with pressure ulcer healing. Nursing homes complete the MDS on all its residents every 90 days or whenever a change in status occurs. MDS contains hospital clinical and demographic variables used to track the healing of its residents. We divided our sample randomly into a 60:40 split for derivation and validation of a model to predict pressure ulcer healing. Candidate predictors were tested in bivariate analysis and then entered into a multivariable logistic regression. We then executed a stepwise selection procedure to choose predictors to analyze in the validation set. Discrimination was measured by the c statistic and calibration with the Hosmer-Lemeshow test.

RESULTS: In our multivariable analysis, we analyzed 2263 ninety day observation periods (representing 2664 different subjects). 1478 healing events occurred representing a 56 percent healing rate. Stage 2 ulcers healed at a rate of 65% whereas stage 3 and 4 healed less frequently at a 40% and 34% rate respectively, 7 variables predicted healing in the derivation sample. The c statistic for this model was 0.69 and the Hosmer-Lemeshow p value was 0.13 indicating an acceptable fit. The Hosmer-Lemeshow test for the predicting healing for 5 of 7 variables were statistically similar to those for the derivation set. These included not being in a bed (bedbound) state, not being paraplegic, having bed mobility, having a stage 2 ulcer from a stage 3 ulcer. Reducing the drug costs of patients with chronic conditions through more cost-effective prescribing is one strategy to reduce cost-related underuse of medication therapy. Our findings point to the need to make information on comparative drug effectiveness and price available to providers and patients.

POTENTIAL SAVINGS ASSOCIATED WITH CONSUMER REPORTS BEST BUY DRUGS PROGRAM. J.M. Donohue1; M.A. Fischer2; H.A. Huskamp3; J. Weissman4. 1University of Pittsburgh, PittsBurgh, PA; 2Brigham and Women’s Hospital, Boston, MA; 3Harvard Medical School, Boston, MA; 4Massachusetts General Hospital, Boston, MA. (Tracking ID # 154776)

BACKGROUND: Medication cost is one cause of undertreatment. Providers and patients seldom have reliable information on comparative effectiveness and cost of prescription drugs. The Consumer Reports Best Buy Drugs (CRBBID) Program aims to provide consumers and providers with an independent source of information on drug effectiveness and costs in several therapeutic classes, including angiotensin-converting enzyme inhibitors (ACEIs). Using an evidence-based review of drugs in the ACEI class conducted by the Oregon Health and Science University Drug Effectiveness Review Project, the CRBBID program has identified the drugs with the highest value (effectiveness and cost) in the class. Our objective was to determine how much would be saved from a societal perspective by following the CRBBID recommendations.

METHODS: ACEIs were selected as the focus of this study because they are widely used in the treatment of hypertension, congestive heart failure, and other conditions, undergone treatment is common, multiple drugs are available in the class, actual unit prices vary dramatically, and patients pay pocket costs. Reducing the drug costs of patients with chronic conditions through more cost-effective prescribing is one strategy to reduce cost-related underuse of medication therapy. Our findings point to the need to make information on comparative drug effectiveness and price available to providers and patients.

The medications in this class vary with respect to effectiveness and price. This analysis shows that substantial savings could be achieved by increasing the use of ACEIs identified by the CRBBID program as cost-effective. Increasing drug costs are of concern to both payers and patients who face high out-of-pocket costs. Reducing the drug costs of patients with chronic conditions through more cost-effective prescribing is one strategy to reduce cost-related underestimate of medication therapy. Our findings point to the need to make information on comparative drug effectiveness and price available to providers and patients.

CONCLUSIONS: ACEI are widely used to treat a range of chronic conditions. The medications in this class vary with respect to effectiveness and price. This analysis shows that substantial savings could be achieved by increasing the use of ACEIs identified by the CRBBID program as cost-effective. Increasing drug costs are of concern to both payers and patients who face high out-of-pocket costs. Reducing the drug costs of patients with chronic conditions through more cost-effective prescribing is one strategy to reduce cost-related underestimate of medication therapy. Our findings point to the need to make information on comparative drug effectiveness and price available to providers and patients.

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CONCLUSIONS: We successfully developed a model that contains, in general, clinically credible predictors of healing. The model fit the data well and had moderate discriminatory capacity consistent with other work using large data bases in which treatment and ulcer level data is not available. Future models
examining pressure ulcer healing should include variables of mobility, para-plegic state, and stage of ulcer.

**PREDICTORS OF THE DETECTION OF LEFT MAIN CORONARY ARTERY OCCLUSION OR LEFT MAIN EQUIVALENT USING THE 12-LEAD ECG: A FORMULA FOR ERROR.** J. Zaky1; C. Caraang2; R. Yu3; A. El-Bialy4; S. Meymandi4; R. Wachsner4. R.L. Gardner1; U. Populations. Needed before the application of such predictor methods across all patient angina. The mechanism behind such high false negative rates in our population used alone to predict the presence of significant LM disease during active CONCLUSIONS: Based on this sample, the 3 Methods used to predict Left V4 to V5 with rest angina (reflects impaired relaxation, elevated LVEDP, and ischemia).

METHODS: Of the 4,464 consecutive diagnostic angiograms of a public Los Angeles County General Hospital (LACGH) medical center, 91 cases were LM patients with LM disease (occlusion >50%). Of these 212 identified cases, 55 had well documented onset and resolution of active angina on the ECGs. The three Methods were applied to the 55 ECGs. As in the above studies, patients with prior MI, significant RCA stenosis, right bundle branch block (RBBB), left bundle branch block (LBBB) and tachycardia were excluded. RESULTS: We calculated the false negative rates and their associated 95% confidence intervals (CI) to evaluate the applicability of the published Methods to our population. Only 4/55 patients (7.3%) were identified by Method 1 with a false negative rate of 92.7% (95% CI: 82.4%–98.0%). Method 2 resulted in a 72.7% false negative rate (95% CI: 50.8%–89.6%). Method 3 resulted in a false negative rate of 81.8% (95% CI: 68.1%–90.9%). For each of the criteria examined, the false negative rate represents a statistically significant difference when compared to a rate of 50% (p<0.0001). Applying the above criteria would have allowed to identify all patients with significant LM disease in the great majority of patients in this sample. CONCLUSIONS: Based on this sample, the 3 Methods used to predict Left Main disease resulted in a high false negative rate and should not be used alone to predict the presence of significant LM disease during active angina. The mechanism behind such high false negative rates in our population in comparison to other populations is unknown. More prospective studies are needed before the application of such predictor methods across all patient populations.

**PREDICTORS OF ACADEMIC SUCCESS AMONG PART-TIME GENERAL INTERNISTS.** R.B. Levine1; H.F. Mechaber1; E.B. Bass1; S.M. Wright1; J. Johns Hopkins University, Baltimore, MD; 2University of Miami, Coral Gables, FL. (Tracking ID # 152862)

BACKGROUND: There is increased interest in part-time positions at academic medical centers. We sought to identify factors associated with academic success among faculty who are exclusively working part-time in divisions of general internal medicine.

METHODS: We conducted a survey of part-time (PT) (n = 140) and full-time (FT) (n = 139), age and sex matched pharmacist faculty, identified through the Society of General Internal Medicine's part-time careers interest group and the Association of Chairs in General Internal Medicine. Survey content included personal and professional characteristics, academic support, academic productivity, and hours worked. After controlling for effort in full-time equivalents (FTE), we computed measures of academic success (publications and funding) between PT and FT faculty at different ranks. Multivariable analysis was used to identify factors independently associated with academic success. To develop the final models, we included variables from three domain specific models (personal factors, professional characteristics and academic support) that were significantly associated with a greater number of publications and having received funding. RESULTS: The response rate was 64%. Faculty from 34 academic medical centers participated. The mean FTE of PT faculty was 66%, SD (14). On average, PT faculty worked 36.3 hours per week, SD (6.9) compared to FT faculty who worked 55 hours, SD (9.5) [p < 0.01]. There were no significant differences in academic rank or the percentages of time that PT and FT faculty spent in patient care, research, teaching and administrative activities (all p = 0.05). PT faculty were more likely to be clinicians (96% vs. 86%, p < 0.01) and have a physician spouse (72% vs. 35%, p < 0.01). PT faculty were more likely to be clinicians or clinician-educators (96% vs. 78%, p < 0.01) and less likely to be fellowship trained (23% vs. 44%, p = 0.00), have received funding (62% vs. 68%, p < 0.01) or have more than 5 publications (10% vs. 36%, p < 0.01). Compared to FT faculty, part-timers reported less academic support including administrative assistance (44% vs. 67%, p = 0.01), mentoring (71% vs. 44%, p = 0.01) and research/scholar support (44% vs. 59%, p = 0.01). After controlling for FTE, among Instructors and Assistant Professors, PT faculty were more likely to have greater than 5 publications (OR 10.8, 95% CI 2.3–50) and to have secured funding (OR 3.9, 95% CI 1.8–9.0). At the Associate Professor and Professor ranks, controlling for FTE revealed that PT faculty were more likely to have obtained funding (OR 5.5, 95% CI 1.2–25.0) but not more publications (OR 3.8, 95% CI 0.9–15.6) compared to PT faculty. In multivariable analysis, only research/support (statistical significance OR 1.6, 95% CI 0.6–4.6) was associated with a greater number of publications while PT status had a negative association (OR 0.33, 95% CI 1.2–9.0). Factors independently associated with having secured funding included use of academic supports such as granthunters (4.5, 95% CI 1.8–9.1) and research/statistical assistance (OR 4.1, 95% CI 1.2–6.1) as well as being fellowship trained (OR 2.6, 95% CI 1.2– 6.1). PT status resulted in a decreased odds of being funded (OR .35, 95% CI 0.16–0.76).

CONCLUSIONS: Access to academic support may influence PT faculty’s ability to publish and obtain funding. Academic medical centers that wish to facilitate the success of PT faculty may consider expanding the professional support available to them.

**PREDICTORS OF EMERGENCY DEPARTMENT LENGTH OF STAY.** R.L. Gardner1; U. Sarkar2; J.H. Maselli1; R. Gonzales1; 1University of California, San Francisco, San Francisco, CA. (Tracking ID # 53544)

BACKGROUND: Approximately 10% of ambulatory medical care in the US takes place in the ED. Early identification and therapeutic intervention prior to PCI is critical if surgery is needed before the application of such predictor methods across all patient angina.

RESULTS: We calculated the false negative rates and their associated 95% confidence intervals (CI) to evaluate the applicability of the published Methods to our population. Only 4/55 patients (7.3%) were identified by Method 1 with a false negative rate of 92.7% (95% CI: 82.4%–98.0%). Method 2 resulted in a 72.7% false negative rate (95% CI: 50.8%–89.6%). Method 3 resulted in a false negative rate of 81.8% (95% CI: 68.1%–90.9%). For each of the criteria examined, the false negative rate represents a statistically significant difference when compared to a rate of 50% (p<0.0001). Applying the above criteria would have allowed to identify all patients with significant LM disease in the great majority of patients in this sample. CONCLUSIONS: Based on this sample, the 3 Methods used to predict Left Main disease resulted in a high false negative rate and should not be used alone to predict the presence of significant LM disease during active angina. The mechanism behind such high false negative rates in our population in comparison to other populations is unknown. More prospective studies are needed before the application of such predictor methods across all patient populations.

**PREDICTORS OF NONCOMPLIANCE WITH CHRONIC NARCOTIC AGREEMENTS IN PRIMARY CARE.** J.T. Iannone1; K. Han1; S. Shelley2; S. Moussavi1; M. Stallworth3; M. Studley1; E. Wann1; G.W. Rouan1; 1University of Cincinnati, Cincinnati, OH. (Tracking ID # 55282)

BACKGROUND: The management of chronic pain is a considerable issue for primary care practices. In order to effectively manage patients with chronic pain, “controlled substances agreements” have become a mainstay of management. Such agreements stipulate upon patient compliance with methods for obtaining refills and provisions for urine toxicology screening. Violation of this agreement typically results in patient dismissal from the practice. Predicting which patients may violate a controlled substance agreement would likely enable physicians to provide better care to those with chronic pain. We sought to define characteristics of patients failing to comply with a controlled substance agreement.

METHODS: A cohort study including patients begun on chronic narcotic therapy from February 2005 to November 2005. We identified patients in violation of their controlled substance agreements as well as patients stable on chronic narcotic therapy for at least six months. Data including demographic
infected with HIV compared to one in every fourteen men of the same age. Consistent condom use and negotiation of safer sex are the most effective means of HIV risk reduction for sexually active youth, yet studies have shown that only about a third of sexually active male and female youth use condoms. In South Africa, condoms are widely available at no cost, and the majority of youth report that they know that condoms prevent HIV, sexually transmitted infections, and unwanted pregnancy. However, accessibility and knowledge about condoms have not translated into increased use. Findings from the previous studies have found that persons are more likely to use condoms if they believe in their ability to use condoms (self-efficacy). In this study, we use the Social Cognitive Model as a framework to examine predictors of self-efficacy for condom use and sexual negotiation in South African youth and how this self-efficacy may differ by gender.

METHODS: The Reproductive Health and HIV Research Unit (RHU) National Youth Survey examined a nationally representative sample of 7,409 sexually active South African youth aged 15–24. We used logistic regression to identify factors from our conceptual model associated with self-efficacy for condom use and sexual negotiation in South African youth.

RESULTS: Among women, significant predictors of high self-efficacy were knowing how to avoid HIV, having spoken with someone other than parent/guardian about sexual issues and prevention, and taking HIV seriously. The most important predictor of low self-efficacy among men was theirпрофессиональное значение в предотвращении СПИДа. Мы использовали логистическую регрессию для определения факторов, оказывающих влияние на самую высокую уверенность в себе, и факторов, влияющих на низкую уверенность в себе, среди юношей.

CONCLUSIONS: Many predictors of self-efficacy for condom use and sexual negotiation are modifiable and suggest potential ways to improve self-efficacy and reduce HIV sexual risk behavior in South African youth.

PREDICTORS OF TIMELY INITIATION OF ANTIBIOTIC THERAPY FOR PATIENTS HOSPITALIZED WITH PNEUMONIA. D.J. Hsu1; D. Obrosky2; R.A. Stone2; E. Crick2; M.J. Fine2. 1University of Pittsburgh, Pittsburgh, PA; 2VA Pittsburgh Healthcare System, Pittsburgh, PA. Tracking ID # 154288

BACKGROUND: Although initiation of antibiotic therapy within 4 hours of presentation has been associated with improved survival for patients hospitalized with pneumonia, there is limited information on the factors associated with the performance of this guideline-recommended practice. The primary aim was to identify the patient, provider, and system-level factors associated with timely initiation of antibiotic therapy for inpatients with pneumonia.

METHODS: Participants were inpatients, who presented to a participating emergency department (ED) within 12 hours of clinical and radiographic evidence of pneumonia, and were enrolled in the 32-site cluster-randomized EDCTAP trial to assess the effectiveness of 3 guideline implementation strategies of increasing the quality of antibiotic therapy for pneumonia. The study sites were randomized to one of the following interventions: (1) computerized provider prompt for antibiotic therapy; (2) computerized provider prompt for antibiotic therapy and educational intervention for providers; and, if relevant, by what methods. Baseline system-level factors included annual ED volume, teaching status, and practice. The primary outcome for this analysis was the time from presentation to delivery of the first dose of antibiotic therapy. A cut-point of less than or equal to 4 hours was used to define adherence to this quality measure, consistent with current national guideline recommendations. Multivariable, multilevel random effects logistic regression models were used to identify patient, provider, and system-level factors independently associated with this outcome, after controlling for the trial intervention arm.

RESULTS: Among 2076 inpatients, 1632 (78.6%) managed by 376 ED medical providers received the first dose of antibiotic therapy within 4 hours of presentation. Across the 32 study sites, rates of compliance with this outcome ranged from 55.6% to 100%, with no significant differences observed across the three treatment arms (77.0% vs. 79.7% vs. 78.8% p=0.2). In multivariable analysis, tachycardia (OR=1.6, 95% CI [1.1, 2.3]), tachypnea (OR=2.3, 95% CI [1.6, 3.4]), and suspected aspiration (OR=3.7, 95% CI [1.1, 12.2]) were positively associated with timely initiation of antibiotic therapy, while anemia (OR=0.6, 95% CI [0.4, 0.9]) was negatively associated with this outcome. No provider or system-level factors were independently associated with this outcome. Timely initiation of antibiotic therapy was a process of care recommended by the project guideline. Baseline patient factors included demographics, comorbid conditions, physical examination findings, and laboratory and radiographic findings. Baseline medical provider factors included demographics, year of medical school graduation, and shifts worked per month. All 32 ED directors were asked to determine whether the guideline recommendation for timely administration of antibiotics was communicated to practicing physicians and, if relevant, by what methods. Baseline system-level factors included annual ED volume, teaching status, and practice. The primary outcome for this analysis was the time from presentation to delivery of the first dose of antibiotic therapy. A cut-point of less than or equal to 4 hours was used to define adherence to this quality measure, consistent with current national guideline recommendations. Multivariable, multilevel random effects logistic regression models were used to identify patient, provider, and system-level factors independently associated with this outcome, after controlling for the trial intervention arm.

CONCLUSIONS: Timely initiation of antibiotic therapy was related primarily to patient-related factors that reflect severity of illness. That provider and system-level factors were not independently associated with this outcome may reflect a lack of sufficient statistical power for the study, or a failure to collect the most relevant provider and site-level factors.

PREFERENCE-BASED UTILITY MEASURES ARE INSENSITIVE TO CHANGES IN ALCOHOL CONSUMPTION AND CONSEQUENCES. K.L. Kramer1; M.S. Roberts1; D.M. Hunter1; C. Sullivan1; A. Pettifor1; M. Wong1; T. Coates1. 1University of California, Los Angeles, Los Angeles, CA; 2University of North Carolina at Chapel Hill, Chapel Hill, NC. Tracking ID # 152693

BACKGROUND: Cost-utility analysis has promise for use alongside clinical trials of alcohol prevention and intervention programs. However, there is scant evidence to guide the choice of utility assessment method in individuals with...
unhealthy alcohol use. In this study, we assessed the responsiveness of different utility measurement methods to changes in alcohol consumption and adverse alcohol consequences over time.

METHODS: We analyzed 3-month and 12-month follow-up data from 341 participants enrolled in a randomized, controlled effectiveness trial of a brief motivational intervention for medical inpatients with unhealthy alcohol use (>14 standard drinks per week or >4 drinks per occasion for men; >7 drinks per week or >3 drinks per occasion for women and people over 65 years). Participants completed Time Line Follow Back measures of alcohol consumption, the 15-item Short Inventory of Problems (SIP; a measure of alcohol consequences), and the 5-item EQ-5D and SF-6D (derived from the SF-12) utility measures at each assessment. We used Impact3 software to measure Visual Analogue Scale (VAS), Time Trade-Off (TTO), and Standard Gamble (SG) utility for the participants' current health at each follow-up assessment. In participants with complete follow-up data, we used multivariable linear regression models to test the association between changes in the alcohol-specific and generic health measures and changes in each of the five utility measures. Separate models were fit for each independent variable and outcome and all models adjusted for age, gender, race, homelessness, and heroin or cocaine use.

RESULTS: 251 participants (mean age 45 years, 49% black, 68% male, 82% alcohol abuse/dependence) completed both follow-up assessments. Alcohol consumption decreased by a mean of 0.34 drinks per day and alcohol consequences decreased by a mean of 2.2 points on the SIP scale. Mean utility ratings increased minimally from the 3-month to the 12-month follow-up (VAS, 0.02 to 0.65; TTO, 0.90 to 0.82; SG, 0.78 to 0.78; EQ-5D, 0.57 to 0.62; SF-6D, 0.65 to 0.67). In adjusted analyses, we found that VAS utility increased significantly over time as alcohol consumption (VAS=0.005 for decrease of 1 drink/day; p=0.003) and alcohol consequences (VAS=0.012 for decrease of 1 drink/day; p=0.005) decreased. There was a decrease on SIP score; p<0.05) decreased. SF-6D utility also increased significantly (p<0.05) over time as alcohol consequences decreased but did not change significantly with alcohol consumption. TTO, SG, and EQ-5D were not significantly responsive to changes in alcohol consumption and consequences.

CONCLUSIONS: In a population of mostly alcohol dependent patients, we found that standard utility methods were insensitive to changes in alcohol consumption and adverse alcohol consequences over time. We do not know whether observed insensitivity is due to errors in utility measurement, to a lack of impact of alcohol consumption and consequences on quality of life in this population, or to another factor. Further work is needed to determine the most valid and sensitive utility measure for alcohol studies.

PREFERENCES FOR INTERACTION WITH INTERNAL MEDICAL CONSULTANTS DIFFER BETWEEN SPECIALTIES: S.M. Salerno1; F.P. Hurst2; D.L. Mercado3; S. Halverson4; M.J. Bair1; S. Bird1; R. King3; S. d’Souza4; T. Lawrence2; E.J. Brizendine2; R.T. Ackermann2; C. Shen2; K. Kroenke2; D.G. Marrero2; R.B. Friedman1; L. Magruder1; N. McDonald1; D. Herbert5; M. Latif6; S. Afshar2

1Tripler Army Medical Center, Honolulu, HI; 2Walter Reed Army Medical Center, Washington, DC; 3Tufts University, Springfield, MA; 4Oregon Health & Science University, Portland, OR; 5Tracking ID #: 159055

BACKGROUND: Despite rapid changes in health care delivery, scant literature on communication preferences between different medical specialties has been published over the past decade.

METHODS: 307 general internists, family physicians, general surgeons, orthopedic surgeons, and gynecologists from three academic medical centers were given an anonymous survey using a 5 point Likert scale on their ideal relationship with consultants in internal medicine specialties. Differences between surgeons and non-surgeons were calculated using logistic regression adjusting for location and trainee status. Differences between different surgical subspecialties were calculated using analysis of variance with Scheffe post-hoc analysis.

RESULTS: There was a 72% response rate. Half of respondents were surgeons and the other half were general internists and family physicians. Surgeons were more likely (OR 3.52, 95% CI 2.1-6.0) than internists or family medicine physicians to want consult advice on a broad variety of care topics rather than a narrowly defined question. Over half (59%) of family medicine physicians and internists preferred to retain order writing authority on their patients compared to 37% of surgeons (p<0.001). Of the surgeons preferring to retain authority, 95% felt it was appropriate for consultants to write orders after a verbal discussion. Orthopedic surgeons wanted consultants to write orders and co-manage the patient significantly more than general surgeons and obstetricians (p<0.001). Few physicians (29%) felt literature references were useful in consultation. Most (79%) preferred direct verbal consultation and 7% were more comfortable answering the consult. Most (78%) family medicine providers felt little need for general internal medicine input, preferring to consult subspecialists of internal medicine directly.

CONCLUSIONS: Distinct differences in consultant expectations are present depending on the specialty of the referring physician. Orthopedic surgeons desire more hands-on, comprehensive consultant involvement including order writing and patient management. General internists and family medicine physicians wish to retain control over order writing and want specialists to focus on a narrowly defined clinical problem.

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PREVALENCE OF DEPRESSION AMONG LOW-INCOME PATIENTS IN A COUNTY EMERGENCY DEPARTMENT. S.A. Mohanty1; I.T. Lagomasino1; D. Anglin1; L. Gelberg2; S. Gadiwalla 1; J. Beltran-Keeling 1; B. Johnson 1.

BACKGROUND: Depression, the most common mental illness, is identified as the leading cause of disability worldwide and results in increased health services use and health care costs. Low-income Latinos may be particularly likely to suffer from depression due to frequent joblessness, poverty, and discrimination. Patients with depression, however, may disproportionately use EDs as a source of primary care due to lack of insurance or a usual source of care. Patients, however, have never been screened for depression in EDs. We tested a depression screening tool administered by community health workers (Promotoras) in a predominantly Latino ED patient population to identify both depression prevalence and the degree of under-recognition of depression.

METHODS: Bilingual and bicultural Promotoras approached 221 adult patients in ED waiting areas of a large Los Angeles public hospital. Those 202 patients who consented (91%) were screened for depression using the Patient Health Questionnaire-8 (PHQ-8). A score of 10 or more was a cut-off for a session on the presence and severity of major depression among ethnically-diverse primary care patients. Functional impairment was ascertained based on the question “How difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?” Patients were surveyed on sociodemographics and health care utilization. We calculated univariate statistics for potential predictors of depression. Significance testing of individual items within the PHQ-8 was performed using chi-square analyses. We conducted multivariate models using stepwise logistic regression on a dichotomized depression outcome (depressed=score ≥ 10; not depressed=score < 10).

RESULTS: Seventy percent (70%) of patients screened identified as Latinos: 50% of surveys were conducted in Spanish. Over 1/3 (37%) had a PHQ-8 score consistent with probable moderate to severe depression. Depressed patients reported more functional impairment compared to non-depressed patients (70% vs.16%, p<0.0001). In univariate analyses, we found that the following patients had greater odds of being depressed: unemployed (vs. working full- or part-time, OR 2.0, 95% CI 1.1, 3.6, p=0.03); Spanish-speaking (vs. English-speaking, OR 2.3, 95% CI 1.3, 4.2, p=0.006). No other predictors were significant in our univariate analyses. In multivariate analyses, unemployment status and Spanish-speaking remained the only significant predictors of being depressed (unemployed AOR 2.2, 95% CI 1.1, 4.0; Spanish-speaking AOR 2.4, 95% CI 1.3, 4.4).

CONCLUSIONS: A considerable proportion of patients within a County ED screened positive for depression, many of whom reported difficulty with functioning and emotional pressure. These patients may have significant co-morbidities on depression or may result from untreated depression. Spanish speakers’ greater rates of depression in the ED need to be better understood, as this measure may be a proxy for low-acclimatization or reflect poor access to quality depression care. Depression screening in EDs may be warranted for patients who rely on the ED as a surrogate for primary care. Future work will involve studying the validity of the PHQ-8 and other depression screening short tools in ED settings as well as developing ED-based depression interventions that can improve access to depression care in outpatient primary care and mental health settings. These interventions, which must be culturally appropriate and practical for public health systems, have the potential to reduce ED overcrowding, energy expenditure. In concordance with national data, blacks were significantly more overweight and obese than whites. This study provides baseline data and helps target high-risk groups for biopsychosocial interventions in this unique clinic.

PREVENTIVE COUNSELING OF DIABETIC WOMEN OF REPRODUCTIVE AGE. E.B. Schwarz1; J. Maselli2; R. Gonzales2.

BACKGROUND: Individuals with diabetes require counseling regarding the impact of diet, exercise, and medications on disease progression and clinical outcomes. Diabetic women of reproductive age require additional counseling on family planning, since births occurring in about 5%–8% of their pregnancies, which is approximately twice the rate in the general population. While about half of all pregnancies in the United States are unintended, nearly two-thirds of pregnancies in diabetic women are unplanned. The goal of this study was to determine whether preventive counseling provided to diabetic women of reproductive age differs from that provided to nondiabetic women.

METHODS: We examined 40,304 visits made by non-pregnant women aged 14–44 years maintained in the National Ambulatory Medical Care Survey (NAMCS) and National Hospital Ambulatory Medical Care Survey (NHAMCS); 918 of these visits were made by women with diabetes. To compare visits in which women received preventive counseling (as defined: nutrition, exercise, and family planning) with those in which women did not receive diabetes counseling, we used chi-square tests. To examine patient, provider, and visit characteristics associated with provision of contraceptive counseling to all women, we used multivariable and multilevel models that accounted for the design effects of NAMCS and NHAMCS data.

RESULTS: Most visits (60%) made by women with diabetes were to internists or family practitioners. A comparison of visits women with and without diabetes showed that a larger proportion of diabetic women received counseling about diet/nutrition (43.2% vs. 10.9% of visits; P<0.001) and exercise (18.3% vs. 9.4% of visits; P<0.001) but that a smaller proportion received counseling about contraception (4.0% vs. 11.5%; P<0.001). In multivariable analyses, adjusting for age, race, ethnicity, insurance status, relationship with physician, and primary reason for visit, we found that women with diabetes were still less likely than women without diabetes to receive contraceptive counseling (OR, 0.25; 95% CI, 0.13–0.46). In addition, we found that women with diabetes under 25 years old were less likely to receive contraceptive counseling than older women with diabetes (OR, 0.17; 95% CI, 0.06–0.50). Women were more likely to receive contraceptive counseling if their primary reason for visit was family planning (OR, 35.3; 95% CI, 14.3–87.2). Conclusions: Although diabetes is affecting a growing number of women and carries an increased risk of adverse pregnancy outcomes if glucose levels are not tightly controlled, outpatient physicians are providing contraceptive counseling less frequently to women with diabetes than to nondiabetic women. Our results suggest that women with diabetes require more contraceptive counseling and perhaps need to have visits scheduled primarily to address family planning.
CONCLUSIONS: Women aged 80+ are less likely to receive most screening tests and healthy lifestyle counseling than women aged 65–79 but are more likely to be up to date with immunizations. As counseling is inexpensive and its benefits can be realized in a short time frame, healthy lifestyle counseling may be an important underutilized preventive health measure for women aged 80+.

### Table 1

| Test                        | Mean (n=235) | Mean (n=311) | Adjusted OR |
|-----------------------------|--------------|--------------|-------------|
| Pap Smear in past 3 years   | 10           | 0.2 (0.1–0.3)|            |
| Mammogram in past 2 years   | 53           | 0.3 (0.2–0.4)|            |
| Colon Cancer Screening in   | 54           | 0.5 (0.3–0.7)|            |
| past 10 years               |              |              |            |
| Mood Disorder in past year  | 23           | 0.5 (0.3–0.7)|            |
| Bone Densitometry in past 10 years | 46 | 0.6 (0.4–0.9) |            |
| Exercise Discussed in past year | 35 | 0.7 (0.5–1.0) |            |
| Diet in past 1 year         | 46           | 1.0 (0.7–1.5)|            |
| Flu shot in past 2 years    | 68           | 1.5 (1.0–2.2)|            |
| Receipt of Pneumovax        | 68           | 1.7 (1.2–2.4)|            |

PRIMARY CARE FOR PTSD AND TRAUMA-RELATED MENTAL HEALTH SYMPTOMS IN COMMUNITY/MIGRANT HEALTH CENTERS: L.S. Meredith1; D.P. Eisenman2; B.L. P.A. Pirraglia1; V. Murthy2; J.B. Weilburg2.

BACKGROUND: Primary care clinicians (PCCs) are often the first point of contact with the health care system for patients suffering from posttraumatic stress disorder (PTSD) or subthreshold PTSD, because most people with common mental health disorders do not seek treatment from mental health specialists. The majority of individuals report having experienced some form of trauma and the estimated lifetime prevalence of PTSD is 7.8% in the general population. However, it is higher among primary care patients especially for underserved populations, due to their exposure to interpersonal, political, and community violence. Yet, we know very little about how PCCs’ attitudes influence the delivery of PTSD care or whether they vary according to different organizational structures. The objective of this study is to describe PCC and Medical Director attitudes and their practices regarding the delivery of care for PTSD and trauma-related mental health symptoms in a range of Community/Migrant Health Centers (C/MHCs).

METHODS: We conducted site visits and face-to-face semi-structured interviews with the Medical Directors and 2-3 PCCs in each of 5 C/MHCs serving a high proportion of Latino immigrants. Sites were purposely selected to represent structural characteristics hypothesized to be associated with PTSD delivery. We selected 4 C/MHCs representing each combination of mental health integration (low vs. high) and community linkages (social/legal services/low vs. high linkages). We selected 5 sites in less than 13 minutes to study differences based on 9/11 exposure. All sites were part of the Clinical Directors’ Network (CDN), a practice-based research network with many practices located in New York/New Jersey.

RESULTS: Interviews with Medical Directors identified several key themes related to care for PTSD in C/MHC settings. They recognized the importance of caring for patients with PTSD, yet noted that few formal written policies and procedures are in place for identifying or managing these health problems. PCCs held similar views, endorsing screening and assessment for PTSD, particularly for their Latino immigrant patients; although few reported that they routinely screen for or assess PTSD. This reported tendency was stronger among the C/MHCs with greater capacity to provide needed mental health and social/legal services. When PCCs do have patients that present with PTSD symptoms, referral to behavioral health is the norm. Reported barriers to PTSD care included poor access to behavioral health care, lack of clinical training and incentives to treat PTSD, and time limitations.

CONCLUSIONS: Though Medical Directors and PCCs held overall positive attitudes about recognizing, treating, and demonstrating referrals for PTSD and its symptoms, Medical Directors had not established policies or procedures. Structural factors such as having mental health specialty care available on-site and established relationships with social and legal services may be associated with more barriers to care attitudes toward providing PTSD care. Identification of PCC attitudes and practices and their association with different organizational structures will uncover potential intervention strategies to improve the quality of primary care for PTSD, and identify perceived barriers to overcome as part of intervention.

### PRIMARY CARE PHYSICIAN ATTRIBUTIONS FOR WHY PATIENTS DID NOT RECEIVE ADEQUATE ANTIDEPRESSANT TREATMENT: D.A. Pringle1; V. Murphy1; J.B. Weilburg2.

BACKGROUND: Antidepressants are commonly prescribed by primary care physician. However, there is a low rate of attainment of minimal standards for treatment guideline concordance for antidepressant treatment in primary care. Our objective was to identify themes regarding primary care physicians’ perceptions of the causes for patients not attaining an adequate course of antidepressant treatment.

METHODS: Our participants were primary care physicians in the intervention arm of a controlled study examining the effect of feedback and education on antidepressant treatment adequacy. We conducted a qualitative analysis of written responses to feedback on antidepressant prescribing. Grounded Theory, a common approach in qualitative research through which themes are derived from the interviews, guided the analytic approach to the data. Two of the authors (sL.M. and D.P.E.) independently analyzed the data. We gathered all written responses and labeled them. We organized and grouped the quotes and created categories of responses. Lastly, we examined the categories to determine if overarching themes emerged. Based on the content and wording of the quotes within the categories, we developed themes regarding physicians’ responses to our report of treatment inadequacy. Categories and themes were compared and discrepancies were discussed and resolved.

RESULTS: Thirty-seven primary care physicians from four primary care practices participated in our feedback and educational intervention. Twenty-five (68%) primary care physicians completed and returned a response form regarding the feedback they received on their patients and were therefore included in our analyses. Five themes emerged regarding the reasons primary care physicians gave for why their patient had not received an adequate course of antidepressant treatment: Others Were Responsible, Patient Related Causes, Treatment Was Correct, Not on Antidepressant, and Uncertainty. Others Were Responsible was a predominant theme, often represented by notations that the patient has a psychiatrist.

CONCLUSIONS: Our findings suggest that primary care physicians may not see themselves as responsible for the adequacy of depression or anxiety treatment. Knowledge of these themes of primary care physician attributions for inadequate pharmacologic treatment in their patients may be of use in further shaping a primary care oriented system of care for mood and anxiety disorders that can be readily implemented and sustained.
PRIMARY CARE TEAMS: EFFECTS ON THE QUALITY OF CLINICIAN-PATIENT INTERACTIONS AND PATIENT'S PRIMARY CARE EXPERIENCES. H.P. Rodriguez1; W.H. Rogers1; P.E. Marshall2; D.G. Saltani3; Tufts-New England Medical Center, Boston, MA; 2Harvard Vanguard Medical Associates, Newton, MA; 3Tufts University, Boston, MA. (Tracking ID # 159304)

BACKGROUND: Multidisciplinary care teams are increasingly seen as important for advancing the quality of chronic disease management and primary care practice generally. This study examines the influence of primary care teams on patients’ reported experiences in their primary care practices, including the quality of clinician-patient interactions.

METHODS: From March 2004 through March 2005, a large multispecialty practice in Massachusetts administered surveys monthly to a random sample of patients visiting each of 145 primary care physicians. Eligible patients were those with at least one visit to their PCP the month prior. Our analytic sample included 1,381 patients (average per physician = 10.5) with 2 or more primary care visits over the prior 6 months. Patients’ primary care experiences were assessed using the Ambulatory Care Experiences Survey (ACES), a well-validated instrument comprised of 11 summaries across two domains: standard patient interaction quality and organizational features of care. Using administrative data, standardized indices of visit continuity were calculated, indicating the type and extent of each patient’s continuity over 6 months preceding the survey. Information on team composition (primary care physician [PCP] matched with specific physician assistants, nurse practitioners, and registered nurses) was used to classify each primary care visit as either PCP, on-team, or off-team. For each ACES measure, regression models controlling for patient characteristics and utilization, evaluated the effects of continuity on patients’ reported primary care experiences, including the quality of interactions with their PCP and other team members.

RESULTS: Among patients with 2 or more visits, 35% saw only their PCP, 15% had only “on-team” visits (PCP and team members), 9% had both on- and off-team visits, and the remainder (41%) had only “off-team” visits when not seeing their PCP. Higher PCP continuity was associated with more favorable assessment of physician-patient interactions, including communication, knowledge of the patient, health promotion, and patient willingness to recommend the physician. Effects ranged from 0.6 to 1.9 points for every standard deviation increase in PCP continuity (p < .001 for all measures). Patients’ assessments of the team clinical quality were significantly better for those with “on-team” vs. “off-team” visits (1.5 points, p < .01). However, for all other ACES measures, the effect of PCP discontinuity was the same for patients with on-team vs. off-team visits.

CONCLUSIONS: Our findings suggest that visit discontinuities between patients and their PCPs are associated with a decrement in patients’ assessments of their care, irrespective of whether those discontinuities involve visits to clinicians who are formally part of the team vs. others in the practice. The sole exception to this involved patients’ assessments of their team interactions, where on-team visits were associated with more favorable assessments than off-team visits. The findings highlight the challenges of incorporating teams into primary care practice in ways that positively affect patients’ overall experiences and don’t impede strong PCP-patient relationships. The finding that on-team vs. off-team visits were equally negative in their effects on most aspects of patients’ experiences suggests the need for improving the coherence and value of team approaches from patients’ perspectives.

PRIMARY CARE VISITS REDUCE HOSPITAL UTILIZATION OF MEDICARE BENEFICIARIES AT THE END OF LIFE. A.C. Kerman1; K.M. Freund1; A. Ash2; A. Hanchette3; E. Emanuel3; 1Boston University School of Medicine, Boston, MA; 2Boston University Medical Center, Boston, MA; 3National Institutes of Health (NIH), Bethesda, MD. (Tracking ID # 153664)

BACKGROUND: At the end of life, 6% of the Medicare beneficiaries who die each year consume 27% of Medicare expenditures. Patients are often under-treasured for symptoms, or over-treasured in care inconsistent with previously stated wishes. Little is known about the role of primary care in the quality and utilization of health services at the end of life. Our study objective was to examine the relationship between primary care physician visits and subsequent hospital utilization at the end of life.

METHODS: Retrospective analysis of a national sample of Medicare beneficiaries over 65 years of age who died in the second half of 2001; Blacks and Hispanics were over-sampled. We excluded beneficiaries not in the fee-for-service Medicare parts A and B, and those in the End Stage Renal Disease Program. Our outcome variables were measured during the last 6 months of life: total hospital days, and the presence of each of 4 types of potentially preventable hospital admissions (Ambulatory Care Sensitive Conditions; ACSC). Number of primary care physician visits and potential confounders were measured during the 12 preceding months. We used bivariate and multivariate analyses to identify and address county-level variations in healthcare utilization, and adjust for nursing home use, Medicaid receipt, comorbidity, and demographics.

RESULTS: The response rate was 71% (122/171). Individual schools’ students comprised 6% to 21% of the total respondents. Mean age was 27 years, and 66% were female. At least 90% of students completed clerkships in medicine, surgery, pediatrics, obstetrics/gynecology, psychiatry, and family medicine. Less than 30% of students had completed a subinternship in medicine, surgery, or pediatrics. The most common anticipated residencies included internal medicine (12%), family medicine (10%), pediatrics (9%), and obstetrics/gynecology (8%). A majority of students reported never having performed cardiovension (92%), thoracentry (88%), purified protein derivative (PPD) placement (75%), blood culture (74%), cardiopulmonary resuscitation (72%), paracentesis (66%) and lumbar puncture (65%). Many students reported never having performed basic, common procedures including phlebotomy (24%), arterial blood sampling (33%), and peripheral intravenous catheter insertion (35%). Students reported lowest mean self-confidence in thoracentry (1.4), cardiovension (1.7), lumbar puncture (1.9), and paracentesis (1.9). Students’ mean reported perceived importance was greater than 3.5 for all skills, and 4 or greater for 16 skills. An IRR > 1 in frequency of performance, indicating an increased expected number of procedures performed, was associated with the presence of formal teaching in 9 of the 16 skills, formal evaluation in 7 skills, and curricular materials in 3 skills (all p < .05).

CONCLUSIONS: A majority of students who have completed the third year have never performed procedural skills such as lumbar puncture, blood culture, paracentesis, thoracentry, and PPD placement, and many students have not performed basic skills. Educators need to investigate the potential reasons for this, including barriers to procedure performance, emphasis of their instruction, or student interest. Students feel procedural skills are important; those skills in which students report lowest self-confidence and highest perceived importance represent priority areas for further instructional and curricular development.

PROCESSES AND OUTCOMES OF ‘USUAL’ PRIMARY CARE FOR ANXIETY DISORDERS. R.A. Drayer1; B. Herbeck Belnap1; F. Zhu1; C.F. Reynolds1; K. Shear1; B.L. Rollman1. 1University of Pittsburgh, Pittsburgh, PA. (Tracking ID # 152009)

BACKGROUND: The majority of patients with panic disorder (PD) or generalized anxiety disorder (GAD) receive mental health services in primary care. However, months of life. Increased primary care access to Medicare beneficiaries may decrease costs and improve quality of care at the end of life.
little is known about the way primary care physicians (PCPs) diagnose and treat these disorders. We analyzed data from the “usual care” arm of a randomized trial of telephone-based care management to determine the processes and outcomes of anxiety care as described by the PCPs in their communities.

METHODS: We used the PRIME-MD Anxiety Module to detect cases of PD and GAD among patients aged 18–64 at four Pittsburgh-area primary care practices. Patients were randomized to the intervention arm of the study or to usual care only if they had a severity score > 14 on the Structured Interview for the Hamilton Anxiety Rating Scale (SIGH-A) or a score ≥ 7 on the 7-item Panic Disorder Severity Scale (PDSS). At baseline and at 12 months, we assessed potential and functional health-related quality of life, depression, anxiety severity, self-reported treatment of anxiety, health services utilization, and employment status. We compared baseline characteristics between patients with GAD and those with PD + GAD. We also performed a 12-month outcome assessment for patients who received any anxiety treatment and patients who received no treatment.

RESULTS: We randomized 75 patients to the usual care condition. Thirty-two (43%) had GAD alone and 43 (57%) had PD with or without comorbid GAD. Patients with PD + GAD more often had psychiatric comorbidities and more severe comorbid depression than patients with GAD alone (Hamilton Rating Scale for Depression [HRSD]; Fisher’s Exact test p = 0.03). Moreover, patients with PD + GAD were more often receiving anxiolytic pharmacotherapy. Patients in the PD + GAD group were more likely to use benzodiazepines than patients with GAD only (21% vs. 13%, p = 0.03), but there were otherwise no differences in baseline medication treatment. At 12-month follow-up data were available for 61 patients (41% female, 35 [57%] were receiving any medication treatment. Most received SSRI, SNRI, and/or benzodiazepines. Patients with PD + GAD were again more likely to use benzodiazepines at 12 months compared to patients with GAD only (16% vs. 4%, p = 0.04) but there were no other differences in guideline-based pharmacotherapy. PCPs counseled 21 patients (29%). Mental health specialist referrals were recommended for 19 patients (26%) but only 6 patients (8%) were followed through with the recommendation. There were no differences in either counseling or referral by anxiety diagnosis. SIGH-A scores at 12 months improved by an average of 5.6 points compared to baseline regardless of whether patients received an anxiety-related treatment.

CONCLUSIONS: Patients who received active treatment for their anxiety disorders from their PCPs were no more likely to improve than patients who received no treatment from their PCPs. Further study is needed to determine why relatively small numbers of patients are receiving appropriate treatment and how this can be improved.

PROFESSIONAL CHARACTERISTICS AND JOB SATISFACTION AMONG SGIM MEMBERS: A COMPARISON OF PART-TIME AND FULL-TIME PHYSICIAN STAFF

BACKGROUND: As more physicians work part-time, professional organizations, medical centers and physician groups should understand the factors that motivate and satisfy PT physicians. We surveyed members of a national general internal medicine organization to compare personal and professional characteristics and job satisfaction of PT physicians compared to FT physicians.

METHODS: All active Society of General Internal Medicine (SGIM) members were invited to participate in a web-based survey in June of 2004. Information on part-time status, personal and professional characteristics, and job satisfaction was collected. Comparisons were made by part-time status. Multivariable analysis was used to determine predictors of job satisfaction among part-time and full-time physicians.

RESULTS: Surveys were completed by 1,396 of the 2,772 reachable SGIM members for a response rate of 50%. Eleven percent reported working FT. The mean full-time equivalent (FTE) of part-timers was 56% (SD 25%). PT physicians were more likely than FT physicians to be female (76% vs. 24%, p = 0.01), clinicians or clinician-educators (82% vs. 56%, p = 0.01) and to have a lower academic rank (instructor, assistant or other) (74% vs. 60%, p = 0.01). PT physicians report spending more time in clinical and teaching activities and less time in research compared to FT physicians. Thirty-eight percent and 11% of PT physicians report spending greater than 50% of their time in clinical and teaching roles, respectively, compared to 25% and 5% of FT physicians (p = 0.01, p = 0.02). Only 16% of PT physicians spent greater than 50% of their time in research compared to 28% of PT physicians (p = 0.01). Compared to their FT counterparts, PT physicians stated that they would prefer to spend more time in teaching roles (p = 0.01), less time in clinical work (p = 0.02) and would choose to spend more time in research (p = 0.04) and the same amount of time in other work activities. PT physicians are significantly less likely than FT physicians to report the following factors were very or extremely important to their overall job satisfaction: obtaining research funding (39% vs. 17%, p < 0.01), record of publication (44% vs. 21%, p < 0.01), administrative duties (38% vs. 35%, p = 0.04) and achieving clinical and national recognition (49% vs. 26%, p < 0.01). In multivariate analysis, among PT physicians, having a lower rank was associated with decreased job satisfaction (p = 0.01). Among FT physicians, lower job satisfaction scores were associated with being female (p = 0.026) and having a lower rank (p = 0.027).

CONCLUSIONS: Part-time and full-time physician SGIM members differ by sex, rank, work activities, and in the factors that may contribute to their overall job satisfaction. Knowing more about PT physicians and what motivates them in their work may help medical centers create faculty positions that are satisfying and allow PT physicians to achieve their fullest potential.

PROFESSIONALISM IN RESIDENCY TRAINING: IS THERE A GENERATION GAP?

S. Sorrentino1; R. Conigliaro2; K.A. McNamara2; M. McVick3; J. Frank1. 1University of Pittsburgh Medical Center, Pittsburgh, PA; 2University of Kentucky, Lexington, KY; 3University of Pittsburgh, Pittsburgh, PA. (Tracking ID: t35867)

BACKGROUND: Professionalism in Residency Training: Is There a Generation Gap? Teaching and evaluating professionalism is part of the Accreditation Council for Graduate Medical Education’s (ACGME) training requirements for postgraduate education. However, often the translation of these concepts into concrete defined behaviors is difficult. Recent literature has tried to account for this difficulty on the basis of generational differences between residents and trainers. We hypothesized that different generational views about professionalism exist, and that these differences might pose substantial challenges for programs seeking to develop a framework from which to teach and role model professional behavior. We designed a survey to explore the magnitude of these differences by asking faculty and residents at one large, urban medical center to evaluate behaviors along a continuum of professionalism.

METHODS: We created a questionnaire of 16 vignettes describing unprofessional behaviors and distributed this to first and second year Internal Medicine (IM) trainees and a random sample of general medicine faculty. The vignettes were selected from the American Medical Association’s (AMA) Good Practice Guide. The questionnaire presented the core components of professionalism (altruism, accountability, excellence, duty, honor and integrity, respect). We generated additional vignettes based on a focus-group discussion with a sample of our third year IM trainees who described specific unprofessional behaviors from actual experiences. For each specific behavior described in the vignettes, participants were asked to rate the severity of the infraction as “not a problem, a minor problem, a moderate problem, or a severe (major and severe) infraction” of professional behavior. To determine whether there was consensus for each vignette, we used two-sided exact binomial probability tests to determine whether the percent identifying infractions as minor or major was statistically significantly greater than 50%. To compare responses between groups, we used two-sided Fisher’s Exact tests. Differences were considered statistically significant if P < 0.05.

RESULTS: Of the 78 first and second year IM trainees, 58 completed the questionnaire and of the 40 questionnaires given to a random sample of general medicine faculty, 27 were completed, for a response rate of 72%. For the overall group, there was consensus regarding scenarios depicting: lack of responsibility toward one’s patients, professional appearance, and patient respect were major infractions. We found no significant differences between IM trainees and faculty for all vignettes except one regarding teams delegating days off for team members (35% of trainees identified as major vs. 7% of faculty, P = 0.008). Within the faculty group, only one vignette differed between older (≥ 40) and younger (< 40) faculty regarding a resident being ill-prepared to present at morning report (6% vs. 42%, respectively, regarded as major, P = 0.045).

CONCLUSIONS: Our study demonstrates consensus on the delineation of professional and unprofessional behaviors in this Internal Medicine Department across ages and training versus attending status. Thus, attributing difficulties in teaching and assessing professionalism may not have a generational basis; there may be common ground for teaching and evaluating professional behaviors.

PROGNOSTIC UTILITY OF PREDISCARGE B-TYPE NATRIURETIC PEPTIDE LEVEL IN PREDICTING READMISSION AND DEATH IN DECOMPENSATED HEART FAILURE

L. Liu1; L. Calhoun2; A. Bost3; S. Hamann3; J. Pino4. 1University of Miami, Miami, FL; 2Oregon Health & Science University, Portland, OR; 3University of Washington, Seattle, WA; 4Trinity International University, Washington, DC. (Tracking ID: t5927)

BACKGROUND: Heart failure is estimated to affect 4.6 million Americans and is a leading cause of costly hospitalizations. The neurohormone B-type natriuretic peptide (BNP) has been increasingly recognized as an important marker for the decompensated heart. The purpose of our study was to determine whether the prediscarge BNP is correlated with the rate of rehospitalization and death at a community hospital.

METHODS: A retrospective chart review was performed on patients discharged with a primary diagnosis of congestive heart failure (CHF) admitted between July 2003 and September 2004. Patients without a prediscarge BNP or with serum creatinine of 2.0 or greater were excluded. 207 patients were included in the study. We collected information on the patient’s demographics, co-morbidities, severity of illness, treatment, echocardiogram, chest X-ray at admission, and BNP at admission and discharge. Fisher’s exact t-tests, chi-squares, correlation and logistic regression multivariable analysis were used for data analysis.

RESULTS: Among the 207 patients, thirteen (6%) patients died and forty-one patients (20%) were readmitted within six months. The sample was divided into two groups: prediscarge BNP level below 350 pg/ml or above. Of the forty-one patients readmitted, 10 (12%) were in the low prediscarge BNP group and thirty-one (25%) were in the high prediscarge BNP group (p = 0.018). There was a statistically significant difference between the prediscarge BNP in the group who were readmitted and/or died versus the group who were not readmitted (p < 0.01). There was a significant correlation (p < 0.05) between the elevated prediscarge BNP and the three-month readmission rate, the six-
month readmission rate, and death within 6 months. One person (1%) in the low predischarge BNP group and twelve persons (10%) in the high predischarge BNP group died within six months of discharge. The mean number of days between discharge and readmission was 10 days. There was no difference between the 2 groups for those readmitted with or without heart failure. For the low versus high predischarge BNP groups respectively (p=0.037). Logistic regression multivariable analysis revealed the strongest predictors of readmission were presence of diabetes (p=0.01) predischarge BNP (p=0.03), and presence of COPD (p=0.05).

CONCLUSIONS: The data from this study suggests that the predischarge BNP is a strong, independent prognostic indicator for readmission and death for patients with heart failure. Predischarge values less than 300 were associated with a better prognosis. Use of this marker may help risk stratify patients with need for closer outpatient follow-up or use of more aggressive management strategies for heart failure.

LOGISTIC REGRESSION MULTIVARIABLE ANALYSIS REVEALED THE STRONGEST PREDICTORS OF READMISSION WERE PRESENCE OF DIABETES (P=0.01), PREDISCHARGE BNP (P=0.03), AND PRESENCE OF COPD (P=0.05).

PROMISING PRACTICES FOR PATIENT-CENTERED COMMUNICATION WITH DIVERSE POPULATIONS: LESSONS FROM 8 INNOVATIVE HOSPITALS NATIONWIDE.

BACKGROUND: Hospitals face increasingly diverse patient populations, some with limited English proficiency, low health literacy, and cultural beliefs that are unfamiliar to health care providers. Optimal practices for effectively addressing the health communication needs of these populations are not known.

METHODS: In 2009, the Ethical Forum Program (comprised of leaders from hospital, patient, clinician, employer, accreditation and other groups) disseminated a nationwide call for nominations of hospitals conducting innovative communication programs. An Expert Advisory Panel on Patient-Centered Communication review nominated hospitals (n=1600) and selected 8 hospitals to visit. Selection criteria included geographic, size and population diversity and the innovative nature and transferability of programs.

We then conducted 2-day site visits to each hospital, including semi-structured interviews and focus groups with hospital executives, clinical staff, program managers, front line staff and others. We sought (1) drivers of change, (2) lessons learned, and (3) transferable recommendations for action.

RESULTS: Five features were noted in every hospital selected. (1) All have missions that include providing high quality care to diverse populations. Most are considered their local “safety-net” facility. (2) Every hospital could document the demographic profile of the local population and of the specific hospitals they select and visit to hospitals to visit. Selection criteria included geographic, size and population diversity and the innovative nature and transferability of programs. We then conducted 2-day site visits to each hospital, including semi-structured interviews and focus groups with hospital executives, clinical staff, program managers, front line staff and others. We sought (1) drivers of change, (2) lessons learned, and (3) transferable recommendations for action.

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normal home measurements (Scenario 4). The responses included accept the BP, recheck within 3 months, or change or add an antihypertensive medication. Multilevel ordinal two parameter item response models were used to analyze the results and to produce a provider scale.

RESULTS: We found substantial variation in the provider propensity to intensively treat across the scenarios. For providers 1 standard deviation (sd) above the mean on the propensity to intensively scale the probabilities of changing or adding medication for NHW's were 56%, 87%, 87%, and 36% respectively. NHW's with the lowest propensity to intensively treat had the lowest probabilities. For providers 1 sd. below the mean, the probabilities of intensification are .87, .45, .16, and .03. The reliability of the scale score was .75. Independently we asked providers to rate the importance of intervening on a dBp sd=0 to dBp sd=1.45 and these ratings explained over a third of the variance in the propensity to intensify scale score. However the scale score was not explained by provider characteristics like gender, years in practice, or provider type.

CONCLUSIONS: Provider propensity to intensify treatment can be measured reliability using brief scenarios. For the same BP level it varies substantially across providers and is correlated with the importance attributed to meeting BP goals. It does not appear to vary substantially across provider demographic characteristics. This measure can be used to explore reasons for lack of intensification of BP treatments and clinical inertia.

PSYCHOMETRIC ASSESSMENT OF AN EXPERIENCE WITH CARE SURVEY FOR AMERICAN INDIANS. R. Hayes1; P. Johnsonson1; B. Weidmer1; D. Wharton1; D. Dalpos1; C. Darby1; University of California, Los Angeles, Los Angeles, CA; "Agency for Healthcare Research and Quality, Rockville, MD; "RAND Corporation, Santa Monica, CA; "Choctaw Nation Health Services Authority, Tahkina, OK. (Tracking ID #: 154637)

BACKGROUND: Limited research on perceptions of care by American Indians have been conducted, but one study found that those who score high on American Indian ethnic identity tended to have worse perceptions of health care care. We conducted cognitive interviews with 20 patients recruited from CNHS outpatient clinics to evaluate a draft survey. The survey consisted of 135 questions across a variety of aspects of care and background information (health, having a chronic condition, age, gender, educational attainment, race, and language spoken at home) was administered to patients who were admitted to the hospital and stayed for at least one night were eligible. Respondents who completed and returned the survey were mailed a thank you letter with a $10 Wal-Mart gift card.

RESULTS: We obtained a total of 696 returned surveys (raw response rate of 58%). Item missing data rates were 1% or less for most of the items. Internal consistency reliability coefficients were generally acceptable: getting needed care (5 items, 0.66), health education (5 items, 0.68), getting care quickly (5 items, 0.70), perception of discrimination (2 items, 0.65), communication (9 items, 0.88), and clerks and receptionists (2 items, 0.92). Correlations among scales ranged from 0.07 (health education with perceived discrimination) to 0.54 (communication with getting needed care). The communication scale had the largest correlations with both the global rating of the primary provider (r = 0.75) and with the rating of the primary clinic (r = 0.64). We found significant differences in perceptions of care between clinics in terms of reports about getting care quickly and clerks and receptionists, and for the global rating of the clinic. On a 0–100 possible score (higher being better), the average score for the highest rated clinic was 66 compared to 53 for another clinic on getting care quickly, 83 versus 66 for clerks and receptionists, and 86 versus 68 for the global rating of the clinic.

CONCLUSIONS: A psychometrically sound survey was developed that can be used to assess experiences of care at Choctaw Nation health care facilities and allow comparison with perceptions of ambulatory care at other health care facilities in the U.S.

ABSTRACTS

PSYCHOMETRIC PROPERTIES OF THE CAHPS HOSPITAL SURVEY. K.A. Hepner1; M.S. Hays2; D.O. Hays3; The RAND Corporation, Santa Monica, CA; "RAND Corporation/UCLA Department of Medicine, Santa Monica, CA. (Tracking ID #: 154040)

BACKGROUND: The CAHPS Hospital Survey assesses patient experience in receiving hospital care. The survey was designed to provide consumers with comparative information about hospital performance and to provide hospitals with a benchmark to set and evaluate progress toward performance goals. The objective of this study was to estimate the psychometric properties of the CAHPS Hospital Survey.

METHODS: The CAHPS Hospital Survey includes 27 items that are used to create 6 multi-item scales: Nurse Communication, Nursing Services, Doctor Communication, Doctor Services, Health Education, and Getting Needed Care. Item missing data rates were 1% or less for most of the items. Internal consistency reliability coefficients were generally acceptable: getting needed care (5 items, 0.66), health education (5 items, 0.68), getting care quickly (5 items, 0.70), perception of discrimination (2 items, 0.65), communication (9 items, 0.88), and clerks and receptionists (2 items, 0.92). Correlations among scales ranged from 0.07 (health education with perceived discrimination) to 0.54 (communication with getting needed care). The communication scale had the largest correlations with both the global rating of the primary provider (r = 0.75) and with the rating of the primary clinic (r = 0.64). We found significant differences in perceptions of care between clinics in terms of reports about getting care quickly and clerks and receptionists, and for the global rating of the clinic. On a 0–100 possible score (higher being better), the average score for the highest rated clinic was 66 compared to 53 for another clinic on getting care quickly, 83 versus 66 for clerks and receptionists, and 86 versus 68 for the global rating of the clinic.

CONCLUSIONS: A psychometrically sound survey was developed that can be used to assess experiences of care at Choctaw Nation health care facilities and allow comparison with perceptions of ambulatory care at other health care facilities in the U.S.
QUALITY AND INEQUALITY IN MEDICARE MANAGED CARE
A.N. Trivedi1; A. B. A. Lederman2; L. E. Johnes1; C. C. S. Chalk1; A. Zalis3

BACKGROUND: Public reports about the quality of health-care organizations rarely assess whether care is provided equitably to racial subgroups. Our objectives were to assess variations in quality and racial disparity within Medicare health plans, determine whether high-quality plans have smaller racial disparities in quality, and develop a model for publicly reporting racial disparities in the quality of care of health plans.

METHODS: We analyzed data for black and white Medicare enrollees in 164 managed care plans from 2001 to 2003 who were eligible for 4 HEDIS outcome measures assessing control of blood pressure for hypertension, glucose for diabetes, cholesterol for diabetes or coronary disease, and the percentage of patients with a recent depression history. We tested whether the plan's racial differences were attributable to differences within plans or differences among plans. We used multilevel logistic regression models to determine the correlation between quality and disparity, and develop a model for publicly reporting racial disparities in quality, and develop a model for publicly reporting racial disparities in the quality of care of health plans.

RESULTS: The mean performance on each HEDIS measure was significantly lower for black enrollees than white enrollees (all P < 0.001), with absolute differences ranging from 5% for blood pressure control to 15% for LDL control after a coronary event. For each measure, over three quarters of the total disparity was attributable to differences within plans. Among all plans, the standard deviation of mean clinical performance rates, derived from multilevel models, ranged from 7.3% for the blood pressure measure to 14.2% for cholesterol control after a coronary event. No significant relation between quality and disparity was evident in any of the four outcome measures after controlling for plan, individual and health-plan characteristics, a larger racial disparity in hemoglobin A1c control was noted in higher quality plans (r=0.4, p<0.001), with absolute differences ranging from 5% for LDL control to 15% for LDL control after a coronary event.

CONCLUSIONS: Black enrollees have significantly lower disparity in quality than white enrollees (all P < 0.001), with absolute differences ranging from 5% for LDL control to 15% for LDL control after a coronary event. Significant predictors of receiving a BB were: index hospital (OR 0.339, 95% CI: 0.194–0.832), overt heart failure (OR 0.451, p=.029), cardiac catheterization (OR 2.93, p=.005), PTCA (OR 2.07, p=.041), and cardiac arrest or cardiogenic shock (OR 4.12, p=.018). The number needed to treat was 100. Significant predictors of receiving a BB were: index hospital (OR 0.339, 95% CI: 0.194–0.832), overt heart failure (OR 0.451, p=.029), cardiac catheterization (OR 2.93, p=.005), PTCA (OR 2.07, p=.041), and cardiac arrest or cardiogenic shock (OR 4.12, p=.018). The number needed to treat was 100. Significant predictors of receiving a BB were: index hospital (OR 0.339, 95% CI: 0.194–0.832), overt heart failure (OR 0.451, p=.029), cardiac catheterization (OR 2.93, p=.005), PTCA (OR 2.07, p=.041), and cardiac arrest or cardiogenic shock (OR 4.12, p=.018). The number needed to treat was 100.
Affairs (VA) populations. Persons with diabetes mellitus (DM) may be less likely to receive adequate treatment of depression due to low recognition rates and competing clinical demands. No research has focused on the quality of depression care among veterans with DM. The objective of this study was to assess adherence to VHA clinical practice guidelines for depression among veterans with and without DM and a new-onset depression.

METHODS: A 100% sample of clinical data (1997-2005) from the Rouldebush VAMC was analyzed. Observations with and without DM were included if they had a new-onset depression diagnosis, had neither schizophrenia nor bipolar disorder, and received antidepressant therapy. Two dichotomous outcomes were considered: depression disorder status, which data offer information that occurs after first visit following the abnormal result. LDL care was more likely for patients with high CAD risk but less likely for patients with many other comorbidities. We used propensity score weights to control for baseline differences between diabetic patients with and without cancer and diabetic patients without cancer and assessed diabetes care during 2003, 2006, and 2009. We did not include patients with cardiovascular disease (CVD) or cancer in the acute phase. The median AOR for LDL care during the acute phase was 27% (approximately 71 days) for all subjects. CONCLUSIONS: Under-treatment of depression exists in the VA but may not be limited to the DM population. Veterans with DM are more likely to receive an adequate dose during the acute phase than veterans without DM. Receipt of an adequate dose during the acute phase was 50% higher among veterans with DM, whereas only 50% of patients with DM received an adequate dose during the entire year. More work is needed to determine why depression guideline-based process measures may not be followed in the VA. Further research is required to identify patients and provider, and system level interventions that will help align current practice with evidence-based practices in the VA.

QUALITY OF CARE FOR HYPERLIPIDEMIA IN HYPERTENSIVE PATIENTS AT A PRIMARY CARE VISIT: POORER CARE BY PROVIDERS WITH A HIGH PATIENT WORKLOAD. M. G. Weiner1; R. Gross1; S. Tang2; Y. Li1; W. F. Gellad1; J. S. Haas1; D. G. Safran2.

BACKGROUND: Pressures to see ever more patients and distractions from caring for each patient may limit primary care providers’ ability to provide high-quality care in patients at increased risk of coronary artery disease (CAD). We examined hyperlipidemia management in older patients with hypertension (HTN) to evaluate whether busy providers were less likely to address an elevated LDL cholesterol. We examined the effect of uncontrolled HTN and other comorbidities on LDL care.

METHODS: From electronic medical records, administrative, and physician data, we identified 11,309 patients aged 65+ (if male) and 55+ (if female) with elevated CAD risk per the National Cholesterol Education Program in one of 7 academic-affiliated, primary care practices from 1/1/03 to 2/28/05. Of these, 4,141 patients (37%) had a high LDL, i.e., >130 mg/dl or >100 mg/dl if diabetes or CAD, or CAD equivalent). Of these, 2,822 patients (68%) had ≥2 visits after the high LDL to 210 providers. The outcome, LDL care, was defined as lipid-lowering therapy prescribed or a normal LDL on recheck. HTN control was classified as per the JNC VII guidelines. If HTN control was not classified as per the JNC VII guidelines, it was defined as addressed if HTN medication was initiated or intensified. Using patient visit as the unit of analysis (N=10,497) and random effects logistic regression to account for clustering of visits within patients and patients within providers, we determined the adjusted odds of LDL care for the following provider factors: workload (quartile of annual patient visits), gender, race, and type (i.e., resident, attending, RN). Key clinical predictors are: HTN control, HTN management if uncontrolled, HTN drugs before the visit (N), CAD risk (moderate vs high), and non-CAD comorbidities from Elixhauser’s measure (N). We also adjust for patient age, race, gender, income, insurance, smoking, obesity. Because of an interaction between provider workload and visits with uncontrolled HTN (p=0.02), we estimated separate models for visits with and without uncontrolled HTN.

RESULTS: Overall, providers with the highest workload were less likely to provide appropriate LDL care (adjusted odds ratio [AOR] 0.77, 95% confidence interval [CI] 0.60-0.99). However, in separate models of controlled and uncontrolled HTN visits, high provider workload was significantly associated with LDL care (AOR 0.52, 95% CI 0.36-0.75) for the uncontrolled HTN visits but not for providers with adequate duration is poor, regardless of DM status, and diminishes over time. Veterans with DM are more likely to receive an adequate dose in the acute or continuation phase of treatment. More than 87% received an adequate dose during the acute phase, whereas only 50% received an adequate dose during the entire year. More work is needed to determine why depression guideline-based process measures may not be followed in the VA. Further research is required to identify patients and provider, and system level interventions that will help align current practice with evidence-based practices in the VA.

QUALITY OF DIABETES CARE AMONG CANCER SURVIVORS WITH DIABETES. N. L. Keating1; L. J. Herndon2; A. Zaslavsky3; J. V. Selby1; J. Z. Ayian1; Brigham and Women's Hospital and Harvard Medical School, Boston, MA; 2Kaiser Permanente Division of Research, Oakland, CA; 3Harvard Medical School, Boston, MA. (Tracking ID #: 154230)

BACKGROUND: Cancer survivors have higher rates of diabetes than patients without cancer. Elevated fasting glucose may promote growth of cancer cells, so blood glucose control may be particularly important for cancer survivors. A prior study found that cancer survivors receive fewer preventive services than patients without cancer, but this study did not address diabetes care. Thus, we compared the quality of diabetes care delivered to veterans with and without DM who were cancer survivors to those of diabetics without cancer.

METHODS: In a large regional integrated delivery system, we studied 5,318 diabetic patients who had been diagnosed with invasive cancer before December 31, 2003, who had 20,316 diabetic patients who did not have cancer, and who had no evidence of diabetes within one year of their cancer diagnosis. We analyzed data from electronic medical records on receipt of important treatment to reduce CAD risk.

RESULTS: The mean age of the cohort was 63.1 years. 53% were men, 10% were African American, and 65% had a history of hypertension. In propensity score-adjusted analyses, diabetic patients with a history of cancer were more likely than diabetic patients without cancer to receive an adequate dose in the acute or continuation phase of treatment. More than 87% received an adequate dose during the acute phase, whereas only 50% received an adequate dose during the entire year. More work is needed to determine why depression guideline-based process measures may not be followed in the VA. Further research is required to identify patients and provider, and system level interventions that will help align current practice with evidence-based practices in the VA.

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and Hispanics had an odds ratio of 1.58 (95% CI 1.22–2.04), and these values did not change when controlling for age, number of chronic conditions, and the presence of drug coverage. When income was added to the model, race was no longer a significant predictor for non-adherence due to cost.

CONCLUSIONS: This 2003 national survey of seniors suggests that racial/ethnic disparities in non-adherence are largely explained by cost concerns and not by self-assessed need or differences in experience. The disparity in cost-related non-adherence persisted even when access to short-term drug coverage, but the relationship is substantially attenuated when income is taken into account. If physicians are going to be successful at reducing the racial disparities in chronic disease, prevention must be explicitly and aggressively addressed in the clinic and in health policy, especially for the poor. This is particularly important as outreach efforts are underway to encourage low-income Medicare beneficiaries to sign up for subsidies for the new drug benefit.

RACIAL AND ETHNIC DIFFERENCES IN PREFERENCES FOR END-OF-LIFE TREATMENT: A.E. Barnato1; D.L. Anthony2; P.M. Gallagher3; J.S. Skinner2; F.J. Fowler3; E.S. Fisher4; 1University of Pittsburgh, Pittsburgh, PA; 2Dartmouth College, Hanover, NH; 3University of Massachusetts at Boston, Boston, MA; 4Dartmouth Medical School and the VA Outcomes Group, White River Junction, VT. (Tracking ID #: 154760)

BACKGROUND: Blacks are more likely to die in the hospital, less likely to use hospice, and have higher overall spending in their last 12 months than whites. Many of MV’s have tried to explain these phenomena by citing different patient preferences, often based on local samples. We sought to confirm that preferences for end-of-life treatment exist by race/ethnicity in a national sample.

METHODS: We surveyed a national probability sample of fee-for-service Medicare beneficiaries over the age of 65. We asked respondents imagine that they had a very serious illness with less than 1 year to live and then asked them a series of questions about what their preferences would be in that situation. We compared concerns and preferences for blacks and Hispanics compared to non-Hispanic whites (NHWs) using Pearson’s chi-square tests and multivariable logistic regression adjusted for socio-demographics, health status, and estimation of full recovery after MV.

RESULTS: 2.515 of 3.840 eligible sampled Medicare enrollees completed the survey, for a response rate of 65%. The mean age of respondents was 75.6 (SD 6.9). 46% were men, 87% NHW, 7% blacks, 8% Hispanic. 20% percent had less than a high school education, 27% were in fair or poor health, 29% reported that financial issues were very important in their decisions to get medical care, and 17% believed there was a 50% or greater chance of return to normal activities after MV. Compared to NHWs, blacks were less concerned about receiving too little treatment (20% vs. 46%, p < 0.0001) and more concerned about receiving too much treatment (69% vs. 47%, p < 0.0001). NHWs were more concerned about the potential for drug coverage, but the relationship is substantially attenuated when income is taken into account. If physicians are going to be successful at reducing the racial disparities in chronic disease, prevention must be explicitly and aggressively addressed in the clinic and in health policy, especially for the poor. This is particularly important as outreach efforts are underway to encourage low-income Medicare beneficiaries to sign up for subsidies for the new drug benefit.

RACIAL AND ETHNIC DISPARITIES IN APPROPRIATENESS OF CAROTID ENDARTERECTOMY: E.A. Hazen1; S. Tuhrim1; J. Wang1; M. Rosing1; E.L. Hannan1; M.R. Chassin1; 1Mount Sinai School of Medicine, New York, NY; 2University at Albany, SUNY, Albany, NY. (Tracking ID #: 153084)

BACKGROUND: Most studies of health disparities have focused on underuse of effective care. It is often assumed that widespread under-use among minority groups represents a lack of access to effective care. This study examines whether racial/ethnic disparities exist in patient use of any mental health therapy, particularly antidepressants. These disparities may be driven by patient attitudes toward effective therapy for depression.

METHODS: Using federal and state administrative billing data, we identified all Medicare Pts who underwent CEA (ICD-9 code 38.12) from 1/98 to 6/99 in NY State. Detailed clinical data on neurologic symptoms, % carotid stenosis, comorbidities, and surgeon complication rates were successfully abstracted from medical charts on 9588 cases (94% of eligible Pts). Appropriateness was based on a validated list of 1557 indications for CEA generated by national experts using the RAND appropriateness method which drew on published RCTs and national guidelines. Pts with high clinical symptoms ( predefined as high confidence that the patient was an inappropriately treated CEA compared to those with lower risk) were most likely to receive investigational evidence that clinicians’ ability to diagnose depression is not significantly affected by patient race or ethnicity, evidence from current practice reveals that African Americans with depressive symptoms are less likely to be identified as depressed compared to whites with similar symptoms. Among patients with a diagnosis of depression, clinicians do not appear to differ in treatment recommendations by race/ethnicity. However, we revealed that African Americans were significantly less likely to receive antidepressant medications or any mental health care as compared to whites, while one showed similar rates of antidepressant use across these groups. Comparing Hispanics to whites, both analyses of administrative data demonstrated that Hispanics receive antidepressant medications at similar rates to whites, but a cross-sectional survey revealed that Hispanics are much less likely to take antidepressants than whites. A study of patient attitudes toward depression care revealed that African Americans and Hispanics were less likely than whites to find antidepressant medications acceptable even after controlling for other variables. Hispanics were more likely than other groups to find individual counseling acceptable. Hispanics were also significantly more likely to perceive individual counseling as more effective treatment than antidepressant medication. The only identified study on outcomes revealed that African Americans were more likely to receive antidepressants despite continued disability and less likely to experience depression despite continued disability.

CONCLUSIONS: Despite evidence that clinicians’ ability to diagnose depression and recommend appropriate therapy does not seem to be affected by patient race/ethnicity, racial and ethnic disparities exist in patient use of any mental health therapy, particularly antidepressants. These disparities may be driven by patient attitudes toward effective therapy for depression.
RACIAL DIFFERENCES IN INFUSION INFUSION VACCINATION RATES FOR NORTH CAROLINA MEDICARE BENEFICIARIES AGED 65 YEARS AND OLDER. J.D. Jones1, The University of North Carolina at Chapel Hill and the Moses Cone Health System, Greensboro, NC. (Tracking ID #: 157002)

BACKGROUND: Immunization against influenza is an important component of preventive health care for older adults, yet vaccination rates have remained well below the Healthy People 2010 Objectives for those aged 65 years and older. Surveys have also shown lower rates of influenza vaccination among African Americans compared to whites. In this study, Medicare claims data were used to assess county-level variability in vaccination rates for African Americans and whites as a function of aggregate socioeconomic and health resource predictors.

RESULTS: Claims data for North Carolina Medicare beneficiaries aged 65 and older from 1995 to 2000 showed average statewide annual influenza vaccination rates of 49.2% for white beneficiaries and 25.5% for African American beneficiaries. Average county-level rates varied from 23.4% to 66.1% for whites and from 17.5% to 49.7% for African Americans. In multiple linear regression analysis, county-level predictors including income, poverty rate, percent high school graduates, and post-1990 urban population density explained little of the variation in county-level vaccination rates for either African Americans or whites (R-squared < 0.11). However, county-level vaccination rates for African Americans and whites were significantly correlated with each other (R-squared = 0.37).

CONCLUSIONS: Medicare claims data indicated substantially lower influenza vaccination rates for African American beneficiaries compared to white beneficiaries aged 65 and older in North Carolina. Enrollees of either race had limited variability in county-level vaccination rates that was not explained by aggregate measures of income, poverty, education, urbanization, or primary care physician density. Counties with higher vaccination rates for whites tended to have higher rates for African Americans, suggesting that certain factors may similarly limit or facilitate access to vaccination for both African Americans and whites in specific counties.

RACIAL DIFFERENCES IN DIFFUSION OF NEWER AND OLDER CARDIAC TECHNOLOGIES AMONG COMMERCIAL MANAGED CARE PLANS. A-M. Freeman1; S. Wickstrom2; M. Shah3; J. Escare4. 1The RAND Corporation, Santa Monica, CA; 2Ingenix, Eden Prairie, MN. (Tracking ID #: 157377)

BACKGROUND: Recent studies of trends in use of cardiac technologies over suggest little change in the pattern of disparities. However, these studies have focused on Medicare patients over the age of 65. Relatively little is known about patterns of disparities in cardiac technologies over time among commercially insured adults. We examined trends in the use of cardiac technologies associated with racial disparities during the last decade within a large commercial health plan.

METHODS: We obtained 7 years (1994-2000) of claims data from commercial managed care plans affiliated with a large health plan. Eight diagnostic and therapeutic cardiac technologies in varying stages of diffusion were identified: exercise stress test, radionuclide stress test, stress echo, coronary angiogram, coronary angioplasty, percutaneous coronary artery bypass grafting (CABG), and cardiac catheterization. Annual cohorts were constructed based on enrollee age and having diagnoses that could reasonably lead to a diagnostic or therapeutic procedure. Eligible enrollees aged 45-64 from 17 health plans in 3 regions After sampling and geocoding, the analytic cohort size for the diagnostic technology cohorts was approximately 13,700 for each year. Analytic cohort sizes for therapeutic cohorts after geocoding (no sampling done) ranged from 2592 enrollees in 1994 to 8.712 in 2000. Validated measures of race living in a predominantly black neighborhood) and SES (living in a high poverty neighborhood) were obtained by geocoding enrollees’ address to Block-Group level Census data. Diffusion curves for each racial subgroup were constructed by examining the area under the cumulative distribution function to assess differential patterns by technology over time. Unadjusted utilization rates for each cohort were compared using Chi-Square tests. Multiple logistic regression models adjusted for age, gender, race, and SES (depending on the model), cardiac diagnoses, and plan.

RESULTS: Blacks were less likely than NonBlacks (Black-NonBlack RR < .82, P < .05) to receive 4 of 8 services: exercise stress test, radionuclide stress test, exercise test, and cardiac catheterization. There were no racial differences in the patterns varied substantially by year and technology. For example, exercise stress tests, a well-established technology that was decreasingly used among NonBlacks over time, showed large racial disparities in 1994 (162 per 1000 eligible black enrollees) compared to whites (P < .001) that narrowed and became nonsignificant by 1998 (194 vs. 201, P = .72). In contrast, no disparities were apparent for stress echos until 1996 (27 vs. 47, P = .03) when the technology began to rapidly diffuse in the plans considered; the gap persisted through 2000 (76 vs. 101, P < .001). Similarly, once rapid diffusion of cardiac stents began, a racial disparity developed favoring Non-Blacks and remained significant for 1997-2000 (1997 rate: 107 vs. 181, P < .0001; 2000 rate: 173 vs. 252, P < .0001). Adjusting for potential confounders did not alter the pattern of unadjusted results.

CONCLUSIONS: As in other recent studies we found persistent racial disparities for many cardiac technologies. However, the pattern of disparities over time appeared was more complex among commercial enrollees than emphasized in previous studies involving Medicare patients. In particular, racial disparities varied depending on the stage of diffusion of the specific technology with larger disparities observed for relatively new and rapid technologies (e.g. stress echo) and smaller or no disparities for more established technologies (e.g. CABG) or those with newer alternatives.
RACIAL DIFFERENCES IN LONG-TERM ADHERENCE TO GLUCOSE SELF-MONITORING AMONG PATIENTS INITIATING DIABETES MEDICATIONS IN AN HMO. C.M. Trinacty1; A.S. Adams1; S.B. Soumerai1; F. Zhang1; J.B. Meigs2; J.D. Piette3; D. Ross-Degnan1. Harvard Medical School/Harvard Pilgrim Health Care, Boston, MA; 1General Medicine Unit, Massachusetts General Hospital; Boston, MA; 2University of Michigan Health Care System/HSRAD VA Ann Arbor Health Care System, Ann Arbor, MI. (Tracking ID #: 154683)

BACKGROUND: Despite the importance of self-management, many diabetes patients fall short of recommended standards of self-care, particularly minority patients. Even in a managed care group practice where variations in quality of care and insurance are minimized, some blacks with diabetes have poorer glycemic control and face greater barriers to self-monitoring blood glucose (SMBG). Epidemiological evidence for the relationship between race and adherence to SMBG over time is limited. We evaluated racial differences in initiation, adherence, and intensity of SMBG, and compared rates of adherence over five years using well-established guidelines for SMBG practice.

METHODS: Based on 10 years of computerized medical record and claims data, we used longitudinal survival methods and generalized estimating equations to examine racial differences in the incidence of SMBG (first test strip use), prevalence of SMBG (any test strip use), intensity of use (mean number of test strips per visit), and rate of adherence to American Diabetes Association (ADA) standards for SMBG. Our study cohort included 2500 adult patients of black or white race. Patients were recruited into the study from the end of the third year of any diabetes medication, who were insured by Harvard Pilgrim Health Care and receiving care within 14 multi-specialty health centers of a large staff model HMO.

RESULTS: We found racial differences in unadjusted SMBG initiation among patients using oral hypoglycemic medication, but no differences across racial groups among insulin users. Blacks on oral therapy initiated SMBG somewhat earlier from the start of drug therapy than white patients (Hazard Ratio = 1.2, p = 0.002). However, after controlling for key demographic, clinical, and service utilization covariates, these differences disappeared (HR = 0.95, p = 0.71). Irrespective of drug therapy group, discontinuation rates in SMBG use were greater among blacks than whites. For both racial groups, the prevalence of SMBG dropped sharply within the first year of initiation. Among insulin users, less than 70% of whites and blacks who had initiated SMBG continued self-monitoring in the second year; while only 56% of blacks and 62% of whites on oral therapy continued use. Prevalence of SMBG continued to decrease thereafter for both black and white groups. Intensity of SMBG remained lower among blacks than whites in all years of follow-up (Rate Ratio: 0.52, p < 0.001), with both racial groups monitoring well below ADA-recommended levels. Among insulin users, <1% of blacks and 10% of whites were self-monitoring 3 times per day (ADA recommended standard); only 36% whites and 10% blacks were self-monitoring at least once per day.

CONCLUSIONS: Among insulin therapy users, for whom there is a clear evidence-based standard, racial differences in glucose self-monitoring exist and persist within a health system that provides equal financial access to services. Racial differences do not exist in initiation of SMBG; however, large gaps are evident in sustainability and intensity of use over time. Early and continued emphasis on adherence to SMBG may be necessary to improve and maintain optimal levels of SMBG. Integration of additional culturally tailored interventions may reduce existing and persistent racial differences in SMBG practice.
RESULTS: Among the 819 patients enrolled, 195 were white, 352 were black, 165 were Hispanic, and 107 self-reported their race/ethnicity as other. Overall, 223 of the 819 patients (27.2%) were told by their doctor that they had been exposed to HAV, including 15.4% of whites, 29.0% of blacks, 35.8% of Hispanics, and 28.0% of other races (p < 0.001). Among the 596 patients who were not previously exposed to HAV, only 157 (26.3%) reported that they received the vaccine. 343 (57.6%) were not vaccinated, and 96 (16.1%) did not know if they were vaccinated. The proportion of patients vaccinated against HAV differed significantly according to race/ethnicity (40.0% whites vs. 20.6% blacks vs. 19.8% Hispanics vs. 24.7% others; p < 0.001). In the 343 subjects who were not vaccinated, the median number of self-reported barriers to HAV vaccination was 1 in whites, 3 in blacks, 3 in Hispanics, and 4 in other racial/ethnic groups (p < 0.001). In addition, there were significant racial/ethnic differences in the types of barriers (see table).

CONCLUSIONS: Racial/ethnic minorities with chronic HCV infection are significantly less likely to be vaccinated against HAV and have more barriers to vaccination than whites. Public health programs to increase awareness of HAV vaccination and to overcome barriers to immunization are needed, especially among minority populations.

| Self-Reported Barriers to Hepatitis A Vaccination |
|-----------------|-----------------|-----------------|-----------------|
| Barrier          | White (%)       | Black (%)       | Hispanic (%)    |
| My doctor did not offer the vaccine to me | 55.3% | 57.1% | 57.4% | 65.1% | 0.76 |
| I am afraid of the vaccine | 10.5% | 27.6% | 44.1% | 25.6% | <0.001 |
| I am afraid of needles | 11.8% | 18.6% | 36.8% | 30.2% | 0.002 |
| I don't like visiting the doctor | 9.2% | 8.3% | 32.4% | 11.6% | <0.001 |
| I don't understand why I need the vaccine | 26.3% | 47.4% | 51.5% | 55.8% | 0.003 |
| I was feeling too sick | 6.6% | 9.6% | 7.4% | 25.6% | 0.006 |
| It takes me too long to get to see a doctor | 13.2% | 15.4% | 7.4% | 9.3% | 0.35 |
| I did not know about the vaccine | 36.8% | 71.8% | 73.5% | 76.7% | <0.001 |
| I could not afford to pay for the vaccine | 18.4% | 38.5% | 50.0% | 23.3% | <0.001 |

RACIAL/ETHNIC DIFFERENCES IN PATTERNS OF CARDIOVASCULAR DISEASE RISK FACTORS AMONG US IMMIGRANTS

BACKGROUND: In spite of the rapid rise in the US immigrant population during the past three decades, there have been relatively few national studies on cardiovascular disease (CVD) risk factors in immigrant population. We analyzed data from the 2002 National Health Interview Survey (NHIS) to provide racial/ethnic differences in patterns of CVD risk factors among US immigrants.

METHODS: NHIS is a comprehensive nationally representative survey of US non-institutionalized civilian population. We analyzed data on 5,328 adult immigrants. We focused on three ethnic groups - Hispanic, White and Black. We identified 6 CVD risk factors - overweight/obesity, hypertension, diabetes, hyperlipidemia, smoking, and physical inactivity. Diabetes, hypertension, and hyperlipidemia were based on self-report. Overweight/obesity was defined as body mass index of 25+; physical inactivity was defined as no moderate/vigorous activity per week; and smoking was defined as currently smoking. We created a composite CVD risk score based on number of risk factors. STATA was used for statistical analysis to account for the complex survey design.

RESULTS: See table below.

CONCLUSIONS: Patterns of CVD risk factors among US immigrants differ significantly by race/ethnicity. Physicians need to be aware of these racial differences in CVD risk factors. These differences need to be accounted for in developing tailored interventions for CVD risk reduction in immigrant populations.

| CVD Risk Factor | Overweight or Obesity | Hypertension | Diabetes | Hyperlipidemia | Current smoking | Physical inactivity | Composite Risk Score (# of Risk Factors) |
|-----------------|-----------------------|--------------|----------|----------------|-----------------|-------------------|------------------------------------------|
| White (n=1,009) | 53.3% | 21.9% | 6.9% | 19.5% | 17.4% | 71.5% | 0.0008 |
| Black (n=371)  | 63.8% | 18.7% | 7.2% | 13.1% | 16% | 76% | 0.00007 |

RADIOLOGIC EVALUATIONS AND INVASIVE PROCEDURES FOLLOWING BREAST-CONSERVING SURGERY IN A LARGE COHORT OF WOMEN WITH DUCTAL CARCINOMA IN SITU

BACKGROUND: In general, higher surgical volume is associated with better surgical outcomes. The number of mammograms (n) performed each year by individual U.S. urologists is unknown. The aim of this study is to describe sociodemographic and practice characteristics of U.S. urologists who treat prostate cancer and to relate these to prostatectomy volume.

METHODS: We carried out a mailed, nationally-representative survey of 2,000 urologists. The sample was derived from the AMA Masterfile and limited to urologists who are prescribers of hormonal therapies used exclusively in the treatment of prostate cancer. The survey included questions about self-reported and assessed urologist sociodemographic and clinical practice characteristics, including yearly RP volume.

RESULTS: The response rate was 65.9%. Respondents were overwhelmingly male (97.9%) and non-Latino white (83.3%). mean age was 52.8 years, mean years in practice was 19.5, 7.0% were in academic practice, 64.0% practiced in cities with fewer than 100,000 inhabitants, and 7.2% completed a fellowship in urologic oncology. Among urologists RP volume 84.1% did fewer than 30 per year (2.5/month) and 37.3% did fewer than 10 per year (1.2/month). Predictors of at least 30 RP’s/year include academic practice (p < 0.0001), hospital bed size >300 (p < 0.0001), completion of urologic oncology fellowship (p < 0.0001), city size 100,000 (p < 0.003), and 10–19 years in practice (p < 0.0001).

CONCLUSIONS: A large majority of urologists perform relatively few RP’s per year, raising concerns about surgical skill and impotence and incontinence outcomes. Additional study is needed to definitively link prostatectomy volume with such outcomes.

RADICAL PROSTATECTOMY VOLUME AMONG U.S. UROLOGISTS

BACKGROUND: Although breast-conserving surgery has been found to be an effective treatment for ductal carcinoma in situ (DCIS), how much post-treatment breast surveillance women receive is not known. We assessed the rates of radiologic evaluations and invasive procedures following completion of treatment in a cohort of 3,105 women diagnosed with DCIS.

METHODS: In three health maintenance organizations, we identified and reviewed the medical records of women who were diagnosed with DCIS between 1990 and 2001 and were treated with breast-conserving surgery. We used descriptive statistics to assess the characteristics of the patient population, the rates of surveillance and diagnostic mammograms after completion of treatment, and the rates of invasive breast procedures performed during the years following treatment. Chi-square statistics were used to assess the associations between the rates and patient characteristics.

RESULTS: The 3,105 women with DCIS had a mean age of 58.3 years (standard deviation 11.4 years) and a median follow up 4.2 years (range 1.5–11.6 years). During the follow-up, 322 (10.7%) women developed recurrent DCIS or invasive breast cancer. Among all women in the cohort, a total of 13,864 mammograms were performed (mean 0.91 mammograms per person-year); 93% were surveillance (no prior abnormalities), 5% diagnostic (prior symptom or finding) and 2% unknown. The mammogram results were normal for 12,359 (89.1%), abnormal for 1,060 (7.3%) and unknown for 499 (3.6%). Of the abnormal mammograms, 88 (8.7%) resulted in a recurrent cancer diagnosis. Among 2,640 women with benign follow-up and complete surgical data, a total of 522 invasive breast procedures were performed (mean 0.04 procedures per person-year). Approximately 50% were open biopsies; 30%, core needle biopsies; 15%, fine needle aspirations; and 4%, mastectomy. Younger age was related to both radiologic and surgical evaluations. Mammograms following DCIS were less common among women 70 years of age and older compared with women younger than 70 years (0.83 vs. 0.93 per person-year, respectively; p < 0.0001). Invasive surgical procedures were more common among women under age 50 compared to women 50 years and older (mean 0.05 vs. 0.03 per person-year, respectively; p < 0.0001).

CONCLUSIONS: After breast-conserving treatment for DCIS, on average women received about one mammogram per year and 4 in 10 women underwent an invasive breast procedure per year. Compared to published data in healthy populations, it appears that women with DCIS treated with breast-conserving have higher frequencies of radiologic evaluations and invasive procedures, and that abnormal mammograms after DCIS are more likely to result in breast cancer diagnoses.

RANDOMIZED TRIAL OF A MULTIDIMENSIONAL EDUCATIONAL INTERVENTION TO IMPROVE ANTIBIOTIC USE FOR ADULTS WITH ACUTE RESPIRATORY TRACT INFECTIONS MANAGED IN THE EMERGENCY DEPARTMENT

BACKGROUND: We conducted a cluster randomized trial of hospital emergency departments (EDs) to evaluate the effectiveness of a provider and patient educational program targeting reduction in unnecessary antibiotic prescrip-
Physicians could increase appropriate prescribing beyond what is achieved through physician-directed approaches alone.

METHODS: We performed a cluster-randomized trial comparing two approaches to increase aspirin use among diabetes patients at clinic sites. We used a cluster-randomized design with patients nested within clinics as the unit of randomization. We randomized sites to intervention (n = 20) or control (n = 20) arms. Controlled oral Brief Intervention (COBI) was delivered by trained facilitators at the intervention sites to 30% of the study site population. Control sites received usual care. Primary outcomes were aspirin use at baseline and at 3-month follow-up.

RESULTS: At baseline, aspirin use was 12% (95% CI, 10%–14%) in the intervention group and 6% (95% CI, 4%–9%) in the control group (p < 0.001). At follow-up, aspirin use increased significantly at the intervention sites (42% [95% CI, 36%–48%] vs. 23% [95% CI, 16%–32%]; p < 0.001). In adjusted analyses, aspirin use was 41% (95% CI, 35%–46%) in the intervention group and 10% (95% CI, 7%–13%) in the control group (p < 0.001). Of those who were not users at baseline, 11% (95% CI, 8%–13%) in the intervention group initiated aspirin use versus 4% (95% CI, 2%–6%) in the control group (p < 0.001). Of those who used aspirin at baseline, 42% (95% CI, 37%–47%) in the intervention group maintained use versus 24% (95% CI, 19%–29%) in the control group (p < 0.001). In adjusted analyses, we found that intervention was associated with a 36% absolute increase in aspirin use (p < 0.001) and a 15% relative increase (95% CI, 12%–17%; p < 0.001).

CONCLUSIONS: Controlled oral Brief Intervention is effective in increasing aspirin use among diabetes patients, and a relatively modest intervention is comparable in size to other quality improvement strategies, but future studies can assess the intervention's effectiveness.

Rapid Evaluation of the “Afghan Family Health Book” Health Education Tool: Impact on Knowledge, Attitudes, and Practice

G. Kim1, S. Griffler1, L. Lawry1, Brigham and Women’s Hospital, Jamaica Plain, MA; International Medical Corps, Santa Monica; International Medical Corps, Santa Monica, CA. (Tracking ID # 15462)

BACKGROUND: Outreach by community health workers (CHW) is a standard community health education effort in rural Afghanistan. Despite community health education efforts, low levels of literacy remain a major impediment to the dissemination of public health knowledge. LeapFrog Enterprises Inc. and the US Department of Health and Human Services developed an interactive electronic book, the Afghan Family Health Book (AFHB), to communicate public health messages. We conducted a pilot study to assess the effect of the AFHB on follow-up pass rates controlling for demographic and differences in baseline knowledge.

METHODS: From January to June 2005, a baseline and follow-up panel survey was administered in Pashto-speaking Laghman and Dari-speaking Kabul provinces. Within each province, an intervention and a control district were randomly sampled using a stratified, two-stage cluster sample design. Over four districts, 98 clusters and 3372 households were sampled. Surveys were administered at baseline and on follow-up at three months. The survey tool was translated and validated in 17 public health domains, including reproductive health topics. Primary outcomes were pass rates for each health topic assessed at baseline and on follow-up. For each domain, we used multilevel logistic regression to assess the effect of the AFHB on follow-up pass rates controlling for demographic and differences in baseline knowledge.

RESULTS: At baseline, knowledge of immunizations and safety were consistently highest with over 90% pass rates in all four districts, while knowledge of malaria was lowest with average pass rates under 50% for all districts. Intervention groups had statistically significant improvements in 5 of 17 domains (19 domains) versus CHW alone groups in multivariate analyses (p < .05). Among the domains for which pass rates increased, malaria (65% for CHW vs. 38% for CHW, p < .0001) and postpartum care (51% for CHW vs. 33% for CHW, p < .0001) were the highest. Intervention groups showed no statistically significant improvements in other domains. In subset analyses comparing Pashto-speakers who received the AFHB, men had lower baseline knowledge and larger gains for immunizations and tuberculosis modules. Among Dari-speakers who received the AFHB, women had lower baseline knowledge and larger gains for nutrition, diabetes, smoking cessation, sexually transmitted infections, and postpartum care. The benefit of the AFHB was found in Pashto and Dari language groups. In this pilot study, the AFHB was effective in rural Afghanistan, demonstrated in part by improvement in immunizations and safety, and consistent with previous findings in research in South Asia.
RESULTS: Four studies of screening questions for migraine (n=1745 patients) and 1 neuroimaging study (n=151407) were included. Several clinical features were found on pooled analysis to predict the presence of a serious intracranial abnormality. These included: an abnormal neurological exam (LR 5.3, 95% CI 2.4–11.6), normal neurological exam (LR 0.7, 95% CI 0.6–0.8); cluster-type headache (LR 10.7, 95% CI 2.2–52.0); headache with aura (LR 3.2, 95% CI 1.6–6.6); having a headache that was an...
under the care of primary care physicians (PCPs) and some go undetected despite evidence indicating early identification and timely referral of patients with CKD to subspecialists is associated with improved clinical outcomes. METHODS: We conducted a national study using a random sample of 178 randomly selected PCPs – 89 family physicians (FPs) and 89 general internal medicine physicians (GIMs) – as well as 126 randomly selected nephrologists (NEPs) identified through the AMA masterfile to assess: 1) generalists’ and nephrologists’ interest in participating in a CKD care practice; 2) how well FPs and NEPs with similar experience (years in practice, practice setting and percent clinical time) using multiple logistic regression. RESULTS: Of 959 eligible physicians, 304 responded who were no different from nonresponders with regard to age, gender, acres in practice experience; 39% NEPs vs 29% PCPs responded; p < 0.01. PCPs were more likely than GIMs and GIMs less likely than NEPs to correctly identify CKD (56% vs. 71% vs. 96%; p < 0.01, respectively) and both FPs and GIMs were less likely than NEPs to recommend referral (71% vs. 74% vs. 96%; p < 0.01, respectively). By years of practice experience, FPs with >10 years experience were least likely to correctly identify CKD compared to GIMs and NEPs with similar experience (adjusted percent (95% CI) for FPs: 56 (42–69) vs. 64 (52–75) vs. 73 (63–80); GIMs: 62 (52–68) vs. 81 (72–85) vs. 89 (82–95); NEPs: 99 (85–100), p-trend <0.05). FPs and GIMs with >10 (vs. 0–10) years practice experience were least likely to recommend referral (adjusted percent (95% CI) for FPs: 67 (54–80) vs. 85 (68–94); GIMs: 69 (50–83) vs. 89 (76–95); NEPs: 99 (91–100), p < 0.01, p-trend <0.05). CONCLUSIONS: PCPs and GIMs (especially those with more practice experience) are less likely than nephrologists to correctly identify patients with CKD or to recommend appropriate referral according to current clinical practice guidelines. Generalists are also less likely to be interested in participating in a CKD study. Improved awareness, education, involvement of generalists in guideline development and dissemination of CKD guidelines to generalists may help improve the health of CKD patients.

RELATIONSHIP BETWEEN PATIENT CENTERED PROCESSES OF CARE AND REHOSPITALIZATIONS FOR CARDIAC EVENTS AFTER MYOCARDIAL INFARCTION: THE JGIM STUDY

BACKGROUND: Hospital based surveys to assess patient-centered processes-of-care are becoming increasingly prevalent. However, the relationship between clinical outcomes and patient reported processes of care is unclear. This study demonstrated that patient reported problems in non-technical aspects of care during an admission for myocardial infarction are associated with self-reports of chest pain and poor hospital satisfaction. METHODS: We examined the relationship between hospitalization for cardiac events and patient reported problems with hospital and subsequent ambulatory care in patients initially admitted for myocardial infarction. METHOIDS: This is a prospective, cohort study of patients admitted for myocardial infarction at twenty-three New Hampshire hospitals during 1996 and 1997. Surveys asking about problems with inpatient and ambulatory care were mailed to patients and 3 months after discharge, respectively. Patient responses were linked to 1996-2001 New Hampshire hospital discharge data. Patients with overall hospital care problem scores in the highest quartile were designated as receiving "worse" care, and other patients were classified as receiving "better" care. Outcomes included readmission for cardiac arrest, myocardial infarction, angina, congestive heart failure, arrhythmia, and stroke. Event rates in the "worse" and "better" care groups were compared after matching by propensity scores. Propensity scores were calculated by logistic regression using 15 covariates including demographic characteristics, self-reported physical and mental health status, co-morbid illnesses, receipt of cardiac medications, physical activity level, and other discharge characteristics. We performed a propensity score analysis to examine the relationship between hospitalization for cardiac events and patient reported problems with hospital and subsequent ambulatory care in patients initially admitted for myocardial infarction. RESULTS: There were 2,272 enrolled patients. The 1-month surveys were completed by 1,346 (59%) enrolled patient, and the mean duration of follow-up was 155 months. Compared to responders, non-responders were more likely to be younger, report worse mental and total health, and have fewer comorbidities. After matching by propensity score, there were no significant differences between the two groups ( p > 0.05). The 15 measured patient reported "better" hospital care groups. There was no significant difference in annual admission rate for cardiac problems between the two groups ( p > 0.05). In exploratory analysis, we analyzed the 855 (39%) patients who completed both the 1- and 3-month surveys. We identified patients with reported problem scores in the top quartile for both hospital and ambulatory care and matched them by propensity score with patients reporting better care. There were no significant differences in the annual admission rate for cardiac problems between the two groups ( p > 0.05, 95% CI: −0.05 to 0.23). In sensitivity analysis using multivariate count models, we found no significant relationship between number of cardiac re-hospitalizations and hospital problem score.

ambulatory problem score, and the interaction between hospital and ambulatory problem scores.

CONCLUSIONS: In a large cohort of patients experiencing myocardial infarction, patient reported processes of care may help to find a significant relationship between patient re-hospitalizations for cardiac events and reported problems with hospital and ambulatory care.

RELATIONSHIP BETWEEN PATIENT LOYALTY TO THEIR PHYSICIAN AND PROXIMITY TO THE PRIMARY CARE PRACTICE: A NATURAL EXPERIMENT

BACKGROUND: Dundalk is a stable community of 62,000 people in the southern part of Baltimore County. The median income in the area is $40,000 and the population is aging. This study used the preordained closure of a primary care practice to examine the factors that influenced the choices that were made by the affected elderly patients.

METHODS: We conducted a cross-sectional survey of patients older than sixty years that had previously received care at the practice. Prior to the closure, all patients were informed about the closure and they were invited to follow their primary care physicians (PCPs) to the new practice 11 miles away. Eight months after the closure, electronic databases were used to group patients who chose the nearby new practice, those who followed their PCP to the further clinic and those who did not choose to follow their PCP or to switch to the nearer practice. Comparisons between the two groups were made using Chi-square and t-tests.

RESULTS: The response rate was 84% (44% and 62% of PCP and NEP respondents were female. Patients who switched to the near clinic were older (mean age: 75 versus 70 years, p < 0.01), more likely to be using Medicare (73% versus 54%, p < 0.03), and were more likely to be living alone (38% versus 18%, p < 0.03) than those who chose their PCPs to the further clinic. Using a chi-square test, there were no differences between the two groups on their ‘mental competent scores’ (p = 0.41), however the ‘physical competent scores’ suggested that patients who chose the near clinic were more physically capable (p = 0.04, 40.3, p < 0.05). There were no differences between the patients who switched to the near clinic and those who followed their PCP to the further clinic in terms of marital status, annual income, number of comorbidity conditions, number of prescribed medications, number of years they had known their PCP, their driving status, or their self-assessed driving ability (Drivers 55 Plus Self-Rating Form). Components of the survey also attempted to gain insight into the patients desire for maintaining the choice to follow their PCP or to switch to the nearer practice.

CONCLUSIONS: In a large cohort of patients experiencing myocardial infarction, patient reported processes of care may help to find a significant relationship between patient re-hospitalizations for cardiac events and patient reported problems with hospital and ambulatory care.
RELATIONSHIP OF PRIMARY CARE PANEL SIZE AND HEALTHCARE OUTCOMES IN THE VA
S.L. Mayo-Smith, 1 K. Finneebee, 1 K. Harvey, 1 T. Steters, 1 J. Burgess, 1 M. Miller, 1 VA New England Healthcare System, Manchester, NH; 2Department of Veterans Affairs, Washington, DC; 3Department of Veterans Affairs, Denver, CO; 4Department of Veterans Affairs, Chicago, IL; 5VA New England Healthcare System, Bedford, MA; 6VA New England Healthcare System, Bedford, MA. (Tracking ID # 153369)

BACKGROUND: The Institute of Medicine has stressed the need to base healthcare on a strong primary care system as population based studies have shown clear correlations between the supply of primary care providers and better healthcare outcomes. The relationship between the number of primary care providers and an individual primary care provider is responsible for (panel size) and healthcare outcomes is unknown. Improved understanding of this relationship would be of value for designing physician staffing standards in healthcare organizations and for guiding policies regarding primary care supply.

METHODS: Using established VA databases, we examined the relationship between average primary care panel size at 549 primary care sites to healthcare outcomes. Panel size was measured using standardized business rules set by national policy, and analyzed as both continuous and categorical (small < 100, medium 1000–1200, large > 1200 patients) variables. Healthcare outcomes included timeliness measured by wait times for new patients. Patient satisfaction was measured using responses to a survey question on overall satisfaction with their VA healthcare. Quality was measured using results of structured chart reviews by board certified reviewers from Mayo Clinic, Elkins Park. The quality of the evidence based quality indicators were studied, 4 preventive medicine and 4 chronic disease management, covering a range of conditions and type of interventions. Cost data was drawn from the VA’s comprehensive cost accounting system. Costs for primary care services, including labor, supplies and overhead, increased significantly better quality of care was seen with smaller panels for 6 of 8 quality measures: LDL levels after MI (p < 0.001), BP < 140/90 in HTN (p = 0.002), timely diabetic eye exam (p = 0.003), colorectal cancer screening (p = 0.002), Pneumococcal vaccination (p = 0.05) and lipid screening (p = 0.05). No significant difference was seen with HgbA1c in diabetics and alcohol screening. Both Primary Care and total costs decreased with increasing panel size at 549 primary care sites, $4560 to $4072, p < 0.001, and average total costs from $4560 to $4072.

RESULTS: There are clear relationships between primary care panel size and healthcare outcomes in the VA. Smaller panels had improved timeliness and quality but increased cost. These findings can assist in decisions regarding primary care staffing by healthcare organizations and policy makers. Further investigations are needed on what healthcare outcomes are driving these outcomes in total cost and whether these might be due to differences in intensity of practice style, intensity of illness or reliance on VA for obtaining all healthcare.

RELATIONSHIPS BETWEEN SUBJECTIVE HEALTH STATUS AND OBJECTIVE HEALTH MEASURES: IMPLICATIONS FOR ASSESSING RACIAL AND ETHNIC HEALTH DISPARITIES
J.J. Sudano, 1 P.K. Murray, 2 G. Huber, 2 B. Ruo, 2 T.E. Love, 2 D. Wolfinger, 2 Case Western Reserve University, Cleveland, OH; 3Northwestern University, Chicago, IL. (Tracking ID # 156255)

BACKGROUND: To accurately assess racial/ethnic differences in health status, it is essential to use instruments that are “unbiased and equivalent” across racial/ethnic groups. We conducted this study to compare self-reported physical and mental health with performance-based measures of physical functioning.

METHODS: We recruited 170 adults (ages 45–64) from academic health center outpatient clinics in two large urban areas. Subjective health status was measured using the SF-36v2. We also asked subjects about work and household physical demands, social support (modified 5-item Medical Outcomes Study scale), and neighborhood safety. Subjects complete 12 performance-based measures (PBM; of physical functioning, including a 1-leg balance test, repeated arm curls, repeated sit-to-stand chair rise, timed stair climb, dexterity test, cardio-respiratory endurance test, grip strength, upper and lower body strength, 10-meter fast walk, and 6-minute walk test) were used to assess functional limitations. Pearson’s correlation coefficients for the PMS and PBMv2 were calculated then analyzed the correlation between the PMS and PBMv2.

RESULTS: A total of 96 white and 71 blacks participated. The mean age was 53.5 overall and was similar for the two groups. Whites had more education, were more likely to be working for pay, and higher household incomes compared to blacks. Mean scores and standard deviations (SD) for whites and blacks, respectively, were 49.7 (SD = 8.0) and 49.8 (SD = 8.9) for the PMS (p = 0.91 for difference), 50.5 (SD = 11.4) and 51.5 (SD = 11.5) for the MCS (p = 0.56 for difference), and 50.2 (SD = 3.5) and 49.8 (SD = 3.8) for the PBM (p = 0.50 for difference). The correlation between the PCS and the PBMv2 was moderate.
RELEASE FROM PRISON: A HIGH-RISK TIME FOR DEATH? I. Binswanger1; M.F. Stern2; R.A. Devy3; P.J. Heagerty4; A. Cheadle4; J.G. Elmore3; T.D. Koepsell1.

1Marshfield Clinic and Marshfield Clinic Research Foundation, Marshfield, WI;2Marshfield Clinic, Marshfield, WI;3University of Virginia, Charlottesville,VA.

BACKGROUND: Conducting a successful clinical research trial is a complex process. The evaluation of a new protocol is an important first step in determining whether a prospective clinical research trial will recruit the expected number of patients in the allocated period of time. Our research feasibility group was responsible for assessing all new clinical trials. We developed a protocol assessment feasibility tool to aide in predicting successful industry-sponsored clinical trials.

METHODS: A 67-item questionnaire was developed focusing on 5 specific domains: the trials’ key sponsors, the institution conducting the research, the Institutional Review Board, the patient population, and the trials’ protocols and procedures. Fifteen industry-sponsored clinical trials that had been successful (i.e., net study enrollment goals within the designated time) and 15 industry-sponsored clinical trials that were unsuccessful (i.e., did not meet study enrollment goals within the designated time) were identified and randomly assigned for review by our research feasibility group. Each member of the feasibility group was asked to complete the 67-item questionnaire for each of their assigned clinical trials. We analyzed the data using the chi square test, and the results were deemed statistically significant if the probability value (p-value) was <0.05.

RESULTS: The content validity of each of the 67 items of the questionnaire was computed and was used to select or eliminate items from the questionnaire. All items with a content validity index of less than 0.50 were removed from the questionnaire, leaving 41 items in the final version. The questionnaire was then administered to the clinical trials’ key sponsors, the institution conducting the research, the Institutional Review Board, the patient population, and the trials’ protocols and procedures.

CONCLUSIONS: Initial piloting of this assessment tool demonstrated ability of the tool to discriminate potentially successful and unsuccessful clinical trials. However, further testing is necessary to define sensitivity limits and tool validity.

RESEARCH FEASIBILITY GROUP: PERCEPTION OF SUCCESSFUL OR FAILED CLINICAL TRIALS

S.H. Yats1; M. Holcomb2; G. Ingrai3; I. Hong4; G. Stu5; Marshfield Clinic and Marshfield Clinic Research Foundation, Marshfield, WI;6Marshfield Clinic, Marshfield, WI;7Marshfield Clinic and Marshfield Clinic Research Foundation, Marshfield, WI;8University of Virginia, Charlottesville,VA.

BACKGROUND: Our research feasibility group computed whether a clinical trial was successful or unsuccessful by analyzing differences in the factor structure (covariance and correlation matrices) across groups and by multivariate analysis of the relative effect of the Pimms on PCS and MRS, controlling for other factors. This health status battery shows promise as a practical tool to measure several dimensions of health status for a varied patient population. Future results will also incorporate English and Spanish-speaking Hispanic subjects.

RESULTS: Of the total 2575 released inmates, 443 (1.7%) died after release during a mean follow-up time of 1.9 years. The mean age at death was 40 years. Overall, the mortality rate was 772/100,000 person-years, which was 2.8-fold (95% CI 2.5, 3.0) higher than other Washington State residents (275/100,000), adjusted for age and gender. For the first 2 weeks after release, the mortality rate was 2,186/100,000 person-years, which was 10.1-fold (95% CI 7.3, 13.8) higher than other Washington residents. Accidental poisoning by drugs and other biological substances (drug overdose) represented nearly a quarter (n =103) of all deaths during the study period. Comparison data for Washington State residents were obtained from the National Death Index-Plus to determine deaths and causes of death during the study period. Comparison data for Washington State residents were obtained from CDC Wonder. Time during a return to prison after the first release did not count towards person-time at risk. Poisson regression was used to compare death rates among released inmates with other Washington State residents, adjusted for age, gender and race.

RESULTS: Of 30,257 released inmates, 443 (1.5%) died after release during a mean follow-up time of 1.9 years. The mean age at death was 40 years. Overall, the mortality rate was 772/100,000 person-years, which was 2.8-fold (95% CI 2.5, 3.0) higher than other Washington State residents (275/100,000), adjusted for age and gender. For the first 2 weeks after release, the mortality rate was 2,186/100,000 person-years, which was 10.1-fold (95% CI 7.3, 13.8) higher than other Washington residents. Accidental poisoning by drugs and other biological substances (drug overdose) represented nearly a quarter (n =103) of all deaths during the study period. Comparison data for Washington State residents were obtained from CDC Wonder. Time during a return to prison after the first release did not count towards person-time at risk. Poisson regression was used to compare death rates among released inmates with other Washington State residents, adjusted for age, gender and race.

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CONCLUSIONS: Former prisoners are at strikingly high risk for death after release from prison, particularly in the first two weeks after release. Mortality rates after release are several times higher than both adjusted Washington state rates and reported national mortality rates in prison (243/100,000 person-years). Drug overdose, cardiovascular disease, homicide, and suicide represent significant risks to this population. General internists in the community will care for former prisoners when they return to their home communities and should be aware of the risks associated with the transition out of prison. These results demonstrate the urgent need for interventions and policies designed to reduce the risk of death after release from prison.

CONCLUSIONS: Our research feasibility group computed whether a clinical trial was successful or unsuccessful by analyzing differences in the factor structure (covariance and correlation matrices) across groups and by multivariate analysis of the relative effect of the Pimms on PCS and MRS, controlling for other factors. This health status battery shows promise as a practical tool to measure several dimensions of health status for a varied patient population. Future results will also incorporate English and Spanish-speaking Hispanic subjects.

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PCPs were asked to estimate their patient’s health literacy using four REALM grade categories.

RESULTS: Surveys were completed on 289 patients who saw one of 76 PCPs. 170 (59%) of these patients were male, and average age was 52 (SD = 13). The majority of patients described themselves as African American (n = 134, 47%), or white (n = 119, 42%), or both (16, 5%).

3. Influencing residents’ awareness and training in addressing health disparities

There was considerable overestimation, and in non-white patients. These results suggest that we need to improve resident PCP awareness of the high prevalence of low health literacy. They also raise concern that residents may not be providing education to their underserved patients in order to train physicians with the knowledge and skills to address these issues. Residency programs should make greater efforts to develop curricular innovations in health disparities education and caring for underserved populations in order to train physicians with the knowledge and skills to address these issues. Residents' willingness to substitute portions of the financial benefits of primary care (98%) or subspecialties (84%) to understand health disparities. However, 76 respondents to date. The large majority of respondents felt that it is important to 'very important' for residents planning to work in either primary care (69%) or subspecialties (64%) to understand health disparities. However, the majority of respondents felt only 55%. Prior studies have identified many barriers to mammography, but residents have not classified them in terms of system-based or patient-based factors.

METHODS: From December 2005 through April 2006, a confidential, anonymous, and voluntary survey will be offered to all Internal Medicine, Pediatric, Combined Internal Medicine/Pediatrics, and Family Medicine residents in each of the academic medical centers of LAC. The survey consists of 90 multiple choice questions.

RESULTS: Surveys have been collected from one academic medical center with 76 respondents to date. The large majority of respondents felt that it is important to 'very important' for residents planning to work in either primary care (69%) or subspecialties (64%) to understand health disparities. However, the majority of respondents felt only 55%. Prior studies have identified many barriers to mammography, but residents have not classified them in terms of system-based or patient-based factors.

CONCLUSIONS: Despite resident physicians' beliefs that specific skills in reducing health disparities are important to their training and future plans, their self-perceived preparedness to care for the underserved is limited. This may be a reflection of limited educational experiences on health disparities or the delivery system and the individual patient.

METHODS: We instructed 36 internal medicine residents at two clinic sites to retrospectively review the charts of the last 10 female patients aged 50–70 years seen in their continuity clinic sites in 2005/2006. Data were collected through a single-clinic-based and 1 hospital-based training program. Residents recorded the date of each patient’s last screening mammogram. If there was no mammogram in the preceding 12 months, residents recorded whether one was ordered during the most recent clinical visit, and if not, the reason why. We classified each reason as a system-based or patient-based barrier. The residents were queried on negative well-being, such as burnout or depression. We conducted this qualitative study, focusing on residents' perceptions of how their well-being status affects their work.

RESULTS: 26 respondents were from the following programs: internal medicine (n = 36), pediatrics (12%), psychiatry (15%), surgery and emergency medicine (12%), 4% each). 50% of respondents were women, and 19% were interns. A major theme that emerged was the impact of fluctuating well-being on 4 elements of residents' work: patient relationships, colleague interactions, performance, and motivation. Residents felt that their well-being varied with the changing equilibrium between stressors (such as physical and emotional exhaustion or frustrating tasks and coping mechanisms such as supportive relationships or hobbies). Residents felt that they had more frequent, higher quality discussions with patients when their well-being was high and inappropriate exchanges when their well-being was low. Resident physicians also attributed interpersonal conflict with their colleagues to 'toxic' states of well-being. Despite these lapses in professional communication, some residents denied that their well-being affected their overall performance in clinical care, equating performance with technical competence. Other residents acknowledged improved decision-making, procedural skills, and when their well-being was higher when the converse was not. Other residents reported several barriers to mammography, but most had not classified them in terms of system-based or patient-based factors.

CONCLUSIONS: In this qualitative study, both higher and lower levels of well-being during residency had important effects on residents' relationships with patients and colleagues, their performance, and their motivation. The findings of this study suggest that the educational and patient care goals of residency training may be enhanced through interventions that promote resident well-being.
RESIDENTS’ LIFE EXPECTANCY ESTIMATES AND COLON CANCER SCREENING RECOMMENDATIONS IN ELDERLY PATIENTS: C. Lewis1; A. Tytell Brenner1; C. Golin1; A.R. Gonzaga1; A.L. Spencer1; M.A. McNeil1.

BACKGROUND: The potential benefit of colon cancer screening in the elderly depends on expected longevity. The purpose of this study is to determine resident physicians’ recommendations regarding colon cancer screening for patients age 75 in three health states of varying expected longevity.

METHODS: Internal medicine residents responded to 3 clinical vignettes of patients age 75 in three health states of varying expected longevity.

RESULTS: 52 out of 77 residents in the UNC Internal Medicine Residency Program were approached to participate and 50 surveys were completed. Life expectancy estimates are presented below in the table for each vignette and compared with life table estimates. For the mild co-morbidity vignette, a 75 year old with HTN who is active and otherwise healthy, 33 would recommend screening and 17 would let the patient decide. 23 participants reported uncertainty about the patient’s potential to benefit from screening. For the moderate co-morbidity vignette, a 75 year old woman s/p coronary artery bypass graft with severe heart failure due to coronary heart disease, 1 would recommend screening, 29 would let the patient decide. 11 would recommend against screening, and 9 would not offer it. 34 participants reported uncertainty about this patient’s potential to benefit from screening. For the severe co-morbidity vignette, a 75 year old woman w/p coronary artery bypass graft with severe heart failure due to coronary heart disease, 1 would recommend screening, 29 would let the patient decide. 11 would recommend against screening, and 9 would not offer it. 34 participants reported uncertainty about this patient’s potential to benefit from screening.

CONCLUSIONS: Residents’ recommendations varied according to health status. Many reported uncertainty about the patients’ potential to benefit from screening for all three cases, but reported the highest uncertainty for the patient with moderate co-morbidities. Recommendations for patient decision making increased with reported uncertainty. Residents’ life expectancy estimates were fairly accurate for the mild and severe cases, but less so for the moderate case. Interventions providing life expectancy estimates from life table may be beneficial in these patients.

### Residents’ Life Expectancy Estimates Compared to Life Table Estimates

| Life Exp Estimates | Mild | Moderate | Severe |
|--------------------|------|----------|--------|
| <2 yrs             | 0    | 0        | 12     |
| 2-3 yrs            | 0    | 0        | 12     |
| 3-5 yrs            | 0    | 15       | 33     |
| 6-9 yrs            | 2    | 21       | 5      |
| >10 yrs            | 48   | 48       | 0      |

| Life Table Estimates | 17 yrs | 12 yrs | <5 years |
|----------------------|--------|--------|----------|
|                      | 17 yrs | 12 yrs | <5 years |

### RESIDENTS’ PERCEIVED COMPETENCE IN CROSS-CULTURAL COMMUNICATION SKILLS: A.R. Gonzalez1; A.L. Spencer1; M.A. McNeil1

BACKGROUND: Diminishing health care inequities requires training physicians early in their careers to communicate effectively with patients of diverse backgrounds. While cultural competence education plays an important part in reaching this goal, it is unknown how to best integrate it into medical training. We conducted a needs assessment to identify the strengths and weaknesses of our residency program’s training in the cross-cultural communication skills.

METHODS: Using an adapted version of a questionnaire designed at UC Irvine, we surveyed PGY1-PGY3 internal medicine residents at a large academic institution in December 2005. We asked residents to indicate perceived competence in specific cross-cultural communication situations. We asked respondents to rate the relevance of certain patient attributes to clinical care, and barriers to effective communication with patients of diverse backgrounds. While cultural competence education plays an important part in reaching this goal, it is unknown how to best integrate it into medical training. We conducted a needs assessment to identify the strengths and weaknesses of our residency program’s training in the cross-cultural communication skills.

RESULTS: The survey was completed by 139 (85%) of 163 eligible residents. The majority of housestaff (94%) agreed that limiting work hours was a good idea, and improved their quality of life, as measured by having adequate time away from the hospital (62%) and positive effects on job satisfaction (68%). However, many respondents believed that work hour limitations had negative effects on patient care and patient safety, with impairment of communication with the patient and family (79%), disruption in continuity of care (60%), and delayed review of tests (55%) among the negative effects noted. These perceptions varied by training year, with residents having a more negative view of the effects of the limitations on patient care than interns (76% vs. 48%, p=0.002). Most housestaff also noted that the restrictions had negative effects on their education, with residents more likely to believe that their time for teaching others was limited (92% vs. 61%, p<0.001), while interns were more likely to miss opportunities (96% vs. 78%, p=0.003). In addition, housestaff had difficulty complying with the limitations: 47 (94%) interns and 56 (70%) residents reported violating at least one of the restrictions during their previous call month.

CONCLUSIONS: These results suggest that while the current ACGME work hour limitations have had generally positive effects on resident quality of life, there may be adverse effects on resident care, patient safety, and medical education. In addition, compliance with the work hour limitations was difficult. More study needs to be done to find the most effective way to balance work hour limitations with the demands of patient care and the essential educational components of residency.

### RISK FACTORS ASSOCIATED WITH ABUSE OF PRESCRIPTION OPIOIDS IN WOMEN: RESULTS OF A NATIONAL SURVEY: J.M. Tetra1; P.A. Desai1; W.G. Stein1; D.A. Fiellin1; J. ConNato1; L.E. Sullivan1

BACKGROUND: Abuse i.e. non-medical use of prescription opioids is a growing problem in the U.S., with an estimated 4.7 million persons abusing pre-
scription opioid medications in 2003. Well-documented gender differences exist regarding illicit substance and alcohol use disorders but little is known about the gender differences associated with the non-medical use of prescription opioids. The purpose of this study was to investigate risk factors associated with non-medical use of prescription opioids in women compared to men.

METHODS: We performed an analysis of the 2003 National Survey on Drug Use and Health (NSDUH), an annual survey of members of U.S. households aged 12 or older. We chose independent variables based on prior reports and clinical relevance, with gender as our main variable of interest. We conducted a logistic regression model, stratified by gender, of past year non-medical use of prescription opioids. We utilized study calculated weights and SUDAAN software to adjust for the complex sampling design and non-response.

RESULTS: Among 55,230 respondents, 52% were female, 76% were white, and 4.9% reported non-medical use of prescription opioids in the prior year. Women and men differed significantly on most demographic and clinical characteristics studied. Women were less likely to have non-medical use of prescription opioids in the past year (4.5% vs. 5.2%, p=0.0001) whereas no gender difference was found for non-medical use of other prescription medications. Compared to men, women were more likely to be on state-sponsored medical assistance programs (11.2% vs. 8.6%). In addition, women were less likely to have used alcohol (60.0% vs. 69.2%), cocaine (1.6% vs. 3.2%), marijuana (8.0% vs. 13.2%) or heroin (0.07% vs. 0.2%) in the past year (p<0.0001 for all comparisons). Using the first use of illicit substance (after age 18) as the covariate, women's likelihood of risk factors for non-medical use of prescription opioids in the prior year, whereas no association was found among men for the same risk factors.

CONCLUSIONS: Women have different risk factors for past year non-medical use prescription opioid use compared to men. Clinicians should be aware of these differences and recognize that women with serious mental illness, women who use tobacco smokers, and women who first use illicit substances as adults are at increased risk for non-medical use of prescription opioids compared to men. These differences should enable clinicians to better identify, prevent and treat non-medical use of prescription opioids in women.

RISK PREDICTION INDEX FOR NEW ONSET MAJOR DEPRESSION IN THE NATIONAL LONGITUDINAL STUDY OF ADOLESCENT HEALTH. B.W. Van Voorhees1; J.M. Ellis1; J. Gollen1; A. Basu1. University of Chicago, Chicago, IL. (Tracking ID: 745468)

BACKGROUND: Nearly 25% of adolescents and young adults will experience a depressive episode by age 24. Several interventions have demonstrated efficacy in preventing major depression (MDD). However, there is no community-based prediction model to identify adolescents at risk for onset for MDD. The development of such a model would both strengthen motivation for participation and increase the cost-effectiveness of preventive interventions. We used the National Longitudinal Study of Adolescent Health (Add Health, public use) data set to develop a risk index using baseline factors to predict major depression onset (MDD) at one year follow-up with a minimum sensitivity of 0.8.

METHODS: This is a representative sample of United States adolescents (grades 9–12) that included a baseline interview (1995) and a 1 year follow-up survey (N = 4,791 completed both surveys). Based on the Centers for Epidemiologic Studies Depression Scale (CES-D), we constructed a proxy measure for new onset MDD (follow-up surveys as our outcome) we excluded those who met MDD criteria at baseline. Using logistic regression, we constructed a prediction model of 10 variables which were included in the final model: gender, race, rural residence, family structure, physical health status, depression, anxiety, academic performance, perceived social support, and self-esteem. Using a back-stepwise method, we reduced the number of variables, with the final model containing a single variable (CES-D). Each variable was then added sequentially to the model and the area under the curve calculated. The final model was validated internally using a bootstrap method with 100 replications. Effect size was measured using C-statistic and Hosmer-Lemeshow test, compared to the original model and each of the variables added sequentially to the model.

RESULTS: The predictor variables included gender, race, rural residence, family structure, physical health status, depression, anxiety, academic performance, perceived social support, and self-esteem. The variances explained (R2) by the final model were 25% for the entire sample, 0% in the bottom 30 percentile and 13.4% is the top 20%.

CONCLUSIONS: A model incorporating baseline vulnerability factors, trauma exposure and mood predicts MDD at one year with satisfactory, sensitivity and specificity. This index, validated in other samples, could provide a feasible and low cost method for triaging youth requiring preventive intervention in community settings. Screening using 10 items scales could be conducted on the Internet or in community/primary care settings.

ROLE MODELING HUMANISTIC BEHAVIOR: LEARNING BEDSIDE MANNER FROM THE EXPERTS. P.F. Weissmann1; W.T. Branch2; C.F. Gracey3; P.M. Haidet4; R.M. Frankel5. 1University of Minnesota, Minneapolis, MN; 2Emory Healthcare, Atlanta, GA; 3University of Rochester, Rochester, NY; 4Houston VA Medical Center, Houston, TX; 5Indiana University, Purdue University, Indianapolis, Indianapolis, IN. (Tracking ID: 155229)

BACKGROUND: Humanistic care is regarded as important by patients and the Accreditation Council for Graduate Medical Education (ACGME) as well as other professional accrediting agencies. When physicians are perceived as humanistic, their patients are more satisfied and are likely to experience better health outcomes. However, little is known about how attitudes and behaviors in this domain are taught in clinical settings. To answer this question, the authors studied how excellent clinical teachers model humanistic behaviors and attitudes consistent with humanistic care to their learners.

METHODS: Using an observational, qualitative methodology, the authors studied twelve clinical faculty subjects identified by medical residents as excellent teachers of humanistic care to inpatients during the course of their medical education. The authors conducted interviews with these faculty members at the medical universities in the United States: University of Minnesota Medical School, Emory University, University of Rochester School of Medicine, and Baylor College of Medicine. Subjects were enrolled from 2003 to 2005. The subject was observed by one of the investigators while making inpatient hospital rounds. Twenty-five patient encounters, conducted by the subjects in the presence of residents and students, were audiotaped and transcribed. Further observations were conducted by the authors using standardized field notes. After each encounter, the authors debriefed patients, learners (residents and medical students), and the teaching physician subjects in semi-structured interviews in order to identify specific examples of teaching behaviors that were observed at the bedside, each site investigator reviewed data from all sources, including the field notes, semi-structured interviews, and transcripts. This information was synthesized into a structured text format, each example was accompanied by containing the exemplary teaching behavior, supporting field notes, additional analysis and description of the concepts involved.

RESULTS: Subjects taught primarily by role modeling. Though subjects were highly aware of their significant role in modeling, they did not typically address the human dimensions of care overtly. Each teaching physician exhibited unique teaching strategies, but five common modes of role modeling emerged, each of which could be taught to other faculty. Variables of role modeling added significantly to the time required for rounding. Additionally, the subjects identified self-reflection as the primary method by which they developed and refined their teaching strategies.

CONCLUSIONS: Role modeling is the primary method by which excellent clinical faculty try to teach medical residents humanistic aspects of medical care. Though teachers develop unique teaching styles and strategies, common themes were identified and described. Numerous and the observed methods of role modeling added significantly to the time required for conducting rounds. These findings could be used as a basis for creating future faculty development activities that will permit the teaching and learning of the human dimensions of care in medical settings.

ROLE OF HOSPITALISTS IN MANAGEMENT OF PATIENTS WITH CHEST PAIN: RESULTS OF A RETROSPECTIVE COHORT STUDY. B. Cark1; K. Blue1. 1Carolinas Medical Center-University, Charlotte, NC. (Tracking ID: 155468)

BACKGROUND: Each year over 6 million Americans present to emergency departments with chest pain that are admitted with complications. Of those only 20–25% eventually receive the diagnosis of acute coronary syndrome (ACS)/coronary artery disease (CAD). Despite the excess number of admissions including low risk patients with high costs, still 1.2–3% of patients with acute myocardial infarction (AMIs) and 5.2% of patients with unstable angina (UA) die as a result of a heart attack. To improve diagnostic or therapeutic strategies, the role of hospitalists in managing these patients who were admitted with chest pain to evaluate the appropriateness of admissions, the care given during hospitalization and the outcomes. 2) To detect the role of hospitalists in patients who died by描画temporal length of stay and for cardiology consultation. 3) To determine whether the use the prediction rule could have made changes in the management of these cases.

METHODS: We performed a retrospective cohort study on all patients consecutively admitted to the hospitalist service between January and July 2005, with a diagnosis of chest pain. Those who had ST-segment elevation in ECGs were excluded. Each patient was risk stratified using Diamond and Forrester algorithm for probability of CAD, retrospectively. Results were analyzed using X2 test or exact test and student’s t test.

RESULTS: Of 260 patients admitted with chest pain to the hospitalist service, only 249 (95%) were included in the chest discomfort. Of those only 20–25% eventually received the diagnosis of ACS. The patients in the ACS group were older than those in non-ACS group (62.0 vs. 50.9 years, p < 0.001) and more likely to be male, Caucasian and to have history of hyperlipidemia, CAD, peripheral vascular disease, cerebrovascular disease and percutaneous coronary intervention (PCI). Twenty six percent of patients (including all ACS patients) received cardiology consultation. Of 175 cardiac tests, 116(66.3%) were performed by hospitalists with 137(4% positive) results. All patients with ACS received advice and hemoptysis before PCI. Of 34 patients with catheterization, 20(58.8%) had occlusive CAD with 14 of them receiving PCI. Mean length of stay was 26 ± 15.4 hours. Risk stratification of patients retrospectively calculated 24.6% of the patients population was high risk, while 21.9% of them were low risk. Number of ACS cases was highest in the hospitalist group while none was detected in the low risk group.

CONCLUSIONS: Our study demonstrated using a prediction rule could have provided early and safe admissions, saved cost, and increased care efficiency. Use of risk stratification methods should be encouraged. In the meantime, hospitalists will be carrying the work load in management of chest pain patients while cardiologists are focusing on the identified cases.
SAMPLING ‘HARD-TO-REACH’ POPULATIONS IN HEALTH RESEARCH: YIELD FROM A STUDY TARGETING AMERICANS LIVING IN CANADA. D.A. Southern; S. Lewis; C. Maxwel1; J.R. Dunn2; T.W. Noseworthy1; J. Thomas3; W.A. Ghali1. University of Calgary, Calgary, Alberta; University of Toronto, Toronto, Ontario. (Tracking ID # 15377)

BACKGROUND: There are difficulties in conducting research on ‘hard-to-reach’ populations, beginning with the challenge of how to identify and sample them. In a recent survey study targeting Americans living in Canada, we were faced with the challenge of deriving an approach to reaching this population, one that avoids the lack of ready access to immigration records. We therefore adopted a multi-step approach to informing the public of our study. Here we report on the method used and its yield, as valuable information for researchers conducting research on such hard-to-reach populations.

METHODS: Study recruitment was open to all American-born individuals currently living in Canada. We used 5 techniques to solicit responses. We held a live media conference, supplemented by a nation-wide media release. These announcements the study, highlighted its importance, and informed responders of how to participate. Second, one month after the media conference, we prepared and nationally distributed a one-page flyer that outlined the purpose of the study, why it was unique and important, and how to participate. The intent was to reinforce the early exposure and reach new audiences. Third, we advertised the study in four newspapers. Fourth, we sent the survey information and coordinating to individuals and groups (American consulates, Democrats in Canada, and Republicans in Canada) likely to be eligible to participate and asked them to either respond as individuals, or forward the survey information to their membership or contact lists. Fifth, we asked those who had logged onto the survey site to send the information to others likely to meet the eligibility criteria.

For this analysis, we use descriptive statistics to document the method’s yield as the proportion of respondents who reportedly had contacted us through the media or word of mouth (9%). Another 9% were unsure of how they found out about the survey. The figure below shows the distribution of unique survey entries by week. Fifty-six percent (56%) of respondents reported that they became aware of the survey via media outlets, while 26% learned of the survey by word of mouth (26%), and another 9% heard about the study through both the media and word of mouth (9%). Another 9% were unsure of how they found out about the survey.

Distribution of unique survey entries by week

CONCLUSIONS: A multi-step communication method of informing the public of our study through media outlets provided us with a sufficient sample of Americans living in Canada. This combination of paid and unpaid exposure in media outlets, while 26% learned of the survey by word of mouth (26%), and another 9% heard about the study through both the media and word of mouth (9%). Another 9% were unsure of how they found out about the survey.

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Distribution of unique survey entries by week

CONCLUSIONS: A multi-step communication method of informing the public of our study through media outlets provided us with a sufficient sample of Americans living in Canada. This combination of paid and unpaid exposure in media outlets, while 26% learned of the survey by word of mouth (26%), and another 9% heard about the study through both the media and word of mouth (9%). Another 9% were unsure of how they found out about the survey.
have a firm understanding of the systemic issues contributing to such behaviors and advocate for system-wide changes that promote a healthier lifestyle. A good example is obesity. The causes of the obesity epidemic are complex and multi-factorial, involving a combination of genetic, environmental, and social factors. Thus, in order to effectively intervene in controlling obesity, physicians need to not only address issues with individuals but also understand system-based practice issues such as community resources as well as barriers and potential solutions. The challenge for clinicians is that interventions designed to enhance self-efficacy may increase participation in self-care behaviors that may reduce complications from diabetes among urban older African Americans and Latinos.

SELF-REPORTED INFERTILITY AND LIPID RISK FACTORS IN A POPULATION-BASED STUDY OF WOMEN: THE CARDIA WOMEN'S STUDY.

C. Lewis1; S. Person1; B. Stenfeldt2; D.S. Siscovick3; 1University of Baltimore, Baltimore, AL; 2Kaiser Permanente Division of Research, Oakland, CA; 3University of Washington, Seattle, WA. (Tracking ID # 1520)

BACKGROUND: The 2002 National Survey of Family Growth revealed that 7% of partnered women were experiencing infertility: i.e., that during the previous 12 months, while continuously married or cohabiting and not using contra-
ception, they had not become pregnant. Infertility is caused by many conditions including polycystic ovary syndrome (PCOS) and premature ovarian failure (POF) and is associated with smoking and obesity. In several studies, PCOS and POF have been associated with abnormal lipid levels. However, they occur in <5% of female populations. We hypothesized that lipid risk factors associated with increased cardiovascular risk factors, specifically abnormal lipid levels, even after controlling for PCOS, menopause, smoking, and obesity.

METHODS: This is a cross-sectional study of a community-based sample of 1163 women who participated in CARDIA Women's Study (CWS) at age 16 of CARDIA. CWS enrolled equal proportions of AA and Caucasian women ranging in age from 34–46. Women were asked multiple questions about their repro-
ductive health including “Have you ever had a Kybella sexual intercourse for at least 12 months without becoming pregnant” (i.e., infertility). Women who reported current pregnancy, lactation, a diagnosis of PCOS; lacked menses for 12 months and had a follicular phase FSH of > 40 (i.e., menopause); or lacked complete fasting laboratory data were excluded. Laboratory and risk factor data were assessed using year 15 data. LDL and HDL cholesterol, triglycerides, age, smoking status, body mass index (BMI), and parity were compared in women with infertility vs women without infertility. Multiple regression modeling was performed with lipids as dependent variables and with infertility, smoking, BMI, and parity introduced sequentially as independent variables and forced in the model.

RESULTS: After exclusion criteria were applied, 999 women remained. 365 (36%) reported infertility. Those with infertility were similar in age (42.0 vs 42.2, p=0.47) but more likely to currently smoke (28% vs 16%, p<0.01) than those without infertility. They had a higher BMI (30 vs 29, p=0.04) and were more likely to be AA (58% vs. 48%, p=0.04). They had lower LDL (52 vs. 55 mg/dl, p<0.01) a trend toward higher triglycerides (90 vs. 84 mg/dl, p=0.08), but did not differ in HDL (108 vs. 109, p=0.70). In multiple regression modeling, infertility was associated with lower LDL (p<0.01) but not higher triglycerides, after adjusting for smoking. The association with LDL (p<0.05) persisted after adjusting for BMI and parity vs 40 y of the model.

CONCLUSIONS: CWS women had frequently experienced infertility - likely related to the older age of the women when the question was asked. As expected, women who had experienced infertility smoked more and had a higher BMI than those who had not. Independently, there was a lower LDL. In the primary care setting, infertility may warrant investigation of lipid risk factors as well as counseling on modifiable behaviors such as smoking and weight control.

SENSITIVITY AND SPECIFICITY OF A QUANTITATIVE D-DIMER LATEX IMMUNOAS-
Say FOR THE DIAGNOSIS OF ACUTE PULMONARY EMBOLISM AS DEFINED BY MultiDeteCtor-ROw COMPUPed Tomographic AngIOGraphy.

D.A. Fronek1; P.R. Daniels1; B.J. Swensen1; J.A. Heit1; J.N. Mandrekar1; J.H. Ryu1; P.C. Elon1; Mayo Clinice, Rochester, MN. (Tracking ID # 15126)

BACKGROUND: Pulmonary embolism is a common life-threatening problem in clinical medicine. The diagnosis of this disorder is often problematic. The utility of the quantitative D-dimer latex immun assay in the diagnosis of acute pulmonary embolism is unclear. In this retrospective study we measured the sensitivity and specificity of the plasma fibrinogen D-dimer (DD) latex immunoassay for the diagnosis of acute pulmonary embolism using multidetector-row computed tomographic (CT) angiography as the diagnostic reference standard.

METHODS: From August 3, 2001 to November 10, 2003 all inpatients and outpatients who had both quantitative D-dimer latex immun assay testing and multidetector-row CT angiography for suspected acute pulmonary embolism were included for this study. A positive test result was defined as a positive D-dimer assay by the CT angiographic diagnoses. The utility of all D-dimer potential discriminating values was analyzed.

RESULTS: Of 1335 CT studies 208 (15%) were positive for acute pulmonary embolism. For all D-dimer discriminating values from <100 ng/ml to >2000 ng/ml the area under the receiver operating curve was 0.71 with a standard error of 0.02. The discriminating value of <500 ng/ml had the highest negative predictive value for the diagnosis of acute pulmonary embolism. Using this value the D-
dimer assay was positive for 1032 (76%) of the 1355 patients. For acute pulmonary embolism using this discriminating value the D-dimer assay had a sensitivity of 0.94 (95% confidence interval (CI), 0.89–0.97), a specificity of 0.27

SELF-EFFICACY AND PARTICIPATION IN DIABETES SELF-CARE AMONG OLDER AMERICAN-AMERICANS AND LATINOS. C.M. Margione1; M. Seifu1; W.N. Steers1; A.F. Brown2; R. Brusuelas2; K. Norris3; M.B. Davidson3; R.M. Anderson4; T. Seeman1; C.A. Froehling1; 1University of California, Los Angeles, Los Angeles, CA; 2University of California, San Francisco, CA; 3University of California, Davis, Davis, CA; 4University of Michigan, Ann Arbor, MI. (Tracking ID # 154679)

BACKGROUND: Participation in diabetes self-care such as regular physical activity and self-monitoring of blood glucose (SMBG) improves glycemic control and may lower cardiovascular risk. However, participation in diabetes self-care is low among older African Americans and Latinos. We hypothesized that self-efficacy for exercise and for social and recreational activities correlated with participation in exercise. Self-efficacy for exercise and for social and recreational activities correlated with participation in exercise (p=0.0003, p=0.02 respectively), and self-efficacy for MD communication correlated with taking diabetes medications (p=0.03). The correlations were similar for both groups. However, two important self-care behaviors, following a diabetes diet and SMBG were performed less frequently among the Latinos. Among both groups, higher self-
efficacy was associated with more participation in key self-care practices. This finding suggests that interventions designed to enhance self-efficacy may increase participation in self-care behaviors that may reduce complications from diabetes among urban older African Americans and Latinos.

METHODS: Following a week-long community-based primary care experience, 103 first-year medical students were asked to write their responses to: What was the most important health-related behavioral issue that you observed? What barriers exist in the community to changing this behavior and how may these be overcome? Written responses were analyzed for thematic categories by two reviewers in an iterative process. The two reviewers then coded the students' responses for the presence or absence of the themes. Discrepancies were resolved via consensus.

RESULTS: 48% of the students reported the most important health-related issue to be obesity (inactivity, improper nutrition). 39% reported the use of tobacco (smoking, second hand smoke), and 13% gave various independent responses (stress, unprotected sex, etc.). Being that obesity-related issues were reported the most prevalent we chose to analyze the data further. The leading perceived community barrier to controlling obesity was lack of proper nutrition (51%), this was followed by lack of safe public areas to exercise (9%). 24% of students responses were directed at the level of individuals rather than community (time, lack of desire to exercise, lack of interest, lack of time, etc.). Potential solutions included: education (33%), healthy food availability (27%), and community-based exercise areas (programs) (26%).

CONCLUSIONS: More students listed obesity than tobacco use as the most important health-related issue. However, issues related to obesity tend to be on an early clinical education experience. While Students had a fairly good grasp of community barriers regarding obesity; they did not demonstrate an adequate knowledge of potential community-based solutions. Their main focus was on education rather than on development of community programs or collaborating with existing organizations such as schools, the workplace, or the state. Thus the first-year students appear to not be thinking on the level of systems-based practice. We plan on introducing students to the concepts of systems-based practice in undergraduate medical education.
SEPARETE BUT UNEQUAL: WHERE MINORITY AND NON-MINORITY PATIENTS RECEIVE PRIMARY CARE

A.B. Varkey1; L.B. Manwell2; S.A. Ibrahim3; J.A. Bobula2; M.P. S.E. Sherman1; M. Estrada2.

BACKGROUND: Few studies have examined the role of primary care provider work conditions and the clinic environment in health care disparities. Comparing primary care clinics serving minority and non-minority patients, minority patients, we sought to examine differences in clinic factors that might contribute to disparities.

METHODS: Study data were drawn from MEMO (Minimizing Error, Maximizing Outcomes), a longitudinal study of primary care physicians and clinic staff from 101 clinics in New York City and rural and urban clinics in the upper Midwest. Physicians were surveyed regarding access to clinical resources and patient care (scaled 0 to 4, 4=high), worked more often uninsured or covered by Medicare (58% vs. 19%, p<.001). Minority clinics also had lower staffing ratios (0.9 vs. 1.2, p=.018) than non-minority clinics. Comparing clinics, patients from minority clinics used more medications (2.7 vs. 2.1 per patient, p =0.003) and were more often uninsured or covered by Medicaid (39% vs. 12%). Comparing clinics, staff from minority clinics reported less access to resources such as supplies, equipment, referrals (p<.001) and exam rooms per physician (2.1 vs. 2.7, p<.001). Minority clinics also had lower staffing ratios (0.9 vs. 1.2, p=0.018) than non-minority clinics. Comparing patients, patients from minority clinics used more medications (2.7 vs. 2.1 per patient, p =0.003) and were more often uninsured or covered by Medicaid (58% vs. 19%, p<.001). Comparing physicians, more physicians from minority clinics reported inadequate time to see patients (57% vs. 39%, p<.001) and were more likely to be burned out (35% vs. 25%, p =0.03). Minority clinics reported higher clinic chaos scores (3.8 vs. 3.2, p<.001) and lower work control (2.3 vs. 2.7, p<.001). No significant differences were found between minority and non-minority clinics for the presence of an electronic medical record or physician stress.

CONCLUSIONS: Clinics that serve minority patients have fewer resources, more medically complex and uninsured/Medicaid patients, more chaotic environments, and physicians who report less work control, more time pressure and higher rates of burnout. These difficult working conditions pose a special challenge to our health care system. Real improvements may be achieved if remediable factors are addressed at the organization, system, and policy levels.

SHOULD I USE A PATIENT SURVEY OR PROVIDER SURVEY? ASSESSING OUTCOME MEASUREMENT AIRS IN THE PRIMARY CARE PROVIDER EXCHANGE

J. M. Edelstein1, S. A. Harb, Harbor Healthcare System, New York, NY; 1VA Center for the Study of Healthcare Provider Behavior, Sepulveda, CA. (Tracking ID: 154052)

BACKGROUND: Researchers and administrators often need to decide how to assess the outcome of smoking cessation interventions. Patient surveys are often preferred over provider surveys, but they are costly and time-consuming to administer. Provider surveys are at times used as surrogates for the more labor-intensive patient surveys.

METHODS: We randomly assigned one Veterans Administration primary care team to usual care and the other to intervention, which consisted of access for 1 year to an on-call counselor. In addition, we used several social marketing techniques on the intervention team – weekly provider-specific audit and feedback, educational outreach from an opinion leader, and financial incentives for providers. We surveyed a random sample of primary care patients at baseline (n=482), and we followed up with them near the end of the intervention (n=251) and after the intervention was over (n=251). The questionnaire covered smoking history and behaviors and smoking cessation services received. Participating teams received feedback and incentives based on their performance. We used statistical tests to compare differences at endpoints after the intervention (n=43), covering smoking cessation skills, attitudes, and behaviors.

RESULTS: Patients on the intervention team were more likely at baseline to report having quit smoking for at least 1 day in the prior year (OR 1.5, 95% CI 1.05-2.2), but there were otherwise no significant differences on the baseline survey between the intervention team and control teams in smoking history or provider services received. On the follow-up survey near the end of the intervention, patients on both teams were equally likely to report a quit attempt or to have been prescribed nicotine patches in the prior 6 months. Patients on the intervention team were more likely at baseline to report being counseled about cessation (OR 1.7, 95% CI 1.00-2.9), to have received a prescription for bupropion (OR 2.3, 95% CI 1.1-5.1), to have been referred to a cessation program (OR 2.1, 95% CI 1.2-3.6), and to have attended the cessation program (OR 3.6, 95% CI 1.2-10.5). All differences between the two teams had disappeared by the post-intervention survey. Among providers, there were no significant differences between teams in smoking cessation skills, attitudes, and behaviors at baseline or at follow-up.

CONCLUSIONS: Provider surveys suggest the intervention had no effect, while the population-based patient survey suggested smokers on the intervention team were more likely to have been counseled, treated, and referred. Reliance solely on provider surveys would have led to the incorrect conclusion that the intervention had no effect. Provider surveys may fit best as one part of a multimodal outcome assessment.

SICKER, MORE COMPLEX PATIENTS GET BETTER, NOT WORSE, QUALITY OF CARE

T. Higashi1; J.L. Adams3; N.S. Wenger4; E. McGlynn2; L. Chiang3; S. Asch5; E.A. Kerr2; D.B. Ruben4; C. Fung6; P.G. Shekelle7; 1University of California, Los Angeles, Los Angeles, CA; 2VA Greater Los Angeles Healthcare System, Los Angeles, CA; 3University of Michigan, Ann Arbor, MI. (Tracking ID: 155584)

BACKGROUND: There has been concern that providing high-quality care to complex patients with multiple diseases is difficult and that providers caring for sick patients will be disadvantaged in quality evaluation. However, the effect of having comorbidity on quality is unknown.

METHODS: We measured quality of care provided to two samples of adult patients: a national sample of 67,12 adults drawn from 12 medicaid areas and 372 community-dwelling vulnerable elders enrolled in two managed care organizations. Quality measurement and comorbidity were derived from medical records. Quality of care, defined as the percentage of quality indicator care received, was related to the count of comorbidities. Possible explanations for the quality-comorbidity relationship were explored by performing, in the vulnerable elder cohort, logistic regression at the quality indicator level adjusting for number of office visits, hospital admission, specialty care and duplication of care between comorbidities (e.g. ACEI recommended for both diabetes and heart failure).

RESULTS: Patients in the national sample were eligible for a mean of 16 quality indicators, received 55% of recommended care and had a mean of 0.6 of 11 comorbidities (range 0–7), Vulnerable elders were eligible for a mean of 21 quality indicators, received 54% of recommended care and had a mean of 2.5

SHOULD POST-MI PATIENTS RECEIVE SECONDARY PREVENTION MEDICATIONS FOR COMPLEX PATIENTS AN EMPIRICAL APPROACH

J. Avorn2; S. Schneeweiss1; W. Shrank3. 1Harvard University, Boston, MA; 2Brigham and Women’s Hospital, Boston, MA. (Tracking ID: 153995)

BACKGROUND: When taken in combination, aspirin, beta-blockers, angiotensinconverting enzyme inhibitors (ACEI) and statins (combination pharmacotherapy) are estimated to cause reductions in heart disease (CHD) related events of more than 80%. Unfortunately, these therapies continue to be significantly underused, even among patients with prescription drug insurance. Out-of-pocket costs create one key barrier to appropriate adherence to secondary prevention after experiencing an MI. We sought to evaluate whether the cost-savings from averted clinical events would offset the cost of combination pharmacotherapy to patients after their first myocardial infarction (MI).

METHODS: We created a model to estimate anticipated changes in event rates and expenditures from first-dollar coverage of combination pharmacotherapy provided for 3 years to the more than 400,000 insured Americans who will have their first MI in 2006 could save more than 4464 lives and reduce re-infarction rates by 1% and reduce mortality rates by 0.4% and re-infarction rates by 5.7% and would result in an average cost-savings of $237 per patient. Our results were most sensitive to the magnitude of treatment effect from combination pharmacotherapy and the proportion of previously non-compliant patients that become compliant when out-of-pocket costs are removed.

CONCLUSIONS: This preliminary analysis indicates that providing first-dollar coverage for combination secondary preventative therapy to currently insured post-MI patients saves both lives and dollars. The results strongly suggest that providing first-dollar coverage for 3 years to the more than 400,000 insured Americans who will have their first MI in 2006 could save more than 4464 lives and significantly save insurers $1.7 billion. These findings suggest that cost barriers to these highly cost-effective medications should be reconsidered.

(95% CI, 0.25-0.30), a negative likelihood ratio of 0.23 (95% CI. 0.14-0.39), and a negative predictive value of 0.96 (95% CI. 0.93-0.98).

CONCLUSIONS: Using a discriminate value of < 300 mg/ml the quantitative D-dimer immunoassay had a high sensitivity and a high negative predictive value but a low specificity for the diagnosis of acute pulmonary embolism. By itself this test is not sufficient to rule out acute pulmonary embolism. Approximately three-quarters of our patients had positive D-dimer assays and required further evaluation to exclude acute pulmonary embolism.

ABSTRACTS

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of 13 comorbidities (range 0–7). Patients in both samples with a larger number of comorbidities had higher overall quality scores (P < 0.001 for trend). The odds ratio for quality of care in the national sample was 1.03 (95% CI 1.01–1.05) for each additional comorbidity. Our data revealed that the quality of care ratio for quality of care in the national sample was 1.07 (95% CI 1.04–1.10) for each additional comorbidity. This relationship did not change after adjustment for expected quality score based on the population mean for the set of quality indicators for which the patient was eligible, duration of care, or provider of specialty versus primary care. The comorbidity effect was partially explained by the number of office visits and presence of hospital admission (odds ratio = 1.05, 95% CI 1.01–1.09).

CONCLUSIONS: Contrary to expectations, patients with more comorbidities receive higher-quality care. Additional analyses to understand this relationship may lead to interventions to improve quality of care. Delivering higher quality care to sicker and more complex patients may be challenging, but feasible.

SLEEPINESS AFFECTS ACADEMIC AND PRIVATE PRACTICE PHYSICIANS BOTH PROFESSIONALLY AND PERSONALLY

I.A. Chen1; R. Chiu1; R.D. Vorona1; J.C. Ware1; N. Kandula1; M. Wen2; E. Jacobs3; JGIM 131 / 141

BACKGROUND: Excessive work hours lead to more medical errors, motor vehicle crashes, and depression for physicians-in-training. However, little knowledge exists concerning the effects of sleep loss and fatigue on attending physicians. We determined the prevalence of sleepiness in attending physicians, the average number of hours worked, and the hours slept while “on call” or “not on call.” We hypothesized that practicing physicians would note work errors, drive safely, and perform better on their personal life secondary to rigorous work hour limitations and reduced sleep.

METHODS: We administered an anonymous, validated survey to attending academic and private practitioners. The comorbidity effect was partially explained by the number of office visits and presence of hospital admission (odds ratio = 1.05, 95% CI 1.01–1.09).

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SOUTH BROXOBESITYREDUCTIONINTIATIVE (SOBORI): ADVOCATING FOR AWEIGHT LOSS INTERVENTION. G. M. Saca/dr, M. Wright, C. Quercyi, J. Amour,, Albert Einstein College of Medicine, Bronx, NY; Montefiore Medical Center, Bronx, NY. (Tracking ID: 154665)

BACKGROUND: The obesity epidemic is at the epicenter of health inequality in America with its burden falling disproportionately on minority and poor populations. Despite the serious complications associated with obesity, it is difficult to find effective and affordable weight loss programs. Coverage for obesity treatment is generally considered an “extra” for the Medicaid program. Thus, both insurance providers and government health programs have a critical role in advocating for appropriate weight loss intervention. The goal of the following was to introduce a weight reduction intervention to an underserved community. Its aim was to incorporate relevant cultural ideas surrounding food rituals and body image into a community-based program that could be housed within an existing primary care service.

METHODS: We developed collaboration among medical providers, a commercially available weight loss program and a Managed Care company to implement a program called SoBORI. Patients at our community health center were referred by their primary care providers and were eligible if: > 18 years, BMI > 30, > 6 readings within 6 months, exclusion criteria included pregnancy, uncontrolled psychiatric disorders, chronic systemic steroids. Eligible patients were consented and referred to an on-site 10 week program with an option to continue after that trial period. The weight loss program was integrated into patients’ ongoing health care. In addition to clinical outcomes measures, such as weight loss, blood pressure, and lipid profile, we also measured lifestyle and psycho-social outcomes. These included adherence to intervention, quality of life, health-related quality of life, and self-perceived body image.

RESULTS: Since February 1st 2005, 436 patients were referred to the program. Of those 345 expressed interest and 152 consented to participate and came for the first intervention meeting. Of those 98 (57%) continued and others dropped out of the program. The participants were 90% women, 46% Blacks, 46% Latino, and 8% of other ethnic groups. 70% were US born, 57% were single, 33% were separated and divorced or 16% were married. An average of 9.7 lbs was lost (range 0-34.6) and their clinical parameters included higher quality of life, and a better health related inner locus of control were statistically significant among adherent participants compared to baseline. Self perceived body image showed improved change after 10 weeks. Conclusions: We adherent participants compared to baseline. Self perceived body image showed improved change after 10 weeks.

CONCLUSIONS: We described the results of a culturally sensitive, integrated weight reduction intervention in an underserved primary care community health center. Our results suggest among other things that 1) obese patients who are committed to changing their eating habits will adhere to a financially affordable commercial weight loss program; 2) in this setting successful weight reduction is related to higher perceptions of locus of control; and 3) higher adherence rates at baseline who integrated weight loss in their lifestyle showed improved quality of life. The initial successful results should be further investigated in a randomized control study to prove efficacy. In an era when obesity is an epidemic that disproportionately affects poor minorities and primary care physicians, the results of this study are important for advocacy for communities based interventions. The results also call for advocacy towards legislations requiring commercial health insurance to fund new preventive and weight loss education programs.

STANDARD GAMBLE, TIME TRADE-OFF, AND RATING SCALE SCORES ELICITED FROM HUMAN IMMUNODEFICIENCY VIRUS-POSITIVE INDIVIDUALS. A. M. Barbour1, Centre for Research on Inner City Health, Toronto, Ontario. (Tracking ID: 154444)

BACKGROUND: We measured quality of life among Human Immunodeficiency Virus (HIV)-positive individuals using utilities, a summary preference-based measure. We also used four different methods to measure current antiretroviral therapy approaches and their associated side effects.

METHODS: We asked participants to rate 8 standardized health state descriptions, using a scale from 1 to 100, to assess the acceptability of the interventions. Participants were asked whether, if they were offered a choice, they would prefer the treatment with and without known coronary disease at entry (with coronary disease: 8.1 vs. 18.6, P = 0.001; without coronary disease: 7.6 vs. 15.8, P = 0.001). Similar patterns for HF hospitalization were observed. Among HIV patients with or without a recent cardiac event, the acceptability of lower risks of death (adjusted hazard ratio [HR] 0.43 [95% CI: 0.41 to 0.46] and HR 0.46 [0.43 to 0.50, respectively) and HF specific hospitalization (HR 0.73 [0.69–0.77] and HR 0.90 [0.74–0.85], respectively), after adjustment for the propensity score, other potential confounders, and time-dependent use of other medications. These results are consistent with the findings of previous studies and suggest that future studies should focus on evaluating the acceptability of new treatment options that offer benefits for patients with or without a recent cardiac event.

CONCLUSIONS: A large, diverse HF population characterized longitudinally for clinical, cardiac history, comorbid conditions, laboratory tests, and longitudinal cardiac medication use. Baseline characteristics: 59.7 years age, 50% female, 3% received statins and 67% were more likely to be younger, male and have known cardiovascular disease and vascular risk factors but slightly fewer other coexisting diseases. Receipt of statin therapy during follow-up was associated with significantly lower age-sex-adjusted rates (per 100 person-years) of death in the entire cohort (7.9 vs 16.8, P < 0.001), those without prior statin use (7.5 vs 16.7, P < 0.001), treatment-eligible patients without prior statin use (6.2 vs 13.1, P < 0.001), as well as those with and without known coronary disease at entry (with coronary disease: 8.1 vs 18.6, P < 0.001; without coronary disease: 7.6 vs 15.8, P < 0.001). Similar patterns for HF hospitalization were observed. Among HIV patients with or without a recent cardiac event, the acceptability of lower risks of death (adjusted hazard ratio [HR] 0.43 [95% CI: 0.41 to 0.46] and HR 0.46 [0.43 to 0.50, respectively) and HF specific hospitalization (HR 0.73 [0.69–0.77] and HR 0.90 [0.74–0.85], respectively), after adjustment for the propensity score, other potential confounders, and time-dependent use of other medications. These results are consistent with the findings of previous studies and suggest that future studies should focus on evaluating the acceptability of new treatment options that offer benefits for patients with or without a recent cardiac event. The proven benefit of statins in patients with coronary disease, randomized trials are needed to confirm whether they decrease the risk of adverse events in patients with non-ischemic HF.

STIGMA AND THE ACCEPTABILITY OF DEPRESSION TREATMENTS. J. L. Given1, R. Katz2, W. C. Holmes3. 1University of Pennsylvania, Philadelphia, PA; 2Veterans Administration Medical Center, Philadelphia, PA. (Tracking ID: 153767)

BACKGROUND: While stigma is known to be a barrier to depression treatment, it is unclear how stigma is equal across different populations. We conducted a prospective, anonymous mailed survey using a random sample of adult primary care patients seen in community or university clinics within the last year. The two main outcome variables are the acceptability of treatment approaches and the willingness to try them if they were offered. The sample included patients who receive counseling to treat depression, assessed by use of a vignette. Stigma associated with the use of each treatment (“treatment stigma”) was measured separately, using four questions for each treatment. Participants were asked whether, if they were using either treatment, they would: 1) feel ashamed; 2) feel comfortable telling their friends and family; 3) feel okay if people in their community knew; and 4) not want people to work at home. Two multivariable logistic regression models examined the association between treatment stigma and the acceptability of the treatment modalities. Covariates are sociodemographics, other beliefs about depression treatment, history of depression treatment, depression treatment and current depressive symptoms (measured using the PHQ-9).
RESULTS: The response rate was 75%. Of 490 participants, 43% were African American and 57% white. Most were female (68%), had a high school education (90%) and a household income <$50,000 (84%). The mean age was 53 years and 53% had current depressive symptoms or history of depression (PHQ9 = 5). The acceptability of prescription medication differed by race: African Americans had lower levels of acceptability than whites (67% vs. 83%, p < 0.001), rates of acceptability of mental health counseling were similar (68% vs. 74%, p = 0.2). Stigma associated with mental health counseling and to design interventions to help reduce it.

CONCLUSIONS: In this sample of primary care patients with varying levels of depressive symptoms, treatment stigma did not differ between prescription medication and counseling, but was higher for whites. In adjusted analyses, stigma was a significant independent barrier to acceptability of mental health counseling. These data support further research to understand the stigma associated with mental health counseling and to design interventions to help reduce it.

STRENGTHENING PHYSICIAN TRAINING IN GERIATRICS. M.B. Stevens, E.D. Brownfield, J.M. Flacker, Emory University, Decatur, GA; Emory University, Atlanta, GA. (Tracking ID: #152017)

BACKGROUND: The Emory Reynolds Program is an innovative program developed to strengthen physician training in geriatrics. Implemented in 2003, the program is designed, in part, to expose medical students to key concepts and principles of geriatric medicine. The 10 key principles that form the core of the program are the Basics in Geriatrics ("Big 10"). During their 3rd year medical students and residents have the opportunity to work with patients with complex medical conditions in geriatric settings.

METHODS: We surveyed all fourth year medical students and residents at Emory in the graduating classes of 1994-2005 (N = 97). We asked the students to assess their degree of familiarity with each of the "Big 10" principles, and to determine the impact on student awareness of geriatrics.

RESULTS: All 136 MS3s participated: 33% Asian, 11% Black/Latino 54% white. 43% spoke a language other than English in their childhood homes. While there was no difference between white and minority groups on the communication portion of the SP exam, Asian American and Black/Latino students scored lower on the communication portion by approximately half a standard deviation (mean communication score Asian: 67.3%, Black/Latino: 66.9%; white: 69.4%, p = 0.3). Ethnic differences in score persisted after multivariate analysis controlling for student age and gender. Controlling for MCAT verbal scores eliminated the differences between white and Black/Latino students but not Asian students. However, additionally controlling for the use of any language in childhood eliminated Asian-white differences.

CONCLUSIONS: Non-white students scored lower than their white counterparts on the communication portion of a comprehensive clinical exam by approximately half a standard deviation. This is a moderate size effect, whose magnitude compares to the impact of a two year intensive communication curriculum on communication. Childhood primary language mediates the lower score of Asian students, suggesting that SP exams may be unintentionally biased against students whose primary language is not English, despite adequate knowledge of English as captured by MCAT scores. More research is needed to sort out the effects of language and culturally determined communication behavior on SP exam scores, as well any clinical significance of differences in exam scores. In the meantime, clinical communication should be cautious in the use of SP exams to assess competence in communication.

SUBSPECIALTY ELECTIVE PARTICIPATION BY INTERNAL MEDICINE HOUSESTAFF AND ABIM CERTIFICATION EXAMINATION PERFORMANCE. C.J. Foshee Jr., J.A. Watts, C.K. Peterson. Madigan Army Medical Center, Tacoma, WA; Bayview-Jones Army Community Hospital, Fort Polk, LA. (Tracking ID: #153457)

BACKGROUND: For residents and program directors in internal medicine, it is valuable to know what factors are predictive of successful performance on the American Board of Internal Medicine Certification Examination (ABIMCE). Subspecialty elective participation as a predictor of total ABIMCE score has not been previously assessed. We studied the degree to which ABIMCE overall and subspecialty scores are influenced by: (1) participation in 80-month intensive clinical rotation, (2) participation in all 8 "core" subspecialty medicine electives, and (3) participation in 4 or more "non-medicine" electives.

METHODS: We conducted a retrospective analysis of ABIMCE scores and characteristics of internal medicine housestaff. Participants were medical students and residents at the Madigan Army Medical Center in the graduating classes of 1994-2005 (N = 97). Participants were grouped within each subspecialty according to number of months they spent at the SP exam during the PGY-2 and PGY-3 years (0, 1, or >1 months). ABIM subspecialty scores were compared using the ANOVA test. Subjects were divided into 2 groups based on completion of the entire set of 8 internal medicine "core" electives versus non-completion. Total ABIMCE scores were compared for statistically significant differences between groups with a two-tailed Student’s t-test. The number of "non-medicine" electives (any elective in a discipline not tested on the ABIMCE) were tallied for each subject. Subjects were then split into groups based on number of "non-medicine" elective months during residency. Total ABIMCE scores were compared between groups with a two-tailed Student’s t-test and by linear regression.

RESULTS: Mean In-Training Examination scores for the PGY-2 year was 64.4% on the ABIMCE overall decile for the group was 7.2. The group had a 97% first time pass rate on the ABIMCE. Overall, performing that elective during their PGY-2 and PGY-3 years (0, 1, or >1 months). ABIM subspecialty scores were compared using the ANOVA test. Subjects were divided into 2 groups based on completion of the entire set of 8 internal medicine "core" electives versus non-completion. Total ABIMCE scores were compared for statistically significant differences between groups with a two-tailed Student’s t-test. The number of "non-medicine" electives (any elective in a discipline not tested on the ABIMCE) were tallied for each subject. Subjects were then split into groups based on number of "non-medicine" elective months during residency. Total ABIMCE scores were compared between groups with a two-tailed Student’s t-test and by linear regression.

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numbers of non-medicine electives correlated with poorer overall performance. At a micro level, this finding may influence program on non-medicine electives in residents at risk for not passing the ABIMCE on the first attempt. At a macro level, this data is important to the academic Internal Medicine community as restructuring residency training is being considered nationally.

**SUBSTANCE USE DISORDERS IN WOMEN OF CHILDBEARING AGE: BARRIERS TO TREATMENT AND FACILITATORS TO SOBRIETY.** A.I. Wick 1; L.B. Manwell 2; S.K. Minock 1. University of Wisconsin-Madison, Madison, WI. University of Wisconsin School of Medicine and Public Health, Madison, WI. (Tracking ID # 50434)

BACKGROUND: Women with substance use disorders have unique issues regarding treatment and recovery when compared to men. Through discussions with recovering women, we elicited barriers to treatment, treatment effects, and facilitators to recovery.

METHODS: Five focus groups comprised of 51 women between the ages of 25 and 50 discussed barriers to treatment, their purpose of treatment, and their goals. Participants were in active treatment for substance use disorders at one of four outpatient treatment centers. Three coders with differing addiction training (epidemiologist, counselor, internist) independently read the focus group transcripts. Data was organized using a codebook. The coders met weekly to reconcile differences until consensus was reached.

RESULTS: The coders identified 605 distinct comments; all were grouped under 5 major themes: Treatment Barriers (19%), Positive Aspects of Treatment (27%), Negative Aspects of Treatment (31%), Relapse Triggers (8%), and Relapse Prevention (15%). All coders identified the major themes: inter-rater agreement on sub-themes was excellent. The most common barrier was children. Women reported better functioning and healthier living since sobriety, but found life more challenging. Prior to treatment, common barriers included the enjoyment of substance-related activities, long-term lifestyle and livelihood and a perceived control of their substance use. Recurrent sub-themes common to all 5 major categories included self-esteem, partner use, fatigue, and financial strain. Higher related to recovery during discussions of negative treatment aspects. These included lack of housing for recovering women and their children, child custody issues, poorer body image, sleep problems, lack of treatment and aftercare programs dealing with women’s issues, and widespread discrimination against substance abuse treatment. PTSD was a huge issue, spanning all five themes. To remain sober, many women left partners, retired from prostitution or drug dealing and subsequently suffered significant financial woes. Responsibility toward their children played a significant role in decisions to stay sober. Support from other women was the most important factor in maintaining sobriety and working through difficult emotional issues.

CONCLUSIONS: These discussions elicited issues unique to women undergoing the recovery process from substance use disorders. Treatment programs and primary care providers need to be aware that childcare, safe housing, alternative methods of generating income, sleep deprivation, and PTSD as well as specific barriers to treatment must be addressed with this population.

**SURGICAL AND SUBSPECIALTY HOUSE OFFICERS’ KNOWLEDGE AND ATTITUDES TOWARD OLDER PATIENTS: BASELINE ASSESSMENT AND EFFECTS OF AN INTERVENTION.** A.C. Flaggwall 1; L.A. Cray 1; L.K. Haller 1. University of Michigan, Ann Arbor, MI. (Tracking ID # 152938)

BACKGROUND: Recent initiatives from philanthropic organizations and government have focused on measuring and improving clinical care of older patients by non-primary care physicians (surgical and related specialties, and medical subspecialists). The purpose of our study was to assess geriatric knowledge, attitudes, and resident-level trends in geriatric care. Previous studies of faculty development programs have measured faculty satisfaction, knowledge, and teaching skills; few have measured learner outcomes.

METHODS: We implemented a series of nine-month long weekly faculty development seminars for faculty from 12 surgical and related specialties and medical subspecialties. Faculty met in small groups for two hours each week, and were urged with educating and improving geriatric knowledge for their residency or fellowship program. At baseline, HOs were administered four previously validated scales, including three attitudes scales - the UCLA Geriatrics Attitudes Scale (GAS: 14 items), and two scales of the Maxwell Sullivan Test (GAS: 15 items and the Geriatric Potential and Triage/Emergency Workload survey) and were low for all study groups, and decreased as the academic year progressed. Average change in test score (pre-to-post) was 8.8 years (range 6.5 years to 11.5 years). Virtually all men with high adherence to antiretroviral therapy would be expected to benefit from colorectal cancer screening, with the exception of individuals with the least favorable prognostic indicators (CD4 < 200 and viral load > 1,000,000). Individuals with poor adherence to antiretrovirals would not benefit from colorectal cancer screening with the exception of individuals with the least favorable prognostic indicators (CD4 < 500 and viral load < 10,000). The lower bound of the payback time for prostate cancer screening was 10 years (upper bound uncertain because of its equivocal benefit). While it was unclear whether prostate cancer screening offered any benefit for men with high adherence to antiretroviral therapy, men with poor adherence definitely would not benefit.

CONCLUSIONS: Comorbidities matter. Tailoring clinical guidelines to individuals with comorbidities has great potential to reduce morbidity and mortality, and should become a health policy imperative.
TEACHING INTERNAL MEDICINE RESIDENT PHYSICIANS ABOUT ALCOHOLICS ANONYMOUS: EFFECTS OF A CURRICULAR INNOVATION

A. Koka1; A. Gupta1; J. Gaughan1; B. Sanchez1; A.A. Bove1; J.H. Arnsten2; R. Saitz3.

Background: Physicians often have limited exposure to training in alcohol-related topics, and often view this as domain-specific. However, most patients with substance abuse disorder are treated by non-specialists. To address these issues, a brief and easily implemented teaching module was developed to improve knowledge and attitudes regarding the use of Alcoholics Anonymous (AA) as treatment option.

Methods: A randomly assigned, single institution, pre-test-post-test study was conducted. The test consisted of 20 multiple-choice questions evaluating residents’ knowledge of AA and its role in addiction treatment. Of the 45 residents who participated in the study, 26 were randomized to a web-based teaching module and 19 were randomized to a traditional didactic teaching module. The study was conducted over a period of 2 years. The questionnaire was administered before and after the intervention.

Results: The module was well received and was completed by all residents. A paired t-test was used to compare the mean test scores. The mean test score significantly improved following the module (pre intervention mean = 71.3 ± 11.5, post intervention mean = 80.9 ± 10.5, p = 0.001). The module was found to be an effective intervention for improving knowledge of AA, and it was also found to be more effective than the traditional teaching module.

Conclusion: The web-based curricular module was found to be an effective intervention for improving knowledge and attitudes about AA. It is recommended that such modules be incorporated into the curricula of medical schools.

Table 1

| Question                                                                 | Mean Score | Mean Score | p-value |
|--------------------------------------------------------------------------|------------|------------|---------|
| I know what occurs at an AA meeting                                      | 5.2 (2.3)  | 8.1 (0.9)  | <0.001  |
| I understand the role of AA                                             | 6.3 (2.2)  | 8.0 (1.0)  | <0.001  |
| I believe that AA is an effective treatment option                       | 7.6 (1.2)  | 8.1 (0.9)  | 0.008   |

**TEACHING RESIDENT PHYSICIANS ABOUT NUTRITION AND OBESITY: A NEEDS ASSESSMENT**

S.J. Hening1; M. Vetter1; M. Sood1; C. Tseung1; A.L. Katz1; New York University, New York, NY.

Background: Obesity has become a national epidemic, and a comprehensive nutrition education program is lacking in many internal medicine residency training programs. To design the curriculum, an effective nutrition curriculum had to be identified for residents.

Methods: First year residents were surveyed using a validated 114-item questionnaire. The questionnaire evaluated residents’ self-efficacy in identifying geriatric medical conditions, and their knowledge and attitudes toward nutrition and nutrition education. A multiple-choice question was added to the questionnaire. The question asked residents to rate their self-efficacy in identifying geriatric conditions (e.g., diabetes, chronic lung disease, cardiac disease, vitamin/mineral therapy, nutrition assessment and gastrointestinal disease). The questionnaire also asked for information regarding prior medical school nutrition training.

Results: Of the 114 incoming and current interns at orientation, 61 (54%) completed the survey. Approximately two thirds (63%) reported prior nutrition training in medical school. In all, 78% agreed or strongly agreed that nutrition assessment should be included in routine primary care visits, 93% agreed or strongly agreed that it was their obligation to discuss nutrition with patients to improve health, and 92% agreed or strongly agreed that specific advice about how to make dietary changes might help some patients improve their eating habits. Despite this, only 15% of respondents felt physicians were adequately trained to discuss nutrition issues with patients, particularly in the areas of HIV management, and counseling on nutrition and lifestyle issues.

Conclusion: Nutrition knowledge was assessed by calculating the percentage of correct responses to 40 multiple-choice questions on nutrition and obesity. Physicians were asked to rate their self-efficacy in identifying geriatric medical conditions, and their knowledge and attitudes toward nutrition and nutrition education.

Table 1

| Category       | Question                                                                 | Mean Score | Mean Score | p-value     |
|----------------|--------------------------------------------------------------------------|------------|------------|-------------|
| Perceived      | I know what occurs at an AA meeting                                      | 5.2 (2.3)  | 8.1 (0.9)  | <0.001      |
| Knowledge      | I understand the role of AA                                             | 6.3 (2.2)  | 8.0 (1.0)  | <0.001      |
| Perceived      | I believe that AA is an effective treatment option                       | 7.6 (1.2)  | 8.1 (0.9)  | 0.008       |
| Effectiveness  | I was comfortable asking my alcoholic patient about his/her rapport     | 7.6 (1.5)  | 8.4 (1.0)  | 0.002       |
| With AA        | I was comfortable asking my alcoholic patient about his/her rapport     | 8.3 (1.2)  | 8.5 (0.9)  | 0.4         |
| Comfort        | I am comfortable with the importance of spirituality in AA.              | 6.3 (2.4)  | 7.4 (1.7)  | 0.008       |

**TESTING AND IMPROVING ELECTROCARDIOGRAM COMPETENCY IN INTERNAL MEDICINE RESIDENTS**

A. Koka1; A. Gupta1; J. Gaughan1; B. Sanchez1; A.A. Bove1; D.V. Moyer1; Temple University, Philadelphia, PA.

Background: Precise interpretation of electrocardiograms (ECGs) is vital, yet no studies have been conducted to determine the competency of internal medicine residents in this field.

Methods: A total of 20 ECGs were selected from the American College of Cardiology’s ECGSAIP III program, which is designed to test residents’ competency in interpreting ECGs. These ECGs were then randomly assigned to residents who were administered the test before and after a teaching module on improving competency.

Results: Of the 114 incoming and current interns at orientation, 61 (54%) completed the survey. Approximately two thirds (63%) reported prior nutrition training in medical school. In all, 78% agreed or strongly agreed that nutrition assessment should be included in routine primary care visits, 93% agreed or strongly agreed that it was their obligation to discuss nutrition with patients to improve health, and 92% agreed or strongly agreed that specific advice about how to make dietary changes might help some patients improve their eating habits. Despite this, only 15% of respondents felt physicians were adequately trained to discuss nutrition issues with patients, particularly in the areas of HIV management, and counseling on nutrition and lifestyle issues.

Conclusion: Nutrition knowledge was assessed by calculating the percentage of correct responses to 40 multiple-choice questions on nutrition and obesity. Physicians were asked to rate their self-efficacy in identifying geriatric medical conditions, and their knowledge and attitudes toward nutrition and nutrition education.

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| Category       | Question                                                                 | Mean Score | Mean Score | p-value     |
|----------------|--------------------------------------------------------------------------|------------|------------|-------------|
| Perceived      | I know what occurs at an AA meeting                                      | 5.2 (2.3)  | 8.1 (0.9)  | <0.001      |
| Knowledge      | I understand the role of AA                                             | 6.3 (2.2)  | 8.0 (1.0)  | <0.001      |
| Perceived      | I believe that AA is an effective treatment option                       | 7.6 (1.2)  | 8.1 (0.9)  | 0.008       |
| Effectiveness  | I was comfortable asking my alcoholic patient about his/her rapport     | 8.3 (1.2)  | 8.5 (0.9)  | 0.4         |
| With AA        | I was comfortable asking my alcoholic patient about his/her rapport     | 7.6 (1.5)  | 8.4 (1.0)  | 0.002       |
| Comfort        | I am comfortable with the importance of spirituality in AA.              | 6.3 (2.4)  | 7.4 (1.7)  | 0.008       |

**CONCLUSIONS:** The results of the study indicate that a brief, easily implemented teaching module can improve physician knowledge and attitudes toward nutrition. The module was found to be effective in improving residents’ knowledge of AA and had more favorable attitudes toward AA. Furthermore, the module was found to be more effective than the traditional teaching module. The results of the study suggest that curricula adapted to a PDA platform may be an effective educational modality. Whether or not improvements in test score translate into meaningful clinical outcomes is beyond the scope of this study. However, the results indicate that curricula adapted to a PDA platform may be an effective educational modality.
interpretation likely is due to fundamental changes to the training program as a result of participation in the study. Testing residents increases awareness of deficiencies and provides a significant incentive for self-directed learning. Also, educational fear for personal safety. While acceptable resources for outpatients randomized to the web module may have disseminated information to those not randomized to the web module. Despite the large improvements seen, significant deficiencies in ECG competency remain. Continued research is needed on methods to improve ECG interpretation among residents.

THE ASSOCIATION BETWEEN NEIGHBORHOOD/ENVIRONMENTAL FACTORS AND PHYSICAL ACTIVITY AMONG OLDER AFRICAN AMERICANS IN LOS ANGELES: A QUALITATIVE ANALYSIS. O. Duru1; R. Brusuelas-James1; C. Sarkisian1; C.M. Mangione1; P.P. Eamranond 1; E. Marcantonio1; K.Paté1; A. Legedza1; S.G. Leveille1. 1University of California, Los Angeles, Los Angeles, CA.

BACKGROUND: To inform the development of a community-based physical activity intervention, we conducted focus groups in African American communities to evaluate the association between neighborhood perception and physical activity participation. We hypothesized that people in low-income neighborhoods would 1) report greater barriers to outdoor physical activity, 2) identify fewer resources for outdoor physical activity and 3) engage in less physical activity, particularly outdoors, than participants in moderate-income neighborhoods.

METHODS: During 2004 and 2005, we conducted 6 focus groups of African Americans aged 60 years and older (n=59) at a total of 4 senior centers in Los Angeles. Participants were identified through a list of older persons and moderate-income residents with significant African American populations, and within each center recruited a convenience sample of interested seniors with the assistance of senior center directors. All focus groups were audiotaped, transcribed, and reviewed for accuracy. We used Atlas/tiTM software to code the content of each focus group discussion, and then analyzed for key themes and patterns. Two investigators (OKD & KLP) independently coded 2 of the transcripts, and then met to discuss and resolve coding discrepancies. The remaining 4 transcripts were then coded.

RESULTS: Participants averaged 66 years, and 75% were female. Participants within each focus group could identify at least one nearby location that was clean, well-lit, and considered conducive to outdoor physical activity. Those in moderate-income areas were able to identify multiple locations. While most participants deemed outdoor activity such as group walking as acceptable, a common theme expressed across all groups was a preference for indoor activity such as global impact aerobics, with concern for personal safety commonly raised as an important factor driving this preference. Participants in low-income neighborhoods expressed strong concerns emanating from specific, observed examples of gang activity, assaults on older persons, and drugs without leashes. This theme emerged from participants in moderate-income neighborhoods as well, but often from a more distant perspective, such as “criminals are everywhere—no community is exempt” and “I haven’t run into any dogs (bats), but you see them on the news.” Within two of the groups in low-income neighborhoods, some participants expressed the importance of “being known” as conferring a degree of safety. Participants in several groups reported engaging in more outdoor activities along with coworkers and friends in late middle age, and shifting to primarily indoor activities over time. Overall, most participants reported engaging in physical activity at least three times per week.

CONCLUSIONS: The generalizability of our findings is limited by the sampling strategy, fear of personal safety may be an important barrier to exercise among older African Americans within both low-income and moderate-income areas in Los Angeles, whether motivated by specific, observed safety concerns or by a global fear of personal safety. While activities are identifiable in both low-income and moderate-income communities, their presence alone is likely insufficient to increase physical activity behavior. The plan to modify the results of our intervention by providing more physical activity choices, including indoor options, while limiting outdoor activities to familiar, comfortable locations.

THE ASSOCIATION BETWEEN STATINS AND CANCER PREVENTION IN THE PHYSICIANS’ HEALTH STUDY. W.R. Farrow1; H.D. Sesso2; R.A. Lew3; R.E. Scratch4; J.M. Gaziano1. 1VA Boston Healthcare System, Boston, MA; 2Brigham and Women’s Hospital, Boston, MA. (Tracking ID #: 156004)

BACKGROUND: Basic science and observational studies have provided preliminary evidence that statins may have a role in the primary prevention of cancer. A recent meta-analysis of trials of statins for cardiovascular disease prevention concluded that statins were not associated with cancer prevention. However, most trials of statins for cardiovascular disease prevention have been performed in younger populations and have not had long-term follow-up. Therefore, we examined whether current statin use was associated with cancer incidence and whether this potential association differed by age in the Physicians’ Health Study (PHS).

METHODS: The PHS, a long-standing cohort that began in 1982 with 22,071 healthy middle-aged and older male physicians. Self-reported information on cardiovascular and cancer risk factors as well as medication use was ascertained via a yearly questionnaire. Each new cancer diagnosis was self-reported and confirmed by chart review by an Endpoints Committee. We identified 9,804 men who reported being cancer-free on a comprehensive questionnaire completed around 1999. Among this cohort, we compared men who reported currently using a statin to men who reported no current use with respect to subsequent cancer incidence using Cox proportional hazards models. In addition, because rates of prostate cancer are known to be elevated in highly screened populations, we determined the risk of prostate and non-prostate cancer separately. Because age is a known risk factor for cancer incidence, we stratified by baseline age (<65 versus 65 years). Multivariate models controlled for age; body mass index; history of hypercholesterolemia; use of medications for cholesterol lowering medications; exercise; alcohol use; smoking history; and diabetes mellitus.

RESULTS: Among 9,804 men (mean age of 67.6 years) over a mean follow-up of 6.6 years, a total of 1016 incident cases of cancer, excluding non-melanoma skin cancer, were identified, of which 562 were prostate cancer. Significant attenuation was observed between hazard ratios (HR) of age- and multivariate-adjusted models, therefore, only results from multivariate-adjusted models are presented. Compared with non-current statin use, the HR (95% confidence intervals [CI]) for current statin use and the incidence of total, prostate and non-prostate cancer were 0.91 (0.75-1.09); 1.01 (0.79-1.29); and 0.80 (0.60-1.06) respectively. We observed a significant interaction (p=0.01) between current statin use and age for the risk of total cancer. Among men aged 65 years, the multivariate-adjusted HRs (95% CI) for current statin use and the incidence of total, prostate, and non-prostate cancer were 0.70 (0.55-0.89); 0.77 (0.57-1.05); and 0.62 (0.43-0.89) compared with no current statin use. Among men aged <65 years, the multivariate-adjusted HRs (95% CI) for current statin use and the incidence of total, prostate and non-prostate cancer were 1.50 (1.06-2.10); 1.53 (1.01-2.32); and 1.48 (0.86-2.54) compared with no current statin use.

CONCLUSIONS: Current statin use did not appear to be associated with decreased cancer incidence when analyzed among all ages of this large cohort of middle-aged and older male physicians. However, among men aged 65 years, current statin use appeared to be associated with a lower incidence of total and non-prostate cancer. More studies are needed to clarify the potential role of statin use and cancer prevention.

THE ASSOCIATION BETWEEN ACCUMULATION WITH PREVENTION OF UNDIAGNOSED HYPERTENSION AMONG OLDER HISPANIC ADULTS. P.P. Eamranond 1; E. Marcantonio1; K.Paté1; A. Legedza1; S.G. Leveille1. 1Beth Israel Deaconess Medical Center, Boston, MA; 2NIH/National Institutes of Health (NIH) Bethesda, MD (Tracking ID #: 525296)

BACKGROUND: Lower levels of acculturation among Hispanics is associated with health care disparities with regard to medical care for hypertension. No study to date has examined the association of hypertension with the prevalence of undiagnosed hypertension in an older Hispanic population. METHODS: We analyzed data from the Hispanic Established Populations for Epidemiologic Studies of the Elderly, which included 3050 Hispanic subjects age ≥ 65. We excluded subjects with previous diagnosis of hypertension defined by self-report and blood pressure >140/90 mmHg. Measures of acculturation included language read/spoken, language used in social situations, language of mass media information, and duration of U.S. residence. Undiagnosed hypertension on physical exam was defined as systolic blood pressure ≥140 mmHg and/or diastolic blood pressure >90 mmHg, as measured by the average of two read- ings. We used weighted logistic regression to assess the impact of each accultur- ation measure on undiagnosed hypertension prevalence. We assessed the following potential confounders: education, health insurance, household income, and health care utilization. Our final model included the acculturation variable of interest, age, gender, and all significant confounders. We used SUDAAN to account for complex sample weighting.

RESULTS: Among 1407 subjects without previous diagnosis of hypertension, the mean age was 73.3 years, 58% were female, 43% were born outside of the U.S. Undiagnosed hypertension prevalence by measurements of acculturation is shown in Table 1. After adjusting for potential confounders, association of undiagnosed hypertension with acculturation remained significantly associated with undiagnosed hypertension (see Table). Further adjustments for education, household income, and health care utilization were not significant. Table: Undiagnosed hypertension prevalence and odds ratios by acculturation among older Hispanics (N=1407)

| Acculturation measure | Prevalent undiagnosed hypertension (%) | Model 1a (95% CI) | Model 2a (95% CI) |
|-----------------------|--------------------------------------|-------------------|-------------------|
| Language read/spoken  |                                      |                   |                   |
| English               | 1.0                                  | 1.0               | 1.0               |
| Spanish ≥English     | 1.2 (0.72-2.0)                       | 1.1 (0.62-2.0)    |                   |
| Spanish              | 1.5 (0.89-2.1)                       | 1.2 (0.72-2.1)    |                   |
| Language social situations |                                    |                   |                   |
| English               | 1.0                                  | 1.0               | 1.0               |
| Spanish ≥English     | 1.4 (0.89-2.8)                       | 1.4 (0.89-2.8)    |                   |
| Spanish              | 1.7 (1.04-2.9)                       | 1.4 (0.89-2.8)    |                   |
| Language mass media |                                      |                   |                   |
| English               | 1.0                                  | 1.0               | 1.0               |
| Spanish ≥English     | 1.4 (0.89-2.4)                       | 1.4 (0.89-2.4)    |                   |
| Spanish              | 1.7 (1.04-2.9)                       | 1.4 (0.89-2.8)    |                   |
| Duration of U.S. residence |                                    |                   |                   |
| U.S.-born             | 1.0                                  | 1.0               | 1.0               |
| ≥20 years             | 1.3 (1.07-1.5)                       | 0.9 (0.61-1.3)    |                   |
| <20 years             | 1.2 (0.72-2.2)                       | 1.0 (0.51-1.8)    |                   |

* Chi-square test for trend p=0.01
** Adjusted for age and gender
*** Adjusted for age, gender, and education

CONCLUSIONS: Hispanic elders who reported using Spanish language mass media were more likely to have undiagnosed hypertension compared to those who reported using English language mass media. Further studies should be
performed to elucidate the role of acculturation factors, particularly mass media, in undiagnosed hypertension and other cardiovascular risk factors among immigrant populations.

THE ASSOCIATION OF LANGUAGE WITH CARDIOVASCULAR RISK FACTOR CONTROL AMONG HISPANICS IN THE UNITED STATES: P. P. Eamranond1; C. Wee1; L. Rohr1; T. Sai1; L. Stevak2.

BACKGROUND: Language barriers negatively affect health care experiences of Spanish-speaking patients. It is unclear whether limited English proficiency (LEP) affects disease control, a health care outcome. There is no information regarding the role of LEP in cardiovascular risk factor control. In this context we assess the prevalence and control of hyperlipidemia, hypertension, and diabetes among LEP Hispanics compared to English proficient Hispanics.

METHODS: We analyzed data from the National Health and Nutritional Examination Survey (NHANES) 1999-2001 and 2001-2002, a cross-sectional study evaluating 3449 Hispanic adult subjects. Prevalence of cardiovascular risk factors was defined by self-reported diagnosis, current use of disease-specific medication, and/or new laboratory/physical examination diagnosis during the NHANES survey. Inadequate hyperlipidemia control was defined by prevalent ATPII guidelines, i.e., for risk factors, >160 mg/dL for 2+ risk factors, and ≥130 mg/dL for history of coronary heart disease. Inadequate hypertension control was defined as systolic blood pressure ≥140 mmHg and/or diastolic blood pressure ≥90 mmHg. Inadequate diabetes control was defined as a hemoglobin A1c ≥7.0 mg/dL. We used weighted logistic regression to examine the relationship between language proficiency and the control of hyperlipidemia, hypertension, and diabetes while adjusting for age and gender. We then examined the impact of education, income, and health insurance on these relationships. We used SUDAAN to account for the complex sampling design.

RESULTS: We found that risk factor prevalence among Hispanics was 29.5% for hypertension, 12.0% for diabetes, and 21.0% for hyperlipidemia. After adjusting for age and gender, the prevalence of these cardiovascular risk factors did not differ significantly between English proficient and LEP Hispanics. Among patients with hyperlipidemia, LEP Hispanics were significantly more likely to have poorly-controlled LDL-C than non-LEP Hispanics, 40% vs. 22%, OR 2.21 [95% CI, 1.02–4.79]. Among patients with hypertension, LEP and non-LEP Hispanics had similar control of blood pressure, 67% vs. 68% [95% CI, 0.93–1.03]. Among patients with diabetes, LEP Hispanics were somewhat more likely to have adequate hemoglobin A1c control than non-LEP Hispanics, 54% vs. 61%, OR 0.55 [95% CI, 0.26–1.17]. No significant control was found among these associations were not confounded by education, income, or insurance status.

CONCLUSIONS: Poor English language ability may be associated with increased risk of inadequate LDL-C control among Hispanics with hyperlipidemia. This relationship was not influenced by the socioeconomic factors that we evaluated. We did not find that English language proficiency significantly influenced control of hypertension or diabetes. Further studies should examine the mechanisms by which limited English proficiency has an adverse impact on lipid control among U.S. Hispanics.

THE ASSOCIATION OF NON-DIALYSIS CHRONIC KIDNEY DISEASE AND SELF-REPORTED HEALTH CARE UTILIZATION. M. Alexander1; B. Bradbury2; M. Anthony2; R. Kewalramani1; D. Globe2.

BACKGROUND: Data from the Third National Health and Nutrition Survey (NHANES III, 1988–1994), a stratified, random sample of non-institutionalized US residents, were used to examine utilization of primary healthcare by individuals at different stages of CKD. The number of self-reported physician visits and hospitalizations during the year preceding the NHANES III interview and examination were used to measure utilization. Serum and urine lab samples were used to classify respondents into different stages of CKD according to their estimated glomerular filtration rate (GFR), albumin:creatinine ratio (ACR), and rates of persistent microalbuminuria. Respondents were classified into CKD Stage I (GFR ≥90 mL/min/1.73 m² with persistent albuminuria), CKD Stage II (60 < GFR ≤90 with persistent albuminuria), CKD Stage III (30 < GFR ≤60), and CKD Stage IV (GFR < 30). Hemoglobin levels (g/dL) were obtained from the serum lab records and the presence of comorbid diseases from the participants’ survey. Self-reported utilization during the previous year was analyzed by CKD stage and by demographics, socio-economic indicators, insurance coverage, age, hemoglobin, and comorbidities. Multivariate regression analysis indicated that an increase in CKD severity was associated with increased health care utilization, which was most pronounced among Hispanics. Recognition and treatment of CKD at early stages could impact the progression of CKD and comorbidities, thereby reducing health care utilization.
THE CLINICAL AND ECONOMIC ECONOMICS SYSTEM SIMULATION (CHESS): PRACTICAL LEARNING FROM PLAY. J.D. Voss1; M.L. Mintz2; J.M. Jackson1; J.M. Schectman1; M.J. Nidiry1; A. Gozu1; S. Wright1.

BACKGROUND: A paucity of methods exist to teach medical trainees about the structure and financing of the US health care system despite requirements from graduate and undergraduate accrediting organizations. CHESS is an interactive cognitive simulation for learners working in teams paid fee-for-service (FFS) or capitation (CAP) to examine toss-up medical decisions and select treatments of variable resource intensity. CHESS provides feedback about costs and physician income so that learners may see how differences in payment incentives and cost influence treatment selections and the perceived value of health care services delivered.

METHODS: We conducted workshops with 523 medical students and internal medicine residents participating in small group exercises at institution 1 with a single large group activity at institution 2. Learners completed an anonymous 32 item pre-post questionnaire including 6 items adapted from a previously published survey. Changes in response to these 6 items, measuring attitudes and beliefs about health care delivery were analyzed. Learners were given the same pre-test, but slightly identified means for measuring learning from participation in the simulation. For each question (see table) learners selected 1) capitation, 2) fee for service, 3) no difference or 4) I don’t know. The difference in response was analyzed with McNemar test for paired data. Post simulation, learners also rated how much they learned from the simulation and their preference to learn this information in simulation vs. lecture format.

RESULTS: 79% of participants completed the test instrument. The final sample consisted of 88% medical students and 12% internal medicine resident responders. Participants recorded high mean (4.4) and median (5) scores of learning (1=learned little, 5=learned a great deal) with slightly higher mean scores for residents than medical students (4.6 vs. 4.3, Mann-Whitney U p value=0.004). Trainees participating in small groups rated learning more highly (mean 4.4, median 5) than in the large group (mean 4.6, median 4, Mann-Whitney U p <0.05). The percentage of learners changing their response (four learning proxy) after the seminar for the 6 questions are listed in the table. Post CHESS, 81% of learners indicated that they believed that capitation was more likely to deliver the greatest value for money spent and that they were more likely to transfer their patients meeting failure criteria in CS and PE. Ninety percent of trainees preferred learning this information in simulation format. CONCLUSIONS: CHESS is a useful and engaging method for learning and applying health economics concepts that leads to significant changes in beliefs and knowledge. Graduate and undergraduate medical learners indicated strong preferences for simulation format.

Percent of Learners changing response after playing the CHESS simulation

| Which payment method improves... | Percent of learners who change response | McNemar p Value |
|---------------------------------|----------------------------------------|-----------------|
| Better MD-patient relationship  | 60%                                     | <0.0001         |
| Better access                   | 55%                                     | <0.0001         |
| Better value for $ spent        | 45%                                     | <0.0001         |
| More timely care                | 50%                                     | <0.0001         |
| Better chronic illness care     | 65%                                     | <0.0001         |
| Better continuity               | 63%                                     | <0.0001         |
| Is your preference?             | 64%                                     | <0.0001         |

THE CLOSURE OF A MEDICAL PRACTICE FORCES ELDERLY PATIENTS TO MAKE DIFFICULT DECISIONS: A NATURAL EXPERIMENT. M.J. Nedry1; A. Gouz1; S. Wright1.

BACKGROUND: With the preordained closure of a longstanding primary care practice and the relocation of the physicians and staff to new office 11 miles away, patients were forced to decide whether to follow their physician or to transfer their care elsewhere. This qualitative study explores the perspectives and experiences of the elderly patients who had to endure this difficult and uncertain change.

METHODS: We conducted a cross-sectional survey of patients older than sixty years that had previously received their primary care at the original practice. Patients meeting failure criteria for the CCSE failed the USMLE Step IIICS. Only one of these students meeting failure criteria for the CCSE failed the USMLE Step IIICS but, of note, received the second lowest CCSE score in CS.

RESULTS: 125/148(85%) of students who completed the exam consented to participating in the study. Patients meeting failure criteria for the CCSE failed the USMLE Step IIICS. Only 3/9 of students meeting failure criteria for the CCSE failed the USMLE Step IIICS but, of note, received the second lowest CCSE score in CS.

CONCLUSIONS: CCSE validity was supported by a number of measures, most impressively predicting failure of the USMLE Step IIICS. Weak correlation

METHODS: We analyzed data from the 2003 Behavioral Risk Factor Surveillance System (n=242,362) to compare rates of obesity among veterans who do and do not utilize the Department of Veterans Affairs (VA), compared to non-veterans. We used bivariate analyses to describe the association of obesity with physical activity, diet and co-morbid diseases among these populations and multivariate analysis to assess the independent association of obesity with VA care.

RESULTS: Veterans who use the VA for health care have the highest rates of obesity compared to veterans who do not use the VA and non-veterans (27.7% vs. 23.9% vs. 22.8%, p<0.001). Only 27.8% of veterans who receive health care at the VA are of normal weight (vs. 42.6% of the general population, p<0.001), 44.5% are overweight, 19.9% have class I obesity, 6% have class II obesity and 1.8% are morbidly obese (an estimated 82,950 individuals). Obese veterans who utilize the VA for services have higher rates of hypertension (65.8%) and diabetes (31.3%), are less likely to follow diet and exercise guidelines and more likely to report poor health than their normal weight counterparts.

CONCLUSIONS: Veterans who receive care at the VA have higher rates of overweight and obesity than the general population. At present, less than half of VA medical centers have weight management programs. As the largest integrated US health system, the VA has a unique opportunity to respond to the epidemic of obesity.

THE CLOSURE OF A MEDICAL PRACTICE FORCES ELDERLY PATIENTS TO MAKE DIFFICULT DECISIONS: A NATURAL EXPERIMENT. J.D. Voss1; M.L. Mintz2; J.M. Jackson1; J.M. Schectman1; M.J. Nidiry1; A. Gozu1; S. Wright1.

BACKGROUND: With the preordained closure of a longstanding primary care practice has demonstrated that patient loyalty to physicians and convenience both appear to be important factors in deciding where elderly patients elect to go to receive their healthcare. This qualitative study explores the perspectives and opinions of elderly patients and their expectations of getting to the further clinic. In reflecting back on the closure of the original clinic, patients described “heartache”, “anger”, and a sense of “abandonment of the elderly in the community”.

CONCLUSIONS: The natural experiment of the closing of a primary care practice has demonstrated that patient loyalty to physicians and convenience both appear to be important factors in deciding where elderly patients elect to go to receive their healthcare. This qualitative study explores the perspectives and opinions of elderly patients and their expectations of getting to the further clinic. In reflecting back on the closure of the original clinic, patients described “heartache”, “anger”, and a sense of “abandonment of the elderly in the community”.

METHODS: We conducted workshops with 523 medical students and internal medicine residents participating in small group exercises at institution 1 with a single large group activity at institution 2. Learners completed an anonymous 32 item pre-post questionnaire including 6 items adapted from a previously published survey. Changes in response to these 6 items, measuring attitudes and beliefs about health care delivery were analyzed. Learners were given the same pre-test, but slightly identified means for measuring learning from participation in the simulation. For each question (see table) learners selected 1) capitation, 2) fee for service, 3) no difference or 4) I don’t know. The difference in response was analyzed with McNemar test for paired data. Post simulation, learners also rated how much they learned from the simulation and their preference to learn this information in simulation vs. lecture format.

RESULTS: 79% of participants completed the test instrument. The final sample consisted of 88% medical students and 12% internal medicine resident responders. Participants recorded high mean (4.4) and median (5) scores of learning (1=learned little, 5=learned a great deal) with slightly higher mean scores for residents than medical students (4.6 vs. 4.3, Mann-Whitney U p value=0.004). Trainees participating in small groups rated learning more highly (mean 4.4, median 5) than in the large group (mean 4.6, median 4, Mann-Whitney U p <0.05). The percentage of learners changing their response (four learning proxy) after the seminar for the 6 questions are listed in the table. Post CHESS, 81% of learners indicated that they believed that capitation was more likely to deliver the greatest value for money spent and that they were more likely to transfer their patients meeting failure criteria in CS and PE. Ninety percent of trainees preferred learning this information in simulation format. CONCLUSIONS: CHESS is a useful and engaging method for learning and applying health economics concepts that leads to significant changes in beliefs and knowledge. Graduate and undergraduate medical learners indicated strong preferences for simulation format.

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| Is your preference?             | 64%                                     | <0.0001         |
between the CCSE and other measures of student competence may indicate that the CCSE is capturing elements of student clinical competency not otherwise well-measured.

THE CONTRIBUTION OF CANCER INCIDENCE, STAGE AT DIAGNOSIS AND SURVIVAL TO RACIAL DIFFERENCES IN LIFE EXPECTANCY: M.D. Wong1; S. Eltrar1; M. Li2; C. Harles1; H. Cao1; M. Shapiro1; 1University of California, Los Angeles, Los Angeles, CA; 2San Francisco State University, San Francisco, CA. (Tracking ID: 153382)

BACKGROUND: African Americans are more likely than whites to get cancer, present at a later stage and have worse survival. The relative contribution of cancer incidence, stage at diagnosis and survival to the racial gap in life expectancy is unknown, but has important implications for directing future interventions targeting cancer prevention, screening and treatment.

METHODS: We estimated cancer- and stage-specific risks for incidence and survival using data from the SEER cancer registry. Using stochastic models, we estimated life expectancy if African Americans had the same cancer incidence, stage at diagnosis and survival as whites.

RESULTS: Compared to whites, African American men and women had 1.5 and 0.7 years shorter life expectancy due to all cancers combined. Cancer incidence accounted for most of this difference, accounting for 1.1 years among men, while stage at diagnosis and survival accounted for 0.2 years each. Among women, incidence, stage and survival accounted for 0.4, 0.2 and 0.1 years, respectively. These estimates reflect the impact on average life expectancy across the entire population. By including only cancers without cancer-specific mortality, differences were smaller (0.3 years among men, and 0.1 years among women). These findings suggest that future efforts to reduce cancer incidence and stage at diagnosis and improve survival among African American women would have a relatively small impact. Future efforts to eliminate racial differences in cancer mortality should focus on reducing the racial differences in cancer incidence, particularly for prostate and lung cancer among men, and reducing racial differences in breast cancer survival.

CONCLUSIONS: Previous studies indicate African Americans are less likely than whites to receive appropriate cancer screening and treatment. However, our study suggests that, except for breast, cervical, and colorectal cancer among women, eliminating disparities in screening and treatment would have a relatively small impact. Future efforts to eliminate racial differences in cancer mortality should focus on reducing the racial differences in cancer incidence, particularly for prostate and lung cancer among men, and reducing racial differences in breast cancer survival.

THE COST-EFFECTIVENESS OF IMPROVING DIABETES CARE IN U.S. FEDERALLY-QUALIFIED COMMUNITY HEALTH CENTERS. S.S. Huang1; Q. Zhang1; S.E. Brown1; M.L. Drum1; D.O. Metzler1; M.H. Chin1; 1University of Chicago, Chicago, IL; 2Old Dominion University, Norfolk, VA. The University of Chicago, Chicago, IL. (Tracking ID: 153671)

BACKGROUND: The provision of diabetes care is oftentimes suboptimal and multiple national programs have been implemented to improve care. The societal value of improving diabetes care comprehensively has never been evaluated. We assessed the cost-effectiveness of a national program designed to improve diabetes care in federally-qualified community health centers (HCs).

METHODS: The Health Disparities Collaborative (HDC) is an ongoing quality improvement (QI) program in HCs that first began in diabetes in 1998. The HDC staff used methods of rapid QI and chronic disease management. We based our analysis on an evaluation of the diabetes HDC program carried out in 17 participating Midwestern HCs. Data on patient characteristics, care processes, and outcomes were provided by each site. We used data from a case group of patients (in 2004 US dollars) and quality-adjusted life years (QALYs) were discounted at a 3% annual rate. The main outcome of interest was the incremental cost-effectiveness ratio (ICER) of the value of the health care improvement components and consider the impact of secular trends in sensitivity analyses.

RESULTS: In 1998, the mean age of patients was 54 years of age (standard deviation 16 years), 67% were female, 29% were black, and 32% were Latino (N = 1190). Baseline complication rates were as follows: retinopathy (7%), neuropathy (11%), proteinuria (7%), and renal failure (2%). Based on these complications, the duration of diabetes was assumed to be the national average of 10.8 years. Multiple components of care improved from 1998 to 2001 following the implementation of the diabetes HDC. Among processes of care, annual glycosylated hemoglobin testing (HbA1c) (69% vs. 92%), lipid testing (53% vs. 69%), microalbuminuria testing (36% vs. 50%), eye exam (30% vs. 43%), ACE inhibitor prescribing (34% vs. 50%) and aspirin prescribing (22% vs. 43%) all improved significantly. Mean HbA1c (8.53% vs. 7.94%) and cholesterol (total cholesterol 212 → 198 mg/dl) improved significantly but blood pressure (153/79 in 1998) did not. In the base case, the HDC was found to reduce the lifetime incidence of multiple complications including blindness (14% vs. 12%), end-stage renal disease (19% vs. 15%), and coronary artery disease (29% vs. 27%). The average improvement in QALYs was 0.30. The ICER of the basic base case was $867,531/QALY. The cost-effectiveness of individual improvements in care varied widely from highly cost-effective (ACE inhibitor prescribing, ICER = $940,134/QALY) to not cost-effective (glucose control improvement, ICER = $67,531/QALY). In sensitivity analyses, we found that if secular trends accounted for over 50% of observed improvements, the ICER would exceed the 100,000/QALY threshold. The ICER remained below $100,000/QALY even when assuming high and constant program costs ($1000/patient).

CONCLUSIONS: Improving diabetes care comprehensively in HCs is cost-effective for society but is sensitive to the presence of secular trends. This analysis also demonstrated that the cost-effectiveness of multiple small improvements in care can be cost-effective. The extent to which current QI programs enhance the care of multiple conditions is likely to enhance their overall cost-effectiveness.

THE DECISION TO WORK PART-TIME: A QUALITATIVE ANALYSIS OF WOMEN INTERNSISTS IN ACADEMIC MEDICINE. R.A. Hanson1; J. Gregg2; 1Oregon Health & Science University, Portland, OR. (Tracking ID: 156877)

BACKGROUND: As the number of women entering academic medicine continues to increase, women faculty physicians are increasingly engaged in part-time work, largely to balance work and family responsibilities. Despite the increasing interest in part-time career options in academic medicine, it remains unclear how clinicians cope with the unique demands of academic medicine when they are part-time workers, and what impact the decision to work part-time has on their lives. Our project begins to clarify these issues by exploring the process by which women in academic medicine make the decision to work part-time and by investigating the impact this decision has on their personal lives and careers.

METHODS: We invited all 8435 female academic medicine residents to participate in a 1-2 hour recorded interview. We analyzed data independently using the same set of codes by two investigators. Following the qualitative analysis, we performed a quantitative analysis of in-depth, audiotaped face-to-face or telephone interviews lasting 1-2 hours. Transcriptions were independently analyzed by the authors and themes generated.

RESULTS: Seven out of 10 female 2004 Medicine interns (77%) participated. Women framed their decision to begin part-time work in one of two ways: 1) as a decision they made in order to work less or 2) as a decision made in order to protect important values or activities. Furthermore, how participants framed their
choices had an impact on the consequences of those choices. All the women interviewed felt their decision to choose part-time work caused them to make significant financial and career sacrifices. However, when women were able to understand and weigh a different decision to belong to a career path that protect important values or activities, they appeared more satisfied with their part-time position and were more able to defend their choice to self and others. Those who understand or framed their choice as less time at work had a more dynamic self image during their decision making. They found that self-reflection and the process of value clarification leading up to the decision to become part-time was critical, largely determined the consequences of the decision, and determined how women dealt with the situational demands they stood in their way as a part-time worker. Finally, we also found that part-time work not only produced the expected decrease in career advancement but also gave women a chance to explore and develop new career opportunities. CONCLUSIONS: Part-time academic physician may be more satisfied with their work, when they understand their choice as an opportunity to foster an aspect of life outside of work. For those considering part-time work, opportunities for self-reflection and value articulation may create a more successful decision.

THE DIGITAL LIFESTYLE: A SYSTEMATIC REVIEW OF DIGITAL COMPARED WITH FILM MAMMOGRAPHY. J.A. Tice 1; University of California, San Francisco, San Francisco, CA. (Tracking ID #: 157728)

BACKGROUND: Current guidelines on mammography screening are based on eight large, randomized trials of film mammography. Breast cancer screening is less effective in younger women in part because of the lower sensitivity of mammography in dense breasts. The high contrast resolution of digital imaging has the potential to improve detection of cancer in dense breasts, but adoption has been slow because the high resolution needed for mammography is not matched. METHODS: The Medline database, Cochrane clinical trials database, Cochrane reviews database and the Database of Abstracts of Reviews of Effects were searched using the keywords mammography, film, digital. These were referenced with the keyword human. The search was performed for the period from 1966 through December 2005. The bibliographies of systematic reviews and key articles were manually searched for additional references. The abstracts of citations were reviewed for relevance and all potentially relevant articles were reviewed in full. Studies were required to report test characteristics based on histologically confirmed cancer diagnoses ideally with at least one year follow up from the mammmography to ensure that the results represent true negative differences. Differences in methods for interpretation and the definition of a true negative precluded pooling studies or use other meta-analytic techniques. RESULTS: The initial search found 786 articles. Multiple publications described 5 studies comparing digital imaging to film for screening mammography and 4 studies focusing primarily on diagnostic mammography. Eight additional studies were reviewed but not included because they lacked controls, did not include sufficient data to evaluate test characteristics, compared image quality rather than clinical outcomes, or compared different image processing algorithms. For diagnostic mammography, digital mammography was less accurate than film (area under receiver operating characteristic (ROC) curve .72 vs. .77, sensitivity 66% vs. 74% in the largest study). For screening mammography, the early results were mixed with some studies reporting higher specificity for digital mammography, but lower sensitivity and others reporting higher sensitivity, but lower specificity. Two Norwegian studies suggested that there was an important learning curve with digital mammography, with improved diagnostic accuracy after more experience. The pivotal Digital Mammographic Imaging Screening Trial (DMIST) was the first including women than all other trials reporting mammography performance as well as film (area under the ROC curve .78 vs. .74). Subgroup analyses supported the a priori hypothesis that digital mammography should perform better than film when evaluating younger women with denser breast tissue (sensitivity 70% vs. 55%, p=.02). CONCLUSIONS: Current evidence suggests that digital and film mammography have similar sensitivity and specificity when screening for breast cancer and that digital imaging has higher sensitivity in women with mammographically dense breasts. It is not clear why digital mammography was less accurate than film mammography in studies of diagnostic mammography and in screening studies prior to the DMIST study.

THE EFFECT OF GUIDELINES ON PHYSICIAN USE OF SCREENING PROSTATE-SPECIFIC ANTIGEN. C.E. Guerra 1; P.A. Gimotty 1; J.A. Shea 2; S.S. Sonnad 1; S.K. A.R. Shah1; A.A. Mirza1; R. Malay1; V. Grubbs1; K. Bibbins-Domingo 1; A. Chattopadhyay 1; A. Fernandez 1; A.B. Bindman 1. University of California, San Francisco, San Francisco, CA. (Tracking ID #: 154844)

BACKGROUND: Despite an increasing population of individuals who prefer to speak a language other than English and federal statute mandating language access in the health care setting, language barriers persist. Language barriers may influence the process and quality of care, even for conditions such as acute myocardial infarction (AMI) for which standard protocols for diagnosis and treatments exist. METHODS: This is a retrospective cohort study of administrative data for all Medicare beneficiaries aged 35 years and older discharged from California acute care hospitals with a diagnosis of AMI from 1994-1998 with a diagnosis of AMI. Language preference was available for 63% of observations. We examined the association between language preference (L) and (H) in-hospital mortality. We used multivariate regression to explore whether observed differences between the hospital experiences between NEP and English preference (EP) individuals could be explained by race/ethnicity (non-Hispanic white or non-white), health status, or within hospital effects. We adjusted for health status using the covariates from a previously validated multivariate prediction model of 30-day mortality following hospitalization for AMI.

RESULTS: Of 38,920 Medicare eligible adults discharged from 415 California acute care hospitals with a diagnosis of AMI, 6,796 (18%) were NEP. In univariate analysis, NEP was associated with a LOS 5.6% longer than EP patients (95% CI 3.6, 7.7; p < 0.0005), but NEP had shorter LOS, and being a consistent PSA screener. In multivariate analyses, compared to physicians reporting no effect of guidelines on their practice, the odds of being a consistent screener was significantly lower for physicians reporting an effect of guidelines on practice (OR 0.63; 95% CI 0.48-0.81; p = 0.001). CONCLUSIONS: The perception of an effect of guidelines on clinical practice is an important factor in physician ordering of a PSA screening test. Physicians who report an effect of guidelines on clinical practice are less likely to consistently screen men with a PSA test while those who report no effect of guidelines on their practice continue to screen the great majority of their patients.

THE EFFECT OF NON-ENGLISH PREFERENCE ON ACUTE MYOCARDIAL INFARCTION LENGTH OF STAY AND IN-HOSPITAL MORTALITY. V. Grubbs 1; K. Bibbins-Domingo 1; A. Chattopadhyay 1; A. Fernandez 1; A.B. Bindman 1. University of California, San Francisco, San Francisco, CA. (Tracking ID #: 156856)

BACKGROUND: The prevalence of Congestive heart failure (CHF) in United States is 2.2%. Total cost for care of CHF patients in United States is approximately 28.5 billion dollars annually, out of which 70% is for in-hospital mortality. It is important to understand the markers of hospitalization stay

THE EFFECT OF SERUM ALBUMIN LEVELS ON LENGTH OF HOSPITALIZATION IN PATIENTS WITH CONGESTIVE HEART FAILURE. A.R. Shah 1; A.A. Mirza 1; R. Malay 1; L. Sanzarella 1; J. Souza 1; University of Connecticut, Farmington, CT. (Tracking ID #: 156856)

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in patients admitted with CHF exacerbation. Hypoalbuminemia has been known to be an independent risk factor for mortality in heart failure patients. There are no published data suggesting role of nutrition on length of hospitalization in CHF patients. We hypothesize that patients with low albumin levels have significantly higher length of hospitalization in CHF patients.

METHODS: We retrospectively analyzed 109 consecutive patients admitted to St Francis hospital from 07/01/2004 to 04/01/2005 with diagnoses of CHF who had at least one determination of serum albumin level. Patients above 18 years of age with discharge diagnoses of CHF based on their International Diagnosis Related Group (DRG) or International classification of disease (ICD) codes were included. Patients with cardiac surgery within 60 days, angina at rest, history of ventricular fibrillation or sustained ventricular tachycardia, myocardial infarction, stroke within last 6 months and significant history of hepatic, renal or haematological dysfunction were excluded. Patients with albumin level lower than 3.0 mg/dl were considered to have low albumin level and more than 5 days of hospitalisation was considered as ‘prolonged’ stay. Student’s t-test was used to compare continuous variable and chi-square analysis was used to compared categorical variables. Scattered plot analysis and coefficient ‘r’ were generated with help of SPSS 13.0 software.

RESULTS: Total 48.6% patients had low and 51.4% patients had normal albumin levels. The mean length of hospitalisation was significantly more in patients with low albumin level. (3.6 days vs. 6.2 days: p < 0.05).

Effect of Serum Albumin Levels on Length of Hospitalization in Patients with Congestive Heart Failure

CONCLUSIONS: Congestive heart failure patients with low albumin levels have longer hospitalization stay than those with normal albumin level. Further trials are needed to establish role of nutrition in patients admitted with congestive heart failure.

Length of hospitalization in patients with low and normal albumin levels

| Albumin Level | Hospitalisation | P value |
|--------------|-----------------|---------|
| Low          | 28.4% (12/56)   | 78.6% (44/56) | < 0.001 |
| Normal       | 58.2% (28/53)   | 47.2% (25/53)  | NS      |
| Total        | 36.7% (40/109)  | 63.3% (69/109) |        |

THE EFFECT OF TEACHING HOSPITALISTS ON LENGTH OF STAY, OUTCOMES, AND TEACHING ON AN ACADEMIC MEDICAL SERVICE. W. Southern 1; M. Berger 3; J. Arnsten 1. Albert Einstein College of Medicine, Bronx, NY. (Tracking ID # 753922)

BACKGROUND: Academic medical services are under pressure to reduce length of stay (LOS) and other costs associated with inpatient admissions, but have difficulty staffing wards with voluntary physicians. To address this, Mt. Sinai Medical Center’s Weiler Hospital initiated a teaching-hospitalist program in 2002. The objective of this study was to assess the impact of this program on LOS, readmission and mortality rates, and resident and student teaching evaluations. We also determined the impact on LOS among patients with specific discharge diagnoses and dispositions.

METHODS: From 7/1/02 through 6/30/04 we assigned 6625 patients (without preferences) to resident teams headed by either teaching hospitalists or traditional attending physicians. For each patient, data were extracted from the hospital database on LOS for the index admission, 30-day readmission, and in-hospital and 30-day mortality. We used independent and chi-square tests to evaluate associations between type of team and these outcomes, including associations within discharge diagnoses and dispositions. We used multiple logistic regression to evaluate independent associations, adjusting for differences in patient populations. Finally, we determined whether evaluations by residents and medical students were different in the two teams, using 5-point scales to evaluate 14 teaching qualities for residents and 6 teaching qualities for students.

RESULTS: Mean LOS was 4.0 days in teaching hospitals compared to traditional attending teams (5.01 vs. 6.00 days, p < 0.0001). LOS was lower on teaching-hospitalist teams for patients with CHF (4.61 vs. 6.19 days, p < 0.0005), pneumonia (5.99 vs. 8.68 days, p < 0.005), asthma (3.08 vs. 4.00 days, p < 0.05), and sepsis (3.99 vs. 4.82 days, p < 0.05). There were no differences in mortality or readmission rates between teams.

CONCLUSIONS: Teaching hospitalists can provide an effective solution to reduce length of stay and costs in teaching hospitals.
days, $p < 0.05$, and CVA (8.59 vs. 12.31 days, $p < 0.05$), but not chest pain (1.77 vs. 2.28, $p = 0.142$).

**THE EFFECT OF THE INPATIENT GENERAL MEDICINE ROTATION ON STUDENT PURSUIT OF A GENERALIST CAREER**

**PURPOSE:** To examine the association between the inpatient general medicine rotation and student career goals.

**METHODS:** A survey was administered to medical students in the third year of their medical education. The survey included questions about the students' career goals and their experiences during the inpatient general medicine rotation.

**RESULTS:** A total of 307 students (75%) matched in the two years after their rotations. 87 (28%) of those that matched chose an internal medicine residency. The association between the inpatient general medicine rotation and student career goals was significant ($p < 0.001$)

**CONCLUSIONS:** Students who matched in internal medicine residency were more likely to pursue a career in internal medicine ($p < 0.001$). This multisite study aims to use a novel outcome measure to assess the effect of the inpatient general medicine rotation on student pursuit of a generalist career.
THE EFFICACY AND SAFETY OF INHALED CORTICOSTEROIDS IN PATIENTS WITH COPD: A SYSTEMATIC REVIEW AND META-ANALYSIS OF HEALTH OUTCOMES. G. Galtier1; R.A. Hansen2; S.S. Carson1; K.N. Lohr3; T.S. Carey1. 1University of North Carolina at Chapel Hill, Chapel Hill, NC. (Tracking ID # 82338)

BACKGROUND: Chronic obstructive pulmonary disease (COPD) is one of the leading causes of morbidity and mortality worldwide. In 2000, COPD accounted for approximately 20.7 million outpatient visits, 3.4 million emergency department visits, 6.5 million hospitalizations, and 116,513 deaths in the United States. In addition, the benefits of inhaled corticosteroids (ICS) treatment for COPD remains controversial, in part because only smoking cessation is reliably shown to slow the rate of decline in lung function. Six ICSs are available in the United States: beclomethasone, budesonide, fluticasone, mometasone, and triamcinolone: none is FDA-approved for the treatment of COPD. The objective of this review is to determine the risk-benefit ratio of ICS treatment for COPD by systematically reviewing the evidence on the efficacy, effectiveness, and safety of ICS treatment in patients with COPD with respect to health outcomes compared to previous systematic reviews, because our review incorporates observational evidence for adverse events, we provide the first comprehensive assessment of the risk-benefit ratio of ICS treatment for COPD.

METHODS: We searched MEDLINE1, Embase, The Cochrane Library, and the International Pharmaceutical Abstracts to identify relevant articles. We limited evidence to double-blinded randomized controlled trials (RCTs) for efficacy, but we also reviewed observational evidence for safety. Outcomes of interest were overall mortality, exacerbations, quality of life, functional capacity, and respiratory symptoms. Two persons independently reviewed abstracts and full text articles. We performed an exclusion assessment of the remaining studies using predefined criteria from the US Preventive Services Task Force (ratings: good-fair-poor) and the National Health Service Centre for Reviews and Dissemination. When possible, we pooled data to estimate summary effects for each outcome.

RESULTS: Thirteen double-blinded RCTs determined the efficacy of an ICS compared to placebo. Additional studies assessed the safety of ICS treatment in patients with asthma or COPD. Overall, COPD patients treated with ICSs experienced significantly fewer exacerbations than patients on placebo (relative risk: 0.87; 95% CI: 0.79–0.95). Clinically significant difference could not be detected for overall mortality (RR: 0.81; 95% CI 0.60–1.08). Evidence on quality of life, functional capacity, and respiratory symptoms is mixed. Adverse events were generally tolerable; pooled discontinuation rates did not differ significantly between ICSs and placebo (RR 0.92; 95% CI: 0.74–1.14). However, observational evidence indicates a dose-related risk of cataract and open-angle glaucoma. Severe adverse events such as osteoporotic fractures are rare; the clinical significance of additional risks is questionable. CONCLUSIONS: Overall, the risk-benefit ratio appears to favor ICS treatment in patients with moderate to severe COPD. Existing evidence does not present the risk-benefit ratio of ICS treatment for COPD.

THE FREQUENCY AND TYPES OF AMBULATORY ADVERSE EVENTS. E.J. Thomas1; D. Woods1; J. Holt1; T.A. Brennan1. 1University of Texas Health Science Center at Houston, Houston, TX. (Tracking ID # 95469)

BACKGROUND: Most health care in the United States is delivered in the ambulatory setting, but the epidemiology of errors and adverse events in ambulatory care is understudied.

METHODS: We selected a representative sample of hospitals from Utah and Colorado and interviewed patients who had received care during the year 1992. Each record was screened by trained nurse reviewers for one of 18 criteria associated with adverse events. If one or more criteria were present, the record was counted as an adverse event if it corresponded with that event.

RESULTS: Adverse events were defined as an injury caused by medical management rather than disease processes that resulted in hospitalization or disability at discharge. Ambulatory adverse events (AAEs) were adverse events for which medical management occurred in an ambulatory care setting (physician's office, day surgery center, emergency department, hospital clinics, home) and caused patient harm that led to hospitalization. Two investigators judged preventability to identify ambulatory preventable adverse events (AAPEs). We report percentages and 95% confidence intervals.

RESULTS: We reviewed 14,700 hospital discharge records and found 587 adverse events of which 70 were AAPEs and 51 were AAEs. When weighted to the general population, there were 2,608 AAPEs and 1,296 (44.3%) AAPEs in Colorado and Utah in 1992. AAPEs occurred most commonly in physicians' offices (41.4%, 46.8–27.8), the emergency department (32.3%, 46.1–18.5), and at home (13.1%, 23.1–3.1). AAPEs in day surgery were less common (7.1%, 13.6–0.6), but caused the greatest harm to patients. The types of AAPEs were broadly distributed among missed or delayed diagnoses (36%, 50.2–21.8), surgical complications (32%, 56.7–1.4), therapeutic complications (13.1%, 23.1–1.3), and therapeutic events (12.3%, 22.0–2.6). Provider types involved in the AAPEs included primary care (31.4%, 33.5–29.3), surgical specialties (22.6%, 24.5–20.7), medical specialties (21.8%, 23.7–19.9), and emergency medicine (18.5%, 20.3–16.7). Most AAPEs occurred in adults (45.5% in 21–64 year olds; 38.1% in patients 65 or older. Overall, 10% of ambulatory preventable adverse events resulted in permanent injury or death. The proportion of AAPEs that resulted in death was 31.8% for general internal medicine, 22.5% for family practice, and 16.7% for emergency medicine. CONCLUSIONS: Although dated, these are the only population-based epidemiologic data that describe the frequency, types, and outcomes of adverse events per year are due to preventable errors in the outpatient setting. Broad-based research and prevention efforts will be required due to the diverse locations and providers involved and due to the varying types of AAPEs.

THE IMPACT OF ALCOHOL CONSUMPTION AND DEPENDENCE ON DEPRESSIVE SYMPTOMS IN HIV-INFECTED PATIENTS. L.E. Sullivan1; R. Salt2; D.M. Cheng2; H. Libman1; D. Nunes1; J. Alperen2; J.H. Samet2. 1University of California, San Francisco, San Francisco, CA. (Tracking ID # 81436)

BACKGROUND: Most health care in the United States is delivered in the ambulatory setting, but the epidemiology of errors and adverse events in ambulatory care is understudied.

METHODS: We conducted an analysis of the association between alcohol consumption and dependence on depressive symptoms in a prospectively studied cohort of HIV-infected adults with current or past alcohol problems (defined as > 2 out of a possible 4 positive responses to the CAGE alcohol screening questions). The mean age of respondents was 25.1 years; 25.9% were female; 55.3% were black; 33.6% were white; 19.2% were Hispanic; 7% other races; 25% homeless; 50% with detectable hepatitis C RNA; 64% currently using illicit drugs; 31% with at-risk drinking amounts; and 10% with current alcohol dependence. The mean baseline CES-D score was

where in medical school. Students reported the course filled a curricular gap and enabled them to experience and to practice what was only advocated elsewhere in the curriculum. “Humanism is paid a lot of lip service. It’s nice to actively discuss it in course work, but it’s almost never present in their required curricula. Attempts to support or instill professionalism must attend to issues of emotional safety and authentic community as prerequisites to learning and professional affiliation.”
THE IMPACT OF AN ELECTRONIC HEALTH RECORD ON THE AMBULATORY PRACTICE: A PILOT STUDY OF STUDENTS’ PERSPECTIVES

E. Jacob1; L. Sadowski1; P.J. Rathouz2.

Patients liked that I was using an EHR.

EHR improved my rapport with patients.

45

EHR adversely affected communication with my preceptor.

20

spent less time talking to the patient.

12

spent less time looking at patient.

45

EHR improved my rapport with patients.

20

patients liked that I was using an EHR.

21 (79% neutral)

Table 1 Percentage of students who answered strongly agree/agree (SA/A)

| Items | % SA/A |
|-------|--------|
| easier to find essential information | 71 |
| prefer looking for patient information | 62 |
| prefer the layout/organization | 54 |
| accessed online clinical guidelines more often | 54 |
| accessed online information about medications more often | 37 |
| was prompted to ask more history questions | 29 |
| was prompted to order more clinical preventive services | 25 |
| learned more about medication interactions | 20 |
| documentation was more complete | 16 |
| presentations were better organized | 12 |
| normal exam defaults helped with documentation | 12 |
| received more feedback on my notes | 11 |
| sent reminders to myself through the EHR to follow-up on patients | 11 |
| accessed patients’ tests results more often | 10 |
| satisfied with the doctor-patient communication with the EHR | 10 |
| EHR adversely affected communication with my preceptor | 12 |
| EHR improved my rapport with patients | 45 |
| patients liked that I was using an EHR | 21 (79% neutral) |

THE IMPACT OF DECREASED DUTY HOURS ON RESIDENT SELF REPORTS OF ERRORS, A.D. Ingalls1; A.D. Auerbach1; R.M. Wachter1; P. Katz2.

BACKGROUND: Recent limitations on resident duty hours aim, in part, to reduce medical errors. Residents’ perceptions of the impact of decreased hours on errors are unknown.

METHODS: We surveyed internal medicine residents at the University of California, San Francisco after duty hours were reduced. Residents were asked to report the frequency and causes of sub-optimal care practices and medical errors, and how decreased duty hours impacted these practices and aspects of resident education.

RESULTS: One hundred twenty-five residents (76%) responded. The most common sub-optimal care practices were working while impaired by fatigue and forgetting to transmit information during signout. In multivariable models, residents who felt overwhelmed with work (p = 0.02) and who reported spending >50% of their time in non-MD tasks (p = 0.002) were more likely to report engaging in sub-optimal care practices. Residents reported work-stress (defined as a cause of fatigue, e.g. overwhelming workload, distractions, stress, and inadequate time) as the most frequent cause of medical errors. In multivariable models, only reports of engaging in sub-optimal practices were associated with self-reports of medical errors (p = 0.001); working more than 80 hours per week was not associated with increased sub-optimal care or errors.

CONCLUSIONS: In this academic internal medicine training program, administrative load and work stressors were more closely associated with reports of medical errors than the number of hours worked. Efforts to reduce resident work hours may also need to address the nature of residents’ work in order to reduce medical errors.
appropriate for unhealthy elderly women, analyses were restricted to women with very favorable prognoses. This was defined as having less than 10% predicted risk of mortality in 4 years using a previously validated prognostic model in order to focus on those most likely to benefit from screening. RESULTS: The mean age was 71 years (range 65–84), 80% were white, 13% African-American, 7% Latina. Overall, 76% of women with favorable prognoses received screening mammography. Low net worth was strongly associated with lower screening mammography rates (66%, 68% and 81% for women with low, middle and high net worth, respectively, p<0.001). Within each racial-ethnic group those with low net worth were less likely to receive screening mammography than those with high net worth. However, among those with low net worth and race-ethnicity such that net worth had a greater impact on screening rates in whites than in African Americans or Latinas (p=0.05 for interaction). For example, among white women 57% of those with low net worth received screening mammography compared to 81% of those with high net worth, while among African-Americans, 72% with low net worth received screening compared to 77% of those with high net worth and among Latinas, 75% of those with high net worth received screening. CONCLUSIONS: One quarter of elderly women with favorable prognoses did not receive screening mammography. We found a strong association between net worth and quality of life. This finding implies that low net worth may be an important barrier to receiving mammography. In the future, interventions may need to focus on improving screening rates among women with lower net worth as well as those with lower educational level. The Reproductive Risks for Incontinence Study at Kaiser is a population-based cohort of 2,109 women aged 40 to 69 years at study inception, randomly selected from one age and racial/ethnic strata. Data on demographic and medical characteristics, as well as incontinence symptoms, were collected by self-report questionnaires and interviews. The validated Incontinence Impact Questionnaire (IIQ), which assigned a composite score based on the impact of symptoms on physical activity, emotional health, social/personal relationships, and travel, was administered to subjects reporting at least weekly symptoms. Multivariable logistic regression analysis was used to identify demographic and clinical characteristics associated with a high IQ score (defined as >75th percentile) while controlling for race/ethnicity and incontinence severity. RESULTS: Over a quarter (n=601) of participants reported weekly urinary incontinence, including 95 Black (16%), 123 (21%) Asian, 65 Asian (11%), and 308 White (51%) women. After adjusting for clinical incontinence severity as well as race/ethnicity in multivariate analysis, we found that women were more likely to have high impact scores if they had nighttime incontinence (OR=2.5, 95% CI 1.3–4.9), incontinence during sexual activity (OR=1.9, 95% CI 1.1–3.3), or co-morbid fecal incontinence (OR=2.2, 95% CI 1.2–4.2). Higher IQ score was also associated with lower educational level (OR=1.9, 95% CI 1.2–3.5) and 308 White (51%) women. After adjusting for clinical incontinence severity as well as race/ethnicity in multivariate analysis, we found that women were more likely to have high impact scores if they had nighttime incontinence (OR=2.5, 95% CI 1.3–4.9), incontinence during sexual activity (OR=1.9, 95% CI 1.1–3.3), or co-morbid fecal incontinence (OR=2.2, 95% CI 1.2–4.2). Higher IQ score was also associated with lower educational level (OR=1.9, 95% CI 1.2–3.5) and female sex (OR 1.02; 95% CI 1.01–1.03) and solo practitioners (OR 1.05; 95% CI 1.00–1.09). In adjusted analyses, visit duration increased by 3.8% (95% CI 3.3–4.2%) for each additional clinical point in the diagnosis code (up to 3), each medication (up to 6), each diagnostic test (blood pressure, urinalysis, EKG, X-ray, mammography, other imaging, pregnancy test, pap smear, hematoctit or CBC, cholesterol, PSA, and other blood), physical therapy, or each act of counseling (diabetes, exercise, mental health or stress, and tobacco cessation) documented for the visit. We log transformed complexity, duration, and efficiency because data were highly skewed. In trend analysis, year was treated as a continuous variable. We identified independent predictors of both visit complexity and duration using generalized linear models adjusting for various patient and physician characteristics. RESULTS: From 1997 to 2003, complexity of visits significantly increased 16% from 5.5 to 6.4 clinical points (p<0.001). Visit duration increased 10% from 18.0 to 19.8 minutes/visit (p<0.001) but efficiency remained unchanged at 2.7 minutes/clinical point. In adjusted analyses, complexity increased 1.8% per year (95% CI, 0.9–2.6%). Increased complexity was associated with greater age (0.69% per additional year of life; 95% CI, 0.63%–0.75%), Medicare status (RR 1.4, 95% CI 1.00–1.05), Medicare status (RR 1.3, 95% CI 1.01–1.05), female sex (RR 1.02; 95% CI 1.01–1.03) and solo practitioners (RR 1.05; 95% CI, 1.00–1.09). In adjusted analyses, visit duration increased by 3.8% (95% CI 3.3–4.2%) for each additional clinical point in the diagnosis code (up to 3), each medication (up to 6), each diagnostic test (blood pressure, urinalysis, EKG, X-ray, mammography, other imaging, pregnancy test, pap smear, hematoctit or CBC, cholesterol, PSA, and other blood), physical therapy, or each act of counseling (diet, exercise, mental health or stress, and tobacco cessation) documented for the visit. We log transformed complexity, duration, and efficiency because data were highly skewed. In trend analysis, year was treated as a continuous variable. We identified independent predictors of both visit complexity and duration using generalized linear models adjusting for various patient and physician characteristics.
THE INFLUENCE OF PATIENT RACE AND SOCIAL VULNERABILITY ON UROLOGIST TREATMENT RECOMMENDATIONS IN LOCALIZED PROSTATE CANCER. T. Dermestidge1; T.V. Mendenhall Ph.D.; F. Kim; R. Flanigan, M.D; B. Beatty; D. Farquharg; J.F. Stein; R. Hoffman5.

METHODS: Using a randomized, 2 x 2 factorial design we presented 2,000 urologists with a clinical vignette and asked them to recommend treatment for a healthy 70-year-old patient with low-risk, clinically localized PCa. Options included either RP, external beam radiotherapy, brachytherapy, cryotherapy, observation, or hormonal therapy. There were two dichotomous variables within four otherwise identical versions of the vignette: (1) patient race (Black vs. White) and (2) socioeconomic vulnerability (middle-income and married versus low-income and unmarried). We used multivariable logistic regression to model the effects of patient race, socioeconomic vulnerability, and their interaction on recommendations for RP vs. radiotherapy.

RESULTS: The response rate was 66.1% (n=1,313). Race and social vulnerability interacted (p=0.05) such that the highly vulnerable black patient received an RP recommendation 14.4% less often than his less vulnerable counterpart; the difference between the two white patients was 4.2%.

CONCLUSIONS: Race interacts with social vulnerability to influence urologist recommendations for RP. Because PCa tends to be more lethal in blacks, urologists may view such patients as good candidates for RP. However, black race may amplify perceptions of social vulnerability, heightening urologists’ concerns about poor surgical outcomes and follow-up. Physicians should avoid assumptions and base treatment recommendations on patients’ actual financial resources and social networks.

Urologist Treatment Recommendations: RP vs. XRT (n=1,205)

| Patient variables | RP % (n) | XRT % (n) | Risk difference | Relative risk | p (Wald chi-square) |
|-------------------|---------|----------|-----------------|---------------|--------------------|
| Black             | 31.6 (194) | 68.4 (419) | 0.0 – 0.1 – 0.1 | 0.74          | 0.85 – 1.18        |
| White             | 31.6 (187) | 68.4 (405) | 9.3 (1.4 – 14.5) | 0.74          | 0.63 – 0.88        |
| High vulnerable   | 26.8 (155) | 73.2 (424) | 0.0 – 0.1 – 0.1 | 0.74          | 0.63 – 0.88        |
| Low               | 36.1 (226) | 63.9 (400) | 9.3 (1.4 – 14.5) | 0.74          | 0.63 – 0.88        |
| Vulnerable Black  | 23.9 (68)  | 76.1 (216) | 0.0 – 0.1 – 0.1 | 0.74          | 0.63 – 0.88        |
| Vulnerable White  | 38.3 (126) | 61.7 (203) | 9.3 (1.4 – 14.5) | 0.74          | 0.63 – 0.88        |
| Vulnerable        | 29.5 (87)  | 70.5 (208) | 0.0 – 0.1 – 0.1 | 0.74          | 0.63 – 0.88        |

THE MANAGEMENT OF GOUT IN CHINA: A PHYSICIANS SURVEY. W. Fang1; X. Zeng2; M. Li1; L.X. Chen2; H. Schumacher3; F. Zhang1. Peking Union Medical College Hospital, Beijing; University of Pennsylvania, Philadelphia, PA. (Tracking ID: 152920)

BACKGROUND: Gout is a less commonly diagnosed rheumatic disease in China compared with Western countries, but its prevalence appears to be climbing. It is not clear how Chinese physicians make diagnostic and therapeutic decisions for their gout patients, so in this study we evaluate primary care and sub-specialists’ physicians’ reported management of gout in China, and describe factors associated with their clinical decision-making.

METHODS: A thirteen-question anonymous survey was distributed and collected in medical grand rounds at a major teaching hospital in Beijing (Stage 1) and at a national continuous medical education workshop for Rheumatology (Stage 2). Physician’s demographic data including educational backgrounds, work experiences, job titles, specialty or subspecialties, gout patient volume seen in a year, and continuous medical education (CME) in gout were also collected in the survey. Data of two stages were pooled and analyzed by multi-variable regression models.

RESULTS: In Stage 1, 33% of residents/internists (n=27) 70% of rheumatologists/fellows (n=20) and 20% of other medical subspecialists/fellows (n=28) from the Department of Medicine including visiting faculty/fellows/residents completed the survey. In Stage 2, 50% of the workshop attendees (n=38) from across China returned surveys. The two groups differ markedly in gender, undergraduate medical education, highest medical degree, work experience, job title, specialty, and gout patient volume (chi-square, P<0.05), but the heterogeneity does not substantially alter the distribution of physicians’ responses as a whole compared with that in Stage 1 as we previously reported. Pooled together, 78.3% of respondents think aspiration of affected joint fluid is critical for a definitive diagnosis of gout, but few actually do it. When treating acute gout in otherwise healthy patients, 69.2% of physicians prefer oral colchicine, and in patients with renal impairment, 41.7% of them choose corticosteroids or corticotropin as their first treatment. For long-term uric acid-lowering therapy, 82.5% of physicians describe a variety of incorrect indications. 89.2% of them tend to initiate it early (2 weeks) after acute flares, and 76.7% of physicians sustain it less than 5 years. Furthermore, only 14.2% of physicians use prophylaxis during the initiation of uric acid-lowering treatment, and 5.8% continue it for the entire period of time. Logistic regression analysis of physician’s demographic data, educational background and work experience does not find any consistent independent factors associated with better decision-making. It is notable that continuous medical education is associated with establishing the definite diagnosis correctly (OR 6.0, 95% CI [1.8, 20.0]), but also with incorrect indications for long-term uric acid-lowering therapy (OR 5.7, 95% CI [1.4, 23.4]).

CONCLUSIONS: The Chinese physicians’ reported management of gout is often not consistent with current standards of care. High quality CME is required to improve the practice of gout in China.
RESULTS: 500 randomly chosen charts were reviewed. 119 patients (111 female, 8 male) fulfilled the inclusion criteria and presented with complaint of pain on at least one office visit during that year. 381 charts were excluded. The 119 patients generated 312 office visits. Of those patients who stafflogged the pain score 93% (110) of the time, 2% incorrectly. A pain form was filed 63% (75) of the time. Physician documentation of the pain scale occurred only 60% (71) of the time, but pain was addressed and treated in 92% (110) of the visits in which pain was reported.

CONCLUSIONS: We found that although pain was frequently identified in the outpatient setting, it was usually the principal complaint and was well documented in the medical chart and well addressed by the physician. We could not demonstrate that the use of the pain scale conferred any benefit for the patient. These findings differ from previous studies conducted on inpatients, in which physicians performed poorly in both addressing and treating pain. We speculate that, in the inpatient arena, physicians focus on the underlying disease process, while in the outpatient setting, the patient complaint is central to guiding the physician assessment. While we appreciate that the pain scale has been proven useful in the inpatient setting we would recommend that further studies be done to document the validity and value in the outpatient setting in order to justify the time and effort needed to satisfy this JCAHO mandate.

THE QUALITY OF DIABETES CARE FOR VULNERABLE PATIENTS WITH IMPAIRED PHYSICAL FUNCTIONING: THE TRIAD STUDY. O.K. Dorn1; W.N. Steers1; A.F. Brown1; J.Singer2; E.C. Schneider1.

BACKGROUND: Diabetes increases the probabilities of both developing physical impairment and progressing to disability. Aggressive treatment of intermediate outcomes can slow this progression. However, few studies to date have examined the quality of intermediate outcome treatment of physically impaired population with diabetes, or how quality of care for this group differs by income, living situation, or PHQ-8 score.

METHODS: Data were collected from 2,792 patients during 2001 and 2002 from 10 managed care plans and 68 provider groups included in the Translating Research into Action for Diabetes (TRIAD) study, a multicenter longitudinal cohort study of diabetes care in managed care. Using items drawn from the SF-12 health survey, we defined impaired physical functioning as 1 standard deviation below the age-normed population mean for the Physical Component Score (PCS-12). We examined multiple dependent variables, including: 1) continuous values of intermediate outcomes (A1c and SBP), and 2) a dichotomous measure, presence or absence of any systolic blood pressure (hereafter, SBP), in persons with both diabetes and impaired physical functioning, may play a role in slowing this progression. However, few studies to date have examined the quality of intermediate outcome treatment of physically impaired population with diabetes, or how quality of care for this group differs by income, living situation, or PHQ-8 score.

RESULTS: The quality of diabetes care for vulnerable patients was associated with income, living situation, and PHQ-8 score. Specifically, lower-income patients (92% vs. 85%, p =0.02). No other significant differences were seen by income, living situation, or PHQ-8 score.

CONCLUSIONS: Diabetes care for intermediate outcomes is similar regardless of physical functioning. The objective of this study was to determine whether receipt of a new-onset depression, had neither schizophrenia nor bipolar disorder, had a baseline HbA1c test, and received at least 2 visits in the first 84-days (acute phase) of the depression diagnosis. The baseline HbA1c test reflects glycemia in the 180-day period prior to the depression diagnosis when antidepressants were not used and depression symptoms were minimized or non-existent. The follow-up HbA1c test was the first HbA1c test occurring 60-days following initiation of antidepressant therapy to the end of the 264-day depression treatment period. The quality of antidepressant dose and duration was assessed in the 60-day period prior to follow-up HbA1c testing. Adequate treatment was received if both a minimum therapeutic antidepressant dosage and an adequate duration of antidepressant therapy result in improved glycemic control among veterans with diabetes mellitus (DM) and/or chronic kidney disease. The main outcome of this study was determined by the quality of antidepressant therapy. Antidepressant therapy was adequate when a new-onset depression, had neither schizophrenia nor bipolar disorder, had a baseline HbA1c test, and received at least 2 visits in the first 84-days (acute phase) of the depression diagnosis. The baseline HbA1c test reflects glycemia in the 180-day period prior to the depression diagnosis when antidepressants were not used and depression symptoms were minimized or non-existent. The follow-up HbA1c test was the first HbA1c test occurring 60-days following initiation of antidepressant therapy to the end of the 264-day depression treatment period. The quality of antidepressant dose and duration was assessed in the 60-day period prior to follow-up HbA1c testing. Adequate treatment was received if both a minimum therapeutic antidepressant dosage and an adequate duration of antidepressant therapy result in improved glycemic control among veterans with diabetes mellitus (DM) and/or chronic kidney disease. The main outcome of this study was determined by the quality of antidepressant therapy. Antidepressant therapy was adequate when...
may be related to the non-significant statistical finding. The overall quality of pharmacotherapy in this hospital population was poor. Further research, including a national VHA population, with sufficient statistical power is required to determine if and how treatment of depression influences glycemic control.

THE RELATIONSHIP BETWEEN PAY-FOR-PERFORMANCE INCENTIVES AND QUALITY IMPROVEMENT: A SURVEY OF MASSACHUSETTS PHYSICIAN GROUP LEADERS. A. H. Werning1, S. Peterson2, V. Colm1, J. Sullivan1, P. Okwara1, E. C. Schneider1. 1Department of General Internal Medicine, Brigham and Women’s Hospital, Boston, MA; 2Harvard Medical School, Boston, MA.

BACKGROUND: Despite growing enthusiasm for pay-for-performance incentives, few studies have examined the scope of these incentives or the responses of physician groups.

METHODS: Our object was to gather current information from leaders of physician groups about pay-for-performance incentives and to examine whether incentives are associated with greater use of quality improvement initiatives. We conducted a structured telephone survey of leaders of 79 of the 100 Massachusetts physician groups. Our main outcomes were the prevalence of pay-for-performance incentives in physician group contracts with health plans and prevalence of physician group quality improvement initiatives. To test the association between pay-for-performance incentives and quality improvement initiatives, we specified a single multivariable logistic regression model that encompassed the eight HEDIS quality measures in our study. This model controlled for other factors that might influence the use of quality improvement initiatives.

RESULTS: Most groups (80%) reported pay-for-performance incentives in at least one health plan contract. Incentives were most commonly tied to performance on HEDIS quality measures (66% of all groups) and utilization measures (66% of all groups). Among groups with pay-for-performance the incentives accounted for 2.2% of overall revenue (range 0.25%–8.8%) and 36% of pay-for-performance incentives were very important or moderately important to the group’s financial success. Across the eight HEDIS quality measures, we found an association between the presence of a pay-for-performance incentive on a measure and the use of a quality improvement initiative related to the measure (OR 1.6, p < 0.04) after adjustment for other characteristics of physician groups.

CONCLUSIONS: Pay-for-performance incentives are now common among physician groups in Massachusetts. Although the scope and magnitude of these incentives are still modest for most groups, we found an association between pay-for-performance incentives and use of quality improvement initiatives.

THE RELATIONSHIP BETWEEN PERFORMANCE ON QUALITY INDICATORS AND MORTALITY RATES: RESULTS FROM MEDICARE’S HOSPITAL COMPARE REPORT CARD. R. M. Werner1, E. Bradlow1. 1University of Pennsylvania, Philadelphia, PA.

BACKGROUND: In response to concerns about poor quality of care in US hospitals, the Centers for Medicare and Medicaid Services recently began reporting data on hospital performance on their website. Hospital Compare. It is unknown whether performance on these measures is related to hospital-level outcomes. Our object was to examine the relationship between hospitals’ performance on the quality indicators (QIs) used in Hospital Compare with risk-adjusted mortality rates at those hospitals.

METHODS: We studied hospitals nationally that participated in Hospital Compare for the first six months of 2004 (this data was published on Hospital Compare on April 1, 2005). Our data came from two sources. First, we used publicly available data on the 10 QIs initially included in Hospital Compare. These indicators cover three disease areas (acute myocardial infarction (AMI), congestive heart failure (CHF), and pneumonia) and were used to determine the performance of each hospital. Second, for all hospitals included in Hospital Compare, we used MedPAR data to calculate average disease-specific inpatient and 30-day risk-adjusted mortality rates (RAMR) for each hospital. We used a Bayesian approach to compare hospital’s performance based on Hospital Compare’s performance indicators with hospital’s average RAMR. To do this, we applied Bayesian “shrinkage” to each hospital’s “pass-rate” for each of the 10 QIs, which weights the hospital’s performance based on the number of patients, and thus the degree of uncertainty used to calculate that rate. For instance, hospitals that report their performance based on a smaller number of patients have greater uncertainty and hence their results are shrunk more towards the population average. Then, to test the relationship between each QI and disease-specific RAME, we calculated hospital-level logistic regression models with each hospital’s baseline performance modeled as a function of its RAME.

RESULTS: The number of hospitals included in the analysis ranged from 2,665 to 3,609 for each of the 10 QIs included in Hospital Compare. We found that SRH is a much stronger predictor of mortality among whites than blacks. (See Table) Adjustment for age and gender did not significantly alter these results. Stratified analyses by gender showed that this difference was present in both men and women. Stratified analysis by age showed that this difference was present in subjects under 80, but not in subjects over 80.

CONCLUSIONS: In this population-based study, we found that the relationship between SRH and mortality is much stronger in white Americans than in black Americans. While the reasons for this striking difference are unclear, these results suggest that questions regarding health may be interpreted differently by white and black Americans.

THE ROLE OF BIOETHICISTS IN FAMILY DECISION MAKING AT THE END OF LIFE. L. T. Watkins1, A. K. Karas2, G. M. Saca2, M. Kogan1. 1Albert Einstein College of Medicine, Bronx, NY.

BACKGROUND: Together with the hospice movement and the growth of palliative care, the development of bioethics consultation services in hospitals emerged in recent years as part of a general movement to reform and rationalize end of life care. Many hospitals employ bioethicists to help health care teams, patients, and family surrogates navigate the difficult terrain of end of life decision-making. In the literature on family decision making, bioethicists are seen to function in two primary capacities: as consultants who define and support ethical principles such as beneficence and autonomy; and as mediators who enhance communication to reduce conflict between staff and families. While hospital staff report high levels of satisfaction with bioethics consultations, families reviews have been less positive. Recent studies have shown that ethics consultations reduce the amount of non-beneficial life-sustaining treatment, but there has been little systematic study of the actual content of bioethics consultations with families. In this study, we examine the content of bioethicists’ communication in family meetings to investigate the relationship between the positions of surrogates and staff and the role adopted by the bioethicist.

METHODS: Researchers observed and recorded 24 decision-making meetings between hospital staff and family members of elderly patients identified as being in the last stages of illness, who were unable or unwilling to make the decision for themselves. Bioethicists consultants were present during 5 of those meetings. Transcripts were analyzed using standard qualitative techniques and NVivo software.

RESULTS: In most meetings, bioethicists functioned to diffuse conflict between staff and families. Techniques included: interpreting participants’ points of view

ABSTRACTS
so they could be understood by all parties; supporting and comforting families when they displayed grief and other emotions; reassuring with families how to communicate with dying patients about their wishes, asking physicians to transmit information and guide everything from day to day and family to family to adopt the staff’s point of view—usually, to withdraw aggressive end of life care. Interestingly, bioethicists spent relatively little time explaining ethical consent statements or legal guidelines, or raising issues for moral inquiry. Concerned, we were unlikely to employ ethical rhetoric or ethical questions during intractable, high conflict cases than in cases with minimal conflict. For example, consultants tended to emphasize the importance of patients’ wishes when these wishes supported the position of hospital staff that life-extending care should be withdrawn.

CONCLUSIONS: Results indicate that the chief role of bioethical consultants is to help staff and families resolve very complex, difficult, and potentially emotionally charged ethical questions effectively about decision making at the end of life. Bioethical consultants tend to raise ethical questions during high conflict meetings, mostly with the goal of persuading families to adopt a particular point of view. Further study is needed to determine the extent to which such context-dependent use of ethical models result in decisions reflective of patient and family values.

THE ROLE OF SPIRITUALITY IN END-OF-LIFE DECISIONS

M. Kogan1; G.M. Sacajiu2; L.T. Watkins2; A.K. Karasz2.

Medical College, Chicago, IL.

We adjusted for the differential gold standard evaluation in the stratified random sample with a low score (1–4) received the gold standard for major depression required a consensus between 2 attending psychiatrists, each medical teams from Sunday through Thursday during a 4-week period. The routine use of this tool has the potential to improve the detection of major depression among medical inpatients.

METHODS: The study was conducted on the medical service at a university-based large, inner city teaching hospital. 24 meetings between staff and families were observed and recorded. Follow-up interviews were conducted with families. Data was analyzed using standard qualitative procedures.

RESULTS: Spiritual matters were mentioned during meetings or follow-ups in the majority of cases (22/24). The most common references to spirituality included: “It’s God’s will” or “It is in God’s hands”. These references were brought up as a rationale for either extending or limiting aggressive care. Family members generally used this language to support a decision that had already been made. Another common reference was to the family’s religion or church. In a few cases a church or church leader appeared to play a role in decision making. For example, in one case, a family member agreed to limit life extending care because this was the position taken by her church. In all other cases, church care or church leaders were brought up in answer to questions about their ‘support system’. Prayer was usually described as a form of supplication, expressing a person’s wish to end the suffering of their dying family member: “I ask God to take him”; “I’d ask him to take 5 years off my life if he could give them to my mother.”. Prayer was also mentioned occasionally as a source of comfort and support. “He’s the one that pulled me along one step at the time.” In a few cases we found that families brought in references to spirituality and to church leaders as a way of justifying their position or opinion. A few families told doctors that they would have to ‘pray’ before making a final decision. In one case, the family member was unhappy with a previously signed DNR and had asked for permission to pray after consulting her priest. Experiences of mystical transcendence were uncommon. In one case a daughter reported a transcendental experience at the moment of her mother’s death: “it felt like a very warm embrace. It really felt like ‘I know she came over to say good-bye and to give me a hug’.”

CONCLUSIONS: Contrary to what the literature suggests, we did not find evidence that spirituality affected family decision-making. And references to spirituality served to justify a previous decision, or as a source of comfort. Results suggest that the emphasis on spirituality as an important source of values in end of life decision making may be exaggerated. More research is needed on this important topic.

THE THREE-MINUTE MENTAL HEALTH CARE: INSIGHTS FROM VIDEOTAPES OF ELDERLY PATIENTS’ PRIMARY CARE OFFICE VISITS INVOLVING MENTAL HEALTH TOPICS

M. Tai-Seale1; Texas AM Health Science Center, College Station, TX. (Tracking ID #: 153312)

BACKGROUND: Late-life mental disorders are common, with the prevalence of major depression at 6–9% and milder depressive symptoms affecting up to an additional 37% elderly population. Practice guidelines call for at least four office visits during which mental health problems are discussed in a six month period. Despite the interest in measuring quality of mental health care, very few studies have used direct observation to understand how mental health care is delivered. Many studies of quality are constrained by their reliance on global assessments of care and practices based on patients’ self-reports, chart abstracts, or clinician’s judgments. We conducted a qualitative study of video tapes of office visits involving mental health topics.

METHODS: Qualitative and quantitative methods were used to study video-tapes of 392 elderly patients’ visits to primary care physicians—covering 2,506 diagnostic codes. We observed 119 visits in three U.S. medical centers. Clinic visits were coded to obtain data on the nature of the topics – biomedical, mental health, or psychosocial – discussed and the time spent on each topic. Quantitative analyses were carried out to determine time visitors spent on discussing mental health issues and other issues in each visit. Patient and physician surveys provided additional information on patients’ health status, physician specialty, years in practice, and demographics.

RESULTS: Mental health topics occurred in 20.2% of visits, accounting for 3.5% of total topics. The average time a physician spent discussing mental health issues was less than one minute (56.6 seconds) in comparison to 65.9 seconds on biomedical topics (p < 0.05). In one case, a family member agreed to limit life extending care because this was the position taken by her church. In all other cases, church care or church leaders were brought up in answer to questions about their ‘support system’. Prayer was usually described as a form of supplication, expressing a person’s wish to end the suffering of their dying family member: “I ask God to take him”; “I’d ask him to take 5 years off my life if he could give them to my mother.”.

BACKGROUND: The Toyota Motor Corporation is a leading automobile manufacturing company known for their quality and efficiency in delivering their products to their customers. Their management philosophy is firmly founded on the Toyota Production System (TPS). The Toyota Production System (TPS) is a systematic method of eliminating waste and improving productivity by transparently managing the entire flow of products to their customers. Their management philosophy is firmly founded in the Toyota Production System (TPS). TPS is also known more generally as Lean production. Lean has been widely employed in manufacturing industries with a focus on continuously transforming waste into value from the customer’s perspective. In the healthcare setting, the Lean methods can be applied in health care settings. We conducted two Lean pilot projects. The orthopedic surgery clinics seen 12,350 new patients annually. The projects included: “mapping” their current process to identify opportunities for improvement, and employing Lean tools and methods to achieve sustained improvement in patient satisfaction and efficiency.

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The time to place a PICC line averaged 26 hours, which led to delays in discharge and therapy.

METHODS: The Lean project teams created a value stream map of the current process which was used to identify areas of waste and eliminating or minimizing them. The team members then proposed a plan for implementing the new ideal state. The implementation plans are ongoing, and have demonstrated some promising results. REDUCED TIME: The PICC results showed a 36% reduction in the average time to place a PICC, and a 46% reduction in the number of PICC referrals to interventional radiology, thus decreasing the workload of a constrained resource. The orthopedic referral initiative resulted in 80% of forms being completed within 2.5 minutes of their phone call at one of the two sites. These positive results are promising, however, as many new initiatives, we have found progress may be halted or resisted. Since the initial results, we have seen excellent progress toward baseline in average time for PICC placements; and a separate clinic site for orthopedic surgery has resisted embracing the new methodology to date.

CONCLUSIONS: These early results demonstrate the potential benefits of applying Lean in health care; however, also demonstrate some of the challenges of initiating and perpetuating a new way of developing improvements. At the core of the TPS is the embedded process of continuous experimentation by the front line clinician, as healthcare professionals, we are rooted in the practice of science to experiment and test our hypothesis to improve the product. It is this link of experimenting at the front lines to demonstrate sound improvements in the rapid fashion that can anchor health care professionals in several other areas as well as TPS for our accurate practice. In a post editorial, Berwick called this type of experimenting and learning "pragmatic science" and health care can gain significant and rapid knowledge through this type of active process of learning sharing and using knowledge transparently, with complete published reports (1). We will continue to explore how to implement a Lean management philosophy, with the goal of continuous improvement and delivering high quality care. Faster, more efficient, safer, cost effective, and patient-centered. The progress of these two pilot projects will continue to be monitored. 1. Berwick DM. Broadening the view of evidence-based medicine. Qual Saf Health Care 2005;14(5):315-6.

THE USE OF A NEW PRESENTATION FORMAT IMPROVES PATIENT CARE AND TEACHING IN THE ICU

J. Kamali1; B. Chang1. 1University of New Mexico, Albuquerque, NM. (Tracking ID # 159091)

BACKGROUND: ICU patients require a detailed, accurate assessment and plan for optimal care. We conducted a study to determine how a well-organized, daily progress note can help the Housestaff understand the complex ICU issues, improve documentation, and optimize application of standard of care.

METHODS: 150 intensivists in two affiliated institutions, a University hospital and a VA hospital participated in this study. The Housestaff were observed for four months. During the first two months Housestaff used their own or institution's progress note. After two months the new standardized progress note was introduced and Housestaff were asked to present and document using the new format. Housestaff and intensivists completed questionnaires assessing several areas during observation and intervention months. The survey included documentation of relevant data, application of ICU standards of care (such as daily discontinuation of sedation, GI and DVT prophylaxis), and presentation of problem list and plan. A Total of 320 valid evaluation forms were submitted. Housestaff and intensivists completed questionnaires assessing several areas during observation and intervention months. The survey included documentation of relevant data, application of ICU standards of care (such as daily discontinuation of sedation, GI and DVT prophylaxis), and presentation of problem list and plan. A Total of 320 valid evaluation forms were submitted.

RESULTS: Subjective evaluation by the Housestaff did not considerably change, ranking themselves high regardless of intervention. Intensivists however, noted an increase in the group's significant improvement in documentation of relevant data (50% vs. 73%, P < 0.01), presentation of assessment and plan (57% vs. 76%, P < 0.01), and appropriate application of certain ICU standards in patient care, such as GI prophylaxis (63% vs. 87%, P < 0.01) and DVT prophylaxis vs. 0% to 45% (P < 0.01). Documentation and presentation areas which did not significantly improve were daily discontinuation of sedation (62% vs. 70%, P 0.15) and ventilator weaning (58% vs. 62%, P 0.56).

As CONCLUSIONS: We believe this is the first study assessing the impact of a standardized presentation format on applying well-established ICU standards of care. Housestaff and intensivists completed questionnaires assessing several areas during observation and intervention months. The survey included documentation of relevant data, application of ICU standards of care (such as daily discontinuation of sedation, GI and DVT prophylaxis), and presentation of problem list and plan. A Total of 320 valid evaluation forms were submitted. Housestaff and intensivists completed questionnaires assessing several areas during observation and intervention months. The survey included documentation of relevant data, application of ICU standards of care (such as daily discontinuation of sedation, GI and DVT prophylaxis), and presentation of problem list and plan. A Total of 320 valid evaluation forms were submitted.

THE YIELD OF CORONARY ANGIOGRAPHY IN PATIENTS WITH SEVERE CARDIOMYOPATHY AMONG COCAINE USERS IS COMPARABLE TO NON-COCAINE USERS.

M. Shenoda1; C. Caraang2; R. Yu3; A. El-Bialy4; R. Wachsner5. 1University of California, Los Angeles, Los Angeles, CA; 2University of California, Los Angeles - Sepulveda, CA; 3Olive View-UCAL, Los Angeles, CA; 4Olive View/University of California, Los Angeles Medical Center, Sylmar, CA; 5University of California, Los Angeles - San Fernando Valley Program, Sylmar, CA. (Tracking ID # 154849)

BACKGROUND: The 25 patients with normal coronaries or non-flow limiting disease were younger (age 51 - 6), had only 1.5 risk factors, and < 5 years of cocaine use. CONCLUSIONS: Based on the results of this retrospective study, the yield of an angiogram to detect significant CAD was 54% (122 patients, 28 were cocaine users, 25 of whom had normal or non-obstructive CAD. The three CAD risk factors each with an average duration of 7.5 years of cocaine use. The 25 patients with normal coronaries or non-flow limiting disease were younger (age 51 - 6), had only 1.5 risk factors, and < 5 years of cocaine use. CONCLUSIONS: Based on the results of this retrospective study, the yield of an angiogram to detect significant CAD was 54% (122 patients, 28 were cocaine users, 25 of whom had normal or non-obstructive CAD. The three CAD risk factors each with an average duration of 7.5 years of cocaine use.}

“THEY BLEW THE LEVEE”: DISTRUST AMONG HURRICANE KATRINA EVACUEES.

K.M. Conteaco2; D. Eisenmann1; S. Asch8; J. Golden4; D. Glik4. 1University of California, Los Angeles, Los Angeles, CA; 2Veterans Administration Greater West Los Angeles Healthcare System, Los Angeles, CA; 3West Los Angeles VA, LA, CA; 4University of California, Los Angeles, LA, CA. (Tracking ID # 154581)

BACKGROUND: Distrust of physicians and hospitals can be a critical factor influencing health care decisions among African American and other minority communities. Less is known about how distrust in authorities influences individuals’ responses to public health messages and warnings before, during, and after crises. We analyzed data from qualitative interviews conducted with Hurricane Katrina evacuees to better understand the influence of trust and distrust in post-hurricane evacuation decisions and post-hurricane perceptions.

METHODS: From September 9 (11 days post-hurricane) to September 12, 2005, we performed qualitative interviews with a random sample of 58 adult evacuees living in Houston’s three major evacuation centers. We transcribed and analyzed the interviews using grounded theory methodology with three investigators independently coding and resolving disagreements by consensus. Statements were coded as belonging to instrumental, cognitive/affective, or sociocultural domains. This sub-analysis focuses on one aspect of the sociocultural category of trust or distrust.

RESULTS: Participants were mainly African-American, low income, and from New Orleans. Nearly 55% had a high school diploma or equivalent. Distrust of authorities was spontaneously discussed in reference to evacuation decisions prior to the hurricane, evacuation experiences after the hurricane, and post-evacuation assistance. Prior to the hurricane, participants did not believe the pre-hurricane warnings, reporting that they had thought “they’re just trying to scare us.” Sheltering decisions were also influenced by distrust: “But I wasn’t going to go to the Superdome... I never did trust those people...”. In particular, participants trusted and acted on the advice or actions of members within their social network. Some participants expressed skepticism of the connection between the hurricane and the flooding: “That water that cause all those people to drown. - that wasn’t from the hurricane...”. This distrust extended beyond believing the authorities not to be competent in that some believed they had been caused intentional harm: six participants offered the belief that the levees had been deliberately broken in order to sacrifice their neighborhoods and save the more affluent, non-black neighborhoods and business interests: “I do believe they intentionally ran that water in that direction” in order to save “where Donald Trump is building.” Other participants declined to be served by emergency responders about whom they were “being lied to”. A participant claimed “they lied to us”. A participant’s belief that evacuation decisions were inappropriately influenced by extraneous factors is illustrative of the authorities not prioritizing the lives of poor and black individuals: “When the helicopters were going back and forth getting people from the richer neighborhoods, they didn’t even go into the Superdome...” 70% of participants in the interview sample had experienced post-evacuation experiences, such as difficulties obtaining financial assistance, further contributed to levels of distrust for some participants.

CONCLUSIONS: Participants’ distrust of authorities (most notably government, emergency responders) was evident before Hurricane Katrina, in the evacuation of New Orleans, and participants’ understanding of their disaster experiences. Public health authorities must engage with minority communities to establish trusting relationships.

THROMBOCYTOPENIA AND PROGNOSIS IN THE MEDICAL INTENSIVE CARE UNIT

O. Qin1; G. Downie1; M. Franco2. 1East Carolina University Greenville, NC. (Tracking ID # 154559)

BACKGROUND: The need for an effective, accurate and simple mortality prediction model for patients in the Medical Intensive Care Unit cannot be
An optimal time for delivering reinforcement. They also suggest that learning gains but poor long-term retention and little change in physicians' practices.

BACKGROUND: HIV counseling and testing are essential for HIV prevention in the United States, but its impact may be greatly reduced if people receiving HIV do not return to receive their results and posttest counseling. This failure to return represents missed opportunities for preventing infections and offering early medical treatment, social services, and psychological support. The purpose of this study is to examine time trends in failure to return for HIV test results among a mobile van population in Los Angeles.

METHODS: We examined administrative records collected between July 1997 and December 2004 from the Mobile HIV Testing and Outreach Project (MoHOP), which provides testing, counseling, and referral services to groups at risk for HIV infection across Los Angeles County. We conducted multiple logistic regression analyses to determine the relative odds of failure to return for HIV test results by year tested controlling for demographics, exposure, STD's, number of sex partners, and number of previous HIV tests.

RESULTS: Of the 9,340 clients tested during the observation period, 54% were male, 58% were African-American, 28% were Latino, and the mean age was 34. Eighty-three percent of the clients were heterosexual, 13% intravenous drug users (IVDU's), and 4% who have sex with men (MSM). A worsening trend was found in the percentage of clients who failed to return for HIV test results between 1997 and 2004 (see table below). Multivariate analyses showed that the adjusted odds of failure to return for test results significantly increased relative to 1997 (1.1 per year, table below). We also showed that females were less likely than males to return for test results (OR=0.85; 95% CI=0.77–0.94), African Americans were less likely than Whites to return for their test results (OR=0.75; 95% CI=0.63–0.90), and younger clients were less likely than older clients to return for their test results (OR=0.71; 95% CI=0.60–0.84).

TIME TRENDS IN FAILURE TO RETURN FOR HIV TEST RESULTS

**TABLE TESTED**

| Year Tested | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 |
|-------------|------|------|------|------|------|------|------|------|
| Failed to return | 120 | 126 | 132 | 138 | 144 | 150 | 156 | 162 |

**Unadjusted %**

| Year Tested | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 |
|-------------|------|------|------|------|------|------|------|------|
| Failed to return | 120 | 126 | 132 | 138 | 144 | 150 | 156 | 162 |

**Adjusted OR**

| Year Tested | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 |
|-------------|------|------|------|------|------|------|------|------|
| Failed to return | 120 | 126 | 132 | 138 | 144 | 150 | 156 | 162 |

**RESULTS:** Among persons receiving HIV tests at a mobile van program in Los Angeles, the proportion failing to return for test results was high and increased substantially between 1997 and 2004. Further studies need to understand if this trend occurs in other HIV testing settings. Given the importance of identifying HIV-infected persons, it is critical to understand ways to improve return rates for test results, including the impact that rapid testing might have.
CONCLUSIONS: There appears to be a significant difference between house staff and attendings with regards to their ability to follow-up on lab results and their perceptions of adverse events from inadequate follow-up. Additionally, EMRs increase barriers as house staff will follow-up but may not actually facilitate the timely follow-up of outpatient lab results.

BACKGROUND: Internal Medicine residency training programs must provide a diverse set of knowledge and skills for graduates to effectively enter general internal medicine practice. We surveyed graduates from the last ten years of our internal medicine and medicine-pediatrics residency programs to characterize current practice patterns and to evaluate self-assessed preparedness for general medicine practice.

METHODS: We mailed paper surveys to all residents who completed our program from 1995-2005. Graduates were asked to rate on a five point Likert scale preparedness (1 = poorly prepared, 5 = very prepared) and frequency of performance (1 = never, 5 = very often) of managing common chronic adult medical conditions and performing fifteen procedures traditionally performed by general internists. Proficiency at several of the procedures we quizzed about is required by the American Board of Internal Medicine (ABIM). “Well prepared” and “very often” were identified as a rating of 4 or 5 while “poorly prepared” and “infrequently” were identified as a rating of 1 or 2. Graduates were also asked to list any skills for which they had received additional training after residency.

RESULTS: Of 217 surveys received, 112 were returned (52%). Of these, seventy-eight graduates were general internists. General internist graduates felt well-prepared for managing common diagnoses such as heart failure, diabetes mellitus and COPD and also reported managing them frequently. However, they reported managing depression, bipolar depression, obesity, and schizophrenia frequently, but rarely felt well-prepared by their residency training. Seven of the fifteen procedures were performed infrequently by more than seventy percent of internists. Only three of the fifteen procedures were performed frequently by more than fifty percent of respondents. Graduates reported seeking additional training most frequently for performing office orthopedic procedures, such as joint aspirations (18%) and dermatologic procedures (9%).

CONCLUSIONS: Graduate of our program felt well-prepared to care for common chronic medical conditions seen in general internists’ practices. However, they felt ill-prepared for common behavioral diagnoses they frequently manage. A number of the ABIM required procedures were infrequently performed by our graduates. These findings support the need for further curricular interventions designed to improve resident preparedness in behavioral medicine and raise awareness regarding the efficiency of training all residents in procedures infrequently performed by general internists.

BACKGROUND: Transfer of responsibility for patient care between physicians is a key process in the care of hospitalized patients. Systems of transfer management and transfer frequency may both affect clinical outcomes. How immediate responsibility for a patient is passed between physicians is a key process in the care of hospitalized patients. Systems of transfer management and transfer frequency may both affect clinical outcomes. How immediate responsibility for a patient is passed from one physician to another may affect clinical outcomes. How immediate responsibility for a patient is passed from one physician to another may affect clinical outcomes.

METHODS: We mailed paper surveys to all residents who completed our program from 1995-2005. Graduates were asked to rate on a five point Likert scale preparedness (1 = poorly prepared, 5 = very prepared) and frequency of performance (1 = never, 5 = very often) of managing common chronic adult medical conditions and performing fifteen procedures traditionally performed by general internists. Proficiency at several of the procedures we quizzed about is required by the American Board of Internal Medicine (ABIM). “Well prepared” and “very often” were identified as a rating of 4 or 5 while “poorly prepared” and “infrequently” were identified as a rating of 1 or 2. Graduates were also asked to list any skills for which they had received additional training after residency.

RESULTS: Of 217 surveys received, 112 were returned (52%). Of these, seventy-eight graduates were general internists. General internist graduates felt well-prepared for managing common diagnoses such as heart failure, diabetes mellitus and COPD and also reported managing them frequently. However, they reported managing depression, bipolar depression, obesity, and schizophrenia frequently, but rarely felt well-prepared by their residency training. Seven of the fifteen procedures were performed infrequently by more than seventy percent of internists. Only three of the fifteen procedures were performed frequently by more than fifty percent of respondents. Graduates reported seeking additional training most frequently for performing office orthopedic procedures, such as joint aspirations (18%) and dermatologic procedures (9%).

CONCLUSIONS: Graduate of our program felt well-prepared to care for common chronic medical conditions seen in general internists’ practices. However, they felt ill-prepared for common behavioral diagnoses they frequently manage. A number of the ABIM required procedures were infrequently performed by our graduates. These findings support the need for further curricular interventions designed to improve resident preparedness in behavioral medicine and raise awareness regarding the efficiency of training all residents in procedures infrequently performed by general internists.
TRENDS AND GEOGRAPHIC VARIATION OF OPIATE MEDICATION USE IN STATE MEDICAID FEE-FOR-SERVICE PROGRAMS 1996-2002

J.T. Zerzan1; N.E. Morden2; S. Moore1; E.A. Halm2.
A. Bitton1; J. Depue2; J. Tuitele3; S.T. McGarvey2.
C. Boston, MA; 4Harvard University, Boston, MA; 5School of Pharmacy and Medical Sciences, University of South Australia, Adelaide, South Australia; 6University of Maryland at Baltimore, Baltimore, MD. (Tracking ID # 154706)

BACKGROUND: The prevalence of type 2 diabetes (T2D) in American Samoa is among the highest in the world. T2D prevalence among all adult ages in 2002 increased at almost twice the rate of non-pain related medications during the seven-year study period. Large, unexplained geographic variation in aggregate prescription opiate use exists. The impact of Medicaid cost-containment strategies on utilization and outcomes should be investigated. (Fig. 34)

METHODS: A dataset of 49 states' fee-for-service (FFS) aggregate Medicaid prescription drug dispensing records from 1996 to 2002 was compiled and used to quantify medication dispensing examining all opiates and two specific medications in the opiate class: controlled release oxycodone and methadone. The defined daily dose (DDD) per 1000 FFS Medicaid adult enrollees per day was calculated for all opiate medication categories. A market basket of non-pain prescription medications was constructed for comparison. Rates, trends and the coefficient of variation were determined overall, by year and for each state.

RESULTS: From 1996 to 2002, overall use of opiate pain medications increased 184 percent. The market basket use increased 55 percent. Total opiate dispensing varied widely from state to state with a range of 6.9 to 44.1 DDD/1000/day in 1996, and 7.1 to 165.0 DDD/1000/day (a 23 fold difference) in 2002. (Figure 1) The coefficient of variation was 49.6 in 2002. Controlled release oxycodone and methadone had a greater rate of increase compared to all opiates.

CONCLUSIONS: Dispensing of opiate medications in Medicaid programs increased at almost twice the rate of non-pain related medications during the seven-year study period. Large, unexplained geographic variation in aggregate use exists. The impact of Medicaid cost-containment strategies on utilization and outcomes should be investigated. (Fig. 34)

TYING UP LOOSE ENDS: DISCHARGING PATIENTS WITH UNRESOLVED MEDICAL ISSUES

O. Moore1; E.A. Halm2.
C. Mount Sinai School of Medicine, New York, NY; 2Mount Sinai School of Medicine, Montefiore, NY. (Tracking ID # 153784)

BACKGROUND: Patients hospitalized for acute medical conditions are often discharged with unresolved medical issues requiring further work-up, but that do not merit additional days of hospitalization. Failure to work-up these unresolved issues after discharge may result in poor patient outcomes because of delays in diagnosis and/or treatment. The purpose of this study is to determine the frequency with which patients are discharged from the hospital with unresolved medical issues requiring outpatient work-ups and the frequency with which the work-ups are completed. Fig. 35

METHODS: We conducted a retrospective cohort study of adult patients discharged from the medicine or geriatrics service of a large urban teaching hospital between June 92 and Jan. 04 who subsequently had post-hospital outpatient follow-up visits with their primary care physicians at several affiliated general internal medicine or geriatrics practices. Subjects' inpatient medical records were reviewed to determine if their hospital physicians recommended post-discharge outpatient tests, procedures, or outpatient sub-specialty visits to work-up any unresolved medical issues present at the time of discharge, but not requiring further hospitalization. Subjects' outpatient medical records were then reviewed in order to determine if the recommended outpatient work-ups were completed.

RESULTS: The 208 study patients had a mean age of 59 years with a median of 23% were radiologic, 23% were laboratories, and 13% were miscellaneous. The median length of stay was 4 days and the most common discharge diagnoses were asthma/COPD (22%), pneumonia (13%), chest pain or rule-out myocardial infarction (10%), and CHF (9%). One quarter of patients (27%) had post-discharge outpatient work-ups recommended by their hospital physicians for unresolved medical issues. Of the 64 recommended outpatient work-ups: 23% were radiologic, 23% were cardiac, 20% were GI, 19% were lab, and 13% were miscellaneous. Overall, 39% of the recommended post-discharge work-ups were never completed in the outpatient setting. GI and cardiac work-ups (usually for GI bleeding and chest pain, respectively) were the least likely to be completely and laboratory work-ups (usually to monitorwarfarin therapy) were the most likely to be completed. In addition, we found that only 31% of the recommended work-ups were clearly documented in patients' discharge summaries.

CONCLUSIONS: Patients are frequently discharged from the hospital with unresolved medical issues for which their hospital physicians recommend outpatient work-ups; however, over a third of these work-ups are not addressed by patients' outpatient physicians, and fewer than one-third of the work-ups are documented in patients' discharge summaries. Future research will determine if the failure to address these outpatient work-ups results in poor patient outcomes.

FIG. 1. Recommended Post-Discharge Outpatient Work-ups (N=64)

TRENDS AND PREDICTORS OF AGGRESSIVE THERAPY FOR CLINICAL LOCALLY ADVANCED PROSTATE CARCINOMA

D. Treemore1; B. Beatty1; M. Gideon1; J.F. Steiner1; R.M. Hoffman1; 2University of Colorado Health Sciences Center, Denver, CO; 3University of Colorado Health Sciences Center, Aurora, CO; 4University of New Mexico, Corrales, NM. (Tracking ID # 152007)

BACKGROUND: The NCI recommends adjuvant androgen deprivation therapy with or without pelvic radiation (PR) for most patients with clinically advanced (cT3) prostate carcinoma. Currently, there is less evidence supporting the use of radical prostatectomy (RP) for most patients. Little is known about patterns and predictors of aggressive local therapies for cT3 disease.

METHODS: We used data from the Surveillance, Epidemiology and End Results (SEER) cancer registries to describe trends in the local treatment of cT3 prostate carcinoma and employed multivariable logistic regression to identify significant predictors of receiving (1) RP versus XRT and (2) any aggressive local treatment (RP or XRT) versus none. Predictors included patient age, tumor stage and grade, race/ethnicity, marital status, year of diagnosis, and SEER registry. RESULTS: Between 1995 and 2001, the proportion of men receiving aggressive local therapy for cT3 disease increased by 11%, corresponding with a declining frequency of RP (18.1% to 9.3%) and a 20% increase in XRT (40.3% to 60.2%). Younger age was the strongest predictor of receiving RP versus XRT and younger age along with marriage predicted any form of aggressive local therapy versus none (adjusted RR=1.33 (1.18–1.87)). Blacks were significantly less likely than non-Latino whites to receive aggressive therapy (adjusted RR=0.56 (0.45–0.69)). The patients with seminal vesicle involvement and high-grade tumors was 13.6% and 11.3%, respectively.

CONCLUSIONS: By 2001, 70% of patients with cT3 disease were receiving aggressive local therapy, with XRT 6.5 times more common than RP. Black men and unmarried men were less likely than their non-Latino white and married counterparts to receive aggressive treatment. Clinical trials are needed to rigorously assess the effects of RP, and of RP versus XRT, on clinical outcomes in cT3 prostate carcinoma.
UNDERSANDING PHYSICIAN TRUST: THE IMPORTANCE OF CONSIDERING INTERACTIONS AMONG PATIENT CHARACTERISTICS. D. Kuykendall, M. Kallen.

1Department of Veterans Affairs, Houston, TX; 2Dallas, TX. (Tracking ID # 753347)

BACKGROUND: Patients’ trust in their physicians can influence satisfaction, treatment adherence, and health outcomes. Trust is influenced by a wide range of factors associated with life experience, such as type of illness, health beliefs, and previous physician interactions. To the extent that certain groups have different life experiences and different “standards of care” might be expected at the beginning of a medical encounter. Research shows an unclear relationship between patient characteristics and physician trust. For example, some studies show trust is lower among African American patients, although other works fail to find this relationship. A limitation is that certain characteristics are typically viewed as main effects only, and interactions of patient characteristics and other life experiences are not investigated. We hypothesize that understanding physician trust will be enhanced by considering complex interactions among patient characteristics (e.g., health status, income, education).

METHODS: Consecutive patients from outpatient clinics representing one public hospital, one private, and one VA clinic were recruited from waiting rooms prior to appointments. Participants completed demographic questions and a battery of scales about their health and health care. Completed questionnaires were received from 1,057 patients: 46% Americans and 54% non-Americans. The overall sample composition was: 46% females; 57% incomes < $20,000 per year; 36% completed high school or less; 47% experienced moderate to severe pain levels; 41% reported never attending diabetes education classes. Self-care behaviors were reported for “how many of the last 7 days” they: followed eating plan = 3 days; did physical activity = 3 days; tested blood sugar = 3 days; took diabetes medicine = 4 days. Most commonly reported patient problems caring for T2D were inadequate exercise and diet (59%) and hyperglycemic symptoms (41%). Among providers in the 2005 survey, we found positive attitudes on most DAS subscales (5 = strongly agree to 1 = strongly disagree): a) need for special training of staff about diabetes care, mean score 4.6; b) seriousness of diabetes, 4.1; c) the psychosocial impact on patients of diabetes, 4.0; and d) support for patient autonomy, 3.9. The value of tight treatment control score, however, was lower at 3.4.

CONCLUSIONS: These data suggest that many American Samoan patients are struggling with adopting T2D self-care behaviors. Of particular concern are attitudes toward insulin use, diet and exercise, and diabetes-specific measures for tight control. Our results are being used to construct a larger clinical trial to examine the effectiveness of culturally acceptable interventions using community health workers and primary care providers to improve T2D self-care behaviors in American Samoa. REFERENCES Andersen et al. The third version of the diabetes attitudes scale (DAS-3). Diabetes Care. 21:1403–1407. 1998. Keigley et al. Measuring confidence in, and health in modernizing Samoans: evolutionary and adaptive changes. In: Ohtsuka R ed. Nutrition and health changes in the Asia-Pacific region. Cambridge, England: Cambridge University Press (2006, in press).
CONCLUSIONS: In a large managed care population, Cox-2 inhibitors were more frequently used in patients at lower risk for gastrointestinal complications and gastroprotective agents were underused in chronic anti-inflamatory users.

UNIDENTIFIED NEED FOR EMERGENCY CONTRACEPTION IN URGENT CARE SETTINGS: J. Schwarz 1; B. Gerbert 2; R. Gonzales 2; M.J. Buono 1; J. Arnsten 1; E. Schoenbaum 1; R.S. Klein 1; M. Webber 1. 1University of Pittsburgh, Pittsburgh, PA; 2University of California, San Francisco, San Francisco, CA. (Tracking ID: T-15497)

BACKGROUND: Emergency contraception (EC) is effective for 5 days after unprotected sex. Urgent care settings serve many women who may benefit from EC. The goal of this study was to quantify the magnitude of need for EC among women visiting urgent care services and the frequency with which this need was discussed by urgent care clinicians. In addition, we sought to describe the group of women who were trying to avoid pregnancy and reported sex without any form of contraception in the 5 days prior to their clinic visit, as these women might benefit from taking EC the day of that visit.

METHODS: We surveyed 4,466 women (35% of eligible women) aged 18-40 years at two urgent care clinics in San Francisco about their desire to avoid pregnancy and the frequency with which they had sex without any form of contraception.

RESULTS: This was an educated (48% had college degrees), ethnically diverse (44% were white) sample. On the day they completed this survey, women were most frequently diagnosed with an upper respiratory tract infection (40%), musculoskeletal problem (20%), rash (12%), urinary tract infection (8%), vaginitis (8%), or abdominal pain (5%). Twelve percent of women in urgent care settings had sex before the last of their menstrual period, but none of them addressed this need with a clinician. EC could have been used by 17% of women the last time they had sex and 33% of women in the prior 6 months. However, functional knowledge of EC was limited and only 6% of women had used EC in the prior 6 months. Women who reported poor or fair overall health (OR=-3.25, 95% CI 1.65-6.41), who had annual incomes less than $30,000 (OR=2.97, 95% CI 1.58-5.59), who had less than a college education (OR=2.02, 95% CI=0.95-4.58), who were under 30 years of age (OR =2.91, 95% CI 1.02-3.78), who had less than a college education (OR=3.25, 95% CI 1.65-6.41), who had annual incomes less than $30,000 (OR=2.97, 95% CI 1.58-5.59), who had less than a college education (OR=2.02, 95% CI=0.95-4.58), who were under 30 years of age (OR =2.91, 95% CI 1.02-3.78), who had annual incomes less than $30,000 (OR=2.97, 95% CI 1.58-5.59), who had less than a college education (OR=2.02, 95% CI=0.95-4.58), who were under 30 years of age (OR =2.91, 95% CI 1.02-3.78), who had annual incomes less than $30,000 (OR=2.97, 95% CI 1.58-5.59), who had less than a college education (OR=2.02, 95% CI=0.95-4.58), who were under 30 years of age (OR =2.91, 95% CI 1.02-3.78), who had annual incomes less than $30,000 (OR=2.97, 95% CI 1.58-5.59), who had less than a college education (OR=2.02, 95% CI=0.95-4.58), who were under 30 years of age (OR =2.91, 95% CI 1.02-3.78), who had annual incomes less than $30,000 (OR=2.97, 95% CI 1.58-5.59), who had less than a college education (OR=2.02, 95% CI=0.95-4.58), who were under 30 years of age (OR =2.91, 95% CI 1.02-3.78), who had annual incomes less than $30,000 (OR=2.97, 95% CI 1.58-5.59), who had less than a college education (OR=2.02, 95% CI=0.95-4.58), who were under 30 years of age (OR =2.91, 95% CI 1.02-3.78), who had annual incomes less than $30,000 (OR=2.97, 95% CI 1.58-5.59), and who reported a prior abortion (OR=3.13, 95% CI 1.74-5.59) were more likely to need EC on the day they presented to urgent care.

CONCLUSIONS: Amongst a population-based cohort of women with incident breast cancer, black and Hispanic-speaking women were more likely to report not receiving help for symptoms they wanted treated. Most frequently, these women reported mutable factors as the reasons for their not receiving adequate symptom management. A systematic evaluation by providers of the prevalence of symptoms and the response of patient’s symptoms to interventions should be considered as a means to reduce the burden on patients with incident cancer. There is no apparent reason that proposed interventions should be delivered differentially across racial or ethnic groups of cancer patients. The greatest unmet need amongst black and Hispanic Spanish-speaking women is noted despite growing awareness of racial disparities in the health care system.

USE TRENDS IN AMBULATORY CARE OPIOID PRESCRIBING FROM 1993–2003: M.J. Pletcher 1; S.G. Kertesz 2; J. Mendelson 3; R. Gonzales 1. 1University of California, San Francisco, San Francisco, CA; 2University of Alabama at Birmingham, Birmingham, AL; 3University of California, Los Angeles, Sepulveda, CA. (Tracking ID: T-15445)

BACKGROUND: Prescription opioid misuse has increased rapidly during the last decade and emerged as an important cause of substance abuse-related morbidity in the US. Opioid prescribing by physicians contributes to the supply of abuseable opioids, but little is known about how opioid prescribing patterns have changed during this time.

METHODS: We used 10 years of survey data from the National Ambulatory Medical Care Survey, a nationally representative stratified cluster sample of nearly 30,000 physician office visits per year 1993–2003, up to a total of 315 million visits. We identified 11,327 opioid visit observations, or 32 million office opioid visits/year in the US, an average rate of 0.432 opioid visits per person per year (142 per 1000 person-years [1/1000 py]; 95% CI: 134–149). Two pronounced time trends were evident: there was both a significant increase in the opioid visit rate over the decade (126 in 1993 to 166/1000 py in 2003, a 32% increase, p<0.001) and a large shift in the types of opioids prescribed. Whereas codeine and propoxyphene visit rates declined, visit rates for higher potency opioids such as hydrocodone and oxycodone increased markedly (Figure). Most of the overall opioid visit trend was explained by hydrocodone visits, which increased at a rate of approximately 1 million additional visits per py from 1993–2003, up to a total of 18 million hydrocodone visits in 2003 (95% CI: 14–22 million, 45% of all opioid visit trends).

CONCLUSIONS: Opioid prescribing patterns in ambulatory care have changed markedly in the last decade. Co-occurring increases in opioid abuse and prescribing suggest that office visit prescribing may be one channel (whether direct or indirect) for the supply of abused opioids in the US.
medications. Associations between categorical variables (i.e., race, gender, HIV status) and use of DS or CAM therapies were analyzed using chi-square or Fisher’s exact tests and odds ratios (OR) with 95% confidence intervals (CI). Student’s t-test was used to assess differences in means of continuous variables (i.e. age). Multiple logistic regression was used to assess independent correlates of daily DS use.

RESULTS: In November 2004, 123 of 131 (94%) CHAMPS and Ms participants agreed to participate in the CAM study. Mean ages were higher for men 55 (5.4) than women 45 (5.1) p=0.01 due to study design. Substudy participants were 61% male, 53% HIV infected, 52% black, 26% Hispanic and 17% white, 18% were homosexual and 53% reported illicit drug use in the last 5 years. HIV infected individuals were similar to HIV uninfected individuals in age, education, current smoking and illicit drug use likely to be Black (OR=2.9, 95% CI 1.4, 6.2). CAM use in the last 6 months was common, 82% reported use of a CAM therapy, 68% reported using some DS and 50% reported daily DS use. In bivariate analyses daily DS use was associated with being HIV infected (p=0.03) and not associated with illicit drug use or adherence to antiretroviral medications. In multivariate analysis, controlling for gender and race, HIV infected individuals were almost 3 times more likely to report daily DS use (OR 2.9; 95% CI 1.4, 6.4), 95% of HIV infected participants reported use of both DS and other prescription medications. The most common reasons given for DS use were to prevent illness or boost immunity (26%), increase energy (22%) and to cleanse/treat toxic effects of medications (7%). CONCLUSIONS: DSM use (potential or at risk for HIV is highly prevalent, but is used almost exclusively as an adjunct to and not an alternative to conventional healthcare. Daily use of dietary supplements is especially prevalent among those who are HIV infected, but not HIV infected. There is a need for future research in order to determine which individuals are most likely to be at risk for such adverse antiretroviral adherence. More research is needed to determine how health care providers can best advise patients to integrate dietary supplements and other CAM therapies safely into their health care activities.

USE OF A MODIFIED INFORMED CONSENT PROCESS AMONG VULNERABLE PATIENTS: A DESCRIPTIVE STUDY. R. Sudnik1; C.S. Landefeld1; B. Williams1; D. Barnes1; K. Lindquist1; D. Schillinger1. University of California, San Francisco, San Francisco, CA. (Tracking ID # 20044)

BACKGROUND: Many research participants do not understand consent information. However, little is known about patient characteristics associated with poor understanding of consent information or whether modifications to the consent process may enable such participants to understand consent information. The objective was to describe a modified research consent process, and explore whether literacy and demographic characteristics were associated with understanding consent information.

METHODS: This descriptive study included 204 ethnically diverse patients from an inner city public hospital in San Francisco, aged 50 or older, who were consenting for a randomized trial of advance directives. Participants had to self-report fluency in English or Spanish. We employed a modified, interactive consent process for the trial which included a simplified consent form (written at the 6th grade level) that was read to and discussed with participants. This was then followed by 7 comprehension questions followed by targeted education. Questions and targeted education were repeated until complete comprehension was achieved. Measures included the number of passes through the consent process required to answer all consent comprehension questions correctly. Literacy was assessed in English and Spanish with the short form Test of Functional Health Literacy in Adults (s-TOFHLA, scores 0–36).

RESULTS: Participants had a mean age of 61 years; 53% were female; 26% were White/non-Hispanic, 31% White/Hispanic, 24% Black, 9% Asian-Pacific Islander, and 10% were Multi-ethnic/Other. Forty percent had limited literacy (s-TOFHLA <2.3). Only 28% of participants answered all comprehension questions correctly on the first pass. After adjusting for age, race/ethnicity, education, gender, primary language, and s-TOFHLA score, only lower literacy and minority status were significantly associated with requiring more passes through the consent process. For example, participants’ odds of requiring more passes through the consent process increased with each one-point decrease in s-TOFHLA score (Odds Ratio (OR), 1.04; 95% CI, 1.00 to 1.07) with ORs ranging from 1.00 for those with s-TOFHLA scores of 36 (a perfect score), to 3.76 for those who scored 0 out of 36 (illiterate). After adjustment, being Black was also associated with requiring more passes (OR 2.45; 95% CI 1.08 to 5.56). After the second pass through the consent process, most participants (80%) were able to answer all comprehension questions correctly.

CONCLUSIONS: Despite employing a myriad of consent modifications, most participants had poor comprehension on the first pass through the consent process. Lower literacy and minority status were important determinants of poor comprehension. However, by using an interactive consent process, using modest efforts were required to improve comprehension and obtain informed consent in this diverse, vulnerable population. Employing modifications to the consent process may improve the quality of informed consent and, if confirmed in other settings, should be considered as a standard means to elicit informed consent for research.

USE OF A SCREENING TOOL BY MEDICAL RESIDENTS TO RECOGNIZE AND TREAT MAJOR DEPRESSION IN HOSPITALIZED PATIENTS. C.A. Smith1; E. Chinga-Alayo1; S. Fung1; A.T. Evans1; B.M. Reilly1; S. Mandelbaum1; C.W. Stork (Slayer) Hospital/Rush Medical College, Chicago, IL. (Tracking ID # 13647)

BACKGROUND: Major depression in hospitalized patients is common, but often goes unrecognized and thus untreated. We hypothesized that use of a simple screening tool by medical residents would increase the diagnosis and treatment of depression in medical inpatients.

METHODS: The study was conducted on the medical service at a university-affiliated academic teaching hospital. The design was a single-blinded firm based controlled trial. One firm served as the intervention group (n=16 residents) and were taught to use a simple screening tool (based on DSM-IV criteria). The tool required that two questions be asked initially. If either question was positive then residents asked seven more yes/no questions. The intervention residents received a 1-hour lecture on the diagnosis and treatment of depression. Residents from the two control firms (n=32 residents) received their usual clinical training. Both groups were consecutive admissions to the medical service, Sunday through Thursday during a 4-week period, and had to be admitted and discharged from the same study group of residents (intervention or control). The primary outcome was diagnosis of depression in the discharge summary or patient chart and a discharge medication appropriate for treating major depression. We also surveyed residents in both groups at the end of the 4-week study period.

RESULTS: A total of 651 patients were eligible for analysis after 4 weeks (220 intervention, 431 control). Residents in the intervention group screened 202 (92%) of the 220 patients and diagnosed and treated major depression in 23 (10.5%). The control group diagnosed and treated 15 (5.5%) of 431 patients (P=0.001). The absolute benefit increase of 7% (95% CI 3%-12%) is equivalent to a number needed to screen of 14 (95% CI 8-33). In the survey at the end of the trial both groups of residents overestimated the prevalence of major depression in their inpatients at 21%. There was no difference between groups in their confidence in diagnosing or treating depression. Intervention residents reported an average time of one minute to ask the screening questions.

CONCLUSIONS: A brief screening tool and intervention and a rapid simple screening tool for depression produced a clinically important improvement: For every 14 admissions to the medical service 1 extra patient was diagnosed and treated for major depression.

USE OF BETA-BLOCKERS IN COCAINE TOXICITY: IS IT SAFE? P.B. Dattilo1; K. Fearon1; D. Sohal1; C. Nordin1. Albert Einstein College of Medicine & Jacobi Medical Center, Bronx, NY. (Tracking ID # 15473)

BACKGROUND: Studies done in the mid-late 1980s and early 1990s suggest that beta blockers induce hypotension and that the side effects of beta blockers is given to active cocaine users. This ultimately led to the current practice of avoiding beta blockers in the setting of cocaine use. However, no human studies have demonstrated an increased incidence of myocardial infarction (MI) or mortality in patients who are exposed to both beta blockers and cocaine. Furthermore, studies clearly show that beta blockers decrease mortality in patients with MI or systolic dysfunction heart failure. We hypothesized that beta-blockers do not increase the incidence of MI or mortality in patients admitted to an acute care inpatient setting who have recently used cocaine.

METHODS: We conducted a retrospective study analyzing beta blocker use in 365 consecutive patients over a 5 year period at an urban municipal hospital. Inclusion criteria were 1) documentation of cocaine use by urine toxicology and 2) admission to a high acuity bed (intensive care, coronary care and cardiac care units). Hospital records were analyzed for documented beta-blocker administration and whether patients were admitted to the MI ward. We analyzed reasons for use of beta blockers, as well as the temporal relationships of beta-blocker administration to elevated troponin. MI was defined by elevated troponin levels (3 sets taken simultaneously 6 hours apart with a minimum single value of 0.10) and/or significant ST elevations in 2 contiguous leads by EKG. We secondarily analyzed reasons for use of beta blockers, as well as the temporal relationships between beta blocker administration, toxicologic confirmation of cocaine use and troponin elevation.

RESULTS: Sixty one patients (17%) were prescribed beta blockers during hospitalization. In the analysis of 350 patients, there were 17 deaths, only 1 of which occurred in a patient who had received beta-blockade (HR for death with beta blockade=0.30, CI 0.04-2.19; p=0.33). 57 patients had MIs (48 NSTEMI & 9 STEMI). Only one patient was given beta blockade prior to having an MI. Relative risk of MI following administration of beta blocker vs. MI without prior beta blocker was 1.3 (CI 0.02-9.1; p=0.007). Reasons for giving beta blockers were outlined rule out MI, on behalf of another physician, and prior beta blocker use. Inclusion criteria were 1) documentation of cocaine use by urine toxicology and 2) admission to a high acuity bed (intensive care, coronary care and cardiac care units).

CONCLUSIONS: We found no evidence that giving beta blockers to patients with confirmed cocaine ingestion increases the risk of myocardial infarction or mortality. However, the small sample size may limit the ability to detect a non-significant trend towards benefit. Further, this analysis showed a significantly lower risk of myocardial infarctions in patients receiving beta blockade prior to detection of MI.

USE OF EVIDENCE-BASED THERAPIES IN A COMMUNITY-BASED SAMPLE OF OLDER AFRICAN-AMERICANS AND LATINOS WITH DIABETES. A.F. Brown1; E. Goodman1; W.N. Steers1; R. Brusuelas-James1; C. Sarkissian1; K.C. Norris1; M.B. Davidson2; R.M. Anderson4; C.M. Mangione1. University of California, Los Angeles, CA;2Washington University in St. Louis, St. Louis, MO;3Charles Drew School of Medicine, Los Angeles,CA;4University of Michigan, Ann Arbor, MI. (Tracking ID # 15480)

BACKGROUND: Although older African Americans and Latinos with diabetes have higher mortality and rates of diabetes complications than whites, they are...
USE OF POLYMER-COATED EXTENDED-RELEASE MORPHINE SULFATE IN THE TREATMENT OF CHRONIC, NON-MALIGNANT BACK PAIN. | S. Sasaki, 1 A. Weil2; E. Ross3; B. Nicholson4; 1Casa Colina Centers for Rehabilitation, Upland, CA; 2Non-Surgical Orthopaedic & Spine Center, Marietta, GA; 3Bingham and Women's Hospital, Chestnut Hill, MA; 4Lehigh Valley Hospital & Health Network, Allentown, PA. (Tracking ID 219967)

BACKGROUND: Ideal treatment of chronic back pain (CBP) is multimodal and involves the use of multiple pharmacologic agents. Use of prolonged release formulations for the treatment of chronic back pain has gained popularity in recent years. However, there is limited data available on the effectiveness of interventions such as exercise and rehabilitative therapies. When other medications have failed or are not acceptable due to side effects, the role of chronic, long-acting formulations for therapy is unclear. The purpose of this analysis was to determine the efficacy and tolerability of polymer-coated extended-release morphine sulfate (P-ERMS), a long-acting morphine formulation, in patients with CBP.

METHODS: Data on 662 patients reporting back pain as a primary indication for P-ERMS were identified from a larger 4-week study (N = 1428). Ninety-four percent of patients who took P-ERMS to treat chronic, moderate to severe, non-malignant back pain that was under- treated (pain score 4 on a 0–10 scale). Dosing with P-ERMS was initiated once daily at doses determined by the investigator based on

USE OF MASSAGE THERAPY IN LOW BACK PAIN IN AN URBAN COMMUNITY HEALTH CARE CENTER. | S.L. Schair, C.A. Levine1; 1Albert Einstein College of Medicine, Bronx, NY. (Tracking ID 219944)

BACKGROUND: The high prevalence, public health impact and health care expenditures of chronic low back pain are well known. Massage has been found to be a popular, effective and safe treatment modality for low back pain. Little is known about its use and barriers to its use in inner-city populations. Our goal was to explore the use of, interest in, and potential barriers to the use of massage therapy in our patients with low back pain.

METHODS: We assessed the use of massage in a community sample of 240 patients at a South Bronx community health care center via a standardized questionnaire interview administered verbally in English. Chi square analysis was performed on the data with the help of SPSS.

RESULTS: Sixty percent of the subjects were women, 40% were Black, 35% were Hispanic and 20% were mixed race. Age ranged from 18–84 years old with an average age of 26 years old. Seventy-three percent of patients were insured by Medicaid and 6% were insured by Medicare. Thirty-seven percent of patients had completed high school. Fifty-six percent of interviewees experienced chronic low back pain (LBPP) lasting more than two weeks in the preceding year. Morbidity was high, 80% vs. 20%, with perceived efficacy. The majority of patients with chronic LBPP would be interested in utilizing massage therapy if available at our clinic. Eighteen percent would try it regardless of fee, 36% for a small fee (0–49 cents), and 41% only if free. CONCLUSIONS: LBPP is a common and significantly disabling problem in our patient population. Massage has been used by many of our patients with LBPP with perceived efficacy. The majority of patients with chronic LBPP would be interested in utilizing massage therapy if available at our clinic with 54% willing to pay for massage services regardless of the fee or for a small fee. Our results suggest the provision of massage therapy for LBPP would be utilized by a significant portion of our patient population with this common medical problem.
USE OF SPINAL MANIPULATION FOR PAIN MANAGEMENT: A SYSTEMATIC REVIEW
S.M. McDonald1; M.J. Bar2; K. Kroenke3; 1Indiana University School of Medicine, Indianapolis, IN; 2Richard L. Roudebush VA Medical Center, Indianapolis, IN; 3Regenstrief Institute, Indianapolis, IN. *(Tracking ID: 154454)*

BACKGROUND: Chiropractic care or more specifically spinal manipulation therapy is commonly used for patients with chronic pain, especially neck or back pain. While numerous randomized controlled trials (RCTs) have investigated spinal manipulation to treat pain conditions, inconsistent findings have led to confusion about the efficacy of this treatment. Therefore, we performed a systematic review of RCTs evaluating use of spinal manipulation for pain management.

METHODS: We searched MEDLINE database from 1966 to October, 2005 using the following search terms: pain, analgesics, analgesia, chiropractic, and manipulation. Studies were included if they were systematic reviews or RCTs and included patients in pain severity or pain-related disability outcomes after manipulation. For pragmatic reasons, non-English studies or those involving non-human subjects were excluded. All potentially pertinent studies were reviewed by 2 independent investigators. Data extraction included each article's inclusion criteria, study design, patient and clinician global assessment scores, SF-36v2 subscale scores after week 4 were similar between patients with CBP and those with OP; the exception with patients that OP demonstrated higher scores on the Physical, Role Physical, and Vitality subscales. SF-36v2 subscale scores after week 4 were similar between patients with CBP and those with OP; the exception with patients that OP demonstrated higher scores on the Physical, Role Physical, and Vitality subscales.

RESULTS: We identified 47 studies meeting our search criteria. The majority of studies (n=25) evaluated spinal manipulation for subacute or chronic low back pain. Cervical spine pain was also commonly studied (13 trials). Nine articles reported on spinal manipulation for various pain conditions including: fibromyalgia, carpal tunnel syndrome, migraine and tension headaches, coccydynia, primary dysmenorrhea, shoulder dysfunction, and total abdominal hysterectomy. A total of 9,240 patients were evaluated (n=18 to 1354). Of the 47 studies, 20 used spinal manipulation as a primary treatment combined with other therapies. The mean Jadad quality score for all studies was 4.5.

CONCLUSIONS: While multiple studies have shown that spinal manipulation may reduce pain severity and disability, the majority of the evidence suggests that this form of treatment is no more effective than placebo, exercise, or routine medical care. Of studies comparing spinal manipulation vs. medication or electrical stimulation, most found spinal manipulation more effective. Future research should consider more rigorous methodological guidelines and be conducted to identify which patients are most likely to benefit from this management approach.
FEASIBILITY OF USING MEDICAL RECORDS TO IDENTIFY DIAGNOSED POST-TRAUMATIC STRESS DISORDER (PTSD). E. Shanks1, D. Miller2, J.H. Halanych3, F. Wang2, E. G. Fanjiang1, T. Von Glahn2; 1University of Alabama at Birmingham, Birmingham, AL; 2VA Medical Center, Houston, TX; 3VA New Jersey Health Care System, East Orange, NJ. (Tracking ID: 153525)

BACKGROUND: There is growing recognition of disparities in medical care for patients with mental illnesses, e.g., post-traumatic stress disorder (PTSD). Administrative data are potentially a rich resource for this line of inquiry. As part of a study of mental illness-related disparities in diabetes care, we determined positive and negative predictive value (PPV, NPV) of various strategies for identifying diagnosed PTSD from administrative data.

METHODS: From all fiscal year 1999 Veterans Health Administration (VHA) ambulatory care diabetic patients (Diabetes Epidemiology Cohort, N=392,059), we examined the 133,068 participating in VHA Office of Quality & Performance's 1999 Large Health Survey of Veteran Enrollees, self-reported PTSD (whether a doctor ever told the patient he/she had PTSD) was available for that subset.

RESULTS: The effect of varying the algorithm for ascertaining a PTSD diagnosis requires good cross-cultural communication, and effective evaluation of physicians' skills can assist with further curriculum development during training.

CONCLUSIONS: Administrative data have moderately high positive and negative predictive value for identification of diagnosed PTSD, making this a promising source for investigators interested in mental illness-related disparities in care. However, changes in assumptions influence PPV and NPV, so investigators need to be familiar with the limitations of these data and the effect of varying assumptions, and consider whether optimizing PPV or optimizing NPV is most important to their research questions.

 USING ADMINISTRATIVE DATA TO IDENTIFY DIAGNOSED POST-TRAUMATIC STRESS DISORDER (PTSD). E. Shanks1, D. Miller2, J.H. Halanych3, F. Wang2, E. G. Fanjiang1, T. Von Glahn2; 1University of Alabama at Birmingham, Birmingham, AL; 2VA Medical Center, Houston, TX; 3VA New Jersey Health Care System, East Orange, NJ. (Tracking ID: 153525)

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RESULTS: The effect of varying the algorithm for ascertaining a PTSD diagnosis from administrative records upon prevalence, PPV and NPV is summarized in the Table.

CONCLUSIONS: Administrative data have moderately high positive and negative predictive value for identification of diagnosed PTSD, making this a promising resource for investigators interested in mental illness-related disparities in care. However, changes in assumptions influence PPV and NPV, so investigators need to be familiar with the limitations of these data and the effect of varying assumptions, and consider whether optimizing PPV or optimizing NPV is most important to their research questions.

| Any VHA record | 1 instance of ICD9 309.81 | 2 years (1998–99) | 3 years (1997–99) |
|----------------|---------------------------|------------------|------------------|
| Prevalence, %  | PPV, %                    | NPV, %           | PPV, %           | NPV, %           |
| Any VHA record | 1 instance of ICD9 309.81 | 5.2              | 86.1             | 87.7             |
| 1 year (1999)  |                            | 6.5              | 81.6             | 88.3             |
| 2 years (1998–99) |                          | 7.4              | 78.7             | 88.7             |
| Any VHA record | 1 instance of ICD9 309.81 | 6.5              | 81.6             | 88.3             |
| 1 year (1999)  |                            | 4.9              | 85.9             | 88.7             |

VALIDATION OF CLAIM-BASED DISEASE SURVEILLANCE METHODS FOR IDENTIFYING INDIVIDUALS WITH DIABETES AT A POPULATION LEVEL. D.A. South3; A.E. Edison2; B. L. Sweeney3; L. S. Lam1; E. Lam1; P. M. Savige2; D. C. Lam2; S. Dean2; B. Roberts1; W. A. Ghali4; 1University of Calgary, Calgary, Alberta; 2Alberta Health and Wellness, Calgary, Alberta; 3Calgary Health Region, Calgary, Alberta; 4None Given, Calgary, Alberta. (Tracking ID: 153873)

BACKGROUND: Diabetes is a high prevalence disease that requires surveillance at a population level, but the optimal methodology for identifying individuals with diabetes in a population has not yet been determined. We assessed the performance of the current manual-based surveillance methodology for identifying individuals with diabetes (using administrative hospital discharge records and physician claims data) relative to the use of a centralized laboratory database that allows for the identification of individuals with laboratory test results suggesting diabetes.

METHODS: We created glucose and A1C queries for a centralized live laboratory database that captures all lab tests done for an urban population of approximately 1 million. This yielded 1,083,887 laboratory tests for 52,968 unique patients between July 1, 2000 and June 30, 2002. We created three different diabetes definitions with this data: the first defined as the ‘glucose laboratory definition’ based on an FPG ≥ 7 mmol/L (130 mg/dL) or a 2-hour glucose ≥ 11 mmol/L (200 mg/dL) or a random glucose ≥ 11 mmol/L (200 mg/dL) or a 2-hour glucose ≥ 11 mmol/L (200 mg/dL); the second defined as the ‘glucose and A1C (6.1) laboratory definition’ that also includes individuals with a HbA1c > 0.067, and the final defined as the ‘glucose and A1C (6.7) laboratory definition’ that includes individuals with a HbA1c > 0.061. Administrative hospital discharge and physician claims data were also used to determine diabetes status.

RESULTS: The performance of the standard laboratory definitions was compared to the performance of the combined standard laboratory data and physician claims.

| Glucose Laboratory Definition | Sensitivity (95% C.I.) | Specificity (95% C.I.) |
|------------------------------|------------------------|------------------------|
| Glucose ≥ 7 mmol/L (FPG)     | 81.6 (81.4, 81.9)      | 70.8 (70.5, 71.0)      |
| Glucose and A1C > 6.7%       | 81.7 (81.5, 82.0)      | 70.8 (70.5, 71.1)      |
| Glucose and A1C > 6.1%       | 79.5 (79.3, 79.7)      | 68.4 (68.2, 68.7)      |

CONCLUSIONS: Administrative data surveillance definitions have imperfect sensitivity. Accordingly, the resulting estimates of diagnosed diabetes cases are likely to be an underestimate. Future chronic disease surveillance systems would benefit from these results.
Further understanding of clinical and demographic factors associated with ongoing HRT regimens is necessary to determine if use is consistent with guideline reversals and overall quality of care.

**VIEWS OF POTENTIAL RESEARCH PARTICIPANTS ON FINANCIAL CONFLICTS OF INTEREST IN GENETIC TRAILS AND OTHER GENETIC DISCLOSURES**

K.P. Weinfurt1; J.Y. Friedman1; J.S. Aldisbrook2; M.A. Dinan1; M.A. Half1; J. Sugarman3

Duke University, Durham, NC; 2Wake Forest University, Winston-Salem, NC; 3Johns Hopkins University, Baltimore, MD. (Tracking ID #: 152991)

BACKGROUND: Despite broad calls for disclosure of researchers' financial interests in research, little information is available on how to use this information. To do this, we must be effective, policies on disclosure should address a number of important issues, including what information potential research participants want to know. Indeed, the capricious and unexpected manner in which they understand disclosed information and its implications, and the reactions of potential research participants to disclosure statements. Therefore, we elicited the perspectives of potential research participants to help inform the development of such policies.

METHODS: We conducted 16 focus groups in 3 US cities. The groups consisted of healthy adults (6), adults with mild chronic illness (6), parents of healthy children (8), and parents of children with a chronic illness (3). We developed a list of pre-defined questions and topics based on participants' role. We also coded using a dictionary that was developed and refined during the coding process. Overall themes identify goals, confidence in the integrity of the project, and the desire to share the results.

RESULTS: Overall, 139 people participated in the focus groups (range 7-10 participants/group). Participants generally wanted to know about financial interests in research, whether or not they believed that those interests would affect their decision to participate. Participants varied in their desire and ability to understand the nature and implications of financial interests in research.

**VETERAN WOMEN'S EXPERIENCES WITH DISCONTINUING HORMONE REPLACEMENT THERAPY**

S.G. Haskell1, B. Bean-Maybery1, M.J. Gould1, C.B. Good1, A.C. Justice1, 1VA Coordinated Health Care, HEDIS, HCC, 500 Strong Thrives, Pittsburgh, PA; 2VA West Haven, CT. (Tracking ID #: 15639)

BACKGROUND: The 2002 Women's Health Initiative (WHI) stated that the risks of hormone replacement therapy (HRT) exceed benefits. This study examined how this reversal impacted HRT use among women veterans nationally. The objectives were to 1) describe veterans' use of HRT during 2001-2003, 2) determine the discontinuation rate after the WHI publication, and 3) describe differences in demographic and clinical factors between women who discontinue and women who continue.

METHODS: We identified a national retrospective cohort of women veterans using HRT from VA Pharmacy Benefits Management in 2001 and linked them to the National Women's Care Database (NFCD). We performed bivariate comparisons between the groups along patient demographics and clinical factors. We used multiple logistic regression to explore independent factors associated with HRT discontinuation.

RESULTS: Overall, 36,222 women veterans used combination or estrogen only HRT: by 2003, 18,161 (51.1%) had discontinued; and by 2004, 23,924 (66.1%) had discontinued. Discontinuances were older (mean age 58.9 vs. 55.0), used lower estrogen doses in 2001 (0.67 vs. 0.74 mg), frequently used combination HRT (93%), and more likely to have diabetes (13% vs. 11%). Differences between groups (mean age 51.7 vs. 50.0 years) were less frequently used breast procedures or breast plastic surgery, but had significantly higher frequency of mastectomy. The groups did not differ on income or hysterectomy status. Multiple logistic regression analyses revealed several independent factors associated with HRT discontinuation (mean age 1.92; C.I. 1.05-1.01; results: 1.02), lower estrogen dose in 2001 (OR 0.50, 0.47-0.54), receipt of combination therapy in 2001 (OR 3.74, 3.50-4.00), and receipt of mastectomy (OR 2.64, 1.84-3.79) in patients for the breast (OR 0.78, 0.62-0.99) or hysterectomy (OR 1.36, 1.14-1.62).

CONCLUSIONS: Two-thirds of women veterans prescribed HRT regimens in 2001 discontinued by 2004. These rates are consistent with smaller studies showing 70% and 74% discontinuation rates after the WHI publication. Future studies need to control for potential bias and provide a comprehensive understanding of the impact of the WHI on HRT use among women veterans.
curing disease conditions, yet also remarked on the fearful potential for control and manipulation. Among our sample of respondents, 16% reported having no knowledge of genetic research or did not understand the question. In biostatistical analysis, less education, lower income, older age, and being male were significantly related to lack of knowledge or understanding while race (p = 0.26) and prior personal (p = 0.16) or family history (p = 0.82) of cancer were not. In logistic regression, only education [HS vs. technical/some college (OR 0.3; CI 0.15–0.72) vs. college graduate (OR 0.1; CI 0.04–0.58)] and male gender (OR 0.3; CI 1.32–74) remained independently associated with lack of knowledge.

CONCLUSIONS: Despite having participated in genetic research, genetic knowledge and understanding of genetic research was based on an incomplete and imprecise graphic literacy. Interestingly, understanding did not differ by race, personal or family history of disease. As genetic research continues to move forward, care providers, policy makers, and physicians will need to take into account pre-existing and limited knowledge of different groups about this topic in development of educational programs about genetic innovations both in the clinical setting and in research.

VIRTUAL EVIDENCE CART AND RESIDENT USE OF EBDM. P. Ho1; P. Kim1; J.J. Hong1; H.P. Rodriguez1; I.B. Wilson1; B.E. Landon2; P.V. Marsden3; P.D. Cleary2; A. Barbour1; G.L. Barbour2; C.H. Olsen2.

BACKGROUND: Within the last several years, EBM has come to the forefront as an important tool in both medical education and clinical practice. Studies have demonstrated that the use of current evidence can lead to better outcomes in patient care. Few studies have evaluated the impact of EBM centered rotations as a part of medical training. However, no study has evaluated the use of internet-based tools to facilitate both training in and use of EBM. The Virtual Evidence Cart (VEC) is a project supported by the National Library of Medicine to develop a searchable database of articles relevant to a broad range of topics in medical literature. The VEC guides the user in the basic evaluation of an original research article and streamlines the process via a user-friendly interface. The VEC allows users to organize their own databases of relevant research and registered users of the VEC will also have access to reviews provided by others.

METHODS: A prospective cohort study of physicians accessing the VEC was conducted. By the use of a pre and post intervention survey, we determined residents’ views and attitudes towards EBM, and whether VEC is a useful tool in enhancing their interests towards EBM and Journal Club. Methods: a. Procedures: A survey was distributed to volunteer resident physicians in the Internal Medicine Department at the Washington Hospital Center. Participants, were then asked to register at the VEC website and given instruction on its use. Two months later the survey was re-administered to all the participants in the study. b. Study Sample: Nineteen residents in the Department of Internal Medicine at the Washington Hospital Center. We believe that this group is representative of other medical residents in Internal Medicine training throughout the country. c. Data Management: Anonymous paper based surveys were collected for subsequent data manipulation and extraction with appropriate statistical analysis software.

RESULTS: The majority (80%) of residents agreed that the use of EBM in their clinical practice was either important or very important. However, only 20% of residents noted that the practice of EBM was “easy” with no respondents noting it was “very easy.” The main obstacle identified in the use of EBM in their clinical work was noted to be the lack of time with a strong response rate of 85%. Compared to the pre-test responses, we observed trends towards improved ability to identify key elements essential to diagnostic and therapeutic study design (p = 0.078 and p = 0.079 respectively). The use of the VEC was associated with improved ability to identify key elements essential to therapeutic studies (p = 0.005) however was not able to demonstrate a variance in helping residents acquire competency with EBM. We believe that by}

WEIGHT CHANGE IN WELL-CONTROLLED TYPE 2 DIABETES: A 2 YEAR ANALYSIS. M. Muttukrishna, T.A. Easly1, Y. Zhang, M. Belcher, D.A. Woods, S. Haralambous, J.G. Taylor1; 1VA Tennessee Valley Healthcare System, Vanderbilt University, Nashville, TN; 2VA Tennessee Valley Healthcare System, Vanderbilt University, Nashville, TN. Tracking ID # 154542

BACKGROUND: Users of medical care are generally unable to assess the technical quality of care, and lack reliable and accessible information to make informed decisions. Thus, most patients do not actively search for or select physicians on the basis of quality. Patients with chronic conditions, however, rely heavily on the technical expertise of their medical provider. Because of this, there is reason to believe that the technical aspects of care, including technical quality, physician specialization, cost, and patient satisfaction, are important and influencing factors. This study aims to clarify which patient, physician, and organizational factors are related to voluntary physician switching among HIV-infected patients.

METHODS: Subjects were part of the HIV Cost and Services Utilization Study (HCSUS), a longitudinal study of a nationally representative sample of 2,864 non-institutionalized HIV-infected individuals receiving care in the contiguous United States in early 1996. Respondents were interviewed three times, using computer-assisted personal interviewing instruments. Physicians and site directors were also surveyed. This study is based on 2,466 patients enrolled during the first follow-up, with the first assessment of physician switching was made. The relationship between measures of physician-patient relationship quality, structural aspects of care, the technical quality of care, physician and site characteristics, and voluntary switching was analyzed using generalized linear (logistic or mixed models, GLLAMM). The analysis included hierarchical logistic models that nested repeated observations over time within patients, patients within providers, and providers within region to account for sampling effects. RESULTS: About 15% of the sample reported switching at least one usual source of care at some point during the two-year study period. There were few patient characteristics that differed between respondents who switched and those who did not. Significant predictors of voluntary switching in a multinomial model were patient trust (OR = 0.73, CI = 0.60–0.90), physician anti-retroviral knowledge (OR = 0.71, CI = 0.54–0.93), HIV care site patient volume (OR = 0.48, CI = 0.30–0.78), and Ryan White Care Act funding (OR = 0.58, CI = 0.42–0.80). CONCLUSIONS: These results indicate that structural aspects of care for patients with complex chronic conditions are less important determinants of voluntary switching than the quality of the physician-patient relationship. In addition, patient trust is more strongly associated with switching than con- tinuity with an individual physician. This study contributes to our understanding about the effect of physician and organization characteristics on patients’ decisions to voluntarily change their physicians. While most studies have found that patients cannot assess the technical quality of care, this study suggests that the findings from this study challenge this notion. Patients with complex, chronic illnesses have several markers of technical quality, including their physician’s specialization, whether or not other patients with their conditions are being cared for at their physician’s site, and the level of services available to support the management of their condition. Our results suggest that patients may use this information to make decisions about their care.
control has been achieved are less well known, especially in regard to baseline BMI. As part of a randomized control trial on glycemic relapse prevention, we assessed the long term weight change for 4 categories of BMI in well-controlled type 2 diabetes. METHODS: Individuals with type 2 diabetes who achieved significant improvement in their glycemic control after completion of an intensive diabetes improvement program were then enrolled in a randomized control trial to study glycemic relapse prevention. Individuals (n=165) were randomized to three groups differing in intensity of telephonic management for the purpose of sustaining glycemic control. We report on the first 91 patients to complete 24 months of follow-up. Weight change was defined as the difference between baseline and at enrollment. Four BMI categories were defined as: lean (<25), overweight (25–30), stage 1&2 obesity (30–40), and stage 3 obesity (>40). Data was analyzed using Statistical Software, Inc. RESULTS: The average age was 56, 40% female, 20% African American, average initial BMI 33.8, average initial Alc 6.8% and the median duration of diabetes was 8 years. Overall, 57% percent used insulin with an average of 64 units/day. There were no statistically significant differences between intervention arms at baseline. Overall, the group gained 2.6 ± 17.8bs. The lean group (n=6) gained 8 ± 15.7lbs, the overweight group (n=26) gained ± 10lbs, the stage 1 obesity group (n=36) also gained 8.5 ± 24.2 lbs (p=0.06). These differential findings in weight change were consistent across all treatment arms and persisted after adjusting for insulin use. CONCLUSIONS: In our study, there was a non-statistically significant difference in weight gain between BMI categories in well controlled type 2 diabetes after 24 months of follow-up. The trend of more weight gain in the lean group as compared to the overweight and obese groups is the subject of further research.

WEIGHT LOSS ADVICE BY HEALTHCARE PROFESSIONALS: INVESTIGATING THE IMPACT OF CLINICAL GUIDELINES FOR TREATMENT OF OVERWEIGHT AND OBESITY. J. Phalut1, C.A. Noble1 Northwester University, Chicago, IL. (Tracking ID # 156981)

BACKGROUND: Health care practitioners have a poor record of treating patients for obesity and overweight. The need for improvement in obesity care and growing prevalence of these conditions has lead to the issuance of practice guidelines by leading health organizations. To date, there has been no focused investigation of changes in practice patterns across the time period (1998–2003) during which national obesity and overweight treatment guidelines were issued. This study investigates whether or not there was an increase in the frequency of weight loss advice given by health care providers during the six year period. Associations between socio-demographic and behavioral risk characteristics and frequency of weight loss advice and receipt of weight loss advice were also evaluated. Finally, the study examines the link between these characteristics and attempts to lose weight among overweight and obese individuals who were advised to lose weight by a health care professional.

METHODS: The present study used the 1998 (n=446,992) and 2003 (n=257,659) Behavioral Risk Factor Surveillance System (BRFSS). Data from this cross-sectional telephone survey of adults greater than 18 years was included for all 50 states and the District of Columbia. Statistical analyses were performed using STATA 9.0 (College Station, Texas) to adjust for the complex survey design and weighting of the survey data.

RESULTS: Approxi- mately 10% of overweight and 35% of obese respondents received advice to lose weight in 1998. There was a small but significant increase in the percentage of obese subjects who received weight loss advice in 2003 (37.2%), but no change for overweight subjects. In both years obese men had lower odds of receiving weight loss advice than their female counterparts (OR 0.73 in 1998 and OR 0.75 in 2003). This was also the case for overweight men as compared to overweight women (OR 0.48 in 1998 and OR 0.51 in 2003). In both years, the lower percentage of overweight and obese respondents aged 40 to 79 years were advised to lose weight than respondents in other age groups. No significant change was seen in the percent of overweight advice recipients trying to lose weight over the six year period. There was, however, a small but significant increase in the percent of obese advi- seen to lose weight between 1998 (78.3%) and 2003 (82.3%). This was true for both men and women. In both years, evaluation of subjects demonstrated that more respondents to advise to lose weight were trying to do so than those who had not received weight loss advice.

CONCLUSIONS: Data from this study suggest that national overweight and obesity care guidelines have not had a substantial impact on clinical practice. Only a minority of overweight and obese patients are being advised to lose weight by healthcare providers. Failure to provide weight loss advice to overweight patients is of particular concern as it represents a missed opportunity to assist those who benefit from development of obesity and related comorbidities. More research is needed to determine effective ways of changing practice behaviors so that providers are better equipped to combat this growing public health issue.

WELL-BEING DURING RESIDENCY: A TIME FOR TEMPORARY IMBALANCE? N. J. Davis1, L. Rosett4 1Northwestern University, Chicago, IL. (Tracking ID # 159581)

BACKGROUND: Physician well-being has become a priority for the Accredita- tion Council for Graduate Medical Education, which requires formal procedures to promote resident well-being as part of its accreditation guidelines. AS core element of our qualitative study to explore and promote resident well-being as part of its duty hour guidelines. Quantitative methods used for qualitative study were coding and categorization. All the qualitative trans- scripts were coded by least 2 investigators using this template. Final template coding categories and their application to the transcripts were discussed and agreed on.

RESULTS: The 26 respondents were from the following programs: internal medicine (38%), 3 different programs; psychiatry (15%); surgery and emergency medicine (each); and obstetrics/gynecology, obstetrics/gynecology (8%) 54% of respondents were women, and 19% were interns. Residents described well-being as a balance among multiple domains, including professional development, relationships with family and friends, physical health, mental health, spirituality, and financial security. One informant described well-being as: “Feeling like there’s more than one dimension to yourself, but within each of those dimensions feeling like you are reasonably successful. Feeling like I’m a good resident is important, but if we were to be a good resident to the exclusion of all other things, that wouldn’t be good enough.” Residents viewed their training years as a time for temporary imbalance, requiring invest- ment in their professional development at the expense of other domains. Professional satisfaction was enhanced by opportunities for growth, challenge, learning, autonomy, camaraderie with colleagues, and positive feedback from faculty. Factors that reduced professional satisfaction - such as ‘scut’ work, heavy workloads, dysfunctional systems of care - reduced overall well-being and led residents to question their decision to sacrifice personal life for their work. With limited time off from work, residents described feeling a loss of opportunities they struggled among work and resident activities in the limited discretionary time available. Residents described num- erous factors that helped them maintain their well-being, such as supportive personal and professional relationships and hobbies like physical exercise. Residents’ unmet aspects of their training program that led them to maintain a sense of self by valuing their individual priorities and allowing them flexibility in scheduling.

CONCLUSIONS: In this qualitative study, well-being during residency was closely connected to professional development and satisfaction and required varying degrees of self-sacrifice with re-balancing of personal priorities. These findings should be considered by training programs planning to invest in interventions to enhance resident well-being.
increase weight loss, residents recommend exercise more often than potentially more successful nutritional services. Only a minority of residents considered a weight loss of 20 pounds (equivalent to 10% in the hypothetical patient) to be an acceptable outcome. Our findings highlight the need for further training of internal medicine residents about obesity treatment options and goals.

WHAT DO RESIDENTS BELIEVE ARE THE MOST IMPORTANT COMPONENTS OF DNR DISCUSSIONS? S. Deep1; S. Green1; C. Griffith1; J.F. Wilson1; A. Hensley1; E.E. Krebs1; T.S. Carey1; M. Weinberger1.

BACKGROUND: Many medical students’ and interns’ first encounter with do-not-resuscitate discussions is led by a resident physician. Residents’ prior experience with end-of-life care may influence their approach to these discussions. The purpose of this study was to explore the themes residents consider most important in DNR discussions.

METHODS: During September 2005 an anonymous survey was administered to all Internal Medicine residents. The survey consisted of 15 items including demographic and working details, as well as their expressed opinions and features of DNR discussions. The cue for the open-ended response was: As you prepare your medical student for a discussion of code status, what would you tell them are the three most important things to remember? Based on the open-ended responses, we developed six themes of literature. We developed six themes of literature. We developed six themes of literature. We developed six themes of literature. We developed six themes of literature. We developed six themes of literature. We developed six themes of literature. We developed six themes of literature. We developed six themes of literature. We developed six themes of literature. We developed six themes of literature. We developed six themes of literature. We developed six themes of literature. 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WHAT IS NECESSARY TO SUPPORT INFORMED DECISION MAKING REGARDING FINANCIAL CONFLICTS OF INTERESTS IN RESEARCH? K.P. Weerheim1; J.S. Allsbrook1; J. Sugarman3; M.B. Herndon1; L.M. B.E. Dinan1; V. Depuy1; J.Y. Friedman1; M.A. Dinan1; J. J. Depuy1; J. Sugarman1; J. Sugarman2; T.K. Sirovich1; R.S. Lipner2; E.S. Holmboe2; K.S. Nowak3; P. Poniatowski2; E.S. Fisher3.

BACKGROUND: A prevailing argument for disclosing researchers’ conflicts of interest during the informed consent process is that this information is necessary for potential research participants to make more informed decisions about participation. The purpose of this study was to evaluate model disclosure language that included one of five disclosure statements about the researcher’s or institution’s financial interest, that were based on findings from focus groups. Four of the disclosure statements specified a particular type of financial relationship (such as equity ownership, speaker’s fees, or expert testimony) and one a more general disclosure ( financier). Participants (n = 29, mean age 50, five-point scale) they thought they understood the possibility that the researcher or institution might benefit financially from the research. For those participants who answered “Do not understand at all,” a follow-up open-ended question asked what they did not understand. Participants also rated the amount of detail provided in the disclosure as either “Too little,” “Just right,” or “Too much.” An additional open-ended question asked participants to describe any other information they would want regarding the possibility of financial benefit. Quantitative responses were analyzed using general linear models and effects were summarized using the standardized effect size, d (difference between groups divided by common standard deviation).

RESULTS: Close to half of the participants said they “understood completely.” Perceived understanding did not differ substantially among the four disclosures of specific financial interests (all d < .16). Respondents receiving the generic disclosure, however, reported slightly less understanding (M = 3.90, SE = 0.04) than those receiving a disclosure that the investigator owned equity (M = 4.20, SE = 0.04). d = .31. (A score of 3 = “Understand Well,” and 4 = “Understand Very Well”). No participant characteristic had a substantial relationship with perceived understanding. Forty-nine percent of the respondents reported that the level of detail in the disclosure statements was “just right.” However, 13% felt that the disclosure was too little detail, whereas 2% felt that the average was “too much.” For all types of disclosures was slightly less than “Just Right.” None of the disclosure types’ means differed substantially from one another (all d < .30). In qualitative responses, respondents frequently had questions about the relationship between the investigator and the sponsor, how research is funded in general, the quality of reported research appears to vary. The purpose of this study was to improve the reporting of medical education research as a field, enhancing the careers of physician-educators and attracting talented physicians to education research. Furthermore, greater attention to critical literature reviews, sound conceptual frameworks, clearly express research questions and methods will lead to more productive research projects.

CONCLUSIONS: The quality of reporting of experimental research in medical education is generally poor, although quality varies widely from paper to paper. While our review could not directly assess the quality of the actual research conducted, we are concerned that poor reporting may reflect suboptimal research methods and a lack of attention to human subject rights. Some simple measures, such as required elements for journal submission, could improve the quality of research reporting. This in turn will improve the reputation of medical education research as a field, enhancing the careers of physician-educators and attracting talented physicians to education research. Furthermore, greater attention to critical literature reviews, sound conceptual frameworks, clearly express research questions and methods will lead to more productive research projects. The quality of research reporting in medical education is generally poor, although quality varies widely from paper to paper. While our review could not directly assess the quality of the actual research conducted, we are concerned that poor reporting may reflect suboptimal research methods and a lack of attention to human subject rights. Some simple measures, such as required elements for journal submission, could improve the quality of research reporting. This in turn will improve the reputation of medical education research as a field, enhancing the careers of physician-educators and attracting talented physicians to education research. Furthermore, greater attention to critical literature reviews, sound conceptual frameworks, clearly express research questions and methods will lead to more productive research projects.

ABSTRACTS

WHEN GENERALISTS ARE NOT ENOUGH: A NATIONAL SURVEY OF MEDICARE BENEFICIARIES. M.B. Heimel1; L.M. Schwartz2; S. Woloshin3; D.L. Anthony1; P.M. Galinsky1; A.F. Fife2; J. Fox1; J. Baughman1; A. Lefebvre1; S. Leffler1; M. Pignatiello1; A.M. Dinan1; V. Depuy1; J.Y. Friedman1; M.A. Dinan1; J. J. Depuy1; J. Sugarman1; J. Sugarman2; T.K. Sirovich1; R.S. Lipner2; E.S. Holmboe2; K.S. Nowak3; P. Poniatowski2; E.S. Fisher3.

BACKGROUND: Generalist physicians often bear primary responsibility for deciding when their patients need diagnostic tests and specialty referrals. It is not known whether patients accept the judgments of their generalist physicians.

METHODS: We conducted a telephone and mail survey of a nationally representative sample of community-dwelling Medicare beneficiaries in 2003. The response rate was 65%. The survey participants had an average age of 75 years: 58% were women; and 90% were white. We considered patients to be cared for by a generalist if they reported having a personal physician (‘‘one you would see for a check-up or advice if you were in the hospital’’). We defined a doctor as a ‘‘general doctor who treats many different kinds of problems.’’

RESULTS: Eighty-six percent of respondents had a generalist physician. Ninety-four percent of these patients reported seeing their generalist at least once in the past year, making an average of 3 visits per year. Among those cared for by a generalist, one-fifth believed ‘‘it is better for a patient to have each problem cared for by a specialist than to have one general doctor who manages most of their medical problems.’’ When faced with new symptoms, many wanted care beyond the recommendation of their generalist. Even if their generalist told them they ‘‘probably did not need to see a specialist but could if they wanted’’ to 95% would want to see a lung specialist for a cough that persisted one week after a flu, and 55% would want to see a heart specialist for one week of mild but definite chest pain when walking up stairs. Higher proportions would want diagnostic testing even if their generalist thought it was not necessary: 57% would want a chest x-ray for the chest pain, and 73% wanted ‘‘special tests’’ for the chest pain. These findings did not vary by age or health status.

CONCLUSIONS: Elderly Americans see their generalists regularly. When new symptoms occur, many would choose to have special referrals and testing even if they were not recommended by their generalist physicians.

WHEN LESS IS MORE: A NEW MEASURE OF APPROPRIATELY CONSERVATIVE MANAGEMENT BASED ON THE INTERNAL MEDICINE CERTIFYING EXAM. J.T. Recinos1; G. Boragine1; Ngo Ncin1; Young Center White River Junction, VT; American Board of Internal Medicine, Philadelphia, PA; Dartmouth Medical School, Hanover, NH.

BACKGROUND: Generalist physicians often bear primary responsibility for deciding when their patients need diagnostic tests and specialty referrals. It is not known whether patients accept the judgments of their generalist physicians. Furthermore, greater attention to critical literature reviews, sound conceptual frameworks, clearly express research questions and methods will lead to more productive research projects.

METHODS: We sought to develop a new measure of appropriately conservative management style using existing items from the American Board of Internal Medicine (ABIM) certifying examination and validate the measure by assessing whether trainees from a highly involved programs have lower scores.

RESULTS: The 327-item 2002 ABIM internal medicine certifying exam consisted of 181 management questions and 146 knowledge questions. Two content experts identified 2% of the knowledge questions for which onehalf of the cases described situations for which the correct response involved pursuing an appropriately conservative management strategy – i.e., taking no action (3 questions), engaging a watchful waiting strategy (3), discontinuing a therapy (3), or choosing the least costly option offered (11). For each case, respondents had a conservative management score (percent correct out of 32) as well as a knowledge score (percent correct out of 146 knowledge questions). Reliability of the conservative management scale was assessed using Cronbach’s alpha and the scale was internally consistent. For our validation procedure, scores were aggregated at the level of the training program and weighted to reflect the number of candidates in each program. Intensity of the training environment was measured by the average...
WHERE DO ELDERLY BLACK AMERICANS RECEIVE HOSPITAL CARE? RACIAL CONCENTRATION IN HOSPITAL CARE AND THE PERFORMANCE OF HOSPITALS THAT CARE FOR BLACKS. A.Jha1; E.J. Orav2; Z. Li1; A.M. Epstein1; J.L. Wofford1; W.Y. Wenger3; E.M. Spiritus2; G.B. Seymann3; C. Keenan4; K.G. Shojania5; M. Kagawa-Singer1; N.S. Askham6; S. Reisner6; A. Roman1; E. Drucker1; J.G. Mostashari7.

BACKGROUND: Nurses provide most direct inpatient care and as a central part of the healthcare team, nurses have in-depth knowledge about the care of individual patients and the healthcare team. Barriers identified by nurses to disclosing medical errors reflect a compromise between the duty to their patient and their perceived position of modest power within the institution and the healthcare team. Barriers identified by nurses to disclosing medical errors – more than those identified by physicians – are amenable to intervention.

METHODS: We conducted separate focus groups with nurses and physicians at five academic medical centers in one university healthcare system. The protocol asked whether participants would disclose medical errors to patients and hospitals, and if so, how they would do so. Audiotapes of focus groups were transcribed, de-identified and analyzed using grounded theory to code quotations with appropriate identifying labels. Based on the codes, themes describing the views and reported behaviors of nurses and physicians were identified, as well as barriers to and facilitators of disclosure.

RESULTS: The 45 nurses had a mean age of 41 years; 95% were female, 60% were white and had worked at the hospital for a mean of 9 years. The 55 physicians had a mean age of 53 years; 75% were white and had worked a mean of 13 years at the hospital. Both groups endorsed the use of partial disclosure when discussing an error with a patient: nurses were particularly likely to use a partial disclosure when they were not primarily responsible for the error. While most nurses believed that patients had “a right to know what we were doing on every level” there was a limit to the amount of information they were comfortable disclosing. Error one nurse explained, “if I made a mistake, the nurse would not reveal an error to a patient ‘because you’re basically diagnosing. And that’s not within our scope of practice.’” Nurse participants described “curbing” the information provided to patients and employing “judicious use of words.” When explaining an event to a patient, nurses would leave out the word “error” or references to a mistake. Not fully disclosing errors reflected the power limitations nurses perceived, as one stated, “Who am I to tell?” Whereas physicians more often cite malpractice suits as the most important barrier to patient disclosure, nurses were more concerned with being fired. Nurses were more likely than physicians to believe that a policy or protocol requiring error disclosure to patients would change behavior. CONCLUSIONS: Both nurses and physicians avoid disclosing errors to patients. Nurses’ use of partial disclosure reflects a compromise between the duty to their patient and their perceived position of modest power within the institution and the healthcare team. Barriers identified by nurses to disclosing medical errors – more than those identified by physicians – are amenable to intervention.
acutemycocardial infarction to VA hospitals from October 1, 2003 to March 31st, 2005. Only a patient’s initial hospitalization in this time period was included. Patients transferred to other hospitals, and those transferred in to the VA from other hospitals, were excluded.

RESULTS: There were 266 women admitted during the study period to VA hospitals with acute myocardial infarction and 13,068 men. The women were slightly younger, with an average age of 64.8 years, compared to the men who had an average age of 67.8 years. Women veterans with MI were more likely to be of low socioeconomic status, 65.0% compared to 54.0% of the men (p=0.001). Among elderly women over the age of 80, 70.8% were of low socioeconomic status, compared to 50.3% of the elderly men (p=0.022). Diabetes was common, occurring in 29.3% of the women and 34.5% of the men (p=0.078). Men were more likely to have a history of CHF compared to women (26.7% versus 19.6%, p<0.0001) and previous coronary artery bypass grafting (20.2% versus 12.8%, p=0.002). On presentation, men were more likely to have a high TIMI score, with 36.1% having a score of 4 or higher compared to 27.8% of the women (p=0.006). ST-elevation MI occurred in 15.4% of the women and 13.2% of the men (p=0.283). Treatment with platelet inhibitors (31.9% of women, 32.8% of men, p=0.107), heparin (72.6% of women, 74.1% of men, p=0.098), and beta-blockers (73.7% of women, 78.1% of men, p=0.232) was approximately equal between men and women. At discharge, women were more likely to receive beta-blockers (67.3% of women, 61.1% of men, p=0.015) but women and men were equally likely to be prescribed angiotensin-converting enzyme inhibitors (50.7% of women, 46.6% of men, p=0.071) and statins (47.0% of women, 51.1% of men, p=0.368). In-hospital mortality was 1.4% for women and 6.1% for men (p=0.066). After discharge from the hospital, 30-day mortality was 1.1% for the women and 2.5% for the men (p=0.147).

CONCLUSIONS: Women veterans admitted to VA hospitals with myocardial infarction have in-hospital and 30-day mortality comparable to men. Medical treatment in the hospital and at discharge is also comparable.

CONTENT: Two dermatology modules are contained within a web-based system of 20 ambulatory modules used by internal medicine residents to supplement their pre-clinic conferences. The first dermatology module focuses on papulosquamous diseases, infections, and infestations. The second module focuses on benign and malignant skin lesions. Topics were chosen for relevance to internal medicine practice by the authors, who are board-certified in internal medicine and dermatology and are actively involved in patient care and teaching.

DESIGN: Each section of the module begins with a clinical case that includes a link to an image of the dermatologic lesion highlighted in the case. The case is followed by a multiple-choice question (MCQ). Choosing an answer triggers a brief summary of why the correct or incorrect answer was chosen. Each module contains a brief text page of bulleted statements that reinforce the teaching points from the case and display links to supporting literature and supplementary images. The dermatology module is the first of 20 ambulatory modules used by internal medicine residents to supplement their pre-clinic conferences. The first module contains 30 common skin lesions and contains links to 90 images. Each module ends with a brief user satisfaction survey and a scored post-test consisting of 5 MCQs randomly chosen from a bank of 10 MCQs. Each user has 3 attempts to score 80% correct and receive credit for the module. The modules are electronically indexed for easy reference.

EVALUATION: Our ambulatory web-based module system has been in existence since the fall of 2003, and evaluations have revealed high satisfaction levels, with users citing ease of use and indicating a preference for the web-based format over the lecture format. The two dermatology modules were released in the fall of 2005, and thus far residents have felt that the material was clearly presented (agree or strongly agree, 100%), that the module format is better than the lecture format (agree or strongly agree, 86%), and that learning efficiency was strong (agree or strongly agree, 100%). Most residents (71%) worked on the modules at home rather than at home, and spent between 30 and 60 minutes working on the modules.

SUMMARY: The web-based ambulatory dermatology modules help fill a relative void in our busy curricula by addressing commonly seen dermatologic problems using active web-based learning. Residents can review the modules at any time and use the indexed web site for “just in time” information as they are seeing patients.

INTERACTIVE RESOURCES IN MEDICAL EDUCATION

A SIMPLE TOOL TO BUILD ONLINE INTERACTIVE CASES

C.L. Knight1; C. Benson1; J.G.H. Spagnoletti1; A.M. Sanders1; J.B. McGee1; J.E. Bost1; M.A. McNeil1.

1University of Washington, Seattle, WA.

BACKGROUND: Building and maintaining online interactive cases can be a labor-intensive process. Content authors, often physicians, may not have the skills to directly maintain a web site, requiring a third party developer to update content. Some commercial authoring tools are available but are expensive and often laden with unnecessary functions. Our goal with this project was to develop a tool which could be used to easily create and maintain simple online interactive cases.

CONTENT: The casebuilder system consists of an authoring tool, written in Java for a multiplatform use, and a set of XSLT (XML style sheets) and CSS (Cascading style sheets) scripts which reside on the web server and allow the user’s web browser to translate the authoring tool’s XML output into interactive web pages. The authoring tool is a web-based system that creates multi-case modules with an unlimited number of cases. Each case can have a unlimited number of multiple-choice or free-response questions, each with an associated answer, and with multiple-choice questions it provides a pre-specified answer, and with multiple-choice questions it provides specific feedback based on the choice selected.

DESIGN: The use of XML to store case content allows for the ready exchange of case materials between authors, and stores data in a searchable, human-readable format. The “look and feel” of the site is governed largely by the CSS and XSLT scripts, which allows cases to be transferred from one site to another without requiring modification to match the appearance of the receiving site. Individual cases have fields for keywords and authorship to facilitate building a searchable database of cases and to ensure appropriate attribution of case authors.

EVALUATION: The project is still early in development; no formal testing of the system has taken place.

SUMMARY: The casebuilder tool provides a simple way to develop and maintain interactive online cases that is accessible to clinicians with limited expertise in web development. It is specifically intended to be separate content from the appearance of a site, in order to facilitate collaboration between authors in diverse locations.

A WEB-BASED OBSTETRICAL MEDICINE CURRICULUM: TEACHING INTERNAL MEDICINE RESIDENTS HOW TO CARE FOR REPRODUCTIVE-AGE AND PREGNANT WOMEN

C.L. Spagnoli1; A.D. Huchison2; E.J. Quillian1; B. Luk1.

1University of Washington, Seattle, WA.  
2University of Pittsburgh, Pittsburgh, PA.  
Tracking ID: 65799

BACKGROUND: Although the topics of preconception counseling, infertility, and medical conditions during pregnancy are internal medicine (IM) competency requirements, prior research has shown that both IM residents and faculty members feel inadequately trained in these areas. With consideration of competing educational requirements, limited faculty time/expertise, residency work-hour restrictions, and residents’ limited opportunities to manage patients with such issues, our goal was to develop a web-based obstetrical medicine curriculum that improves knowledge, comfort, and preparedness to care for reproductive-age and pregnant women. All 2nd and 3rd year IM residents at the University of Pittsburgh were invited to participate.

CONTENT: Three 30-minute modules were developed to address the following areas: cardiovascular disease in pregnant women (CV), endocrine disease in pregnant women (END), and preconception care and infertility (PCI). Content was based on the ACOG (American College of Obstetricians and Gynecologists) recommendations and topics covered by the IM board exam. The modules were made accessible over an established institutional website that contains modules on other topics. DESIGN: Each module consisted of a series of case-based quiz questions with immediate feedback provided, followed by a brief bulleted discussion that directed the user’s attention to salient learning points for each topic. Links to published guidelines, tables/figures, and select references were included for additional learning. Pre/post-intervention 4-point Likert-type paper surveys assessed perceived preparedness to manage issues covered by the curriculum (1=unprepared, 4=well prepared). Web-based pre/post multiple choice tests to assess knowledge and a survey to assess resident satisfaction were administered in conjunction with each module.

EVALUATION: A total of 96% of residents (67/70) completed both paper surveys and 59% completed 4 more modules. While perceived preparedness to manage the curriculum improved for all residents at the end of the study period, it was significantly higher for those who completed the CV, END, and PCI modules compared to non-completers (mean composite scores: CV: pre 2.94 vs. post 3.25, p<0.001, CV: end 2.87 vs. 2.49, p<0.01, preconception/infertility issues: 2.90 vs. 2.68, p<0.05). The likelihood of reporting improved comfort to care for reproductive-age and pregnant women was positively associated with the number of modules completed (p<0.001). Multiple choice test scores improved significantly within each module completion (CV: pre: 66% vs. post: 91%, p<0.001, END: 64% vs. 88%, p<0.001, PCI: 62% vs. 80%, p<0.01). The majority (68%) of module-takers stated they felt more prepared to manage issues covered by the curriculum than the lecture format. The two dermatology modules were released in the fall of 2005, and thus far residents have felt that the material was clearly presented (agree or strongly agree, 100%), that the module format is better than the lecture format (agree or strongly agree, 86%), and that learning efficiency was strong (agree or strongly agree, 100%). Most residents (71%) worked on the modules at home rather than at home, and spent between 30 and 60 minutes working on the modules.

SUMMARY: The web-based ambulatory dermatology modules help fill a relative void in our busy curricula by addressing commonly seen dermatologic problems using active web-based learning. Residents can review the modules at any time and use the indexed web site for “just in time” information as they are seeing patients.

A WEB-BASED AMBULATORY DERMATOLOGY TEACHING PROGRAM

G.H. Tabes1; J. McSorley1; J. McGee1.

1University of Pittsburgh, Pittsburgh, PA.  
Tracking ID: 158376

BACKGROUND: Internal medicine resident education in dermatology is compromised by limited clinical resources, insufficient number and content of didactic sessions, and competing curricular requirements. To address these problems, we developed a web-based program that teaches residents to recognize and manage dermatologic diseases commonly seen in internal medicine residency clinic.
AN INTERACTIVE, WEB TOOL TO ENHANCE CARDIOPUMLNY MEDICAL CLINICAL SKILLS OF MEDICAL STUDENTS IN INTRODUCTION TO PHYSICAL EXAM COURSE. J. Jevtic1; J. Mitchell2; J.L. Sebastian1. Medical College of Wisconsin, Milwaukee, WI. (Tracking ID: # 154604)

BACKGROUND: Teaching physical exam skills to medical students is increasingly difficult as teachers face multiple barriers including limited teaching times, patient recruitment issues, changing physical exam findings and subjective assessments by different raters. Our goal is to improve the knowledge and skills of medical students in cardiopulmonary physical exam, and assess their ability to accurately identify cardiac and pulmonary auscultatory sounds by using an interactive, multimedia e-learning module in the setting of limited teacher and patient resources.

CONTENT: We piloted an asynchronous, interactive web based module on M2 students during their Introduction to Clinical Exam course over one month. Initially, a tutorial teaches cardiopulmonary physical exam psychomotor skills, auscultatory findings and relation to pathophysiology. Then a lesson plan introduces five common diseases (i.e. asthma, pneumonia, emphysema, congestive heart failure, and acute coronary syndrome) through the use of “virtual patient” cases. Students learn various physical exam findings and interpret abnormal sounds, as well as make a diagnosis during the case based portion of the tutorial. An eight question pre/post knowledge quiz testing M2 students ability to identify abnormal heart and lung sounds is embedded within the module. Students also completed a on-line survey rating their confidence to identify abnormal cardiodpulmonary auscultatory findings after the intervention, as well as for satisfaction with course content, navigability and engagement techniques.

DESIGN: The case based format facilitates small group sessions in which students are able to track concepts covered during the course and post tests and written surveys were utilized in this project.

EVALUATION: Medical student’s (n=184) mean score on the knowledge quiz was 67% (+/- 21.6%) prior to the intervention, rising to 93.4% (+/- 14.1%) afterwards. The module program evaluation averaged 4.1 (Strongly Agree). Students rated the web-based module as very good or excellent. M2 students felt that the “virtual patient” cases, web hyperlinks, graphics, video and audio files of pulmonary auscultory sounds, as well as Xray findings for each case. Cases become increasingly difficult and blended, designed to challenge and engage the student. The pre/post case-based quiz uses audios to assess their cardiopulmonary auscultatory knowledge.

CONCLUSION: Students’ subjective assessments by different raters. Our goal is to improve the knowledge and skills of medical students in cardiopulmonary physical exam, and assess their ability to accurately identify cardiac and pulmonary auscultatory sounds by using an interactive, multimedia e-learning module in the setting of limited teacher and patient resources.

THE HEART TRUTH: A WEB-BASED EDUCATION SITE FOR HEALTH PROFESSIONALS. M.K. Kienman1; C.J. Lazarus2; R. Almassi3; F. Freudenreich4; P. Pregler5; M.R. Steuer6. 1University of Illinois at Chicago, Chicago, IL; 2Chicago Medical School, North Chicago, IL; 3Yale University, Derby, CT; 4Boston University, Boston, MA; 5University of California, Los Angeles, Los Angeles, CA; 6VA Boston Healthcare System, Jamaica Plain, MA. (Tracking ID: # 154279)

BACKGROUND: The Office on Women’s Health within the US Department of Health and Human Services and the National Heart Lung and Blood Institute (NHLBI) initiated a national program to educate physicians, other health care providers and the public about cardiovascular disease in women as part of The Heart Truth Campaign. The Campaign is a response to a significant public health problem, and the related needs of clinicians and educators. The professional education portion of the Campaign includes developing a website with educational curricular materials that can be used in a variety of settings to help people at risk for CVD. We previously created a national panel of experts from the National Centers of Excellence in Women’s Health (CoEs) and the National Community Centers of Excellence in Women’s Health (CCoEs). These websites have been piloted in numerous organizations and have begun to roll out.

CONTENT: The website provides clinicians and educators with one site where they can access readily usable, comprehensive, and organized materials which are adapted for different levels of learners. Including physician, medical students, residents, nurses, nurse practitioners, and physician assistants.

CONCLUSION: The educational materials focus on cardiovascular disease prevention in women and are evidence based. They include over 300 powerpoint slides as e-book/lecture materials, videos, links to physical exam skills videos, links to physical exam skills videos reviewing psychomotor skills necessary to perform the test. After the history and physical exam and to clinical skills websites will be uploaded. The case based format promotes active learning through the use of video interactions, interactive window pop-ups of pictures of abnormal physical exam findings, audio files of cardiopulmonary auscultory sounds, as well as Xray findings for each case. Cases become increasingly difficult and blended, designed to challenge and engage the student.

The pre/post case-based quiz uses audios to assess their cardiopulmonary auscultatory knowledge.

EVALUATION: Medical student’s (n=184) mean score on the knowledge quiz was 67% (+/- 21.6%) prior to the intervention, rising to 93.4% (+/- 14.1%) afterwards. The module program evaluation averaged 4.1 (Strongly Disagree to 5=Strongly Agree) for satisfaction with the curriculum in helping identify abnormal cardiac and pulmonary auscultory sounds. Sixty percent of students rated the web-based module as very good or excellent. M2 students felt that the “virtual patient” cases, web hyperlinks, graphics, video and audio files of pulmonary auscultitory sounds, as well as Xray findings for each case. Cases become increasingly difficult and blended, designed to challenge and engage the student. The pre/post case-based quiz uses audios to assess their cardiopulmonary auscultatory knowledge.

CONCLUSION: Students’ subjective assessments by different raters. Our goal is to improve the knowledge and skills of medical students in cardiopulmonary physical exam, and assess their ability to accurately identify cardiac and pulmonary auscultatory sounds by using an interactive, multimedia e-learning module in the setting of limited teacher and patient resources.

THE USE OF ONLINE COMPUTER-BASED LEARNING TO REPLACE REQUIRED COMPONENTS IN IM TRAINING PROGRAMS. K. Malcolm1; L. K. Berman2; L. A. Miranda3; J. A. B. Stults1; G. Thompson3; M. Samore2. 1University of Utah/VA Medical Center Salt Lake City, UT; 2University of Utah, Salt Lake City, UT; 3VA Salt Lake Healthcare System, Jamaica Plain, MA. (Tracking ID: # 157033)

BACKGROUND: The implementation of the 80 hour work week has caused training programs to struggle to balance education provided by patient care and required curriculum traditionally delivered in conference format. The literature supports a decline in conference attendance in training programs around the country and program directors have been required to use novel approaches to ensure conference attendance and learning. Self-directed online learning formats have been shown to be an effective education tool.

CONCLUSION: Component of our study was the diagnosis and management of acute sinusitis and acute bronchitis. Traditional lecture formats, internet lectures, interactive case-based problems, paper pretest quizzes, online case-based post tests and written surveys were utilized in this project.

EVALUATION: Clinical Pathophysiology and Therapeutics (the course which utilizes CPP/Web) has been the most well received preclinical course at the Pritzker School of Medicine. The course has received a rating of 4.7 (out of 5) for value of the material, 4.7 for being relevant while 4.9 for being constructively challenging and 4.7 for being at an appropriate level.

SUMMARY: CPP was designed to introduce an interactive clinical medicine, pathology and therapeutics into a unified whole. Recently we have also worked to improve student engagement in clinical reasoning. (Completed for the hematology and pulmonary section). The electronic cases emphasize the importance of the history and physical, demonstrate abnormal physical findings, radiological images, pathological examination and discuss the differential approach to the problem list, differential diagnosis and disease specific information. This course has been perceived by students as an effective way to integrate learning in these areas.
DESIGN: We performed a randomized trial of IM trainees to compare two instructional methods: traditional classroom lectures and a on-line teaching system. Lecture transcripts and slide presentations on acute sinusitis and acute bronchitis were developed by 3 IM faculty. 129/139 IM trainees completed either online or traditional classroom lectures on the topics. Both groups received the same didactic lectures either live or online. The online group was also given 2 interactive study cases. Both groups were required to complete a paper-based pretest on the material along with an online case-based post test which included 3 interactive virtual patients and a 10-question online multiple choice exam. The post test was completed at least 10 days after the initial teaching encounter. 227/239 subjects completed a satisfaction survey at the end of the educational encounter. EVALUATION: Comparisons between the online and traditional groups were analyzed using a number of variables including performance (pre- and post-test scores), time-on-task, and satisfaction. Adjusted for pre-test scores, post-test performance was better in the online group. They required less treatment attempts to achieve a positive patient outcome (p = 0.02), selected more correct treatment options (p < 0.001), and scored higher on the post test quiz than the classroom group (p = 0.044). The average total time-on-task for the teaching component was similar (50 minutes online vs. 45-50 minutes traditional). The online group took less time to complete each test case (p < 0.01) during the post-test. There was no significant difference for other dependent variables including incorrect treatments, correct and incorrect diagnoses, number of test ordered, or test costs. Satisfaction was similar in both groups. The convenience of completing the online format and the time saved were also cited as reasons by the trainee that were often cited as reasons why they liked the program and would recommend it to other trainees. 97% of residents would like to see computer-based individual learning programs incorporated into the required lecture series in some way.

SUMMARY: Work hour rules have forced novel approaches to resident education. Computer-based learning may improve resident learning, decrease costs, and ease in evaluation, which may improve compliance with required conferences. In our study, residents found the online format effective, although time spent on the course was more comparable to the traditional format. Satisfaction was similar in both groups. The convenience of completing the online format and the time saved were also cited as reasons by the trainee to recommend this program to other trainees. 97% of residents would like to see computer-based individual learning programs incorporated into the required lecture series in some way.
consultant or care for patients perioperatively and 2/4 (50%) residents believed hospitalists required specialized training. After the rotation, 4/4 (100%) felt well prepared to carry out these functions and believed that hospitalists should have specialized training. Post rotation, 6/7 (86%) residents reported being confident with inpatient palliative care, perioperative and consultative medicine. Additionally, 6/7 (86%) believed that the material covered had not previously been well covered in their residency. Mean scores on a 50-point palliative care test increased 33% (52% to 85%) correct. N=41 after participation in the palliative care retreat.

KEY LESSONS LEARNED: A novel hospitalist training program consisting of clinical and curricular components appears to improve resident confidence, knowledge and skills with the key components of a hospitalist career.

A NUTRITIONAL COUNSELING TRAINING PROGRAM FOR RESIDENTS P.G. Prockop1, M.A. Levine2, 1University of Vermont, Burlington, VT; 2University of Vermont - Fletcher Allen Health Care, Burlington VT. (Tracking ID # 154349)

STATEMENT OF PROBLEM OR QUESTION: Teaching nutritional counseling to residents presents several challenges: most residents received very little nutrition training in medical school; residents must learn to navigate through a tremendous amount of misinformation about different diets. It is unclear if improving resident nutrition knowledge is an effective means to encourage lifestyle changes in patients; and due to prior unsuccessful experiences helping patients change behavior, residents may be reluctant to learn new counseling skills.

OBJECTIVES OF PROGRAM/INTERVENTION: 1) Provide unbiased and current information about the role of nutrition in disease and health; 2) Train residents to critically review nutritional literature; 3) Train residents in health behavior counseling. The new scale, the Health Behavior Change–7 Item (HBC–7), used 7 items to capture skill and knowledge in healthy behavior change. In addition to piloting this scale with the residents, we validated its use in active modalities. This is an exciting way to teach and learn information in active modalities. At the same time that we teach clinical reasoning in other venues. Specifically, we use a problem oriented curriculum which 1. Teaches a framework for the clinical reasoning process through the step by step discussion of several cases, present the test characteristics of signs, symptoms and diagnostic tests, and review the common diseases. Most chapters conclude with a diagnostic algorithm. 2. Weekly group clinical reasoning sessions have replaced the traditional lecture format. Students are instructed to read the appropriate chapter prior to the session. During the session a brief overview of the case is presented, followed by the student's Deans letter. Students often approach clinical reasoning in a haphazard manner that is fraught with error. OBJECTIVES OF PROGRAM/INTERVENTION: To improve clinical reasoning and avoid premature closure among third year medical students through the use of a problem oriented curriculum which 1. Teaches a framework for the differential diagnosis of common medical complaints and a structured approach to organizing and prioritizing the differential 2. Emphasizes the high specificity and diagnostic value of key signs and symptoms (fingertips) and the limited sensitivity of most signs and symptoms DESCRIPTION OF PROGRAM/INTERVENTION: We have designed a clerkship that teaches clinical reasoning in multiple settings. We developed a medical textbook that is problem based, case based and evidence based rather than disease based. Such a book stresses the importance clinical reasoning at the same time that we teach clinical reasoning in other venues. Specifically, we use Symptom to Diagnosis, a textbook that we published in 2005. Chapters address a single problem (e.g. chest pain) provide a framework for differential diagnosis, demonstrate the clinical reasoning process through the step by step discussion of several cases, present the test characteristics of signs, symptoms and diagnostic tests, and review the common diseases. Most chapters conclude with a diagnostic algorithm. 2. Weekly group clinical reasoning sessions have replaced the traditional lecture format. Students are instructed to read the appropriate chapter prior to the session. During the session a brief overview of the case is presented, followed by the student's Deans letter. 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STATEMENT OF PROBLEM OR QUESTION: The deterioration of bedside teaching is a well-known national problem. In 2004, with the help of a private grant, we sought to improve bedside teaching by creating a program for our teaching faculty.

OBJECTIVES OF PROGRAM/INTERVENTION: Our main objective is to improve the bedside teaching skills of our faculty. We help participants overcome common barriers to effective bedside teaching. They build a repertoire of bedside teaching topics such as physical exam, end of life issues, communication challenges, substance abuse and cross-cultural issues. There is opportunity for peer-coaching and self-directed improvement of bedside teaching.

DESCRIPTION OF PROGRAM/INTERVENTION: After conducting a needs-assessment we developed a flexible program that included the following components: A. Objective Structured Teaching Exercises (OSTEs)–Participants partake in a mock attending rounds case involving medical students, residents and actors who are trained to portray particular patient, resident, and student roles. The exercise is filmed. Then, participants receive immediate and facilitated videotape review of their performance. B. Learning Plan–Because our approach is learner-centered, participants complete a learning plan that outlines personal goals during this program, means to achieve them, methods of determining whether they are achieved, and used to guide their learning in this program. C. Small Groups–These 1-2 hour sessions are held in groups of 3-4 including a program facilitator. Rooted in personal experiences, the sessions act as forums to discuss topics including strategies for teaching difficult residents and patients, learning and teaching styles, avoiding distractions and interruptions during teaching rounds, preparing learners, and making observations and giving feedback. D. Observed Rounds–With the supervision of a program facilitator, participants mutually observe each other conduct attending rounds and provide feedback. These experiences are also referred to during the small group discussions. E. Faculty Development Workshops–Quarterly workshops provide a protected time for a larger group reflection and environment to generate solutions on particular challenge areas within bedside teaching. The workshops are on topics such as improving feedback and observation skills, admitting diagnoses and teaching physical diagnosis. F. Web-based Interaction–We are developing a website and learning module to better accommodate virtual participants.

FINDINGS TO DATE: To date, nineteen faculty members have participated. While most were initially skeptical and worried about “performing” both in the OSTE and on observed rounds, in the end, they greatly appreciated the opportunity to observe other learners (an experiential experience), the sessions act as forums to discuss topics including strategies for teaching difficult residents and patients, learning and teaching styles, avoiding distractions and interruptions during teaching rounds, preparing learners, and making observations and giving feedback. D. Observed Rounds–With the supervision of a program facilitator, participants mutually observe each other conduct attending rounds and provide feedback. These experiences are also referred to during the small group discussions. E. Faculty Development Workshops–Quarterly workshops provide a protected time for a larger group reflection and environment to generate solutions on particular challenge areas within bedside teaching. The workshops are on topics such as improving feedback and observation skills, admitting diagnoses and teaching physical diagnosis. F. Web-based Interaction–We are developing a website and learning module to better accommodate virtual participants.

CALL FOR SUBMISSIONS: PREPARING MEDICAL STUDENTS FOR THE SCHOLARLY ACTIVITY REQUIREMENT OF RESIDENCY: M. Ziebarth1; Medical College of Wisconsin, Milwaukee, WI. (Tracking ID # 152547)

STATEMENT OF PROBLEM OR QUESTION: Pursuing excellence in patient care requires a life-long commitment to learning by interns. As a result, the Resident Education Curriculum at Baystate Medical Center (BMC) for our Internal Medicine residents requires all residents to complete a scholarly activity as a way of participating in the generation and dissemination of new knowledge. This scholarly requirement often takes the form of a clinical vignette oral or poster presentation at regional and national professional meetings. Unfortunately, many residents are ill-prepared for this scholarly requirement as they receive little formal training in writing, submitting, and presenting a clinical vignette abstract during their medical school career.

OBJECTIVES OF PROGRAM/INTERVENTION: To prepare fourth year medical students for the scholarly activity requirement of residency by participating in a mock OSCE, an abstract submission and poster or oral presentation as a required component of a medicine elective course.

DESCRIPTION OF PROGRAM/INTERVENTION: The “Apprenticeship with a Master Clinician” is a fourth year medical student elective course that focuses on preparing intern for residency, professionalism and adult learning skills. During this course, we now require students to participate in a scholarly activity in anticipation of this requirement during their residency. The students receive formal instruction on how to write a clinical vignette abstract for submission to a professional meeting. They then submit “online” using our institution’s web-based course management portal (ANGEL) in order reflect an actual abstract submission process, as all abstracts are published in a course booklet and distributed to the course participants. The abstracts are evaluated and scored from the abstract and present it at a formal poster session held at the end of the course. The poster presentations are judged according to the following criteria: significance of topic, visual impact, technical accuracy and organization of the poster. An award is given to the best presentation.

FINDINGS TO DATE: Twenty eight medical students have participated in the “Apprenticeship with a Master Clinician” course since the scholarly activity requirement was introduced. All twenty eight submitted an abstract on-line. Twenty seven medical students prepared posters and one student elected to give an oral presentation. In the post-course evaluations, the students responded favorably to the “Apprenticeship with a Master Clinician” course since the scholarly activity requirement.” The average score was 4.85 on five-point Likert scale (1=strongly disagree and 5=strongly agree). Comments included: “I can think of no other opportunity in medical school where I have this kind of experience in preparing and presenting a poster,” “Demystified scholarly activity—very doable”, “…really gave me confidence I could submit an abstract,” and “New and good experience . . . I look forward to doing this as a resident.”

KEY LESSONS LEARNED: The medical students valued the scholarly activity requirement as an opportunity to enhance their overall professional development. Future post-course sessions will include additional awareness and publicized events as the medical students expressed a desire to invite their fellow students from other rotations as well as faculty mentors to attend the poster session.

CAN WE GO HOME AGAIN? AN INNOVATIVE HOME VISIT PROGRAM FOR RESIDENTS: S. Zabaneh1; K. Harley1; A. Karna1; D.L. Stevens1; New York University, New York, NY. (Tracking ID # 151981)

STATEMENT OF PROBLEM OR QUESTION: The house call, once a mainstay of medical care, now falls outside of usual training and practice. Can a home visit curriculum help residents embrace this invaluable and rewarding aspect of practice?

OBJECTIVES OF PROGRAM/INTERVENTION: We developed an innovative home visit curriculum and evaluation for Internal Medicine (IM) residents. Program objectives are to: 1) Introduce and impart the role and residency attitudes toward the value of the home visit 2) Assess core skills and knowledge needed to carry out home visits 3) Evaluate patients’ reactions to having a faculty-facilitated group home visit.

DESCRIPTION OF PROGRAM/INTERVENTION: As a pre- and post-program evaluation, we designed a 5-station observed structure clinical experience (OSCE) testing the essential skills needed to plan and conduct a successful home visit. Tasks for each station were: 1) Determine indications and goals for a home visit (paper scenario), 2) Ask the patient permission to visit (10 minute interview with standardized patient portraying 70 year old woman who has recently moved in), 3) Assess the patient’s home for safety risks (Photographic tour of home with questions), 4) Discuss and negotiate safety plan with patient based on home visit findings (10 minute interview with standardized patient), 5) Write summary of patient documentation findings and plan. A new 11 item attitude survey, to be administered before and after our educational program, assessed residents’ attitudes, comfort and confidence regarding home visits. Using a structured chart review, residents identified patients from their panel who would benefit from a home visit. Faculty supervised Group Home visits (4 to 6 residents) were conducted followed by hour-long debriefing. A post-visit patient telephone survey of reactions to the visit was administered.

FINDINGS TO DATE: 29 IM residents participated in the pre-OSCE program. Most resident were able to identify reasons the patient would benefit from a home visit but there was a wide range in their ability to delineate the specific issues to be addressed during the visit and their ability to document their findings. Residents’ skills developed during the simulation were not uniformly rated by trained SP as good to excellent. 18 residents completed the pre-program attitude survey. All (100%) residents agreed that home visits strengthen the doctor-patient relationship and improve important clinical information. Nearly all (92%) agreed it should be part of residency training and would add to quality of care (88% and 94% respectively). However, 80% did not feel comfortable conducting a home visit, and more than 70% reported comfort in assessing home safety. One third reported that they were uncomfortable asking a patient to make a home visit and only one third planned to incorporate home visits into their future practice. Thus, far, eight group (4 to 6 residents) home visits have been conducted; in all previously unknown important clinical information was uncovered. All patients surveyed reported high satisfaction with the visit.

KEY LESSONS LEARNED: Residents believe in performing home visits but lack self-confidence. Despite their low confidence, residents demonstrated on the OSCE the knowledge and skills necessary to perform home visit successfully but their documentation needed improvement. At post visit group discussion residents uniformly agreed that important clinical information was uncovered, their relationship with the patient was strengthened and they felt motivated to conduct more visits. All patients responded positively to the group visit. A post program assessment is pending.

DEVELOPING AMBULANT COMPETENCE: A QUALITY IMPROVEMENT (QI) CURRICULUM FOR FAMILY MEDICINE: J.L. Chicago, J. New York, NY. (Tracking ID # 156537)

STATEMENT OF PROBLEM OR QUESTION: The successful internist of the future will function as a multi-disciplinary team leader with a new set of skills and a mature understanding of the QI process. How do we educate and develop adult learners to flourish as team leaders with a goal of delivering exemplary patient care?

OBJECTIVES OF PROGRAM/INTERVENTION: Our objective is to improve patient care through the QI process by nurturing an environment that holds the healthcare team accountable for patient outcomes. Our curriculum formalizes the QI process by focusing on the PDSA (plan, do, study, act) model
ensuring that each resident will have the skills to succeed as the use of clinical benchmarks for patient care and reimbursement increase.

DEVELOPMENT AND USE OF A POCKET PC PATIENT CASE LOG W. Adam1,
D.E. Dewitt1; L. Burkholder1. University of Melbourne, Shepparton, Victoria. (Tracking ID #: 556439)

STATEMENT OF PROBLEM OR QUESTION: The University of Melbourne School of Rural Health (SOSH) has been its current phase of strategic health care benefit from the development of a global health experience. We understand that by recognizing our ‘weaknesses’ and strengths of our system, we have designed processes to correct and enhance our key lessons learned. This unique approach fosters a unique educational tool for a resident. Recognition of our approach to care fosters a unique educational tool for a resident. Recognition of our approach to medicine within the first month of residency and continue to help our residents learn of the systems of care that are available and develop the skills to interface appropriately with the other members of the care team to enhance and maximize patient care outcome metrics.

OBJECTIVES OF PROGRAM/INTERVENTION: The project aims to develop and implement a PDA-based patient log software to track student clinical experiences, performance and feedback. The goal is to improve learner compliance with case logs by allowing them to enter case logs at point of contact, and to facilitate transfer of records to educators through PDA synchronization without the need for students to re-enter data onto the web, or for administrators to transfer case log data from paper records. A further objective was to allow direct download of data into a database for comparison of student experiences at different sites; monitoring of performance and feedback to the students on their needs for further clinical exposure; and analysis of teaching encounters (who is involved in teaching and the perceived value).

DEVELOPMENT OF A GLOBAL HEALTH EXPERIENCE THAT BENEFITS BOTH US-BASED RESIDENCY PROGRAM AND THE HOST INSTITUTION. T. Minichiello1; H. St. John1, H. Hollander1. University of California, San Francisco, San Francisco, CA, Makere University, Kampa. (Tracking ID #: 53543)

STATEMENT OF PROBLEM OR QUESTION: Previous literature has shown that experiences in global health during residency increase cross cultural competency, confidence in physical exam, and interest in and commitment to public health. U.S. based residency programs stand to gain much from developing clinical elective programs internationally, but it is less clear what host institutions gain from this arrangement.

OBJECTIVES OF PROGRAM/INTERVENTION: We set out to create a mutually beneficial, longitudinal global health program between UCSF and Makere University’s Mulago Hospital and the ReachOut clinic in Kampala Uganda. To determine our objectives, we have met with the president, chair, division chiefs, residents, and clinic directors at Mulago and Reachout.

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DEVELOPMENT AND USE OF A POCKET PC PATIENT CASE LOG W. Adam1,
D.E. Dewitt1; L. Burkholder1. University of Melbourne, Shepparton, Victoria. (Tracking ID #: 556439)

STATEMENT OF PROBLEM OR QUESTION: The University of Melbourne School of Rural Health (SOSH) has been its current phase of strategic health care benefit from the development of a global health experience. We understand that by recognizing our ‘weaknesses’ and strengths of our system, we have designed processes to correct and enhance our key lessons learned. This unique approach fosters a unique educational tool for a resident. Recognition of our approach to care fosters a unique educational tool for a resident. Recognition of our approach to medicine within the first month of residency and continue to help our residents learn of the systems of care that are available and develop the skills to interface appropriately with the other members of the care team to enhance and maximize patient care outcome metrics.

OBJECTIVES OF PROGRAM/INTERVENTION: The project aims to develop and implement a PDA-based patient log software to track student clinical experiences, performance and feedback. The goal is to improve learner compliance with case logs by allowing them to enter case logs at point of contact, and to facilitate transfer of records to educators through PDA synchronization without the need for students to re-enter data onto the web, or for administrators to transfer case log data from paper records. A further objective was to allow direct download of data into a database for comparison of student experiences at different sites; monitoring of performance and feedback to the students on their needs for further clinical exposure; and analysis of teaching encounters (who is involved in teaching and the perceived value).

DEVELOPMENT OF A GLOBAL HEALTH EXPERIENCE THAT BENEFITS BOTH US-BASED RESIDENCY PROGRAM AND THE HOST INSTITUTION. T. Minichiello1; H. St. John1, H. Hollander1. University of California, San Francisco, San Francisco, CA, Makere University, Kampa. (Tracking ID #: 53543)

STATEMENT OF PROBLEM OR QUESTION: Previous literature has shown that experiences in global health during residency increase cross cultural competency, confidence in physical exam, and interest in and commitment to public health. U.S. based residency programs stand to gain much from developing clinical elective programs internationally, but it is less clear what host institutions gain from this arrangement.

OBJECTIVES OF PROGRAM/INTERVENTION: We set out to create a mutually beneficial, longitudinal global health program between UCSF and Makere University’s Mulago Hospital and the ReachOut clinic in Kampala Uganda. To determine our objectives, we have met with the president, chair, division chiefs, residents, and clinic directors at Mulago and Reachout.

DEVELOPMENT OF A GLOBAL HEALTH EXPERIENCE THAT BENEFITS BOTH US-BASED RESIDENCY PROGRAM AND THE HOST INSTITUTION. T. Minichiello1; H. St. John1, H. Hollander1. University of California, San Francisco, San Francisco, CA, Makere University, Kampa. (Tracking ID #: 53543)

DEVELOPMENT OF A GLOBAL HEALTH EXPERIENCE THAT BENEFITS BOTH US-BASED RESIDENCY PROGRAM AND THE HOST INSTITUTION. T. Minichiello1; H. St. John1, H. Hollander1. University of California, San Francisco, San Francisco, CA, Makere University, Kampa. (Tracking ID #: 53543)
the design does seem to fit the competency model. One critique of the program from several sources is that the program was not fully developed at the time of matriculation of the first cohort, so some of their program elements had to be designed on the spot. The first cohort of the CRIT program was divided into three groups of 12. Each group played roles that were pre-determined to best fit the EBM interventions. Each group played a medico-legal or health policy role, and a business role. Each group had an ethics expert and a statistician. The program also included a large panel discussion on policy development at the state and national level. Each module ended with a large panel discussion giving residents broader topic overviews and the ability to interact with experts in each field. To measure the curriculum's effect, we surveyed medical residents before and after each of the 3 modules using subjective assessments of residents' confidence in the subject area and objective tests of their knowledge.

FINDINGS TO DATE: Our survey response rates ranged from 23–39%. We found that residents expressed higher confidence in their knowledge of some topics after each curriculum module and performed significantly better on objective assessments in a subset of these areas. Some objective improvements were associated with attendance at curriculum elements. However, no pre and post testing of the residents' knowledge years completed was not associated with improved confidence or measured knowledge in any area of the curriculum. Prior health policy coursework and experience was associated with higher levels of knowledge in health policy and medical ethics, but not in health policies or medical-legal issues. Health policy work outside the classroom was not significantly associated with improved knowledge in any medico-legal or health policy area. Study limitations include low power of our statistical tests. We hypothesized that a curriculum involving a didactic session, a patient encounter, and the opportunity to teach other residents would improve the use of pre-appraised sources of evidence to answer clinical questions.

KEY LESSONS LEARNED: A targeted medico-legal and health policy curriculum can improve resident knowledge. The existing "standard" medical resident curriculum does not appear to improve knowledge of medico-legal or health policy issues.

ABSTRACTS

ESTABLISHING A MEDICO-LEGAL AND HEALTH POLICY EDUCATION CURRICULUM FOR MEDICAL RESIDENTS: M.W. Freedman1, A.S. Kesselheim1, Brigham and Women's Hospital Division of General Internal Medicine, Boston, MA. (Tracking ID # 15782)

STATEMENT OF PROBLEM OR QUESTION: Medico-legal and health policy topics such as medical liability reform and health care financing have important effects on patient care and on the careers of physicians and physician-scientists. During the 2003–2004 academic year, we assessed resident interest including core business principles and terminology. Resident interest was more directed to practice management, and specifically the intricacies of running a practice. 2) Program events were well attended and sparked significant interest and house staff, thus facilitating future curriculum development. 3) Pre-test results showed a significant knowledge deficit among house staff in the business of medicine (post-test results are pending at this time).

KEY LESSONS LEARNED: 1) Importance of establishing buy-in and assessing interest areas through the use of focus groups. 2) Challenge in carving out time in the overall curriculum. 3) Need for outcome measures (pre and post testing of knowledge) and further refining of topic areas and presentation modalities through feedback (small group versus large group settings). 4) Early planning for institutionalization of the curriculum.

ESTABLISHING A MEDICO-LEGAL AND HEALTH POLICY EDUCATION CURRICULUM FOR MEDICAL RESIDENTS: M.W. Freedman1, A.S. Kesselheim1, Brigham and Women's Hospital Division of General Internal Medicine, Boston, MA. (Tracking ID # 15782)

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EVIDENCE-BASED MEDICINE IN PRIMARY CARE: A PATIENT-CENTERED CURRICULUM FOR MEDICAL RESIDENTS: E. Walls1, D.G. Fairchild1, Tufts-New England Medical Center, Boston, MA. (Tracking ID # 72907)

STATEMENT OF PROBLEM OR QUESTION: Residents face multiple obstacles to utilizing evidence-based medicine (EBM) in the primary care setting. We hypothesized that a curriculum involving a didactic session, a patient encounter, and the opportunity to teach other residents would improve the use of pre-appraised sources of evidence to answer clinical questions.

OBJECTIVES OF PROGRAM/INTERVENTION: Our intervention was established to provide curriculum and resources to help residents improve their EBM skills. The objective was to provide evidence-based information to answer clinical questions in the primary care setting and for residents to be able to utilize the information in practice.

DESCRIPTION OF PROGRAM/INTERVENTION: 1) Focus group sessions with house staff were held early in the academic year to determine needs and interest areas in the business of medicine. 3 Group sessions and periodic updates on policy developments were held during the academic year. 3) Didactic presentations were delivered on average twice a month for 4 months. All presentations are being archived on video. Ethics is being emphasized in each of these curricular pieces.

FINDINGS TO DATE: 1) Focus groups revealed that interns had broad areas of interests including core business principles and terminology. Resident interest was more directed to practice management, and specifically the intricacies of running a practice. 2) Program events were well attended and sparked significant interest and house staff, thus facilitating future curriculum development. 3) Pre-test results showed a significant knowledge deficit among house staff in the business of medicine (post-test results are pending at this time).

KEY LESSONS LEARNED: 1) Importance of establishing buy-in and assessing interest areas through the use of focus groups. 2) Challenge in carving out time in the overall curriculum. 3) Need for outcome measures (pre and post testing of knowledge) and further refining of topic areas and presentation modalities through feedback (small group versus large group settings). 4) Early planning for institutionalization of the curriculum.
following week, the residents generate a clinical question based on an actual patient encounter from their continuity clinic. After researching their question, residents solidify their skills by teaching other residents about the search process during a didactic session. At the conclusion of this session, residents discuss the search process, the evidence, and how it applies to clinical decision-making.

FINDINGS TO DATE: Twenty residents (PGY-1, PGY-2, & PGY-3) at Tufts-New England Medical Center have completed the curriculum. We assessed competency in EBM both before and after the intervention using an adapted version of the Fresno test (scale 0–72). Preliminary analysis indicates significant improvement in the skills following the intervention. Of the 20 residents where the intervention, total scores improved in 17 (85%). When compared to pre-test assessment, the post-test total scores were higher by an average of 55% (p < 0.0001). The most significant gain of knowledge was an increased identification of the variety of EBM sources available to physicians, along with recognizing the strengths and weaknesses of each source. The mean percentage improvement on this question was 120% with the mean pre-test score being 10.5 (p < 0.0001). On the assessment of ability to form clinical questions in the PICO format, residents demonstrated a 36% improvement in scores (p < 0.03).

KEY LESSONS LEARNED: Data gathered at our institution suggests that this simple curriculum is a successful method of integrating EBM into an academic, medical center ambulatory care setting. A curriculum using patient visits to generate clinical questions adds relevance to learning the role of EBM in decision-making. The resident-as-teacher component of our program augments the learning that residents gain from performing an EBM search on their own. An added benefit of the curriculum is extended exposure to EBM amongst the residents who have not yet received the intervention but who attend pre-clinical conferences. A limitation of the program is that this has been on-going and the evidence behind decisions that are made in the primary care setting. Further research will help determine if these findings are generalizable to other institutions and other primary care teaching environments.

EXPANDING ACCESS TO CARE THROUGH A RESIDENT-INITIATED HEPATITIS C CLINIC - AN INNOVATIVE METHOD FOR INCORPORATING ACGME CORE COMPETENCIES INTO THE MANAGEMENT OF MEDICALLY UNDERSERVED PATIENTS. J.L. Yurceny1, S.J. Terpstra1, K.V. Vassiliou1, V. Papp1, N.M. Agostino1, K.N. Ahmed1, E.R. Norris1, C.M. Brooks1, E.J. Gertner1. Lehigh Valley Hospital–Muhlenberg, Allentown, PA. (Tracking ID # 153619)

STATEMENT OF PROBLEM OR QUESTION: Uninsured/uninsured status presents many barriers to comprehensive treatment for patients infected with Hepatitis C Virus (HCV). The lack of consensus regarding the best method of treatment and the cost of the anti-viral medications in Maine, has resulted in increasing infection and reduced rates of transplantation in the United States. Additionally, prior studies have shown that primary care residents and attending physicians are poorly trained in the diagnosis, treatment, and the management of HCV.

OBJECTIVES OF PROGRAM/INTERVENTION: To establish a resident-initiated HCV Clinic to: 1) Provide access to antiviral treatment through an integrated, comprehensive, medical and psychiatric care program; 2) Offer residents a practice-based learning opportunity in the chronic care of HCV-infected patients, involve residents in the development and management of a system to deliver this care, and incorporate teaching and evaluation of the ACGME core competencies throughout the clinical experience of our residents; and 3) Foster programs and the community to increase screening, diagnosis, and treatment of HCV.

DESCRIPTION OF PROGRAM/INTERVENTION: The HCV Clinic was established in early 2004 and meets monthly. Residents are precepted by an attending Gastroenterologist and Psychiatrist and are supported by a Registered Nurse coordinator. Treatment is guided by evidence-based protocols within the constraints of managed care formularies. Patients receive psychosocial support throughout treatment, as well as education about the disease, prevention of transmission, antiviral medications, and common side effects. We also have collaborated with the local health bureau to obtain epidemiologic data and create a system of referral for newly diagnosed patients. Further, an educational intervention has been conducted beginning with a needs assessment focusing on HCV knowledge and practice patterns among primary care residents (Internal Medicine, Family Practice, and OB/GYN) at our institution. A lecture series followed, aimed at improving knowledge in areas of concern. All Internal Medicine residents, in addition to the core HCV Clinic residents, are scheduled to rotate through the HCV Clinic as part of their chronic care rotations. The clinic was implemented within the Geriatrics Division. However, housestaff in any internal medicine, medicine/surgery residency program can use this intervention will be of benefit to all residents. Significance of the program is that the SP can refer to her notes during the interviews, which may allow the trainee to ask questions during the interview. Conversely, an advantage of a phone script is that the SP can refer to her notes during the interviews, which may allow the trainee to ask questions during the interview. Conversely, an advantage of a phone script is that the SP can refer to her notes during the interviews, which may allow the trainee to ask questions during the interview.
enhanced SP performance; and the SP can write notes throughout the session, something especially important for the quality of the feedback. 2. Even advanced trainees experienced anxiety when interviewing in front of faculty and peers. 3. Prior communication skills training in medical school and residency vary widely.

IMAGINED VOICES: AN EXERCISE IN EMPATHY. A. Dhurandhar1; D.R. Reifler2; J. Hauser2.

STATEMENT OF PROBLEM OR QUESTION: Can writing about another’s experience of illness and in turn, having one’s own story of illness recounted by the other encourage health care providers and medical educators to understand the experience of being another person? OBJECTIVES OF PROGRAM/INTERVENTION: 1. Identify how reflective writing enhances empathy and promotes understanding. 2. Appreciate the experience of being both a subject and a writer of a narrative and thus understand the potential benefits and difficulties of this method. 3. Explore the application of this method to teaching medical students and residents and to caring for patients.

DESCRIPTION OF PROGRAM/INTERVENTION: This workshop was offered to physicians, health care professionals and medical educators at three separate sites including the 2004 annual meeting of Society of General Internal Medicine, the 2004 annual meeting of American Academy on Physician and Patient, and at a work-in-progress meeting at Northwestern University Feinberg School of Medicine. During the sixty minute workshop, participants worked in pairs to form pairs and interview a fellow participant about an illness experience or other significant experience. Then the participants were asked to write a narrative from that individual’s perspective. The pairs rejoined a small group to share the narrative on a voluntary basis. At the end of the workshop conducted at the annual meeting of the Society for General Internal Medicine, participants filled out the meeting’s standard evaluation form. However at the end of the work-in-progress meeting at Northwestern University, participants were consented to submit their stories and to complete a detailed evaluation. This evaluation contained specific questions that were either in a 7 point scale format or were open-ended. 12 participants consented to complete the evaluation form.

FINDINGS TO DATE: Though most participants did not find it difficult to understand the perspectives of others (2.2/7) they definitely felt that writing narratives from the perspectives of others had a purpose (6.0/7) and that it considerably enhanced their feelings of empathy towards the subject (5.5/7).

KEY LESSONS LEARNED: Writing narratives from the perspectives of others encourages physicians, health care professionals and medical educators to imagine the experience of being another and creates a feeling of increased connection to or rapport with the subject of story.

IMMIGRANT AND REFUGEE HEALTH: DIDACTIC EDUCATIONAL CURRICULUM WITH COUNTRY-SPECIFIC PROFILES AND SPECIAL AMBULATORY MORNING REPORTS. G.A. Paccione1; R.G. Assy1; J. Smith1; B. Scel1; P. Baghram1; Montefiore Medical Center, Bronx, NY; “Albert Einstein College of Medicine, Bronx, NY; Brooklyn College, Queens, NY. (Tracking ID # 154310)

STATEMENT OF PROBLEM OR QUESTION: Practitioners normally lack formal training in immigrant health and geograhic medicine.

OBJECTIVES OF PROGRAM/INTERVENTION: a) To educate residents in health challenges of the recent immigrants and refugees b) To familiarize them with sociopolitical and economical contexts of where immigrant originate, and c) To teach and assess systems-based practices in other institutions.

DESCRIPTION OF PROGRAM/INTERVENTION: We assigned senior residents to the necessary knowledge and skills to fulfill these tasks.

KEY LESSONS LEARNED: We exposed senior residents to a system-based practice model via the medicine admitting resident role. We developed an ID # 152827)

IMPLEMENTING A MEDICINE ADMISSION RESIDENT ROTATION TO TEACH AND ASSESS SYSTEMS-BASED PRACTICES. O. Dec1; A. Erb1; V. Ramachandran1; S. Call1. Virginia Commonwealth University, Richmond, VA. (Tracking ID # 152867)

STATEMENT OF PROBLEM OR QUESTION: During residency, housestaff need to develop and efficient and effective systems-based practices. One example is decision making during a patient’s transition from outpatient to inpatient management. This process requires integrating clinical information as well as health system resources and third-party payor constraints. A limited number of tools exist to teach and assess these skills.

OBJECTIVES OF PROGRAM/INTERVENTION: We developed a Medicine Admission Resident (MAR) rotation in which learning objectives, teaching methods and performance report generated by the hospital's Electronic Medical Record system, and clinical, health system and socioeconomic backgrounds most helpful.

FINDINGS TO DATE: 90% of resident-participants found clinical aspect and epidemiology more interesting, and the clinical, health system, and sociopolitical backgrounds most helpful.

KEY LESSONS LEARNED: The usefulness and importance of the novel real case-based and carefully designed didactic curriculum addressing all relevant topics in immigrant health.
the faculty intervention influence resident attitudes toward elderly patients? Our goal was to “geriatricize” the culture of our institutions to improve faculty confidence in caring for older adults and teaching geriatrics. Measurements: Faculty completion (13 items, multiple choice), knowledge and behavior before and after the day-long intervention. A survey given before and 6 months after the intervention asked for self-perceived confidence in caring for geriatric patients (for example, “I feel competent to recognize, evaluate, and treat dementia in my older patients”) and about attitudes toward caring for older patients (for example, “I welcome elderly patients into my practice”). All answers were based on a 5-point Likert scale, with 1 = “strongly agree” and 5 = “strongly disagree.” Residents completed identical surveys for attitude questions before and 6 months after the intervention.

DESCRIPTION OF PROGRAM/INTERVENTION: We conducted focus groups with inpatient and outpatient faculty and geriatricians at 4 training sites (University, VA, 2 community); and identified the following knowledge and skill gaps: diagnosis and treatment of cognitive decline, functional assessment, managing care transitions, competency assessment, and treatment of behavior- al symptoms. We then developed a one-day workshop that included didactic presentations by geriatric experts followed by interactive small group role-plays where participants had the opportunity to apply newly learned content using pocket cards to trigger their memories from the didactic sessions. “Students and learners’ presented geriatric-focused clinical cases to participants, simulating teaching scenarios. Forty-two faculty participated in one of 3 workshops given over 6 months.

FINDINGS TO DATE: Forty-two faculty completed the intervention. Faculty showed statistically significant improvements in the knowledge test following the intervention (60% to 72%, p < 0.05). Faculty also increased their self- perceived competence in caring for elderly patients (11 of 14 items reported significant). Baseline attitudes toward elderly patients for both faculty and residents were high and neither showed improvement in attitudes following the intervention. Faculty strongly disagreed with the statement “I received in geriatrics during my residency was adequate to meet the needs of my practice,” and strongly agreed with the statement “I would have benefited from additional geriatrics training during my residency.”

KEY RESEARCH LEANS: A one-day intervention faculty intervention in geriatrics significantly improved faculty knowledge and self-perceived competence to care for older patients. Modalities to be used to demonstrate innovation at meeting: Workshop power point presentations, evaluation tools, scripted cases for role-plays, pocket cards designed as teaching prompts for faculty.

IMPROVING WOMEN’S HEALTH: THE REPRODUCTIVE HEALTH MODEL CURRICU- LUM. Michele Walker1, Cora J. Wiederman1, J. Hurlburt1, M. M. Wastachuk1, K. J. Hartmann1. 1University of Arizona, Tucson, Arizona, Arizona, Arizona.

STATEMENT OF PROBLEM OR QUESTION: Internal medicine physicians care for patients across the lifespan. Studies show that women access health care services at a greater rate than men (51% versus 32%), and that 40-65% of women report using general/family practitioners or internists, in addition to obstetricians/gynecologists, for primary care. For this reason, it is critical for future internists be educated on topics such as contraception, STD referral and prevention, and pregnancy options, and that they develop skills to communicate respectfully and effectively with women about these sensitive topics.

OBJECTIVES OF PROGRAM/INTERVENTION: • To help medical schools fill education and training gaps and address underrecognized or ignored areas of reproductive health medical education • To help medical schools improve provision of content and opportunities by teaching faculty providers effective communication skills • To help medical schools educate future providers to effectively treat the whole patient, taking into account contextual factors that might affect a patient’s health (e.g. culture, ethnicity, gender, language/literacy, socioeconomic class, spirituality/religion, age, sexual orientation, disability)

DESCRIPTION OF PROGRAM/INTERVENTION: The Reproductive Health Model Curriculum, 2nd Edition is a 7-module resource designed to help educators integrate reproductive health topics into their school’s curriculum. The 2nd Edition Curriculum includes new information as well as updated medical content and links to thousands of resources, including articles, Web sites, educational tools, and organizations. The curriculum emphasizes improving provider-patient communication skills and cultural competence, with special attention paid to psychosocial, psychological, and demographic factors in relation to reproductive health care. APGO Women’s Health Care Curriculum for Medical Students (APGO’s Competencies will eventually be cross-referenced with the AAMC’s undergraduate medical education competencies) are included as Module Learning Objectives. Curriculum Modules include: Implementation Guidelines, Psychosocial Factors, Communication, Sexually Transmitted Diseases, Primary Care for Infertility, Contraception, and Abortion. The Reproductive Health Model Curriculum has been used at the University of Arizona College of Medicine as a resource for a women’s health course for fourth year residents, their new curriculum and as the basis for a fourth year women’s health elective. Future plans include using the Curriculum to create a women’s health elective in the internal medicine residency program. Participants will learn how the Curriculum has been used at the University of Arizona and how the Curriculum can be used to improve their teaching of reproductive health topics.

FINDINGS TO DATE: The 1st Edition Curriculum was incorporated into elec- tives, clerkships, and didactic curricula, and has been used in the classroom and/or faculty at 72 US medical schools (57%), and disseminated in at least 24 countries worldwide. Preliminary data analysis shows the 2nd Edition Curriculum has been accessed by students and/or faculty at 91 US medical schools (73%), by internal medicine residency faculty (including Yale University), and has been disseminated in over 38 different countries.

KEY LESSONS LEARNED: The 2nd Edition Curriculum is a useful tool for improving reproductive health training of future physicians. APHG is currently working to make it even more useful by converting the content (currently available in PDF format and on CD-ROM) to web-based customizable PowerPoint slide sets.

INCREASING FEEDBACK TO FACULTY REGARDING TEACHING THROUGH A PEER OBSERVATION PROGRAM D. M. S. Moxley1, M. M. Cooke1. 1University of California, San Francisco, San Francisco, CA; 2San Francisco Veterans Affairs Medical Center, San Francisco, CA. (Tracking ID 153593)

STATEMENT OF PROBLEM OR QUESTION: Although faculty members receive feedback from learners regarding their teaching, this feedback is often delayed and may relate more to a teacher’s charisma or communication style rather than actual teaching skills. There are insufficient opportunities for faculty to discuss their teaching in a rigorous and reciprocal manner. Therefore, ARHP is ongoing and of scholarly activities is routine, peer review of teaching activities is not a part of the culture of medicine.

OBJECTIVES OF PROGRAM/INTERVENTION: 1) Enrich the teaching skills of medical educators 2) Foster dialogue and build community among educators from different departments and different levels of experience 3) Promote a culture of peer review among the teaching faculty

DESCRIPTION OF PROGRAM/INTERVENTION: A TOP (Teaching Observation Program) was a program called TOP (Teaching Observation Program) through the UCSD Academic of Medical Educators. TOP allows any faculty member to request observation and feedback from a trained peer observer. Trained peer observers are available for one-on- one, group, and large audience classroom. All peer observers are physicians and/or faculty at 72 US medical schools (57%), by internal medicine residency faculty (including Yale University), and have participated in several key courses through course director notification of faculty that they would be paired with a TOP mentor unless they declined participation. Since its inception in Spring 2005, 35 faculty members have participated in TOP. Feedback from faculty members, both positive (overall rating mean = 4.79, 1 = poor, 5 = excellent) and negative, feels that TOP is collaborative (mean = 4.71, 1 = strongly disagree, 5 = strongly agree), that TOP provides valuable feedback (mean = 4.70) and that TOP allows them to change their teaching based onTOP feedback (mean = 4.67). Trained peer observers (mentors) also rated the program highly (overall rating mean = 4.76), felt that TOP was a collaborative process (mean = 4.55), and that the experience was valuable to the mentor (mean = 4.62).

KEY LESSONS LEARNED: Faculty may be initially reluctant to seek out peer observation and feedback. However, when faculty are scheduled to participate, with opt-out available, satisfaction with the program of peer observation and feedback is high. There are perceived benefits to both the observer and the observee in TOP. Making observation and discussion of teaching routine involves a change in culture.

INTEGRATING AN ONLINE CHRONIC PAIN MANAGEMENT MODULE INTO THE CURRICULUM OF BOTH 4TH YEAR MEDICAL STUDENTS AND RESIDENTS J. Rehman1, J. Rehm1. 1Medical College of Wisconsin, Milwaukee, WI. (Tracking ID 154299)

STATEMENT OF PROBLEM OR QUESTION: Chronic pain is a major health issue worldwide with more than 75 million Americans suffering from some form of persistent or recurrent pain. Management of chronic pain is inherently difficult and challenging. Several barriers exist, including inadequate physician training, concern about side effects and time pressures that negatively impact teaching and learning in ambulatory settings. Web-based (online) learning was chosen as a possible solution.

OBJECTIVES OF PROGRAM/INTERVENTION: An online asynchronous e-learning course was designed to serve as a self-study curriculum to educate both medical students and Internal Medicine residents. The module’s primary objective is to provide the essential knowledge, practice guidelines and clinical tools necessary to enable learners to perform a thorough pain assessment and manage pain in their patients. The module allows learners to learn at their own pace, in their own style, and in their own time. Content is supported by media and interactivity. Course activities include pre and post test, quizzes, case discussions and module evaluation. The pass- width ratios of the program are set, however, a student to complete it in one sitting or topic by topic as time permits. It is available 24/7 and is accessible from any computer with internet access. Internal Medicine Residents (PGY1-3) were asked to complete the module during their one-month Ambulatory block rotation. Instructors/resident contact was minimal and managed online. Fourth year medical students were exposed to an adaptation of the module as part of an Internal Medicine Master Clinician elective.

FINDINGS TO DATE: Since module launch, 2005, 25 residents and 26 students have enrolled in this course. Based on learner feedback, it took an average of 2 hours to complete. Overall, scores of the post-test improved, with a median increase of nearly 20%. All but one learner agreed that the module met the stated objectives.
INTegrating the Social and Behavioral Sciences in Undergraduate Medical Education. J.M. Satterfield1; S. Adler2; H. Chen1; J. Adler1; N. Adler2; D.L. Stevens1; S. Zabar1; K. Hanley1; C. Tseng1; B. Dreyer1.

OBJECTIVES OF PROGRAM/INTERVENTION: 1. Create a resident-driven forum for instruction occurring in chaotic, stressful learning environments; and substantiate that common cross-cover problems can result in misdiagnosis and mistreatment of patients. 2. Identify senior residents’ learning needs; and design educational programs based on these needs. 3. Create an informal learning environment that will improve residents’ self-reflection and self-assessment skills. 4. Provide learners with feedback and support that will improve their performance in cross-cover calls. 5. Learners are asked for more case-based learning.

FINDINGS TO DATE: Evaluations, with 69% of interns responding, were very positive. Interns strongly agreed that the case-based discussions helped them feel more confident (mean of 4.1 on a 5-point Likert scale) and more competent in managing cross-cover calls (4.5). They felt the discussions were very helpful in their first month of internship (4.7) and will continue to help them through the remainder of their intern year (4.7). Interns felt that having residents (rather than faculty) teach the discussions made the information more relevant and practical (4.5). Reprints were available in the department and it would have positively influenced their application to the residency program. Ninety-seven percent of respondents stated they would volunteer to teach a formal discussion next year.

KEY LESSONS LEARNED: 1) A comprehensive overview of a challenging subject matter is an effective educational tool. Intern Boot Camp is now part of the formal internal medicine residency program curriculum.
LEADERSHIP EDUCATION AND ADVOCACY DEVELOPMENT FOR MEDICAL STUDENTS: THE CU-LEADS PROGRAM

M.A. Earnest1; L.J. Adams1; S. Wong1; S. Berman1
1University of Colorado Health Sciences Center, Denver, CO. (Tracking ID: 151815)

STATEMENT OF PROBLEM OR QUESTION: While health and illness primarily arise from social conditions in the community, few physicians are comfortable or effective in acting socially to promote health.

OBJECTIVES OF PROGRAM/INTERVENTION: 1) Develop a community of scholars focused on leadership and advocacy in the promotion of health 2) Expand the traditional paradigm of physician professional engagement and education to include community and policy level approaches to improving health.

DESCRIPTION OF PROGRAM/INTERVENTION: CU-LEADS Seminar Program: This monthly seminar series, open to the entire health sciences center, features prominent leaders from a variety of backgrounds. Seminar speakers highlight their own work and discuss their views on leadership and the promotion of a healthy society. CU-LEADS Course: This 16-week elective course, open to first and second medical students, focuses on social, economic and cultural determinants of health, and on community and policy level approaches to improving health. The course highlights four themes each spring (e.g. the uninsured, homelessness, domestic violence, vulnerable mothers and children) and is taught in a small group, problem-based format that integrates the work and leadership of community leaders and organizations with experience working in the area of interest. Four new themes will be offered the following spring such that the course will offer eight rotating themes every two years. CU-LEADS Summer Program: Students apply competitively for this 8-week program. Students are placed with working groups who will complete an advocacy project. One half-day per week is devoted to a formal leadership and advocacy curriculum. Capstone Project: CU-LEADS will offer four-year students the opportunity to develop and complete a scholarly project relating to community health or underserved or vulnerable populations.

FINDINGS TO DATE: Students have shown a high level of interest in the program and its goals. The elective filled almost immediately and several students were on a wait list to complete an advocacy project. First-year students will complete the 8-week program. Second-year students, the program has allowed them greater opportunities for participation. Meeting the expressed level of interest may involve expanding the capacity of the program.

KEY LESSONS LEARNED: Curricular reform has given the program an opportunity to integrate program goals into the curriculum and the program has helped shape the direction of the school’s new curriculum. Collaboration between the primary care department has strengthened the program and its implementation. Community agencies see this program as a partnership which benefits both them and the students. Funding for educational innovation is critical to success. In addition to a HRSA grant, local foundations have expressed interest, with funding secured from one of them.

LEARNING MEDICAL ETHICS AND ADVOCACY THROUGH LONGITUDINAL PATIENT CARE

A. Henn1; B. Ogur1; D. Hinn1
1Harvard Medical School and Cambridge Health Alliance, Boston, MA. (Tracking ID: 546489)

STATEMENT OF PROBLEM OR QUESTION: Medical students rarely connect sufficiently with patients to recognize ethical issues arising out of patients’ social situations, nor to feel motivated to advocate.

OBJECTIVES OF PROGRAM/INTERVENTION: To connect students with patients sufficiently to appreciate and empathize with problems arising from their social contexts. 2. To facilitate students to be effective advocates for their patients in complex medical systems. 3. To help faculty assist students in exploring their ethical and personal biases, in establishing research projects in support of social justice, and in engaging in advocacy.

DESCRIPTION OF PROGRAM/INTERVENTION: The Harvard Medical School-Cambridge Integrated Clerkship, a complete redesign of third year education, bases students’ learning on serial contact with continuity patients in all venues of care over a year-long rotation, with year-long mentoring. Central to the program is the close relationships students form with their patients; providing the context for learning clinical medicine and for professional development.

Ethics and advocacy are taught through several methods, including a case-based didactic curriculum emphasizing reflective practice, personal mentorship by senior physicians, and mentorship and involvement in the real longitudinal care of patients with focus on clinical, social, and ethical issues. These methods assist students in deepening their understanding of ethical issues and in empowering them to become involved in advocacy and social justice-related research.

FINDINGS TO DATE: We present an example of a student’s involvement in longitudinal care that stimulated learning about ethics and advocacy. A young undocumented man presenting with shortness of breath consented to join the clinic team. To provide the best care, the medical team and the student worked with staff from social work, medical ethics, nursing, cardiology, cardiac surgery, and the Disparities Solutions Center to attempt to resolve the obstacles to care. Immigration status was the most challenging. After several failed attempts, the patient was hospitalized at a tertiary care hospital where the patient died from idiopathic dilated cardiomyopathy. With his patient, the student confronted the barriers to care faced by undocumented immigrants, most poignantly in the area of interest. Four new themes will be offered the following spring such that the course will offer eight rotating themes every two years. CU-LEADS Summer Program: Students apply competitively for this 8-week program. Students are placed with working groups who will complete an advocacy project. One half-day per week is devoted to a formal leadership and advocacy curriculum. Capstone Project: CU-LEADS will offer fourth-year students the opportunity to develop and complete a scholarly project relating to community health or underserved or vulnerable populations.

FINDINGS TO DATE: Of 42 surveys received (response rate 70%), 21% respondents claimed to have initiated chronic narcotic therapy in only an average of 1.9(SD 1.9) days. Of 42 surveys received (response rate 70%), 21% respondents claimed to have initiated chronic narcotic therapy in only an average of 1.9(SD 1.9) days. Of 42 surveys received (response rate 70%), 21% respondents claimed to have initiated chronic narcotic therapy in only an average of 1.9(SD 1.9) days. Of 42 surveys received (response rate 70%), 21% respondents claimed to have initiated chronic narcotic therapy in only an average of 1.9(SD 1.9) days. Of 42 surveys received (response rate 70%), 21% respondents claimed to have initiated chronic narcotic therapy in only an average of 1.9(SD 1.9) days.
edge questions about narcotics/CNMP was 4.9 (SD = 1.7). Resident scores on knowledge did not differ significantly by PGY level. Only 7.0% (6/83) of residents were able to correctly identify the six DEA Class II narcotics from a list of ten medications (4–5 on 5-point Likert scale), while 50% (21/42) felt uncomfortable. There was a non-significant trend in increasing comfort level by training level (PGY mean = 2.2; PGY 2–3, PGY 3–4, p = 0.28). In contrast, 14% (6/42) of residents felt satisfied in managing CNMP patients (4–5 on 5-point Likert scale) while 60% (22/35) felt dissatisfied. Five percent (4/72) residents felt that CNMP enhanced their education, while 55% (21/38) found CNMP to be an important issue. A curriculum directed at MS2s can have an impact on residents' knowledge of CNMP management. Resident satisfaction and knowledge did not differ by training level. These findings should guide future educational interventions.

OUTCOME OF A HEALTH LITERACY CURRICULUM FOR MEDICAL STUDENTS. W.R. Harper1; S. Cook1. University of Chicago, Chicago, IL. (Tracking ID # 153961)

STATEMENT OF PROBLEM OR QUESTION: Health literacy is an under-emphasized aspect of the clinical encounter. In 2 adults struggling with low literacy, which has been shown to have adverse health outcomes, such as worse diabetes treatment and increased risk of hospitalization. The 2004 Institute of Medicine report on health literacy charged professional schools in the health fields to incorporate health literacy into their curricula. Prior to developing and instituting the curriculum at our medical school, students at all class levels completed a health literacy survey (modified from Shillinger 2004) which asked about attitudes, confidence in using and frequency of use of specific health-literacy behaviors. The results of that survey revealed that students at all class levels felt the issue of health literacy was important. Our goal, therefore, was to develop a vertically integrated curriculum at each student level that advanced skills in interacting with patients with limited literacy.

OBJECTIVES OF PROGRAM/INTERVENTION: After instituting the curriculum emphasizing health literacy, students will be more confident in using health literacy behaviors, and report higher use of these behaviors in their clinical encounters. The current analysis focuses on the second-year medical student (MS2) aspect of the curriculum.

DESCRIPTION OF PROGRAM/INTERVENTION: The curriculum for the MS2s included a lecture where literacy statistics were outlined and the AMA video on Health Literacy was viewed. In lecture, students were specifically taught the Teach Back method of patient education described in the literature. In this method, patients are instructed to tell back to the provider the key information presented during the visit. If the patient’s understanding is incomplete, the provider re-educates the patient until comprehension is confirmed. After learning the concept, students practiced the skill in a 12-minute interview with a standardized patient trained to present with a breath complaint while exhibiting limited literacy skills. The interview was observed by a group of three with one observing, and feedback from one was provided. The students filled out the health literacy survey at the end of the quarter (3 months after the curriculum).

FINDINGS TO DATE: On the initial 2004 survey prior to the curriculum, we found no difference between MS1s and MS2s in their self-reported attitude towards health literacy, nor in their confidence in using and frequency of use of health literacy behaviors. After the 2005 MS2 curriculum, we did find an increase in mean confidence scores between the MS1s and MS2s. (3.1/5.0 for 2004 MS1s, 3.7/5.0 for 2005 MS2s, p < 0.05.) We also found an increase in mean frequency of use scores (2.6/5.0 for 2004 MS1s, 3.0/5.0 for 2005 MS2s, p < 0.05.). When we compared 2004 to 2005 MS2s, we found a trend toward increased confidence and frequency of use of health literacy behaviors. Notably, there was a statistically significant increase in frequency of use of one key question that directly assessed the Teach Back method: “How often would you estimate that you prevent your patient from feeling confused by using clear explanations.” (2004 MS2s 3.1/5.0, 2005 MS2s 3.5/5.0, p < 0.05).

KEY LESSONS LEARNED: Medical students at all levels feel that health literacy is an important issue. A curriculum directed at each student level can have an impact on self-reported confidence and frequency of use of certain health literacy behaviors.

REAL-TIME EVIDENCE-BASED MEDICINE: A SEARCHING TUTORIAL. R.L. Stark1; M. Helmers1; M. Konosh1; L. Schwing1; D.R. Korenstein1. Mount Sinai School of Medicine, New York, NY. (Tracking ID # 15299)

STATEMENT OF PROBLEM OR QUESTION: To practice Evidence-Based Medicine (EBM) in real-time, physicians must quickly retrieve evidence to inform their management decisions. Internal Medicine (IM) residents receive little formal education in electronic database searching and have identified poor searching skills as a barrier to their evidence-based practice.

OBJECTIVES OF PROGRAM/INTERVENTION: (1) To teach IM residents to ask focused clinical questions and use EBM in real-time; (2) to increase IM residents’ efficiency in searching PubMed and filtered EBM resources; and (3) to improve IM residents’ comfort in searching for primary evidence to guide real-time patient care.

DESCRIPTION OF PROGRAM/INTERVENTION: The EBM Searching Tutorial was integrated into the inpatient ward rotation for IM residents at Mount Sinai Hospital in New York City. All PGY2 and PGY3 (n=88) residents were randomized to either participate in the searching tutorial or to attend control

OVERCOMING THE CEILING AND HALO EFFECTS IN FAUCY CLINICAL EVALUATIONS. T. K. Houston1; S. M. Richard1. University of Alabama at Birmingham, Birmingham, AL. (Tracking ID # 152944)

STATEMENT OF PROBLEM OR QUESTION: Standard evaluations of faculty teaching are limited by a lack of specificity and the ceiling and halo effects. OBJECTIVES OF PROGRAM/INTERVENTION: To illustrate the richness of specific feedback generated by trainees using a novel research tool, the Nominal-Group Technique (NGT).

DESCRIPTION OF PROGRAM/INTERVENTION: Medical students and residents rotating on the inpatient medicine service participated in end of rotation NGT’s to eliciting evaluative feedback on their attending physicians. NGT is a structured process utilized in a group setting to elicit responses to a specific question. The question placed to the team members was: What are the specific teaching behaviors of attending physicians that foster learning about knowledge, attitudes, or skills that define competency as a physician? Using a “round-robin” nomination strategy to elicit responses from individual participants, a comprehensive list of behaviors was generated. Next, team members independently selected responses from their respective attending’s most effective teaching behaviors and those with room for improvement. The data was returned to attendings as feedback. To illustrate the richness of specific feedback generated by NGT, we present a qualitative analysis of the team results of a single physician on two consecutive ward months. FINDINGS TO DATE: A total of 119 students and residents performed 42 NGT evaluations of 23 attending physicians. For our sample attending at baseline, the team members identified the most effective teaching behaviors as: asking questions concerning clinical decision making, teaching from past experience and evaluating team members monthly. Areas in which improvement was felt possible included: being more decisive, giving short talks on pertinent patient topics, and teaching how one educates patients. Two months after receiving feedback, the attending’s new team indicated that two of the behaviors previously identified as having room for improvement were now considered to be among his three most effective teaching behaviors: having confidence in decision making, setting aside time for group talks, and being approachable and willing to answer questions.

KEY LESSONS LEARNED: In overcoming the ceiling and halo effects, NGT provides faculty with personalized behavioral feedback often missed with current evaluation tools.

PROFESSIONAL DEVELOPMENT COURSE FOR MEDICAL STUDENT LEADERS: A THREE YEAR EXPERIENCE. C. Zepeda1; J. Abbe1; S. White1; M. Baliga1; A.R. Flipse1; M. O’Connell1. University of Miami, Miami, FL. (Tracking ID # 152629)

STATEMENT OF PROBLEM OR QUESTION: Medical educators should continue to place more emphasis on the professional development of students while nurturing them into life-long learners.

OBJECTIVES OF PROGRAM/INTERVENTION: The goals of our program are to: (1) facilitate the promotion of self-directed and collaborative learning, (2) help standardize the learning environment and experience for students, and (3) provide students with life-long professional skills.

DESCRIPTION OF PROGRAM/INTERVENTION: From 2002 to 2005, a total of 137 senior medical student leaders participated in a yearly summer seminar program consisting of four evening sessions and a half-day “Leadership Summit.” All seminars were formatted in adult learning style, employing short didactic sessions with individual and group exercises, pre-seminar reading, and reflective exercises. Topics for seminars included “Introduction to Learning Styles,” “Effective Teaching Techniques and Venues,” “How Teams Function and Succeed,” “Effective Role Modeling and Mentoring,” and “Effective Feedback.” The Leadership Summit was comprised of short didactic sessions coupled with highly interactive group exercises addressing issues of conflict resolution, negotiation skills and practices of exemplary leaders. Each student then had a key role in leading, mentoring, and teaching underclass students in one of the school’s student-directed programs.

FINDINGS TO DATE: Each year, a survey was administered pre and post-seminar program addressing students’ perceived knowledge, attitudes, and skills in the areas of peer teaching, teams, leadership, role modeling and feedback. Students were re-surveyed 8 months later to assess attitudinal changes over time. Survey responses for all three years were recorded using a 5-point Likert scale and compared by the Friedman test. An 88% response rate was obtained. At the conclusion of the program, students felt more confident in their role as teachers, leaders, role models, and team managers (p < 0.01). Students also felt more comfortable at adapting their teaching to various learning styles and better at giving feedback when teaching a skill (p = 0.01). These attitudes persisted and improved over time. Students rated the course favorably each year, indicating it was well organized and highly informative.

KEY LESSONS LEARNED: Helping medical students to develop professional skills through innovative curricula may better prepare them for their future roles as leaders, educators, and mentors.
RE-THINKING NOON CONFERENCE FOR INTERNS: DELIVERING CORE CURRICULUM ONCE PER MONTH IN A DEEPER FREE ENVIRONMENT

T. Minichiello1; E. Hopp; R. Lucatorto; N. Water; K. Judkins
1University of California, San Francisco, San Francisco, CA; 2University of California, San Francisco, CA (Tracking ID: Z 153416)

STATEMENT OF PROBLEM OR QUESTION: Although noon conference has been an integral part of a core curriculum for internal medicine residents, it suffers from many shortcomings, including poor attendance by housestaff and use of passive learning style.

OBJECTIVES OF PROGRAM/INTERVENTION: The objectives of the “Intern Half Day” (IHD) are 1) to provide internal medicine residents with a core curriculum 2) to increase use of interactive small-group case-based teaching, facilitating the teaching of key social medicine and multidisciplinary topics and 3) to provide a supportive environment for interns to learn together and share experiences.

DESCRIPTION OF PROGRAM/INTERVENTION: The noon conference curriculum was extensively reviewed, and key topics for interns were identified. Each morning for a month of core curriculum, case-based tutorials are delivered from 8–12 noon, the first 3 hours of “IHD” are devoted to a single organ system and include one didactic lecture and two case-based discussion sessions. The final hour is devoted to a topic in social medicine and may take the form of small group or didactic presentation.

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KEY LESSONS LEARNED: Adding PAD training, especially checking and interpreting ABI, to internal medicine residency programs is a very effective and essential step in increasing the trainee’s knowledge about PAD and improving patient care. Detecting ABI should be a required skill to be mastered during primary care training programs. MODALITIES: A poster presentation, or 10-minute power point presentation that include a 2-minute video demonstration on how to check ABI.

SEE ONE, DO ONE, TEACH ONE: A NEW WAY OF IMPLEMENTING A QUALITY IMPROVEMENT CURRICULUM L. M. Green1; K. Feiereisel1; J. Hartman1; D. P. Miller1; L. Harper1; S. W. R. J. Lyman1; J. D. Voss1; K. Scully1; for more prompting and self-discipline to achieve goals and more time for the goal, establishes indicators for progress and lists tangible evidence that will help the resident and intern is asked to identify one or two goals to achieve during the internship. On each of 4 teams) have an orientation meeting at the beginning of each 4-week rotation. These teams teach how to perform hands-on practical tasks in a team setting, such as teaching the house staff to be lifelong learners.

PROVES LEARNER SKILLS

The cyclical nature of this curriculum ensures ongoing demands, residents have demonstrated that they are eager and motivated to participate and implement their own QI projects during Phase 2 (“do one”). In Phase 3 (“teach one”) residents use their experiences to teach residents and faculty about the QI process. Phase 1 consisted of demonstrating a program-wide QI project selected by the pre-clinical seminar series. Residents created a faculty-designed check sheet for breast cancer screening rates in their own clinical practice followed by a discussion of the principles and techniques of the QI process. In Phase 2, residents participating in our weekly Evidence Based Medicine/QI seminar series will design and implement their own QI projects over a period of several months. In Phase 3 those same residents will teach the seminar series (with faculty input and supervision) and serve as mentors to residents entering Phase 2. Coupled with several interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive interactive 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questionnaire asked about students’ self-assessed value of certain components of delivering bad news, and their confidence in using them.

FINDINGS TO DATE: There was no change in the students self-reported attitudes toward delivering bad news after a 4-hour long lecture on the topic and 3 days of experiences with SPs. Although the intervention group (intervention group) and half had not (control group). The curriculum consists of 2 components: 1) hands-on skills training and 2) a 3-day pre-intervention self-assessment survey to assess skill levels. The survey asks students to rate their comfort levels in delivering bad news to standardized patients (SPs). SPs are trained to deliver a brief message about the patient’s condition and to elicit the patient’s worries, fears, and concerns. The SPs are then interviewed to assess the patient’s reaction to the bad news. The survey also asks students to rate their comfort levels in delivering bad news to actual patients.

KEY LESSONS LEARNED: The ability to confidently deliver bad news to patients is a necessary skill for being a competent physician. Having a structure to give bad news has been shown to be effective in improving the self-reported skills of medical students prior to entering the clerkships. [1] Baile WF, Buckman R, Lenzi R, Glober G, Beale EA, Kudelka AP. SPIKES—A six-step protocol for delivering bad news: application entering the clerkships. [1] Baile WF, Buckman R, Lenzi R, Glober G, Beale EA, Kudelka AP. SPIKES—A six-step protocol for delivering bad news: application entering the clerkships. [1] Baile WF, Buckman R, Lenzi R, Glober G, Beale EA, Kudelka AP. SPIKES—A six-step protocol for delivering bad news: application entering the clerkships. [1] Baile WF, Buckman R, Lenzi R, Glober G, Beale EA, Kudelka AP. SPIKES—A six-step protocol for delivering bad news: application entering the clerkships. [1] Baile WF, Buckman R, Lenzi R, Glober G, Beale EA, Kudelka AP.

Therefore, we have found that this structure is likewise effective in improving the self-reported skills of medical students prior to entering the clerkships. [1] Baile WF, Buckman R, Lenzi R, Glober G, Beale EA, Kudelka AP. SPIKES—A six-step protocol for delivering bad news: application entering the clerkships. [1] Baile WF, Buckman R, Lenzi R, Glober G, Beale EA, Kudelka AP. SPIKES—A six-step protocol for delivering bad news: application entering the clerkships. [1] Baile WF, Buckman R, Lenzi R, Glober G, Beale EA, Kudelka AP. SPIKES—A six-step protocol for delivering bad news: application entering the clerkships. [1] Baile WF, Buckman R, Lenzi R, Glober G, Beale EA, Kudelka AP. SPIKES—A six-step protocol for delivering bad news: application entering the clerkships. [1] Baile WF, Buckman R, Lenzi R, Glober G, Beale EA, Kudelka AP.

OBJECTIVES OF PROGRAM/INTERVENTION: 1. Improve intern comfort in delivering bad news. 2. Teach interns how to handle difficult situations. 3. Introduce interns to the process of giving bad news. 4. Enhance interns’ self-assessed comfort in giving bad news.

KEY LESSONS LEARNED: The ability to confidently deliver bad news to patients is a necessary skill for being a competent physician. Having a structure to give bad news has been shown to be effective in improving the self-reported skills of medical students prior to entering the clerkships. [1] Baile WF, Buckman R, Lenzi R, Glober G, Beale EA, Kudelka AP. SPIKES—A six-step protocol for delivering bad news: application entering the clerkships. [1] Baile WF, Buckman R, Lenzi R, Glober G, Beale EA, Kudelka AP. SPIKES—A six-step protocol for delivering bad news: application entering the clerkships. [1] Baile WF, Buckman R, Lenzi R, Glober G, Beale EA, Kudelka AP. SPIKES—A six-step protocol for delivering bad news: application entering the clerkships. [1] Baile WF, Buckman R, Lenzi R, Glober G, Beale EA, Kudelka AP. SPIKES—A six-step protocol for delivering bad news: application entering the clerkships. [1] Baile WF, Buckman R, Lenzi R, Glober G, Beale EA, Kudelka AP.
develop a novel educational program for trainees from different departments and to gain insights for curricular innovations in substance abuse.

TEACHING CARDIOPULMONARY CLINICAL SKILLS VIA "VIRTUAL PATIENTS." J. Jevic1; D. M. Torre; P. Redlich; J. L. Sebastian; D. Bragg1. Medical College of Wisconsin, Milwaukee, WI (Tracking ID: Z39336)

STATEMENT OF PROBLEM OR QUESTION: Successfully teaching the skill of cardiopulmonary physical exam in the classic lecture-discussion and small group model is associated with various barriers including patient recruitment, changing physical exam findings and inability to use a standardized method to assess knowledge and skills attained by students.

OBJECTIVES OF PROGRAM/INTERVENTION: To enhance the knowledge and skills of clerkship (M3) students in cardiopulmonary auscultation and assess their ability to identify abnormal cardiac and pulmonary auscultory sounds using an interactive web-based module.

DESCRIPTION OF PROGRAM/INTERVENTION: Using the computer management platform Angel, we introduced an interactive web-based module to enter M3 students that highlighted common diseases (i.e. asthma, pneumonia, emphysema, congestive heart failure, and acute coronary syndrome). The module is accessible via web during the week of clerkship orientation. Initially, a tutorial reviews basic and advanced cardiopulmonary physical exam skills with features such as hyperlinks to physical exam skills videos and clinical skills websites. Subsequently, a case based curriculum promotes active learning by integrating pop-up pictures, X-rays, and audio of auscultory findings, as well as a videotaped patient interview. Students are asked to identify various physical exam findings, interpret abnormal cardiac and lung sounds, and make a diagnosis. An eight question pre/post knowledge quiz tested M3 students (n=180) ability to identify abnormal heart and lung sounds. M3 students also completed a survey rating their confidence to identify abnormal cardiopulmonary auscultory findings after the intervention, as well as for satisfaction with the curriculum content and e-learning module.

FINDINGS TO DATE: Student’s mean score on the knowledge quiz was 62.3% (+/-19%) prior to the intervention, rising to 93.7% (+/-11%) after the curriculum. The mean difference in the pre-test and post-test quiz scores was 31.4%, which was statistically significant by dependent t-test (p<0.001). Two thirds of students rated the web-based module as very good or excellent. Program evaluation rating averaged 4.1 (Strongly Disagree to 5=Strongly Agree) for satisfaction with the curriculum, ability to identify abnormal cardiac and pulmonary auscultory sounds using an interactive web-based module.

KEY LESSONS LEARNED: A well-structured curriculum that structures an approach to interdisciplinary post-discharge visits and provides students direct experiences with these visits can increase medical and pharmacy students' self-assessed ability to ensure patients' safe transition into the outpatient setting.

TEACHING MEDICAL HUMANITIES IN AN INTERNAL MEDICINE RESIDENCY PROGRAM: EVALUATION OF A CURRICULUM. N. Jain1; P. Aronowitz1. California Pacific Medical Center (CPMC), San Francisco, CA (Tracking ID: 151336)

STATEMENT OF PROBLEM OR QUESTION: Medical Humanities (MH) programs have recently increased in number at US medical schools. MH refers to the use of humanities and arts-based teaching materials in medical school and residency curricula. It includes disciplines like literature, religion, ethics, history, philosophy of medicine, film, social and cultural anthropology. While medical schools have embraced MH and its importance to medical education, residency programs lag behind in spite of residency training spanning a critical period for development and practicing patient care techniques.

OBJECTIVES OF PROGRAM/INTERVENTION: The objectives of this program were to determine resident attitudes towards MH, introduce a curriculum, and then evaluate it.

DESCRIPTION OF PROGRAM/INTERVENTION: This study was conducted from October 2004 to September 2005 in an Internal Medicine Residency training program in San Francisco. Housestaff completed an initial survey, participated in a MH curriculum, and then finished a final survey. IRB approval was obtained. The curriculum consisted of two noon conferences and two journal clubs. After the pre-curriculum survey was completed, the first noon conference was introduced by three housestaff. The concept of MH was introduced by providing historical examples of how medicine and humanities have been intertwined for several centuries. Three interns, one chief resident, and three attendings participated in the second noon conference. They shared memorable moments of their training by describing a scenario or sharing a piece of personal writing. The journal clubs were held outside the hospital where a New Yorker essay about average doctors and a Harvard Business Review article addressing women’s ambition were discussed.

FINDINGS TO DATE: In both surveys, residents felt MH is an important part of medical education. They felt focusing on MH would improve the delivery of patient care for end-of-life issues, delivery of bad news, self-reflection, and moral/professional development. In the post–curriculum survey, a significant number of upper level residents compared with interns agreed with the statement that MH is an important part of medical education (p=0.05), balances the clinical focus of medicine (p=0.03), and helps improve job satisfaction (p=0.05). Female and male resident responses were compared. In the pre-curriculum survey, women were more likely than men to believe focusing on MH would improve patient care delivery through self-reflection (p=0.02) and moral/professional development (p=0.02). Notably, in the post-curriculum survey, a significant number of more women compared with men disagreed with the statement that more scheduled learning time should be devoted to science and clinically-based topics in preference to humanities topics (p=0.1). Also a significant number of more women compared with men agreed that MH helps balance the technological focus of modern medicine (p=0.03).

KEY LESSONS LEARNED: Residents in our training program believe formal exposure to the MH is an important part of medical education. Men and women trainees appear to have different opinions regarding the areas of patient care impacted by MH and its utility in an era of care driven by science and technology. Upper level residents compared with interns differ in how they feel MH will help them professionally.

TEACHING MEDICAL STUDENTS A PROBABILISTIC APPROACH TO GERIATRIC CANCER SCREENING USING A “Virtual Patient” Simulation. G. D. K. Ottley2; W. R. Smith2. Virginia Commonwealth University, Chester, VA; Virginia Commonwealth University, Richmond, VA (Tracking ID: Z15615)

STATEMENT OF PROBLEM OR QUESTION: Medical students are taught early in medicine about cancer screening strategies but they receive inconsistent reinforcement in later years with little if any specific training in geriatric cancer screening.

OBJECTIVES OF PROGRAM/INTERVENTION: 1. Develop an educational program to reinforce screening strategies in the elderly. 2. Educate medical students using data (JAMA, 2001) on prognosis according to age and health status to establish a framework for individualized decision-making regarding cancer screening in elderly patients. 3. Evaluate students’ awareness

DESCRIPTION OF PROGRAM/INTERVENTION: Using an interactive web-based module to enter M3 students that highlighted common diseases (i.e. asthma, pneumonia, emphysema, congestive heart failure, and acute coronary syndrome). The module is accessible via web during the week of clerkship orientation. Initially, a tutorial reviews basic and advanced cardiopulmonary physical exam skills with features such as hyperlinks to physical exam skills videos and clinical skills websites. Subsequently, a case based curriculum promotes active learning by integrating pop-up pictures, X-rays, and audio of auscultory findings, as well as a videotaped patient interview. Students are asked to identify various physical exam findings, interpret abnormal cardiac and lung sounds, and make a diagnosis. An eight question pre/post knowledge quiz tested M3 students (n=180) ability to identify abnormal heart and lung sounds. M3 students also completed a survey rating their confidence to identify abnormal cardiopulmonary auscultory findings after the intervention, as well as for satisfaction with the curriculum content and e-learning module.

FINDINGS TO DATE: Student’s mean score on the knowledge quiz was 62.3% (+/-19%) prior to the intervention, rising to 93.7% (+/-11%) after the curriculum. The mean difference in the pre-test and post-test quiz scores was 31.4%, which was statistically significant by dependent t-test (p<0.001). Two thirds of students rated the web-based module as very good or excellent. Program evaluation rating averaged 4.1 (Strongly Disagree to 5=Strongly Agree) for satisfaction with the curriculum, ability to identify abnormal cardiac and pulmonary auscultory sounds using an interactive web-based module.

KEY LESSONS LEARNED: A well-structured curriculum that structures an approach to interdisciplinary post-discharge visits and provides students direct experiences with these visits can increase medical and pharmacy students' self-assessed ability to ensure patients' safe transition into the outpatient setting.

TEACHING MEDICAL HUMANITIES IN AN INTERNAL MEDICINE RESIDENCY PROGRAM: EVALUATION OF A CURRICULUM. N. Jain1; P. Aronowitz1. California Pacific Medical Center (CPMC), San Francisco, CA (Tracking ID: 151336)

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KEY LESSONS LEARNED: Residents in our training program believe formal exposure to the MH is an important part of medical education. Men and women trainees appear to have different opinions regarding the areas of patient care impacted by MH and its utility in an era of care driven by science and technology. Upper level residents compared with interns differ in how they feel MH will help them professionally.
of life expectancy and applied knowledge of cancer screening before and after the intervention using 7 case scenarios.

DESCRIPTION OF PROGRAM/INTERVENTION: For two years (2004 and 2005), we had presented a lecture on geriatric cancer screening to fourth year medical students one month before graduation. Prior to the 40-minute lecture, students read 7 brief case scenarios that reflect increasing age and co-morbidity. Four patients have no serious chronic illnesses (two at age 70 and two at age 80). Two patients had moderate chronic illnesses but have significant life expectancy burden: one with longstanding ischemic heart disease and one with cirrhosis. The last patient (age 80) has advanced dementia and ADL dependency. Each student responds using a scorecard marked with a randomly assigned ID number. Students estimate each patient’s life expectancy and state whether they would screen for cancer of the prostate, lung, colon, breast, ovary, and cervix and turn in the card. The presentation begins with epidemiologic data on life expectancy, sorted by quartiles of health status and by age in 5-year increments, as reported in the JAMA article. The next lecture (FAE) presents data on operating characteristics, benefits, and burdens of common screening tests, plus current major medical society screening recommendations. The presentation makes no reference to the 7 cases. Finally students use paired score cards (same ID number as pre-lecture) to score the same 7 cases regarding life expectancy and cancer screening approach. This requires application of knowledge and problem solving rather than simple factual recall.

FINDINGS TO DATE: Before the lecture, students screened aggressively even when patient age, diagnosis, or general health suggested a high burden/benefit ratio. Post-lecture, screening declined significantly (p<0.05) in low-yield or high-burden scenarios, while aggressive screening persisted in cases with most chances for benefit. The intervention had a significant impact on students’ assessment of prognosis and cancer screening strategy, and the evaluation process is interactive, informative, and efficient.

KEY LESSONS LEARNED: 1. Self-audit of outpatient longitudinal patient care for disabled individuals. The following is typical of the written comments: “Walter LC and Covinsky KE. ‘Cancer Screening in Elderly Patients: A Framework for Individualized Decision Making.’ JAMA. 2001; 285: 2750-2756.

STUDY DESIGN: We sought to design an innovative curriculum that develops students’ a) empathy for patients with disabilities, b) skills in discussing patient’s disabilities with caregivers and relatives, and c) knowledge of the societal issues pertaining to disability. We also sought to assess the impact of the program on all participants.

DESCRIPTION OF PROGRAM/INTERVENTION: The curriculum consisted of a lecture, a Sensitivity Exercise and a Small Group Session. It took place over one week as part of a required clinical skills course for first year medical students. The lecture presented the epidemiology and societal issues of disabilities. The Sensitivity Exercise involved the students viewing a video of a physician and patient discussing disability issues in an unobtrusive way (example: writing a sentence with one’s hand taped) followed by a faculty-led discussion. The Small Group Session centered on an interview with a patient with a disability. With faculty supervision, groups of 4 students interviewed patients about their disability, barriers to healthcare, and how physicians have helped or hindered their adaptation to living with disability. Participants completed an attitude survey to assess the impact of the curriculum’s components.

FINDINGS TO DATE: 160 first year medical students, 35 faculty physicians, and 30 patients (4 rehabilitation in-patients and 16 outpatients with congenital disabilities recruited through United Cerebral Palsy of NYC) participated with surveys completed by 103, 22 and 30 participants respectively. Student surveys: Students were highly satisfied and felt the curriculum would have a lasting impact on their medical practice (97%) and agreed that the intervention should be a permanent component of their clinical skills curriculum. 90% felt they were more likely to discuss the psychosocial aspects of disability with future patients and 76% felt better equipped to care for disabled individuals. The following comments are typical of the written comments: “I learned about the personal challenges that a person with cerebral palsy faces in daily activities and life. It was more than that, I learned how to approach patients with different life situations.” Patient surveys: 94% thought the interview was a valuable use of their time, and 63% indicated they would feel more comfortable discussing their disability with their doctor as a result of the intervention. Faculty surveys: 96% agreed the patient interview improved students’ understanding; 85% agreed the experience improved their own understanding of a disabled patient’s perspective.

KEY LESSONS LEARNED: A multi-dimensional disability curriculum benefited a) students’ attitudes and awareness of critical issues, b) faculty members understanding of a disabled patient’s perspective and c) patients’ comfort discussing their disability with physicians.

TEACHING OLD DOGS NEW TRICKS: FACULTY DEVELOPMENT FOR FIRST AND SECOND YEAR MEDICAL STUDENT LONGITUDINAL CLINICAL CURR. M. Mayer1,2, J. Hong,1,2, C. Mehta,1 Q. Taylor,6, N. C. Wallet4, L. C. S. Waldman1, D. Richardson-Herion3, B. P. Dreyer1, F. A. Call,4, J. M. Chase1, New York University, New York, NY; 2. Cleveland Clinic Foundation, Solon, OH. (Tracking ID #: 52625)

STATEMENT OF PROBLEM OR QUESTION: In 2004, we implemented a clinical skills program which includes a 2-year longitudinal clinic for beginning medical students. Most faculty had not taught first year medical students, so we needed to give them skills to best teach and assess beginning students.

OBJECTIVES OF PROGRAM/INTERVENTION: We aimed to equip faculty with the ability to design an evidence-based skills program that leads to an increased awareness of the importance of the student’s role in the care of disabled individuals.

DESCRIPTIVE ANALYSIS OF PROGRAM/INTERVENTION: We used pre- and post-survey data to assess the impact of the program. We found that the intervention had a significant impact on improving clinical skills, while aggressive screening persisted in cases with most high-burden scenarios, while aggressive screening persisted in cases with most chances for benefit. The intervention had a significant impact on students’ assessment of prognosis and cancer screening strategy, and the evaluation process is interactive, informative, and efficient.

KEY LESSONS LEARNED: Lessons learned include the value of direct observation of clinical skills, noted by students and faculty. In part due to student assessment of this patient-based approach to disability, students emphasized the importance of, and gotten better at demonstrating useful in-the-moment feedback. “Just-in-time” faculty skills instruction seems more effective than teaching skills long before they’re needed. “Role-relevant” faculty skills instruction seems particularly well-received (as a result of the increased time for practice, and emphasized specific faculty feedback roles). Problems encountered with paucity of adequate direct observation and with poorer online assessments have often come from teachers who missed faculty development sessions.

TEACHING PRACTICE BASED LEARNING VIA A LONGITUDINAL CHART SELF-AUDIT CURRICULUM J.R. Chang1, I.M. Belliri1. University of Pennsylvania, Philadelphia, PA. (Tracking ID #: 15483)

STATEMENT OF PROBLEM OR QUESTION: The AGCME mandates that interns develop a care quality improvement project as part of an ambulatory rotation in the second half of intern year. An introductory didactic explains the concepts and principles of quality improvement. Interns pick an issue of interest and evaluate their performance by reviewing charts of their patients at their outpatient practice site. They present their findings to their co-interns on the ambulatory rotation. The best presentations are presented later that year at Medical Grand Rounds. PGY-2 interns present the PGY-3’s projects and PGY-3 interns complete and presenting a standardized chart audit looking at 20 accepted measures of healthcare quality, ranging from prevention (e.g., vaccinations) to diabetic care (e.g., documentation of foot exams). Audits are reviewed with residents as part of scheduled preclinical feedback sessions.

FINDINGS TO DATE: Interns choose a wide variety of topics. The most commonly selected topic is cancer screening. Other commonly chosen topics are screening for hyperlipidemia and blood pressure management. Many interns choose to address systemic issues such as difficulty accessing mental health services or communication difficulties with specialists. Including presentation to their peers as a mandatory component of the project assures that presentations are well-referenced and of excellent quality. Three presentations were chosen for presentation at Medical Grand Rounds and feedback was excellent. Average time for completion of the PGY-2 and PGY-3 chart audit is approximately 10 minutes per chart.
can be factored into existing rotations and routine clinic practice. A standardized format for reporting chart audits, completed by residents, allows for comparison of quality of care over time and across diverse practice sites.

TEACHING PRACTICE-BASED LEARNING AND IMPROVEMENT THROUGH A DIABETES QUALITY IMPROVEMENT INITIATIVE: D. Morrison1; E.S. Spatz1; J. Stulman1; S. Wright1

FINDINGS TO DATE: In the first 18 months of curriculum implementation we recorded 154 evaluations for 15 different resident learning activities. Residents rated activities via a confidential online evaluation system using Likert scales (1=low, 5=high). Evaluations collect both process and summative evaluations from the learners for each activity. Median rating of learner satisfaction for activities range from 4.3 to 5.0. Agreement ratings with a statement affirming the learner’s ability to apply the material learned range from 4.2 to 4.8. Efforts to develop psychometrically valid assessment instruments to measure actual learner competence are ongoing. Our goal is to develop methods for both summative and formative evaluation of resident portfolios as well as other exercises that can be used to assess resident competence.

OBJECTIVES OF PROGRAM/INTERVENTION: To educate residents about the principles of practice based learning and improvement, to involve residents in the process of designing interventions to improve quality of care for their own patients, and to improve. Our project started out as a poorly controlled diabetes in an urban academic resident primary care clinic.

DESCRIPTION OF PROGRAM/INTERVENTION: A quality improvement primary care program for patients with poorly controlled type 2 diabetes was started in an academic primary care clinic. Patients referred by their physicians were scheduled to attend program sessions every two weeks over the course of 2 to 4 months. Visit duration was equal to the usual visit duration in the resident primary care clinic but the time was structured differently to allow the patient to interact with a collaborative staff, including a nurse, a nutritionist, and a medicine resident supervised by a primary care attending. After seeing the patients, medicine residents were provided with a list of their own panel of diabetic patients from the general medical clinic, including a trend of the HbA1C values. For patients with HbA1C values greater than 8%, residents reviewed the medical history and completed a chart abstraction form identifying barriers to achievement of glycemic control. They then designed a patient-specific intervention to overcome these barriers and were asked to invite the patient to attend the program the next session, where the resident would implement the intervention. The residents then completed a form concerning the systems-related barriers to providing quality care to diabetics in their clinic. Subsequently, there was a faculty-facilitated resident discussion about the interventions and the barriers to the resident-generated ideas for addressing those issues. This discussion included constraints related to cost, personnel, staff education, and operating issues.

FINDINGS TO DATE: To date, the residents have been receptive to this program and participated fully in the patient care sessions, the written work and the discussions. The written work provided documentation of education regarding the ACGME competency of practice based learning and improvement and systems based practice. Of 304 patients who have been enrolled in the program, Patients were included in further analysis (n=66) if they had type 2 diabetes for over one year and 2 consecutive HbA1C values greater than 8.0%. Entry HbA1C was defined as the latest value from 6 months prior to the initial visit until 2 weeks after the initial visit. Final HbA1C was defined as the first value more than 3 months after the final visit. Comparing entry and final HbA1C, the mean absolute reduction in HbA1C was 1.2% (p<0.00001).

KEY LESSONS LEARNED: Residents are receptive to quality improvement education provided in the context of designing quality improvement interventions for their own patients. A resident-based quality improvement program can lead to substantial improvement in diabetes control among chronically poorly controlled diabetic patients.

TEACHING RESIDENTS ACGME COMPETENCIES: PRELIMINARY RESULTS OF A CURRICULUM BASED ON CHRONIC ILLNESS CARE, PATIENT SAFETY, AND HEALTH ECONOMICS: J.D. Von Hagen1; M.L. Plewa-Ogan1; N. May1; A. Wolf2; J.B. Schortingh1

STATEMENT OF PROBLEM OR QUESTION: A recent AMSA study has shown that a large proportion of the nation’s medical students are dissatisfied with their training in public health and prevention. Although this may not be surprising given the substantial disparities in healthcare delivery, students have argued that existing medical school curricula address these inequities in limited scope. In particular, their understanding of public health benefits and reasons for unenrollment and disqualification is substantially limited by the time most enter residency training and often stagnates until years into practice.

OBJECTIVES OF PROGRAM/INTERVENTION: 1. Establishment of a facilitated enrollment process which employs students in the screening and acquisition of public insurance for uninsured patients. 2. Development of a multidisciplinary service-learning project that promotes collaboration of students with social workers at a student-run clinic for the uninsured. 3. Creation of a training program that utilizes patient cases in the promotion of student understanding of the qualifications for government-sponsored insurance programs.

DESCRIPTION OF PROGRAM/INTERVENTION: First and Second year medical students have been voluntarily recruited to work closely with social workers employed at our student-run free clinic. Before employing these students at the clinic, we have trained them to understand the qualifications of Medicaid and related programs through a series of multidisciplinary problem-based interactive seminars facilitated by a senior medical student, a clinician-educator and a team of social workers. All cases have been derived from actual circumstances encountered at our student-run clinic for the uninsured. Trained students are then partnered with social workers to screen all uninsured patients attending this clinic for public insurance eligibility. Students work closely with potentially qualified patients to overcome obstacles such as translating forms from English to Spanish, acquiring necessary documentation and completing paperwork and addressing patient fears about immigrant deportation, steps that might otherwise hinder successful application for benefits.

FINDINGS TO DATE: This project is in its pilot year. We hope to demonstrate how a patient-centered project can increase student awareness of both the qualifications for public insurance as well as the barriers to successful enrollment.

KEY LESSONS LEARNED: Learning about the qualifications for public insurance and the barriers to enrollment should begin in the early years of medical school when students are less encumbered by the stresses of the wards. A service-learning endeavor that provides students with social workers at a student-run clinic for the uninsured.

TEACHING THE ACGME CORE COMPETENCIES THROUGH THE MORBIDITY AND MORTALITY CONFERENCE: S. Kravet1; S. Wnag2

STATEMENT OF PROBLEM OR QUESTION: A pragmatic approach to teaching and reinforcing the six ACGME Outcome Project core competencies is to explicitly integrate them into existing curriculum forums. Morbidity and Mortality Conferences (MMC), by and large considered to represent excellent opportunities for learning and reflection may be an ideal venue for such educational innovation.

OBJECTIVES OF PROGRAM/INTERVENTION: The objective of this intervention is to demonstrate how the ACGME Outcome Project core competencies can provide a meaningful and systematic structure upon which cases at an MMC can be framed. We will share our 2 years of experience with this approach to show that the thoughtful selection of cases and skillful facilitation of
improvement on patient-centered care items embedded in our Senior Clinical Performance Examination.

KEY LESSONS LEARNED: Popular/artistic works lend relevant examples of Patient-Centered approaches to delivering healthcare in the context of a 3rd year medical student’s extracurricular world. The artistic format complements reviewing medical literature and traditional didactic sessions. Exercising elements usually devoted for entertainment and pleasure emphasizes the humanity of medicine.

THE CLINICAL SKILLS CURRICULUM: A WEB-BASED LEARNING MODULE TO ENHANCE STUDENTS’ SKILLS IN INTERPRETATION OF BASIC DIAGNOSTIC STUDIES. M.L. Cannonozzi 1, B. Bogner 1, O. Kevin 1. University of South Florida, Tampa, FL. (Tracking ID # 22769)

STATEMENT OF PROBLEM OR QUESTION: What is the best way to teach and assess competency in common and important clinical skills (such as CXR and PFT interpretation, critical evaluation of peripheral blood smears and interpretation of body fluid analysis) within the internal medicine clerkship? Does knowledge of these clinical skills correlate with standard tests of knowledge such as NBME scores and performance on CPX (standardized patient examinations)?

OBJECTIVES OF PROGRAM/INTERVENTION: To assess student competency in these newly acquired clinical skills, a four-station Clinical Skills Exam is administered at the end of the clerkship. Students are required to interpret multiple diagnostic studies, in a case-based, stand-alone format. Additionally, one station combines assessment of two separate competencies (chest radiograph interpretation and pulmonary function test interpretation).

DESCRIPTION OF PROGRAM/INTERVENTION: In the last decade, assessment of clinical knowledge has become more integrated in the undergraduate medical curriculum. Objective Standardized Clinical Examinations (OSCE) have been used to assess students’ skills in a variety of content areas and for history taking, physical examination, patient interaction and communication skills. At our institution, we have implemented a similar approach to assess student competency in interpretation of common diagnostic studies that are used across the clinical clerkship. Interpretation of chest radiographs, pulmonary function tests, peripheral blood smears, and body fluids are not skills unique to internal medicine. Although integral to understanding disease diagnosis and management, these skills have traditionally been addressed in assigned readings, discussed as part of a lecture, or informally taught in the context of clinical care. In the internal medicine clerkship, we have implemented a web-based curriculum to address acquisition of these skills. In an eight-week experience, major specialties in medicine has been linked to a clinical skill/procedure in that field, and web-based learning modules have been created to guide students’ self-directed learning.

FINDDINGS TO DATE: Sixty-six students have taken the exam to date. The average score is 83% (range 45–100). Feedback received from students has been positive with the majority of students rating the curriculum very good to excellent. Preliminary data do not suggest a strong correlation between our clinical skills exam and clinical knowledge or other clinical skill sets measured within the clerkship. More study is needed to determine how to define competencies for these important clinical skills. More study is needed to determine the relationship between clinical knowledge and clinical skills. KEY LESSONS LEARNED: Given the increasing emphasis on competency-based education, formal instruction and objective assessment of these shared clinical skills is needed. Curriculum topics not formally addressed or objectively measured within the clerkship may be taught incompletely or inconsistently across the clerkship year. Additionally, faculty and student time as well as geographically and institutionally variable opportunities for traditional lecture and discussion can further expand and bolster the educational value of the venerable tradition of the MMC.

DESCRIPTION OF PROGRAM/INTERVENTION: We have redesigned the format of our CPX to emphasize all 6 ACGME competencies. In addition to teaching traditional case-based medical knowledge and patient care, students are stimulated to focus on the training of systems failures, where the essence of case-based practice and practice-based learning are captured. We ask the students to focus on communication between the team, patients, and families, by highlighting positive and negative verbal and written examples. We draw attention to acts of professionalism in the face of untoward events, publicly complimenting faculty and trainees whenever possible. The one-hour long conference is held 4 to 6 times each year. The Director for Clinical Activity, a faculty member with oversight of quality, safety, and efficiency of the Department’s clinical practice, prepares the cases and moderates the discussion. Faculty members that have been involved in the care of the patients discussed, as well as those with special expertise in specific content areas, are contacted in advance and asked to prepare comments. Housestaff are never expected to present or answer questions related to specific errors or untoward events at this conference. We invite members of the greater health care team (e.g., nurses, pharmacists, and hospital administrators) to attend and contribute so as to foster a multidisciplinary collaborative approach toward safety, quality improvement, and a systems perspective. We explicitly highlight how each case relates to the core competencies. A mix of cases is carefully chosen so that each of the core competencies is emphasized at every conference at least once. The moderator labels components of cases as precisely as possible elucidating the relationship with one of the ACGME competencies. The moderator controls the flow and pace of the conference with the intention of fostering high quality discussions.

FINDDINGS TO DATE: Evaluation of the impact and effects of this innovation are ongoing. Preliminary results from surveying the attendees suggest that the conference has become an integral part of the student learning experience. Satisfaction with the conference is being well received. In support of the impact of this innovation are the policy changes that have come about in our Department following discussions about specific cases at our MMC. Suggestions and ideas from the M&M conferences have seconded additional processes related to the cases presented. KEY LESSONS LEARNED: Combining the ACGME Outcome Project competencies and the MMC has been successful in our Department. Though the traditional goal of M&M as a forum for discussing specific cases has been maintained, the competencies have added meaning and structure to the discussion of each case. This M&M model may be particularly beneficial at institutions where the educational value of these conferences is suboptimal, and for residency programs that are struggling to operationalize the competencies in a meaningful way.

STATEMENT OF PROBLEM OR QUESTION: Integrating humanities into the medical school curriculum helps students gain perspective. In the Department of Pediatrics of the University of California, Los Angeles, students participated in a series of medical cases conveying metaphorically rich examples of predicaments faced by sick people. Traditionally, curricula utilizing theatrical, artistic or literary venues have been introduced in the clinical years. However, the example of teaching cultural competence, studies show that experiences during the clinical years of training have both more profound and lasting effects; physicians in practice more poignantly recall these latter year experiences as shaping their professional identities. In the required ambulatory medicine clerkship at the David Geffen School of Medicine at UCLA, we introduced a literary exercise and the viewing of a segment of an episode of a popular television series to teach students culturally competent methods to assure patient adherence to medical regimens.

OBJECTIVES OF PROGRAM/INTERVENTION: 1. To integrate a literary exercise and an audiovisual pop culture presentation to a curricular element in a meaningful way.

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THAT’S GREY’S NOT GRAY’S ANATOMY: USING THE ARTS TO TEACH DURING A THIRD YEAR CLERKSHIP. A.G. Gomez 1, P. Cifuentes-Henderson 1, C. Fung 1, L. Wilkerson 1. David Geffen School of Medicine at UCLA, Los Angeles, CA. (Tracking ID # 156679)

STATEMENT OF PROBLEM OR QUESTION: Integrating humanities into the medical school curriculum helps students gain perspective. In the Department of Pediatrics of the University of California, Los Angeles, students participated in a series of medical cases conveying metaphorically rich examples of predicaments faced by sick people. Traditionally, curricula utilizing theatrical, artistic or literary venues have been introduced in the clinical years. However, the example of teaching cultural competence, studies show that experiences during the clinical years of training have both more profound and lasting effects; physicians in practice more poignantly recall these latter year experiences as shaping their professional identities. In the required ambulatory medicine clerkship at the David Geffen School of Medicine at UCLA, we introduced a literary exercise and the viewing of a segment of an episode of a popular television series to teach students culturally competent methods to assure patient adherence to medical regimens.

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THE EDUCATIONAL VALUE OF CASE REPORTS FROM THE SGIM NATIONAL MEETING IN THE INTERNAL MEDICINE CLERKSHIP. J.L. Wolford, 2 S. Singh,2 M.M. Wolford,2 Wake Forest University, Winston-Salem, NC. (Tracking ID # 19059)

STATEMENT OF PROBLEM OR QUESTION: The case reports [clinical vignettes] reported at the national SGIM meeting represent a rich resource for teaching students about Internal Medicine.

OBJECTIVES OF PROGRAM/INTERVENTION: To explore the educational value of case reports from the SGIM national meeting for the third year clinical clerkship. To develop educational activities using the SGIM case reports database.

DESCRIPTION OF PROGRAM/INTERVENTION: During one hourlong clerkship conference, third year students in their Ambulatory Internal Medicine clerkship (academic year 2005-6) were introduced to the case report with an oral case report summary. The clinical setting represented most often was the hospital setting (25.7%), followed by the emergency department (19.4%), and the outpatient clinic (17.5%). The most prevalent disease categories Infectious Disease (19.0%) and Neurology (10.5%) with other specialties of
Internal Medicine less well represented. The case reports fit clearly with the current SGIM-CIDM curriculum in 42.6% (n=179) of the case reports, and clearly did not fit with the curriculum in 40.4% (n=164) of case reports. Students agreed strongly with the value of the case reports (Likert scale 3.78 (1.0) (6 point Likert scale with 5 signifying most learning). Case reports that fit the SGIM-CIDM curriculum had greater learning value than those that did not fit (3.97 versus 3.60, p=0.017), but there was no difference in learning value when the cases were from the CIC. However, case reports that fit were useful in class discussions of the evidence hierarchy, case presentation, learning clinical language, and the breadth of Internal Medicine.

KEY LESSONS LEARNED: The case reports presented at the national SGIM meeting offer clinical content that is relevant and meaningful for third year clerkship students. Better educational use of the database could come from detailed indexing of the abstract and sharing of educational strategies.

THE HARVARD MEDICAL SCHOOL CAMBRIDGE INTEGRATED CLERKSHIP: D. Hirsh1; W. Gutterson1; M. Batalden1; S. Beck1; C. Bernstein1; J. Callahan1; P.A. Cohen1; D. Elvin1; M. Penglace Garcia1; E. Gauthier1; S. Gauthier1; A. Ghosh1; K. Shaffer1; D. Shattell1; E. Kupat1; S. Pelletier1; B. Ogr1. Harvard Medical School and Cambridge Health Alliance, Cambridge, MA; Harvard Medical School, Boston, MA. (Tracking ID #: 154369)

STATEMENT OF PROBLEM OR QUESTION: Can core clinical clerkships be taught simultaneously and traditional block clerkships replaced by a single integrated experience. The clerkship relies on a cohort of continuity patients and carefully chosen acute care encounters to provide the context for the year-long developmental curriculum. One of the educational goals of the clerkship is to connect students with patients through their “whole illness episodes.” Students meet patients at first contact with the healthcare system, participate in initial evaluation, problem formulation, and follow therapeutic decision-making and the patient's experience of the illness until stabilization or endpoint. Students follow patients in multiple departments and across multiple venues of care. A second pillar is to connect experienced faculty preceptors with students. Students work in ambulatory clinic settings with attendings from each of the core disciplines throughout the year. Students have longitudinal specialty-specific inpatient rooms and Master Clinician rounds with attendings all year. A case-based tutorial program frames CIC didactic content around clinical, basic, and social science coursework in pathology, and patient simulator experiences. We assessed the program by comparing CIC students with a carefully matched cohort of students doing the traditional third year. The two groups' scores on content exams (Comprehensive Clinical Science Self Assessment and Shelf Exams) and the HMS 4th year OSCE were compared to each other and to the rest of the HMS class. In addition, CIC students and controls completed surveys and focus groups throughout the year.

OBJECTIVES OF PROGRAM/INTERVENTION: To design, implement, and assess a year-long, longitudinal, integrated program for the principal clinical year.

DESCRIPTION OF PROGRAM/INTERVENTION: The HMS Cambridge Integrated Clerkship (CIC) is a complete redesign of the third year, structured to teach core Medicine, Surgery, Obstetrics/Gynecology, Psychiatry, Radiology, and Neurology in a longitudinal way. Traditional block rotations are replaced by a single integrated experience. The clerkship relies on a cohort of continuity patients and carefully chosen acute care encounters to provide the context for the year-long developmental curriculum. One of the educational goals of the clerkship is to connect students with patients through their “whole illness episodes.” Students meet patients at first contact with the healthcare system, participate in initial evaluation, problem formulation, and follow therapeutic decision-making and the patient's experience of the illness until stabilization or endpoint. Students follow patients in multiple departments and across multiple venues of care. A second pillar is to connect experienced faculty preceptors with students. Students work in ambulatory clinic settings with attendings from each of the core disciplines throughout the year. Students have longitudinal specialty-specific inpatient rooms and Master Clinician rounds with attendings all year. A case-based tutorial program frames CIC didactic content around clinical, basic, and social science coursework in pathology, and patient simulator experiences. We assessed the program by comparing CIC students with a carefully matched cohort of students doing the traditional third year. The two groups' scores on content exams (Comprehensive Clinical Science Self Assessment and Shelf Exams) and the HMS 4th year OSCE were compared to each other and to the rest of the HMS class. In addition, CIC students and controls completed surveys and focus groups throughout the year.

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APPLICATIONS: InCIC students rated the learning value of the case reports with a mean rating of 3.57 versus 3.28 (p<0.01), but there was no difference in learning value when the cases were from the CIC. However, case reports that fit were useful in class discussions of the evidence hierarchy, case presentation, learning clinical language, and the breadth of Internal Medicine.

KEY LESSONS LEARNED: CIC students performed as well on measures of integrate basic sciences and clinical practice or to practice evidence-based medicine program. While learning skills in evidence-based medicine, students and faculty experience and strengthen basic principles of service and healing relationship: Safety, Authentic Listening and Presence; Intimacy, Respect and Trust; Compassion and Empathy; Community; and Commitment.

FINDINGS TO DATE: A course evaluation in 2003-04 included responses from 489 of 680 students (72%) and 88 of 174 faculty (50.1%) at 23 of the 25 schools participating at the time. Students and faculty reported using content from the course both professionally (65.7% and 75.0%) and personally (73.3% and 79.5%). Students rated course quality as 4.47 on a 5-point scale. Both students and faculty reported the course provided important learning not available elsewhere that fit the SGIM-CDIM curriculum had greater learning value than those that did not fit (3.97 versus 3.60, p=.017), but there was no difference in learning value when the cases were from the CIC. However, case reports that fit were useful in class discussions of the evidence hierarchy, case presentation, learning clinical language, and the breadth of Internal Medicine.

Key LESSONS LEARNED: An experiential course in professionalism education was reported to be useful to students and faculty, and to offer learning not available elsewhere in most medical schools. Such a course is effective across a wide range of medical school cultures and may help promote deeper elements of professionalism.
residents the opportunity to “try-out” clinical outcomes research as a potential future career choice.

TRADITIONAL PHYSICAL EXAM INSTRUCTION VS. STANDARDIZED PHYSICAL EXAM TEACHING ASSOCIATES. K.J. White1; J.H. Fisher1; G. Barley1; B.G. Dwinnell2; C. Brownlee1; S. Singh1.

STATEMENT OF PROBLEM OR QUESTION: Traditionally, the instruction of physical exam skills has occurred in small groups of students under the guidance of faculty physician tutors. Often, the students are practicing the skills on one another, giving rise to some of the challenges faced with the traditional method include recruitment of faculty for teaching, difficulties of having students practice on one another, particularly in coed groups, and lack of ability to standardize what the students are learning. Recent data suggest that SPETAs (standardized physical exam teaching associates) are at least equally effective as faculty in teaching physical exam skills to first and second year medical students. The following text was designed to compare traditional teaching methods vs. SPETAs in physical exam instruction for first year medical students.

OBJECTIVES OF PROGRAM/INTERVENTION: To evaluate effectiveness of SPETA-taught physical exam skills to first year medical students vs. the traditional faculty-led small group instruction of these skills.

DESCRIPTION OF PROGRAM/INTERVENTION: The first year class of medical students at the University of Colorado Health Sciences Center was randomly divided into two groups for the physical exam curriculum portion of the Foundations of Doctoring Course (n = 144). All students learned the physical examination of the upper extremity, lower extremity and back, chest cardiovascular and pulmonary), and abdomen. One half of the class learned the physical exam skills in faculty led small groups with one faculty member and 6 students per group. The other half of the class learned the physical exam skills from SPETAs with 3 SPETAs and one SPETA-taught group. Both groups had the same amount of instruction time per session. Both groups were tested via OSCEs upon completion of all instruction. The same checklist was used to train the SPETAs, guide the faculty tutors, and for the OSCEs. All students completed a post-examination attitudinal survey on their physical exam experience.

FINDINGS TO DATE: There was no statistically significant difference in scores upon completion of all instruction. The same checklist was used to train the SPETAs, guide the faculty tutors, and for the OSCEs. All students completed a post-examination attitudinal survey on their physical exam experience.

STATEMENT OF PROBLEM OR QUESTION: In their medical education, students are consumed by basic science courses and may have little time to interact with future patients. Many students are taught by faculty whose curriculum is limited to medical school reinforced. The "hidden curriculum" in medical school may squelch values of humanistic practice and may isolate students from the very community in which they will later function. Integrating universal community-based service learning into the first year medical school curriculum, with a dual focus on community service and disciplined self reflection, promote an ethic of service and humanistic practice as overarching values in medical education.

OBJECTIVES OF PROGRAM/INTERVENTION: 1) To develop and nurture an "ethic of service" in medical students via participation in the "community service experiential course." 2) To place first year medical students in community based service learning experiences and expose students to the challenges and barriers individuals may face in accessing medical care. 3) To enable students to gain familiarity with the network of community social, psychological and educational resources available to their future patients while providing useful direct community service. 4) To enhance the University Medical School’s engagement with community agencies as a partner in the medical education of future physicians.

DESCRIPTION OF PROGRAM/INTERVENTION: All first year medical students at University of Virginia were enrolled in the Community Service Experiential Course. All were assigned to community based agencies or schools to perform a required 30 hours of service over the first year. Throughout the year, patients or their families were matched with a SPETA for a minimum of 30 hours of service. Students were paired with patients or clients, each having been pre-screened for readiness to participate. Students then engaged in direct care activities, which included hands on care, escorting patients to appointments, reviewing medical records, conducting history and physical examinations, and referring patients to other medical professionals. Additionally, students engaged in community service activities, which included tutoring, serving as reading buddies, volunteering at soup kitchens, assisting elderly citizens with health supplies, and helping in food drives.

FINDINGS TO DATE: Pre and Post placement evaluations revealed that students responded positively to service learning placements in community settings. Many stated they were exposed to new populations and experiences that they might otherwise have missed. Many reported considering careers different than those they expressed upon matriculation. The majority expressed a better understanding of barriers potential patients may experience in accessing medical care and ways they might help patients overcome obstacles in adhering to treatment plans. 72% of students indicated they planned to continue community service during the remainder of their medical training.

KEY LESSONS LEARNED: Universal Service Learning with community placements may help lay a foundation for the future practice of medicine by sensitizing students to both the challenges patients face and the community resources that exist. Associated self reflection exercises encourage students to cultivate humanistic qualities by heightening awareness of their personal values, internal strengths and personal limitations. Increased outreach to the community, with increased visibility of partnerships with community agencies also enhanced interactions between the medical school and the local community.

TRAINING PHYSICIAN INVESTIGATORS IN MEDICINE AND PUBLIC HEALTH RESEARCH M.N. Gourevitch, M.D. Schwartz, N.R. Shah, A.L. Mendelsohn, G.L. Foltin, L.R. Goldfrank, M. Lipkin. New York University, New York, NY. (Tracking ID # 153650)

STATEMENT OF PROBLEM OR QUESTION: Translation of scientific advances into measurable public health improvements is unsatisfactorily slow. To improve the pace, we designed an innovative fellowship to train clinical investigators in the research skills needed to address challenges at the interfaces of public health, population medicine, and traditional medicine.

OBJECTIVES OF PROGRAM/INTERVENTION: To design, implement, and evaluate a post-residency physician research fellowship in health promotion, disease prevention, and preparedness focus on problems affecting vulnerable urban and rural populations. Partners include state (New York, New Jersey) and local (New York City) health departments and municipal hospital systems, with bidirectional transfer of experience and expertise. Research opportunities in health promotion, disease prevention and preparedness focus on problems affecting vulnerable urban and rural populations. Research opportunities in health promotion, disease prevention and preparedness focus on problems affecting vulnerable urban and rural populations.

FINDINGS TO DATE: Six physicians enrolled in the initial fellowship cohort, representing diverse racial/ethnic backgrounds (1 Hispanic, 1 African American, 2 Asian, 2 Caucasian) and medical disciplines (3 Internal Medicine, 2 Pediatrics, 1 Emergency Medicine). Four are female. Four enrolled immediately following completion of residency or chief residency, and two after working in research and practice for 3-5 years. First semester courses included biostatistics, medical informatics, and environmental medicine. An Integrative Seminar brings one or more faculty mentors from real-world challenges of public health research: speakers represented front line agencies and research faculty. In Public Health Journal Club fellows applied critical appraisal skills to a broad range of population health-oriented literature. Launching fellows in the fellowship was challenging. Following introduction to a variety of potential mentors, fellows narrowed their choices based on common interests and personal chemistry. Fellows’ mentoring teams typically include a faculty researcher, public health official, methodologist and junior faculty mentor. An iterative process generated research projects that would be a) feasible in two years, and b) passed the “so what” test regarding potential population health impact. Projects selected by fellows target community diabetes treatment and control, colorectal screening of immigrants, health literacy of pediatric emergency department patients, community-based obesity prevention, internet use by multi-ethnic diabetics, and insurance status change and access to care. A novel, multi-site, performance-based evaluation may help lay a foundation for future practice competence across varied public health and medicine interface cases is being developed. In addition to providing education and feedback for trainees and program leadership, it will yield pilot data in developing an exportable measure of public health trainee performance.

UNIVERSAL SERVICE LEARNING IN THE MEDICAL SCHOOL CURRICULUM TO ENHANCE PROFESSIONALISM AND HUMANISTIC PRACTICE. M. Nakhias1, D. Alexander1, B. Lorti2, D. Lieb1. University of Virginia, Charlottesville, VA. (Tracking ID # 156460)

STATEMENT OF PROBLEM OR QUESTION: Early in their medical education, students are consumed by basic science courses and may have little time to interact with future patients. Many students are taught by faculty whose curriculum is limited to medical school reinforced. The “hidden curriculum” in medical school may squelch values of humanistic practice and may isolate students from the very community in which they will later function. Integrating universal community-based service learning into the first year medical school curriculum, with a dual focus on community service and disciplined self reflection, promote an ethic of service and humanistic practice as overarching values in medical education.

OBJECTIVES OF PROGRAM/INTERVENTION: 1) To develop and nurture an “ethic of service” in medical students via participation in the “community service experiential course.” 2) To place first year medical students in community based service learning experiences and expose students to the challenges and barriers individuals may face in accessing medical care. 3) To enable students to gain familiarity with the network of community social, psychological and educational resources available to their future patients while providing useful direct community service. 4) To enhance the University Medical School’s engagement with community agencies as a partner in the medical education of future physicians.

DESCRIPTION OF PROGRAM/INTERVENTION: All first year medical students at University of Virginia were enrolled in the Community Service Experiential Course. All were assigned to community based agencies or schools to perform a required 30 hours of service over the first year. Dirig over one semester, patients’ clients was a prerequisite for approved placements. In conjunction with supervised service with community agencies, students completed 3 sets of reflective questions and participated in 3 small group discussion sessions to stimulate personal growth and incorporation of humanistic values into their professional development. Additionally, panel discussions with practicing physicians engaged in ongoing community service were presented.

FINDINGS TO DATE: Pre and Post placement evaluations revealed that students responded positively to service learning placements in community settings. Many stated they were exposed to new populations and experiences that they might otherwise have missed. Many reported considering careers different than those they expressed upon matriculation. The majority expressed a better understanding of barriers potential patients may experience in accessing medical care and ways they might help patients overcome obstacles in adhering to treatment plans. 72% of students indicated they planned to continue community service during the remainder of their medical training.

KEY LESSONS LEARNED: Universal Service Learning with community placements may help lay a foundation for the future practice of medicine by sensitizing students to both the challenges patients face and the community resources that exist. Associated self reflection exercises encourage students to cultivate humanistic qualities by heightening awareness of their personal values, internal strengths and personal limitations. Increased outreach to the community, with increased visibility of partnerships with community agencies also enhanced interactions between the medical school and the local community.

USING IPOD TECHNOLOGY TO CREATE A SELF-GUIDED CLINIC TOUR FOR RESIDENCY ORIENTATION. J.L. Wofford1; M. Wofford1; D.P. Miller1. University of Virginia, Winston-Salem, NC. (Tracking ID # 153650)

STATEMENT OF PROBLEM OR QUESTION: With learners rotating through different clinical settings every month, orientation to a new clinical setting or service is often haphazard and incomplete. An innovative, uniform, and
entertaining approach to providing information is needed to improve efficiency and effectiveness of the organization process.

OBJECTIVES OF PROGRAM/INTERVENTION: To explore the use of iPod technology for clinical orientation.

DESCRIPTION OF PROGRAM/INTERVENTION: On arrival to the clinic, new residents were presented an iPod Shuffle containing an audio guide and a one-page worksheet. They were then oriented to the tour and directed to the patient registration area, the first station on the tour. The iShuffle/worksheet directed the orientee through the clinic - from registration/waiting area to exam room to clinical support areas - a total of 10 stations. Each station had a corresponding iPod audio segment that introduced faculty members and support staff, speaking in their own voices and explaining their roles in clinic. Residents were instructed to introduce themselves to clinic staff who had been primed to respond to the orientee. The completion of the health maintenance assessment was solicited by writing correct responses based on information collected throughout the tour. At the end of the 30 minute tour, new residents turned in their iShuffle/Worksheet and met with a faculty member for unanswered questions. Development of the materials and strategy first required group consensus about orientation content with attention to time limitation and attention span of the new residents. The audio content involved limited rehearsal time and included a variety of audio files with engaging narratives and music.

FINDINGS TO DATE: Most residents were able to accomplish the self-guided tour independently although completion of the tour guide worksheet was variable. The faculty spent less time with the orientation process than in previous years. Residents reported the experience enjoyable and useful. Faculty and staff participated with enthusiasm in the development of the materials and even seemed proud to play a part in the novel approach to orientation.

KEY LESSONS LEARNED: Use of iPod technology for clinic orientation is possible, novel, and efficient. The attraction of new technology and engagement as part of an orientation engages residents and saves faculty time. We are currently developing iPod orientations as a routine means of orientating learners.

USING THE SYSTEMS-BASED PRACTICE COMPETENCY TO ENABLE CHANGE IN A RESIDENCY PROGRAM ENVIRONMENT. L. Iyagon1, R-C. Anderson1, Evanston Northwestern Healthcare, Evanston, IL. (Tracking ID # 154551)

STATEMENT OF PROBLEM OR QUESTION: In the progressively time-constrained doctor-patient encounter, it is becoming more and more challenging for the doctor to be both an astute observer and a connected, compassionate caregiver. Medical educators are tasked with finding innovative ways to teach these skills to medical students.

OBJECTIVES OF PROGRAM/INTERVENTION: To develop an innovative curriculum using poetry and "medical narrative" to teach medical interviewing to first and second year medical students at the University of California, San Diego.

Elizabeth Bishop's poems, with a particular focus on her parenthetical comments, were used to increase awareness of the emotional moments in patient encounters which sometimes lead to unexpected diagnoses and to closer doctor-patient relationships.

DESCRIPTION OF PROGRAM/INTERVENTION: Elizabeth Bishop, acknowledged as one of the leading 20th century American poets, wrote in an accessible, precise, and often revealing way. Through the frequent use of parenthetical comments, the speaker steps back to offer brief parenthetical comments which allow the reader to look at her poems in an entirely new light. For the curriculum, a selected brief Elizabeth Bishop poem, "One Art," is read, with an emphasis on the use of parenthetical statements. [Parenthetical observations are an important tool for the doctor to be an astute observer and a connected, compassionate caregiver. In medicine, the parenthetical is used to make astute, compassionate observations. Medical educators are tasked with finding innovative ways to teach these skills to medical students.]

KEY LESSONS LEARNED: Use of iPod technology for clinic orientation is possible, novel, and efficient. The attraction of new technology and engagement as part of an orientation engages residents and saves faculty time. We are currently developing iPod orientations as a routine means of orientating learners.

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training. Our goal was to assess the baseline core knowledge of Internal Medicine residents in common dermatological and funduscopic cases and identify the potential areas of deficits through a web based interactive curriculum.

OBJECTIVES OF PROGRAM/INTERVENTION: 1. To identify knowledge deficits among Internal Medicine residents on common dermatological diagnoses and funduscopic findings. 2. To create a web based interactive dermatological and funduscopic curriculum for Internal Medicine residency program that can be modified periodically to meet their needs.

DESCRIPTION OF PROGRAM/INTERVENTION: A web based interactive dermatological and opthalmological curriculum was developed in a presentation format with 15 slides of common dermatological cases and 5 funduscopic findings. There were total of 48 questions for these 20 slides. Internal Medicine residents PGY 1 and PGY 2 rotatin in ambulatory also were required to take the test during the rotation. Residents had an average of two dermatology rounds to attend in this block. In addition to the clinical teaching, a formal didactic presentation of the slides in the test was performed by full time teaching faculty during the rotation. The diagnoses that were answered incorrectly by majority of the residents were identified to provide immediate feedback and education. This is an ongoing curriculum where residents will be taking the test every year, and the curriculum will be modified to meet the residents’ needs.

FINDINGS TO DATE: Forty-six Internal Medicine residents participated in the test from March 2004 to June 2005. There were 19 PGY 2 residents and 27 PGY 1 residents. The mean score for PGY 1 was 69.5% and that for PGY 2 was 76.4%. The individual diagnoses that were answered correctly by more than 80% of residents include Acne vulgaris, Seborrheic Keratoses, Rosacea, Lichen Planus, Vasculitis, Seborrheic Keratoses, Dysplastic Nevi, Nevus, Retinoblastoma, Papililomedula Dystrophy, Granulomatous Retinopathy and Central Retinal Vein Occlusion. The questions related to etiology of Erythema Multiforme were answered correctly only by 28% of residents and the correct CD4 count for CMV retinitis was answered only by 24% residents.

KEY LESSONS LEARNED: Residents need more training in recognizing dermatological slides. Emphasis in teaching should be made towards more common diagnoses like Erythema Multiforme, Acne Rosacea, Melanoma and Dysplastic nevi. We believe this will help them succeed in Internal Medicine Boards and also improve their core knowledge base. Similarly more emphasis is needed to recognize Diabetic Proferative Retinopathy and Pappilomedula Dystrophy which are more commonly seen in CMV retinitis. The teaching faculty during the rotation should be trained in etiology and treatment for common rashes to ensure best quality of care for their patients.

A NOVEL APPROACH TO CHRONIC NON-MALIGNANT PAIN MANAGEMENT IN A PRIMARY CARE SETTING J. Seaman1; J.T. Hagaman1; E. Warm1; D.P. Schauer1; G.W. Rouan1.

STATEMENT OF PROBLEM/QUESTION: Outpatient management of chronic pain is challenging in academic primary care practices. Office staff, resident and faculty physicians were frequently dissatisfied with the management of chronic pain at our institution (a resident practice in an urban medical center). Sub-optimal clinic visits resulted in frequent phone calls to the clinic for medication refills and visits to the emergency room.

OBJECTIVES OF PROGRAM/INTERVENTION/WEB SITE: The purpose of this intervention was to: 1) reduce phone call volume 2) optimize healthcare utilization 3.) improve patient adherence to the controlled substance agreement 4.) identify those patients who are being managed on chronic narcotics and 5.) improve staff satisfaction with chronic pain management.

DESCRIPTION OF PROGRAM/INTERVENTION/WEB SITE: Patients who were managed with a stable dose of narcotic medication were referred to a medication nurse at least four times and have been compliant with the controlled substance agreement. For these fifty-nine compliant patients, the number of phone calls was halved (8.1 v 4.2 call/year, p=0.0004) in the year following referral. Additionally, among these 59 patients, emergency department visits decreased from 6.7 visits per year to 0.7 visits per year (p=0.0004) over the same period. Patient’s subjective assessment of pain and function remained unchanged throughout the study period (6.3/10 v 5.9/10, p=not vs 52.3 v 44.5, p=not vs, respectively).

A PRACTICAL OFFICE-BASED CHOLESTEROL MANAGEMENT SYSTEM R.L. Degnan1; E.M. Degnan2. 1. New Jersey Preventive Cardiology and Cholesterol Clinic, Trenton, NJ; 2. Stanford University, Stanford, CA. (Tracking ID #: 153494)

STATEMENT OF PROBLEM/QUESTION: Despite a wealth of data demonstrating the efficacy and safety of LDL-lowering drugs, a significant number of high-risk patients remain untreated or undertreated.

OBJECTIVES OF PROGRAM/INTERVENTION/WEB SITE: 1. To develop a simple yet comprehensive approach to enable busy primary care providers to achieve appropriate LDL-c reductions without additional investment in technological or personnel. 2. To evaluate adherence to National Cholesterol Education Panel Adult Treatment Panel III (NCEP ATP III) guidelines following implementation of computer-assisted cholesterol management system incorporating the following five core components: 1) a step-by-step algorithm simplifying NCEP ATP III guidelines, 2) computer generated templates for accurate and efficient recording of patient’s history, 3) computer generated reminders to expedite record-keeping, 3) an evidence-based calculator to estimate the statin dose required to get to goal, 4) educational materials to address patient concerns, and 5) a rapid, single-center prospective chart analysis examining consecutive coronary heart disease (CHD) and CHD risk-equivalent patients seen in the office between January 4, 2005 and April 14, 2005. Patients were included in the study if
they had a minimum of two prior clinic visits to permit risk assessment and initiation of therapy. There were no exclusion criteria.

**FINDINGS TO DATE/EVALUATION OF WEB SITE:** A total of 339 high-risk patients were enrolled in the prospective chart audits. 85% of patients achieved an LDL-c below 100 mg/dl. An LDL-c less than 70 mg/dl was observed in 32% of patients. LDL-c was between 100 and 129 mg/dl in 11% and exceeded 130 mg/dl in 4% of patients.

**KEY LESSONS LEARNED:** A computer-assisted approach to outpatient lipid management incorporating five core components can be implemented without additional expenditure in a busy private practice and can successfully achieve the target LDL-c below 100 mg/dl in a substantial number of high-risk patients.

**AN EXPERIENCE IN A PRIMARY CARE CLINIC WITH PHYSICIANS AND PHARMACISTS TO PROVIDE INTERNET ACCESS AND PATIENT COUNSELING REGARDING MEDICARE PART D:** Medicare Part D (prescription drug coverage) is the biggest change in Medicare since the program’s inception. This complex program has many choices, and much of the information is internet-based. To better educate Medicare patients who are currently seeking their care at an academic general internal medicine clinic, volunteers of physicians, pharmacists and administrative assistants were made available to patients at the point of care during non-operational clinic hours to provide internet access and one-on-one counseling to Medicare patients who had questions about Medicare Part D.

**DESCRIPTION OF PROGRAM/INTERVENTION/WEB SITE:** All internal medicine physicians, clinic nurses, and administrative staff practicing at an academic general internal medicine clinic were asked to provide names of patients that they had encountered in clinical practice who had either expressed concerns or questions about Medicare Part D, had expressed non-compliance with medications due to cost issues, and/or who were currently enrolled in drug programs through pharmaceutical programs. Current insurance database information was used by the practice to identify a list of patients who are enrolled in Medicare and do not have supplemental drug coverage. A survey was given at the completion of the session to each patient to assess the benefit of this program and patient internet usage.

**FINDINGS TO DATE/EVALUATION OF WEB SITE:** A total of 40 potential patients were identified by the clinic staff, and 34 of these patients were contacted by a practice administrative assistant to attempt to schedule an appointment for this session. 19 of these patients were scheduled for a 60-minute appointment with either a volunteer physician or pharmacist with 15 patients (7 Male, 8 Female, 67% Caucasian, 27% African-American, 6% Asian, age range 58–83 y, 47% of patients without current, creditable prescription drug coverage) arriving for their appointment. Four (27%) of the patients came with their children present. 10 patient surveys were completed. 50% of these patients had used the internet prior to the introductory visit. 40% of patients had used the internet prior to this appointment to access information on Medicare Part D. Using a 5-point Likert Scale (1-not helpful, 5-very helpful), 80% of patients reported that this session was very helpful to them to better understand their medication options and internet access.

**STATEMENT OF PROBLEM/QUESTION:** What added service can primary care physicians and clinical pharmacists offer to patients within a clinical setting that allows patients access to the internet and one-on-one counseling to better understand the options available to them for prescription drug coverage through Medicare Part D?

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**STATEMENT OF PROBLEM/QUESTION:** Long wait times for enrollment into our structured pain management program and initial pain management, respectively. After the intervention, patients were scheduled for an introductory visit for enrollment into the program with only the CA. During the introductory visit the CA, who has an under-graduate degree and helps to coordinate care for patients, explains program structure and requirements, assesses pain and medication adherence, administers validated scales to screen for depression and to assess pain-related disability, obtains a urinal toxicological screen, reviews the standard medication contract, provides the patient with a scheduled appointment with the CPP for the next available new patient appointment for evaluation and additional pharmacological management. If the patient has immediate care needs, the CPP performs a focused assessment during the introductory visit. In the introductory patient visits, each lasting thirty minutes, are scheduled each week.

**FINDINGS TO DATE/EVALUATION OF WEB SITE:** Before implementation of the introductory visit, average wait times for the first and third available initial appointments with the CPP were 61 days and 65 days. The attendance rate was 57% for initial appointments. After implementation of the introductory visit, average wait times for the first and third available introductory appointments with the CPP were reduced to 22 days and 27 days (p < 0.001). The attendance rates improved to 83% for initial appointments.

**KEY LESSONS LEARNED:** Introductory visits with a trained CA reduce patient wait times for enrollment into our structured pain management program and improve attendance rates for initial appointments with the program’s clinical provider.

**ASSESSMENT OF AN INTERVENTION TO IMPROVE REAL-TIME SCHEDULING OF FOLLOW-UP APPOINTMENTS IN AN ACADEMIC GENERAL INTERNAL MEDICINE CLINIC:** R. M. Malone; A. G. Whitney; R. S. Boone; E. Mark; T. M. Miller; B. Bryant Shildt; M. Pignone; University of North Carolina at Chapel Hill, Chapel Hill, NC. (Tracking ID: 215055)

**STATEMENT OF PROBLEM/QUESTION:** Providers and patients expressed concern that follow-up appointments were not being scheduled in a timely manner. Current General Internal Medicine Clinic (GIMC) policy requires clinicians to schedule appointments two weeks in advance of the check-out (CO) timeframe. This real-time scheduling (RTS) of follow-up appointments at check-out is utilized to improve continuity of care, improve appointment show rates, and facilitate planned care.

**OBJECTIVES OF PROGRAM/INTERVENTION/WEB SITE:** Key clinic staff and administrators met to discuss RTS issues. Methods for baseline and follow-up assessment were developed. A clinic goal of 75% of appointments scheduled in real-time (RTS) was agreed upon by the clinical team. Interventions to attain this goal would be developed based on the data collected.

**DESCRIPTION OF PROGRAM/INTERVENTION/WEB SITE:** We performed a pre- and post-analysis of our RTS procedures. Over a 3 day period we assessed consecutive patients from planned care programs seen in clinic. The primary outcome was the % of RTS performed (defined as an appointment made within 24 hours of check-out and within the timeframe requested by the provider). Secondary objectives were to review of accuracy of check-out paperwork, assess provider availability during requested time frame, and follow-up 1 week later the status of patients who did not have initial RTS.

**FINDINGS TO DATE/EVALUATION OF WEB SITE:** At baseline 48 consecutively identified records were assessed over 4 days. The baseline RTS rate was 44%. 96% of check-out paper work was completed correctly by provider. 54% of requests were not completed because the provider lacked appointment availability. 1 week, 35% of 48 RTS patients were completed. Key clinic staff and administrators reviewed the initial data, considered options for improvement, and agreed on a set of interventions to be tested. Interventions included: assignment of specific administrative staff members to resolve issues that could not be handled at the time of check-out, using a simple tracking system (‘hot file’); greater attention to ensuring that the residents’ schedules were prepared and available at least 3 months in advance; and utilization of billing data to identify patients who left without returning check-out paperwork; During follow-up 65 consecutively identified records were assessed over 4 days. The follow-up RTS rate was 89%. 100% of check-out paper work was completed correctly by the provider. 43% of CA’s requests were not completed because the provider lacked appointment availability. After 1 week 57% of the patients without RTS were scheduled. Key LESSONS LEARNED: Interventions developed met our goal of at least 75% RTS. The intervention did not require additional staff, merely a shift of responsibility of one member of our administrative support staff and development of a tracking system for missing paperwork and appointment-making difficulties. Providers availability during the requested follow-up period remains an issue to be addressed.

**BRINGING PRIMARY CARE TO LEGAL AID IN THE BRONX:** H.D. Venter; J.P. Delucia; E. Drucker; Montefiore Medical Center, Bronx, NY; Montefiore Medical Center, Hillsdale, NJ. (Tracking ID: 153302)

**STATEMENT OF PROBLEM/QUESTION:** The access to and continuity of primary care for many indigent patients in the Bronx is affected by legal proceedings with little co-ordination between the health care professionals and public defenders involved in the same cases.

**OBJECTIVES OF PROGRAM/INTERVENTION/WEB SITE:** 1) To create a collaboration between a large primary care clinic of Montefiore Medical Center and a legal aid agency, both located in the same South Bronx neighborhood. 2) To assess the healthcare utilization of these legal aid clients. 3) To assess the healthcare utilization of these legal aid clients. 4) To assess the healthcare utilization of these legal aid clients.
DESCRIPTION OF PROGRAM/INTERVENTION/WEB SITE: Bronx Defenders is a legal aid agency that represents 1/3 of criminal defendants who require court-appointed representation in Bronx County courts (approximately 12,000 clients per year). A collaboration between a large community health center, Montefiore Medical Center and Bronx Defenders began in April 2005 with one internal medicine resident spending 2–10 hours per week at Bronx Defenders. During an intake with their clients, the five Bronx Defenders’ social workers survey their clients’ need in situ to make an appointment with a Montefiore internist and arrange a follow-up appointment with a Montefiore internist. The internist or an attending works with the internist on the day of their clinic appointment where a Bronx Defenders social worker escorts the client to the clinic and helps them register.

FINDINGS TO DATE/EVALUATION OF WEB SITE: In the 3 months since office hours began at Bronx Defenders, 40 hours of resident time produced 27 client contacts 77% (21/27) of which were for acute complaints such as pain, shortness of breath, and sore throat. Of the 27 contacts, 37% (10/27) involved discussion, 33% (9/27) involved assistance connecting with an existing physician, and 30% (8/27) resulted in new clinic appointments, of which 62% (5/8) were kept. Presenting illnesses at clinic included pelvic inflammatory disease, upper respiratory tract infection, cirrhosis, AIDS, and burns from crack cocaine. Those clients who came to clinic were actively using crack cocaine. Their medical evaluation and referral to drug rehabilitation was an alternative to incarceration for misdemeanor offenses. Over half (15/27) of client contacts had primary medical problems, and 10 of these clients achieved FBS normoglycemia, the prior six months. One client contact involved referral directly to an Emergency Department and while another resulted in informing a jailed client and legal staff that the client had Hepatitis C carrier status, from the charts. Detailed statistical analysis of the data was undertaken. This was presented in the form of affidavit and eventual trial testimony.

KEY LESSONS LEARNED: To date, this project has confirmed the need for and receptivity to primary care and consultation assistance among the legal aid population, and thus far appeared to be the resident on site at Bronx Defenders. A logistical challenge has been maintaining a presence during floor or unit rotations of residency with only one resident participating in the project.

CAROVIDIACHEAL HEALTH OUTCOME PROJECT FOR DIABETIC PATIENTS IN LEHIGH VALLEY HOSPITAL. M. Bhide1, A. Gupta1, Lehigh Valley Hospital, Allentown, PA. (Tracking ID: #153152)

STATEMENT OF PROBLEM/QUESTION: Diabetes represents an ever increasing cause of morbidity and mortality in the society. Metabolic control in management of chronic diseases like diabetes is important to improve quality of life of our people. The study consisted of assessment of cardiovascular risk factors in patients with Diabetes at Lehigh Valley Hospital. We then compared our results with the goals set by JNC-7, ATP-3 and American Diabetes Association.

OBJECTIVES OF PROGRAM/INTERVENTION/WEB SITE: To provide clinicians with information regarding their practice as it relates to management of diabetic patients with dyslipidemia and hypertension and evaluate goals for attainment of optimum lipids, blood pressure and Hba1c levels. Also identify our compliance with achieving practice guidelines with respect to: Ophthalmic and foot care examinations, immunizations, influenza and pneumococcal vaccines Assessment of renal function including use of ACE inhibitor or ARB Prevention of CVD (e.g. aspirin use, smoking cessation) Assess body mass index DESCRIPTION OF PROGRAM/INTERVENTION/WEB SITE: After IRB approval of our proposal, charts of 100 diabetic patients from Lehigh Valley physicians practice were selected using a randomized sampling methodology. Information regarding labs, exams, medications and follow-up was collected as recorded in the charts. Detailed statistical analysis of the data was undertaken. This was an analytical study and no intervention was planned.

FINDINGS TO DATE/EVALUATION OF WEB SITE: 90.5% of patients were overweight, obese or morbidly obese 49% of patients underwent annual ophthalmologic exams 69% of patients underwent annual podiatric exams 85.7% of patients underwent urine protein screening 69% of patients were on ACE inhibitor or ARB 70% of patients were on aspirin 77% of patients received influenza vaccine 68% of patients received pneumococcal vaccine 80% of patients achieved FBS normoglycemia 64.1% of patients achieved LDL 62% achieved target HDL 70% of patients were on aspirin 77% of patients received influenza vaccine 66% of patients received pneumococcal vaccine 56.6% of patients achieved BP goals 59.6% of patients achieved Hba1c goals 58.9% of patients achieved BP goals 59.6% of patients achieved Hba1c goals 58.9% of patients achieved BP goals 59.6% of patients achieved Hba1c goals 58.9% of patients achieved BP goals 59.6% of patients achieved Hba1c goals 58.9% of patients achieved BP goals 59.6% of patients achieved Hba1c goals.

KEY LESSONS LEARNED: The practice guidelines compliance was calculated. Lehigh valley hospital achieved a Diabetes Physician Recognition Program score of 86/100. Recommendations from the study will be used to initiate quality improvement program(s) to continue to improve Hba1c, improve lipid levels and BP in our study population. It was decided to use this study as benchmark for future studies. It enabled us to develop a comprehensive care model for management chronic diseases including Diabetes.

CHRONIC DIABETES SELF-MANAGEMENT: COMPARISON OF CARE PLAN DEVELOPMENT USING THE FLINDERS MODEL OF CHRONIC CARE Versus FORMAL STANDARDIZED PATIENT EDUCATION. E.J. Gerber1, M. Region-Smith1, S.J. Smith1, M. Kender1, Lehigh Valley Hospital, Allentown, PA; 2Dartmouth Medical School, Hanover, NH. (Tracking ID: #152670)

STATEMENT OF PROBLEM/QUESTION: Chronic disease is increasing in magnitude, overwhelming our health care system and resources. Self-management has been identified as essential to effective chronic disease care, yet training patients in these skills infrequently is integrated into health care delivery. Does the Flinders Model of Chronic Care Management, well-studied and utilized in Australia, improve patient care when compared to a more traditional approach of standardized education? Does the Flinders Model of Chronic Care Management improve patient self-care when compared to a more traditional approach of standardized education? Does the Flinders Model of Chronic Care Management improve patient self-care when compared to a more traditional approach of standardized education?

OBJECTIVES OF PROGRAM/INTERVENTION/WEB SITE: 1) Increase resident awareness of different methods to promote patient self-care when managing patients with chronic disease, by comparing study groups who received diabetes management training in self-management skills, specifically using the Flinders Model, and through numerous rapid FDSA cycles of change, adapt/modify the process so that it can be used as a model to manage all patients with chronic disease.

DESCRIPTION OF PROGRAM/INTERVENTION/WEB SITE: The pilot program involves two residents who have been trained to use the Flinders Model of Chronic Care Management in the care of diabetic patients in their continuity care teaching clinic. New diabetic visits include patient completion of the Partners in Health survey to assess their self-management skills, and resident completion of the Cue and Response sheet and the Problems and Goals questionnaire. All are used to develop an individualized care plan to achieve a patient-identified goal. Another four residents see new diabetic patients using a traditional medical model interview, and provide a 60-minute standardized patient education/self-management session. This session includes reviewing a colorful display depicting 12 areas of self-management, identifying community resources, and discussing complications of diabetes. Patient outcomes for both groups include baseline and biannual assessment of patient satisfaction and patient measured outcomes of HbA1c, and cholesterol. Changes in resident and clinic preceptor satisfaction scores will be obtained through individual interviews at the midpoint and end of the intervention. The goal for this intervention is to have a majority of patients in each group whose diabetes is managed by each of these strategies, and to compare the patient outcomes and resident and preceptor satisfaction between the two methods of promoting self-management.

FINDINGS TO DATE/EVALUATION OF WEB SITE: Several diabetic patients have had Flinders interviews and development of a Flinders Care Plan that aims to achieve the patient-identified goal. Post-session patient feedback thus far consistently has been rated 4 out of 5. Participating residents and attending feedback also has been strongly positive. Although we have not completed a sufficient number of patient visits for clinical significance, we hope to demonstrate improvements in overall outcomes and/or superiority of one method as we continue to collect data.

KEY LESSONS LEARNED: Residents and patients like the Flinders Model; however, as an innovative care process, clinic infrastructure needs improvement to make this care delivery model sustainable. Further study is needed in terms of teaching self-management skills to diabetic patients, which can be replicated for other chronic diseases. Further, this structured interview process allows identification of other factors influencing chronic care.

COLLABORATION OF GLOBAL HEALTHCARE SYSTEMS IN EARTHQUAKE RELIEF IN PAKISTAN: ROLE OF APPNA AND U.S. HEALTHCARE IN THE YEAR 2005/6. T.K. Malik1, M. Anshad2, R. Khalid2, A. Prachin4, Mount Sinai School of Medicine, New York, NY; 2University of Wisconsin, Milwaukee, WI; 3New York University Medical Center, Queens, NY; 4Medical Center, Princeton, WV. (Tracking ID: #157914)

STATEMENT OF PROBLEM/QUESTION: Countrywide or regional disasters can pose medical emergencies beyond the capacity of global health care systems. Such recent emergencies are the Tsunami in South East Asia, Hurricane Katrina and the Earthquake in Northern Pakistan. United Nations estimates that about 80,000 persons died, 85,000 persons were injured and more than 2.5 million rendered homeless as a result of the earthquake, posing a healthcare challenge of unimaginable proportions.

OBJECTIVES OF PROGRAM/INTERVENTION/WEB SITE: Members of Association of Physicians of Pakistani descent of North America (APPNA), some also members of SIGM, formed a coordinated response with the objective of helping with this medical emergency. The intervention consisted of needs assessment setting up infrastructure and disaster management coordinating offices both in the U.S. and in Pakistan, sending surgeons/physicians of defined skills to disaster areas on a rotating basis, coordinating.smoothly the procurement and dispatch of medical equipment and drugs, setting up educational seminars/training in rehabilitation.

DESCRIPTION OF PROGRAM/INTERVENTION/WEB SITE: APPNA, in collaboration with other organizations, coordinated the travel logistics of over 175 physicians, nurses, and other medical volunteers from the U.S. and Pakistan. Surgeon/physicians of various specialties and other medical volunteers from the U.S. The teams also included nurses, operating room technicians and allied health professionals. Several other physicians made independent travel arrangements. These personnel were distributed all over the disaster areas as needed. APPNA has adopted a remote village in a devastated area and supplied a medical dispensary, 350 all-weather tents, roofing material for building over 400 hospital tents, blankets, 10,000 warm jacket. Samples of equipment made available through APPNA includes: Two equipped operating rooms and a neurosurgical OR, C-arm machines, portable X-ray/dialysis machines, cardiac monitors, ventilators, defibrillators, wheel chairs, surgical supplies, rehab equipment and drugs of all kinds.

FINDINGS TO DATE/EVALUATION OF WEB SITE: APPNA held a conference in Pakistan on December 22–23, 2005 devoted to disaster relief and to review its work. A master plan for an effective and efficient national medical emergency system did not exist. Large areas affected by earthquake were inaccessible (landslides, roads disappeared, high altitude, bad weather). APPNA members generously donated their time to help in emergency.
DESIGN AND IMPLEMENTATION OF AN ELECTRONIC APPLICATION TO SUPPORT MULTI-DISCIPLINARY MEDICATION RECONCILIATION EFFORTS AT TWO ACADEMIC MEDICAL CENTERS. E.G. Poon1; B. Blumenfeld2; C. Hamann3; E. Graydon-Baker1; A. M.K. Hose1; A. Quan1.

Clinicians stated use of successive pilots to refine the solution incrementally is an important clinical processes and inter-disciplinary communication patterns before design-effort has illustrated the importance of fully understanding the underlying well accepted by its intended users, and has significant potential to prevent through the use of MR process. More pilots are planned over the next 3 months PAML to facilitate decision making at admission and discharge. Anecdotally, 2

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STATEMENT OF PROBLEM/QUESTION: Unintended medication discrepancies at the time of hospital admission and discharge are common and have considered the potential for an integrated MR medication reconciliation process can prevent unintended discrepancies and is mandated by JCAHO as a patient safety goal for 2005.

OBJECTIVES OF PROGRAM/INTERVENTION/WEB SITE: To design and implement an MR process that will leverage the multiple outpatient electronic medical record (EMR) systems and inpatient computerized provider order entry (CPOE) systems within a large integrated delivery network in Boston, MA. The system must allow clinicians from multiple disciplines to create accurately and efficiently the pre-admission medication list (PAML) upon patients' admission and use the verified PAML to inform the writing of admission and discharge orders.

DESCRIPTION OF PROGRAM/INTERVENTION/WEB SITE: We began the design process by performing paper pilots of the MR protocols developed at other hospitals to learn about the MR needs unique to our environment. We then assembled a multi-disciplinary work team to explore solutions that would fit the workflow in 2 academic medical centers that use separate, locally-developed CPOE systems. We then designed and developed a common web-based application, called the PAML Builder, that is summoned by clinicians from within either CPOE systems. This application assembles the outpatient medication information from 2 EMRs commonly used by physicians with the most recent discharge orders for both medical centers. Using the PAML Builder, the admitting physician integrates the medication history gathered from patients and their caretakers with the on-line medication information to generate efficiently an accurate PAML and to indicate whether any medication should be changed or held on admission. Depending on local practice, a pharmacist and/or the admitting nurse verifies the PAML and resolves any discrepancies with the responsible physician. At discharge, the discharging physician compares the PAML with the actual patient medication list to make the most informed choices about the appropriate discharge orders.

FINDINGS TO DATE/EVALUATION OF WEB SITE: The PAML application has undergone successful use in a pilot with 12 patients, involving 43 patients, 14 residents, about 50 nurses and 15 pharmacists. Overall, 51% of patients had a PAML built. Patients admitted by residents who received brief training were significantly more likely to have a PAML built compared to those admitted by attending residents. (Trained: 86%; Untrained: 25%. OR=15.3, 95% CI[adjusted for clustering]=3.1 to 74, p=0.0007). Clinicians stated through informal feedback that they appreciated the availability of the on-line PAML to facilitate decision making at discharge. Anecdotally, 2 significant medication discrepancies at discharge were discovered and corrected through the use of MR process. More pilots are planned over the next 3 months in other clinical areas.

KEY LESSONS LEARNED: An early version of the PAML Builder application was well accepted by its intended users, and has significant potential to prevent medication errors during transitions of care. The design and implementation effort has illustrated the importance of fully understanding the underlying clinical processes and inter-disciplinary communication patterns before designing a computer application to support these activities. We have also learned that education and support are important for the adoption of this initiative and that the use of successive pilots to refine the solution incrementally is an important strategy for success.

STATEMENT OF PROBLEM/QUESTION: The use of CAM therapies, or an Integrative Medicine model, has rarely been evaluated in an underserved population. Barriers to CAM utilization previously identified have included cost as well as language and cultural barriers. Utilization studies of low-income patients have documented significant use of CAM. Chronic pain causes significant morbidity and potential loss of wages in a population that cannot easily support this loss. Osteoarthritits, low back pain and other musculoskeletal complaints are the most common causes of chronic pain seen at the Venice Family Clinic (VFC), the largest free clinic in the United States. Since the withdrawal of COX-2 inhibitors from the market, the limited access to specialty care and non-prescribing of chronic narcotics have made management of these conditions much more effective. The providers and patients at VFC have identified a need for other methods to manage chronic non-malignant pain.

OBJECTIVES OF PROGRAM/INTERVENTION/WEB SITE: 1. To assess challenges and barriers to accessing CAM services to an underserved population. 2. To develop culturally sensitive programming for modalities not part of the culture of origin of the patients. 3. To create effective treatment programs for chronic uncomplicated forsythia that was challenged by the clinic and delivered in a community health care setting. 4. To design and implement an efficient evaluation process for such a program.

DESCRIPTION OF PROGRAM/INTERVENTION/WEB SITE: Funding was obtained from the Mann Foundation to identify and develop appropriate options for care. With this support, the staff has done a needs assessment, which confirmed the findings in the literature regarding the prevalence of chronic musculoskeletal pain and the interest in exploring the integration of CAM therapies into the regular clinic model. The pilot study was undertaken in the context of the launching of a larger initiative to promote health and wellness in the underserved multi-modality chronic pain clinic was begun open to any clinic patients referred by their PCP. Patients are treated with any combination of acupuncture, chiropractic, osteopathic manipulation, mind-body healing, and western medicine. Patients self-report outcomes using validated pain scales, depression screening tools and quality of life measures. Case conferences are held weekly among all of the practitioners to discuss individual patients and to share general philosophies of practice.

FINDINGS TO DATE/EVALUATION OF WEB SITE: Current findings are limited to the experience of setting up such a program in a resource limited and culturally diverse setting. We found some barriers among staff and providers, but the ability to navigate how those barriers were investigated and addressed. We will describe the training approach used to obtain broad support for the program. The pilot program is just beginning, but findings on outcomes will be available by the time of the conference.

KEY LESSONS LEARNED: While the discussion will be general enough in nature to allow application to a wide variety of service providers, special attention will be paid to the modifications which were required to accommodate the ethnicity of our patient population, the diversity of our staff and the fiscal constraints of a free clinic. Strategies for implementation and evaluation of the program and data from the pilot project will be presented. Suggestions for mechanisms to convert a successful pilot program into a self-sustaining clinical service will also be discussed.

DEVELOPMENT OF A PRIMARY CARE MUSCULOSKELETAL CLINIC AT THE SAN DIEGO VA. M.K. Hose1; A. Quan1. VA San Diego Healthcare System, San Diego, CA. (Tracking ID #: 15349)

STATEMENT OF PROBLEM/QUESTION: Is the creation of a primary care musculoskeletal clinic an efficient way to treat orthopedic complaints, which are beyond the scope of primary care practitioners, yet below orthopedic surgical intervention? OBJECTIVES OF PROGRAM/INTERVENTION/WEB SITE: Our objectives are to create a primary care musculoskeletal clinic to assess and treat common musculoskeletal complaints to decrease the burden on primary care physicians with expertise in primary care orthopedics initiated a primary care musculoskeletal clinic at the San Diego VA. Our goal is to maximize non-surgical options, including joint injections, for musculoskeletal complaints. From the inception of our clinic, the demand for appointments surpassed our availability. In 2004 we partnered with the Physical Medicine and Rehabilitation department to open a second half-day of MS clinic, and in 2005 we added a third half-day clinic in order to meet the volume of MS referrals. We also initiated an adjunct acupuncture clinic to offer non-traditional methods to deal with musculoskeletal pain. Due to the popularity of this option and the high number of consults from this clinic, we have since developed into a separate clinic.

FINDINGS TO DATE/EVALUATION OF WEB SITE: In order to understand referral patterns to the MS clinic, we surveyed the primary care providers at the San Diego VA, who care for approximately 30,000 veterans. We had a response rate of 33 of 41 providers (80.5%). The vast majority of providers (94%) reported that > 20% of patients present with musculoskeletal complaints, which is consistent with published national averages. Patients complained to their providers most commonly of spine, knee, and shoulder pain. Although 55% of responders state the main reason for referring patients to the MS clinic was a lack of training in injection techniques, up to 70% of providers feel that they do not have enough time to address their patients' musculoskeletal complaints in the setting of a primary care visit. In an analysis of cohort data from the MS clinic from January 1st, 2005 to April 14th, 2006, 74 patients made their way to the MS clinic, an average of 57 referrals per month. Approximately 80% of referrals were for shoulder (34%) and knee (46%). The remaining 20% of referrals were for injection requests for conditions of the foot (15%), wrist (4%), trochanteric bursa (6%), ankle (2%) and foot (1%). Two-thirds (66%) of the patients seen in the MS clinic for any indication received a therapeutic injection. Only 1.3% of all patients assessed and treated in the MS clinic were ever referred to orthopedic surgery. Setting up such a program is not without challenges, but will describe how those barriers were investigated and addressed. We will describe the training approach used to obtain broad support for the program. The pilot program is just beginning, but findings on outcomes will be available by the time of the conference.

KEY LESSONS LEARNED: While the discussion will be general enough in nature to allow application to a wide variety of service providers, special attention will be paid to the modifications which were required to accommodate the ethnicity of our patient population, the diversity of our staff and the fiscal constraints of a free clinic. Strategies for implementation and evaluation of the program and data from the pilot project will be presented. Suggestions for mechanisms to convert a successful pilot program into a self-sustaining clinical service will also be discussed.
DIABETES DASHBOARDS: SPEEDING THE ADOPTION OF POPULATION MANAGEMENT

ABSTRACTS

STATEMENT OF PROBLEM/QUESTION: Despite increasing pressure to improve health care quality including trends towards greater public transparency of quality metrics, the rate of improvement in health care delivery systems remains sluggish.

OBJECTIVES OF PROGRAM/INTERVENTION/WEB SITE: 1. To leverage EMR clinical data to drive continuous improvement in diabetes care. 2. To design a diabetes report that highlights team opportunities for delivery process and care improvement 3. To design structural and process innovations in the delivery system to facilitate faster adoption of population management across primary care teams.

DESCRIPTION OF PROGRAM/INTERVENTION/WEB SITE: In 2003, Harvard Vanguard Medical Associates (BVMA) initiated a systems improvement project to leverage EMR data to promote diabetes population management. The diabetes dashboard is the foundation of the population management process. It provides each PCP with a diabetes roster including two year trends of clinical data (HbA1c, SBP/DBP, LDL, BMI), the presence of common co-morbidities, currently prescribed pharmacological treatments, and smoking status. All clinical results are color-coded to indicate level of risk according to national guidelines (ATP III, JNC VII, and ADA/Joslin). The reports are generated monthly from a centralized patient database and accessible through a web-based reporting platform. All reports can be exported into Excel enabling end-user customization. To facilitate use of the dashboards, structural alignment and novel workflows were created to minimize barriers to action. Dashboard reviews were integrated into quarterly team meetings and new roles for PCPs, mid-level clinicians, and RNs around longitudinal chronic illness team care were introduced. Mid-level clinician roles were enhanced to include more routine chronic illness care as well as patient self-management promotion utilizing motivational interviewing skills. New care pathways involving structured, planned visit sequences were designed to take advantage of these new mid-level skills. Teams managed the use of these new workflows and they were driven off the quarterly dashboard data reviews. Organizationally, primary care team adoption of population management is measured through the percentage of mid-level planned visits conducted. HEDIS measures for comprehensive diabetes care are used for clinical improvement—primarily the percentage of patients with BP <140/90.

FINDINGS TO DATE/EVALUATION OF WEB SITE: Implementation is complete at 7 of 14 health centers. The integrated, multi-faceted approach to this process improvement garnered faster buy-in from clinicians, however its complexity required more effort and attention during implementation to ensure durable and sustainable change. Physicians respond favorably to the dashboard and generate many intervention ideas to improve care. The most cited barrier to adoption and action were the lack of time/capacity and ineffective teamwork skills. The rate of planned visits across the organization is 10% of all mid-level visits with a target of 50% (based on modeling of FCPC panel morbidity).

KEY LESSONS LEARNED: 1. A diabetes clinical dashboard is a clinically intuitive platform that garners clinician support for improvement and is a foundation for care improvement through population management; data drives system improvement. 2. Structural changes like new roles/responsibilities for team members are needed to increase capacity for change and adoption. 3. Process changes such as new workflows can integrate, coordinate, and drive adoption of the target program.

STATEMENT OF PROBLEM/QUESTION: The majority of health behavior needed for managing diabetes occur outside the office setting. Healthcare professionals often have limited time to provide self-management education during an office visit. Consequently, an allied health professional who can provide convenient chronic disease self-management education as an adjunct to usual care is needed. The objective of the project was to determine if the project was unique position in the health care system.

OBJECTIVES OF PROGRAM/INTERVENTION/WEB SITE: The primary objective was to determine the feasibility of a disease self-management intervention for patients with diabetes that have suboptimal control of blood sugar, systolic blood pressure, or LDL cholesterol.

DESCRIPTION OF PROGRAM/INTERVENTION/WEB SITE: Potential participants (i.e., adults with diagnosis of diabetes and either a systolic blood pressure >130mmHg, HbA1C >7.0%, or a LDL cholesterol of >100mg/dl) were identified through an established diabetes registry. Those meeting inclusion criteria (n=34) completed baseline assessments and were randomized to either the intervention or control group. The control group received usual medical care as completed study assessments. The telephone-delivered self-management intervention emphasized increased disease management self-efficacy, collaborative goal-setting, and ongoing problem-solving to empower and support patients in better managing their health. The social cognitive theory (self-efficacy theory) and self-management education approach (Lorig, 2003) provided the theoretical framework and self-management strategies used in the intervention. Collaborative care involving the partnership between the self-management educator and patient was emphasized. The individually-tailored intervention was delivered over the telephone by a trained self-management support educator, over approximately 7 telephone contacts during the 3 month study period. Participants in this condition also received usual care from their healthcare provider. All measures were completed at baseline and 3 months. Self-report measures included disease management self-efficacy, depressive symptoms, health care access, exercise, barriers to self-management, medication adherence with physicians, diabetes health-care utilization, alcohol and tobacco use, and adherence to prescribed medication regimen. Blood pressure, weight, and height measurements were assessed. The primary outcome measure was significantly higher self-efficacy for diabetes management (p=0.01), higher self-efficacy for dietary change (p=0.05), lower health distress (p=0.01), and lower depressive symptoms (p<0.01) than the control group at the end of treatment assessment (3 months after baseline). The groups did not significantly differ on self-reported exercise, healthy eating, health care utilization, body mass index or blood pressure.

KEY LESSONS LEARNED: Patients with diabetes can be recruited and retained for an intervention in primary care, and self-management education positively impacts several aspects of disease management (e.g., self-efficacy for disease management). Telephone-delivered disease self-management intervention in primary care appears to be feasible. Partnering with patients improves some patient outcomes (e.g., self-efficacy) and collaborative care can utilize readily-available technology (e.g., telephone).
EVALUATION OF PRESCRIPTIONS GENERATED FROM AN ELECTRONIC MEDICAL RECORD PRESCRIPTION WRITER IN A LARGE ACADEMIC INSTITUTION. S.K. Ford1; R.M. Malone1; B. Bryant1; B.H. Dennis2. 1University of North Carolina at Chapel Hill, Chapel Hill, NC; 2University of Pennsylvania, Philadelphia, PA.

STATEMENT OF PROBLEM/QUESTION: Computerized prescriber order entry (CPOE) has been touted as a method for decreasing medication errors, however the literature reports frustration from physicians with the increased time commitment required with CPOE. Our institution has an electronic medical record (EMR) that has the capability of generating computerized prescriptions for outpatient use and has received complaints from physicians and pharmacists who feel that EMR prescriptions require more interventions and clarification than traditional, handwritten prescriptions.

OBJECTIVES OF PROGRAM/INTERVENTION/WEB SITE: This evaluation was designed to assess the percent of computer-generated prescriptions that required the pharmacist to contact the prescriber for clarification and to characterize the problems requiring clarification.

STATEMENT OF PROBLEM/QUESTION: This was a retrospective review of all new prescriptions presented to two outpatient pharmacies in a large academic institution. A total of 741 prescriptions were screened and those generated by the EMR were reviewed to identify all prescriptions that required the pharmacist to call the prescriber for clarification.

FINDINGS TO DATE/EVALUATION OF WEB SITE: Two thousand three hundred and thirty-four prescriptions were filled at both pharmacies during the study period; 1011 were new prescriptions. Of these new prescriptions 985 (97%) were screened and twenty-six prescriptions (3%) were not identified, likely due to transcription. Three hundred sixty-six of these prescriptions were generated by the EMR. Thirty-eight (11%) of the EMR-generated prescriptions required pharmacist intervention and prescriber clarification. Common reasons for clarification were inconsistent dosing frequency (28%), prescription of non-formulary agent (22%), dose inaccuracy (14%), inappropriate dosing frequency or frequency chosen does not match, free text entered in comments field (10%).

EXAM-ROOM VERSUS TRADITIONAL PRESENTATION IN A RESIDENT AMBULATORY CLINIC. D. Dunham1; J. Butler2; D. Wayne1; M.M. Green1; V. Fleming1. Northwestern University, Chicago, IL.

FINDINGS TO DATE/EVALUATION OF WEB SITE: In general patients preferred exam-room presentations. They were more likely to spend an adequate amount of time with patients in the exam-room compared to traditional presentation (8.0 versus 5.5 minutes). Note: Study ongoing and to end January 31, 2006. Results

DESCRIPTION OF PROGRAM/INTERVENTION/WEB SITE: We randomized our resident and attending physician teams to alternate resident patient presentations by month to attendings. This study took place over 4 months. Presentations of patients in their ambulatory visit occurred either in the traditional manner (in a conference area away from the patient) or in front of the patient (exam-room presentation). If a patient consented, they along with the attending and resident physician were asked to fill out separate questionnaires describing their impressions of the examination process.

STATEMENT OF PROBLEM/QUESTION: There are many challenges in optimizing clinical encounters between resident physicians, attending physicians and patients in ambulatory care. Usual staffing models have one attending physician mentoring multiple residents. This model often results in delays of patient flow. Time pressures can further compromise teaching in clinic and time spent with patients with significant clinical problems. We studied residents’ short tenure limits their ability to develop a longitudinal relationship with patients. These factors are barriers in building continuity ambulatory care. We hoped to determine if having residents present to attendings in the presence of patients improves resident teaching and overall satisfaction.

OBJECTIVES OF PROGRAM/INTERVENTION/WEB SITE: We had several objectives for our intervention. We randomized our residents to present patients either in exam-room presentations or traditional presentations we wished to determine the following: 1. Do patients, and physicians prefer exam-room or traditional presentations? 2. Do physicians spend more time with patients when there is an exam-room presentation? 3. Do physicians feel more teaching is accomplished with an exam-room presentation? 4. Is patient flow different in exam-room presentations?

REFERENCE: 1. Mendenhall WH, DeLong DM. Importance of the exam-room examination. J Gen Intern Med 1999;14:15-21.
above are preliminary and based on less than half of eventual responses. Final data will be available by April 1, 2006.

KEY LESSONS LEARNED: Having exam-room presentations done in a resident ambulance simulation task force would be accomplished, excess blame that was viewed exam-room presentations as more favorable than the traditional presentations while residents did not. Both residents and attendings felt residents were more apt to feel a loss of autonomy with exam-room presentations.

FACTORS THAT INFLUENCE SUBSPECIALTY CHOICES OF INTERNAL MEDICINE RESIDENTS IN CANADA. L. Horn1; K. Tzanetos1; K. Thorpe1; S. Straus1. University of Toronto, Toronto, Ontario (Tracking ID # 153478)

STATEMENT OF PROBLEM/QUESTION: There is growing concern over the size and composition of internal medicine subspecialty training programs. OBJECTIVES OF PROGRAM/INTERVENTION/WEB SITE: In order to address the concern about physician imbalances in internal medicine subspecialties, we need to determine the proportion of residents applying to the subspecialty programs and examine the factors that motivate residents when making career decisions.

DESCRIPTION OF PROGRAM/INTERVENTION/WEB SITE: Data from the Canada Post M.D. Education Registry (CAPER) was used to determine the trends in subspecialty choices among internal medicine residents from 1995 to 2003. Third year residents in core internal medicine training programs completed a web-based survey. Residents choosing procedure-based specialties (cardiology, respiratory, gastroenterology and critical care) were compared to those choosing non-procedural specialties (hematology, infectious diseases, nephrology and oncology) and cognitive-based specialties with declining applicants (geriatrics, GIM, endocrinology and rheumatology) were compared in terms of demographics and the influence of 50 non-demographic factors. Likert-type scales, multiple choice, itemized selection analyses were used to model the variables affecting trainees choice of career.

FINDINGS TO DATE/EVALUATION OF WEB SITE: From 1995 to 2003 there has been a marked increase in the number of residents who reported their training in procedure-based specialties (from 35% to 43%), while general internal medicine has seen the greatest decrease in the number of trainees (from 33% to 20%). In the first three years of program residents were occupied by men, while 61% of non-procedure-based specialty positions are filled by women. Although residents may develop interest in a specialty early in their training, their final decision is made during residency. Residents choose careers that are in line with their personal interests, stimulation and diversity in clinical spectrum. The reputation of the specialty, anticipated salary and lifestyle as a staff also appear to be important factors to certain groups.

KEY LESSONS LEARNED: This study suggests that internal medicine trainees, and particularly males, are increasingly choosing procedure-based specialties while non-procedure-based specialties, and especially general internal medicine, are losing appeal. We need to implement strategies to ensure positive stimulation and diversity in clinical spectrum. The reputation of the specialty, anticipated salary and lifestyle as a staff also appear to be important factors to certain groups.

FACILITY OF HEPARIN DOSING GUIDELINES IN OBESE PATIENTS. A. Rang1; A.L. Towers1; C. Faber1; S.J. Skledar1; A. Seybert1; J. Bonner1; S. Heena1. University of Pittsburgh, Pittsburgh, PA. (Tracking ID # 153117)

STATEMENT OF PROBLEM/QUESTION: Current guidelines for anticoagulation with intravenous unfractionated heparin (UFH) recommend weight-based dosing. Recommended dosing for adult coronary syndromes (ACS) includes a bolus of 60–70 units/kg (maximum 5000 units) with infusion of 12–15 units/kg/hour (maximum 1000 units/hour), and dosing for venous thromboembolic events (VTE) is a bolus of 80 units/kg with infusion of 18 units/kg/hour. These guidelines are not adequately evaluated for UFH dosing in obese patients. OBJECTIVES OF PROGRAM/INTERVENTION/WEB SITE: To determine effectiveness of the current weight-based UFH dosing guidelines in achieving therapeutic aPTT and report the incidence of bleeding complications in obese patients more than 90kg receiving UFH.

DESCRIPTION OF PROGRAM/INTERVENTION/WEB SITE: As a quality improvement initiative, 109 random obese patients who received UFH infusions during June 2004 to December 2004 at an academic medical centre were retrospectively evaluated using inpatient electronic medical records. APTT analysis of the automated PCP reminder that accompanies the health maintenance recommendations. Faculty PCPs who participated in a depression skills training session, which included sections on depression screening, were considered “credentialed” and therefore eligible to submit claims for reimbursement. Providers claims for patients insured by the participating insurer and MBHO. An annual depression screening prompt was added to the automated PCP reminder that accompanies the health maintenance recommendations to every patient. One new depression screen prompt asks PCPs if the patient has been depressed or had anhedonia in the past month, and allows PCPs to enter yes, no, or no response feedback into the automated system. Results of depression screens are displayed in the health care maintenance data at all subsequent visits.

FINDINGS TO DATE/EVALUATION OF WEB SITE: Among the 37,872 patients seen at the four UC San Francisco primary care clinics between 10/1/2002 and 8/30/2003, 5471 had documented depression screening by 130 primary care providers. Credentialled providers (33 of 47 faculty members) conducted 70% of overall screening. After excluding the 7% of screening by non-eligible providers, i.e. medical residents, only 11 credentialled providers conducted 86% of all screening. Few credentialled providers submitted claims for reimbursement. In the clinic providing the majority of submitted claims, 7 of 12 credentialled providers cared for patients whose insurance coverage permitted submission of claims for reimbursement care; only one submitted claims. Analysis of this clinic’s screening activity among the credentialled providers found that the 3 who submitted claims conducted 50% of screening, the 4 who were eligible but did not submit claims conducted 37% of screening, and the 5 who were not eligible to submit claims conducted 13% of screening. KEY LESSONS LEARNED: Depression screening following implementation of the program appears low despite availability of financial incentives for depression care. However, the low screening activity may reflect a lack of documentation. Credentialled providers documented the majority of depression screens, suggesting that training or prompt of reimbursement may improve depression screening. However, financial incentive use by credentialled providers appears low; non-price incentives such as care management of depressed patients likely induced more referral behavior. This may be due to lack of direct incentives, difficulty navigating through the reimbursement process, or low prevalence of patients meeting the criteria for claims.

“I WASN’T THE ONLY ONE GOING THROUGH THIS”: GROUP VISITS FOR OLDER ADULTS WITH DEPRESSION ARE FEASIBLE AND ACCEPTABLE. S.L. Swenson1; J. Zandecki1; R. Gonzales1; M.D. Feldman1. University of California, Los Angeles, Los Angeles, CA; “University of California, San Francisco, San Francisco, CA. (Tracking ID # 153566)

STATEMENT OF PROBLEM/QUESTION: Group visits are promising for chronic disease management, but their feasibility, acceptability, and effectiveness for managing depression in primary care patients are unknown. We developed and evaluated a group intervention to enhance depression treatment for older primary care patients.

OBJECTIVES OF PROGRAM/INTERVENTION/WEB SITE: This pilot study examines (1) the feasibility of depression group visits in 2 academic general internal medicine practices, (2) their acceptability to patients, and (3) their impact on depression symptoms and patient self-efficacy.

DESCRIPTION OF PROGRAM/INTERVENTION/WEB SITE: We recruited English-speaking primary care patients aged 50 or older with significant depression.
IMPLICATION OF A MEDICATION RECONCILIATION PROCESS IN AN AMBULATORY INTERNAL MEDICINE OUTPATIENT PRACTICE

J. Prashanthan; C. Gunasiri; A. Vickers; K. Cumming; J. Mathew; A. Row; L. E. May; T. Francis; M. J. Currell; R. Chaudhry; M. A. Hansen; S. Scheitel; Mayo Clinic, Rochester, MN. (Tracking ID: 15768)

STATEMENT OF PROBLEM/QUESTION: An increasing number of patients with multiple medical problems are being cared for in the outpatient setting. The complexity of these patients poses a challenge for primary care physicians to maintain the quality and continuity of patient care, while minimizing medication errors. Updated and accurate medication lists would greatly minimize drug-related morbidity and improve patient health outcome.

OBJECTIVES OF PROGRAM/INTERVENTION/WEB SITE: This prospective study was designed to evaluate the causes of medication list inaccuracy, and implement interventions to enhance the overall accuracy of medication lists.

DESCRIPTION OF PROGRAM/INTERVENTION/WEB SITE: The study setting was a primary care internal medicine outpatient practice which consisted of 8 staff physicians and 23 residents. The study took place over 4 months with two multi-interventions. Prior to the first intervention baseline data was collected. The second intervention consisted of daily medication reconciliation in the electronic medical record. Completeness defined as including medication name, dose, frequency and route. The first intervention consisted of: 1) standardization of the rooming process with initiation of a preliminary note by the licensed professional nurses; 2) initiation of review of the collected medication list during the first encounter; 3) e-mail communication to staff defining what constitutes a complete medication list and providing feedback of baseline measures. A second data collection was undertaken two months after the intervention to re-assess the medication list completeness and correctness. The second intervention was two-fold: 1) all members of the health care team were trained regarding the definition of medication reconciliation and completion of a complete and correct medication list; 2) the entire visit process from the scheduling of the appointment to the physician’s signing of the final clinical note was reviewed, and each health care team member was instructed in their role to enhance medication reconciliation and ensure the accuracy of the health care team’s documentation. Medication reconciliation was directly related to the completeness and correctness of the documented medication list.

FINDINGS TO DATE/EVALUATION OF WEB SITE: Completeness of specific medication items improved from 13.5% (baseline) to 62.3% (post second inter-

IDENTIFICATION AND PREVENTION OF DELIRIUM ON GENERAL MEDICINE FLOORS
R. Aggarwala; E. Nabb, St. Thomas, N. Patsick; H. S. Smith. University of Pittsburgh, Pittsburgh, PA. (Tracking ID: 152815)

STATEMENT OF PROBLEM/QUESTION: Delirium is associated with a 25–3% mortality rate in elderly patients. Hospitalized elderly patients developing delirium require higher level of nursing care; have increased risk of institutional placements, and greater healthcare costs. A comprehensive program to prevent delirium in elderly who are at high risk of developing delirium will be of great benefit to patients, hospital and community.

OBJECTIVES OF PROGRAM/INTERVENTION/WEB SITE: To identify if nursing implemented fall risk assessment (FRA) on admission will identify high risk patients for delirium. To determine the need for modification in FRA tool to increase the delirium capture.

DESCRIPTION OF PROGRAM/INTERVENTION/WEB SITE: Our study group comprised of all patients aged 65 years or more were admitted to a general medicine floor at UPMC Presbyterian Hospital from Jan 12, 2005 to Jul 12, 2005. At admission, FRA was assessed for fall risk, and nursing staff using Fall Risk Assessment (FRA) form. In addition, all patients were assessed daily for delirium by nurses using the Confusion Assessment Method (CAM) survey form during their stay on the medical floor. All pertinent information including demographic and clinical data were collected from electronic medical records and archived hospital laboratory database (MARIS). Delirium incident patients were compared with non incident patients for differences in demographic (age, gender, race, Charlson’s co-morbidity index), laboratory data (albumin as an indicator for malnutrition, BUN/serum creatinine ratio as marker for dehydration) and each component of fall risk assessment as well as over all fall risk. Chi-square test and t-test were used to compare the groups.

FINDINGS TO DATE/EVALUATION OF WEB SITE: Total 275 patients of age 65 years or more were admitted to study group. Of these, 58 patients (21%) were identified delirium prevalent in our study population was 12.7% (35/275) and identified delirium prevalence in our study population was 12.7% (35/275) and incidence 4.8% (12/252) after excluding 23 patients who had delirium on admission. Delirium incident patients had mean age of 79.8 years compared to 78.1 years. Delirium non-incident patients had higher odds of being an African American, having dementia, dehydration (BUN/ S creatinine ratio of >2.5) and risk of fall compared to the non-incident group (OR >4.00) and was 1.87. Seventy five percent (17/22) of patients with delirium were assessed moderate to high risk for fall by FRA. Delirium incidence was associated with following components of fall risk assessment: mental status changes on admission, decreased or limited mobility, history of fall prior to admission, and difficulty in vision, speech or hearing.

KEY LESSONS LEARNED: FRA by nursing staff identified 75% of delirium incidence among elderly patients on general medicine floor. Addition of patient age, dementia and dehydration to FRA may identify more high risk patients for developing delirium. Since race is not a known risk factor for delirium and considering small number of incident patients we do not recommend race to be included in screening tool at present.
IMPLEMENTATION OF A TELEPHONIC NURSE-ADMINISTERED OUTREACH PROGRAM TO IMPROVE QUALITY OF CARE FOR LOW INCOME LATINO PATIENTS ON A DIABETES REGISTRY. H. Fischer1; T. MacKenzie1; D. Lakich2; S. Soria1; B. Weber1; J.A. Linder1; L.A. Volk1; R. Tsurikova1; A.J. Mamedov1.

The aim of this study was to improve the quality of care for diabetic patients living in a low income neighborhood of Minneapolis. The project included the following interventions: 1) The nurses identified diabetic patients on their clinic registry utilizing the electronic medical record and conducted a phone interview to determine if the patient had met the study inclusion criteria. 2) Nurses administered a pilot protocol for patients with diabetes to improve glycemic control, cardiovascular disease, blood pressure, and smoking cessation. 3) Nurses conducted follow-up phone calls to patients at 4 and 8 weeks after initiating the pilot protocol to assess the patient's progress and make any necessary adjustments. 4) Nurses provided education to patients and their primary care providers on the importance of good glycemic control, cardiovascular disease, blood pressure, and smoking cessation. The project was implemented in concert with the clinic's chronic disease management program and was approved by the clinic's institutional review board. The project was evaluated by comparing the outcomes of patients who received the intervention with those who did not. The results showed a significant improvement in glycemic control, cardiovascular disease, blood pressure, and smoking cessation among patients who received the intervention. The project was well received by the clinic's patients and staff, and the outcomes were positive. The project was successful in improving the quality of care for diabetic patients in a low income neighborhood of Minneapolis. KEY LESSONS LEARNED: 1. The use of a nurse-administered outreach program can improve the quality of care for diabetic patients in a low income neighborhood. 2. The intervention should be tailored to the needs of the patients and their primary care providers. 3. The intervention should be implemented in concert with other chronic disease management programs. 4. The intervention should be evaluated to ensure its effectiveness.
reason for antibiotic prescribing in the United States. Much antibiotic prescrib-
ing for ARIs is inappropriate. However, delivering electronic decision support for ARIs is challenging because of the brevity of ARI visits. Research into ARIs is frequently impeded by inadequate and non-standard documentation.

OBJECTIVES OF PROGRAM/INTERVENTION/WEB SITE: We designed an electronic health record (EHR)-integrated, documentation-based clinical deci-
sion support system for the care of patients with ARIs, the ARI Smart Form. The ARI Smart Form has been designed to: 1) improve the accuracy of the clinical decision support system for the care of patients with ARIs by reducing inappropriate antibiotic prescribing; and 3) improve and standardize documentation.

DESCRIPTION OF PROGRAM/INTERVENTION/WEB SITE: The ARI Smart Form is available in the ambulatory EHR used at our organization. The ARI Smart Form is launched from the Notes page of the EHR and is designed to be used by doctors while evaluating and treating patients. The ARI Smart Form displays information, decision support, ordering and documentation and includes 6 components: entry of clinical information; patient data display; diagnosis selection; presentation of treatment options with integrated decision support; prompting of patient handouts; and access to supporting medical litera-
ture. The ARI Smart Form imports patients’ problem lists, allergies, medica-
tions, and vital signs; speeds workflow using drop-down lists, radio buttons, and check boxes (especially “all normal” checkboxes); and provides “one-click” ordering of medicines, patient handouts, and excuse-from-work letters. All orders and actions are automatically documented and the ARI Smart Form formats all information into a typical narrative note.

FINDINGS TO DATE/EVALUATION OF WEB SITE: We conducted a pilot study of the ARI Smart Form in September 2005, tracking the use of the ARI Smart Form and surveying participants about its impressions. Eleven clinicians used the ARI Smart Form with 26 unique patients. Based on billing data, clinicians used the ARI Smart Form for 27% of their ARI visits during the pilot period. Clinicians prescribed antibiotics to 6 of 6 patients with appropriate-
appropriate T of diagnosis (e.g., sinusitis, strep pharyngitis) and to 3 of 15 (20%) patients with inappropriate diagnoses (e.g., non-specific upper respiratory infection, acute bronchitis). The mean duration of ARI Smart Form use, which could include interviewing and examining the patient as well as documentation time, was 4.6 minutes (± 4 minutes). Six of 10 survey respondents (60%) would recommend the ARI Form to their colleagues unchanged and 3 of 10 respondents (30%) would recommend it with minor modifications. Eight of 10 respondents (80%) reported that the ARI Smart Form was either time-neutral or timesaving.

KEY LESSONS LEARNED: Decision-support applications for acute problems must provide clinicians with self-evident benefits at the time of the visit (e.g., saving time, improving diagnosis and medication, not being unused). The ARI Form requires further evaluation, but has the potential to improve workflow, reduce inappropriate antibiotic prescribing, and standardize documentation.

INNOVATIONS IN MANAGING DIABETIC RETINOPATHY IN A PRIMARY CARE PRACTICE. J.A. Sackey; J.J. Heffernan; A. Tolsor; J. Cavallariero; Harvard University, Boston, MA; 2Beit Hadassah/Israel Dornbracht Medical Center, Boston, MA.

STATEMENT OF PROBLEM/QUESTION: Despite proven methods of care, only 40–60% of Americans with diabetes mellitus (DM) receive recommended dia-
abetes eye care.

OBJECTIVES OF PROGRAM/INTERVENTION/WEB SITE: This ocular teleme-
dicine program (the VHA’s “Day Zero”) expands access of eye care to diabetic patients, (2) monitors the quality of diabetic retinopathy (DR), (3) educates patients concerning diabetic eye disease, and (4) educates patients concerning diabetic eye disease and importance of life-long retinal examination.

DESCRIPTION OF PROGRAM/INTERVENTION/WEB SITE: Patients with di-
agnosed DM examined at Healthcare Associates (HCA), an urban primary care clinic, were either referred spontaneously or pre-scheduled to Joslin Diabetes Center’s (JDC) Ocular Telehealth Program for on-site digital retinal imaging without pupil dilation using the Joslin Vision Network (JVN), a telemedicine program that identifies level of DR, diabetic macular edema (DME), and eye disease not related to DM comparable to retinal specialist dilated examination and the accepted standard of seven-field retinal photography. Images are electronically transmitted to Joslin Diabetes Center for evaluation. Findings are reported in the HCA electronic medical record and a care coordinator ensures proper referral, follow-up evaluation, or treatment. Patients receive education concerning eye disease during imaging and when findings are re-
ported.

FINDINGS TO DATE/EVALUATION OF WEB SITE: In a cohort of 553 patients, 272 patients (49.2%) reported no eye examination within 12 months. Based on several causes of lack of examination, 394 patients (71.3%) ordered DME, and had previously generated weekly lists of eligible patients for multiple studies. In May of 2005, the Indiana University Medical Foundation, Cleveland, OH. (Tracking ID # 196990)

INSTITUTING A CARE MANAGEMENT PROGRAM: ONE METHOD TO IMPROVE CLINIC ACCESS. M.L. Lyson; D. Ramsey; A. Tremblay; E.W. Young, Jr.; University of Michigan, Ann Arbor, MI; 2Ann Arbor VA Healthcare System, Ann Arbor, MI; 3Ann Arbor VA Health Care System, University of Michigan, Ann Arbor, MI. (Tracking ID #: 157023)

STATEMENT OF PROBLEM/QUESTION: Access to a physician when you want and where you need one is a basis of the Veteran Health Administration’s (VHA) and 322 (59.1%) were referred for more prompt ophthalmic examination for diverse levels of DR, identified nondiabetic ocular disorders requiring referral for ocular examination, and provided education opportunities for patients.

OBJECTIVES OF PROGRAM/INTERVENTION/WEB SITE: In 2004 our tertiary VA medical center underwent large scale reorganization. Our goal was to develop teams in all outpatient clinics that meet the VHA performance measures. These teams provide the workforce needed to improve access and are led by Care Manag-
ers. The care managers are registered nurses, nurse practitioners or physician assistants who have a full time presence with a particular clinic. These individuals manage the supply and demand of the clinic by evaluating referral patterns, establishing referral guidelines, and providing oversight for the clinic. Their full time presence was a must given the high number of part-
time physicians we share with our University affiliate. We used the principles of Care management to develop our program. A care management program: 1) is integrated into and exploits the disease process (Clinical Process Improvement); 2) ensures that resources are managed by evaluating quality/volatility (ACA); and 3) uses evidence-based clinical practice (Disease & Case management) Care managers are responsible for: • Coordinating inter-session follow-up • Facil-
itating hospital - outpatient transitions • Being conduits for communication and coordination • Managing referral guidelines and appointment structure • Ensuring smooth clinic flow • Educating staff.

DESCRIPTION OF PROGRAM/INTERVENTION/WEB SITE: We developed a multiple choice pre-test to test our prior to our reorganizational efforts. Only 45% could accurately define Advance Clinic access, 67% could properly recall what the VHA goals for clinic access and only 53% could properly cite how care management would improve access. Following these results we implemented widespread educational efforts, that included closing clinics and having all staff attend “Day Zero”. This conference reviewed aspects of the reorganization, the VHA performance measures and job roles/responsibilities. Monthly meeting were also held with care managers toward covering any questions or issues that might arise in their new roles.

FINDINGS TO DATE/EVALUATION OF WEB SITE: In 2005 the care managers were asked evaluate the reorganization efforts to date. They noted: improved
access for patients as demonstrated by 50–75% reductions in waits improved consult responses increased staff awareness of clinic supply and demand improved prioritization of care The care managers however still express concern regarding limited physician buy-in in time spent on administrative tasks rather than clinical care, limited support staff assistance and limited work as teams. KEY LESSONS LEARNED: Care management is an effective way to improve access for patients when resources are limited. Nevertheless, working to maintain and improve buy-in from the physician and staff is a struggle. Implementing a care management program is one small piece to a large puzzle of adequate support staff and improving care for our veterans.

INTEGRATING GERIATRIC CARE MANAGEMENT INTO PRIMARY CARE PRACTICE

D.A. Dor1; L. Burns2; C.P. Brunker2; S. Donnelly3; A. Wilcox2. 1Lake City, UT.

K. Michels1; A. Perry1; H. Wurster1; J.E. Billi1. 1University of Michigan, Ann Arbor, MI.

J.G. Guglielmo1; J. Hallas1; N.O. Ezike1; G. Vachon1. JGIM 199.

STATEMENT OF PROBLEM/QUESTION: For seniors with multiple chronic conditions and little social, emotional, or physical support, creating an appropriate plan and facilitating self-management is difficult. Frequently, physicians have limited time, tools and training in techniques for patient education, coaching, motivating, and problem solving for the patient and family to be successful. OBJECTIVES OF PROGRAM/INTERVENTION/WEB SITE: This program is designed to facilitate transformation of the primary care approach to complex senior patients through people and technology. Participants will learn of a framework to incorporate care management functions and technological innovation for primary care, which expand the scope of care beyond the traditional doctor-patient encounter. Learners will explore information and communication requirements for the primary team. Finally, participants will assess the costs and potential benefit within their practice settings for implementation of a interdisciplinary care management approach.

DESCRIPTION OF PROGRAM/INTERVENTION/WEB SITE: The framework design comes from the Chronic Care Management framework which consists of seven different clinics with fifty physicians and seven care managers. Care managers are empowered to assist complex patients (50% with more than one disease or condition) through a specific training mechanism created by a geriatrician, the dissemination of care manager-guided checklists, and the creation of specific information technology. The information technology facilitates creation of and Access to a care plan, encourages Best practices through online tickers, enhances the care manager's ability to nicate with the primary care team, consultants and specialists. The Hartford Foundation funded an evaluation of the program impact on costs, patient outcomes, and mortality.

FINDINGS TO DATE/EVALUATION OF WEB SITE: A general framework to describe the care manager’s efforts have been created; the care managers have seen more than 9,000 patients (3,000 seniors) over a three-year period, focusing on depression, diabetes, social needs, caregiver strain, and frailty. The program has shown significant improvement in patient productivity (8% increase in RVUs billed), 21% reduction in mortality and 33% hospitalizations for diabetic patients, and high satisfaction of the primary care team and patients/caregivers. Description and utilization of the specific components of the information system and the care manager tasks will be presented. Attendees will be involved in an interactive discussion about potential replication in their settings. The specific information technology used to support the care managers’ daily functions is a separate tool that will be available free to the audience and at www.intermountainhealthcare.com/cmt.

KEY LESSONS LEARNED: An intervention for geriatric patients involving people and technology has been successful in improving health; some aspects are more beneficial than others. Application to other primary care clinics requires elucidation of how current functions are completed, and how the tools provided will fit into the new system. Policy makers are actively considering the costs and benefits of such programs. General internists and researchers engaged in structuring the care of such patients may benefit from flexible tools and the framework created through these efforts.
OVERCOMING PROVIDER INERTIA: IMPROVEMENT IN LDL-CHOLESTEROL MAN- AGE-MENT, K.C. Goldberg1; S.D. Melnyk2; D.L. Simel1. D.E. Morrison1; E.S. Spatz1; J. Stulman1.
San Francisco, San Francisco, CA;2University of California, Los Angeles, Los Angeles, CA.
and patients perceive the program as an extension of primary care.
PRELIMINARY DATA, ENROLLEES REDUCED THEIR PHQ9 SCORES FROM 14.3 TO 8.4 AFTER
SURPRISED BY THE DEPTH OF RELATIONSHIPS SHE WAS ABLE TO ESTABLISH WITH NO FACE-
OBSERVED THAT MANY PATIENTS PREFERRED COMMUNICATING BY PHONE; SHE WAS
SPENDING WITH PATIENTS, 10% FACILITATING REFERRALS TO SPECIALTY MENTAL HEALTH
TO BILL FOR DEPRESSION TREATMENT.
WITH THE CARE MANAGER AND WAS AVAILABLE FOR TELEPHONIC CONSULTATION WITH PCPs.
WIDE RANGE OF LIFE ISSUES AND CRISSES. THE CARE MANAGER ADMINISTERED THE PHQ-9
EDUCATION ABOUT DEPRESSION AND ITS TREATMENT; EXPLORATION OF THE PATIENT'S
PATIENTS FOR DEPRESSION WITH THE 2-QUESTION SCREEN AND PHQ9, THAT WERE
PRIMARY CARE PROVIDERS (PCPs) AT 4 UCSF SITES WERE ENCOURAGED TO SCREEN ALL
OBJECTIVES OF PROGRAM/INTERVENTION/WEB SITE: AS PART OF THE RWJ
NATIONAL DEMONSTRATION PROGRAM: DEPRESSION CARE MANAGEMENT (DCM), UCSF
PRIMARY CARE PRACTICES TESTED THE FEASIBILITY AND EFFECTIVENESS OF CARE MANAGEMENT
FOR DEPRESSED PRIMARY CARE PATIENTS IN A MANAGED BEHAVIORAL HEALTHCARE MODEL.
OBJECTIVE OF PROGRAM/INTERVENTION/WEB SITE: AS PART OF THE RWJ
NATIONWIDE DEMONSTRATION PROGRAM: DEPRESSION CARE MANAGEMENT (DCM), UCSF
PATIENT-CENTERED CARE IN A CARVE-OUT WORLD: USING CARE MANAGEMENT TO ENHANCE COORDINATION OF CARE FOR PRIMARY CARE PATIENTS WITH DEPRESSION, M.D. Feldman1; D. Lee1; A. Wong1; M.K. Ong1. University of California, San Francisco, San Francisco, CA. University of California, Los Angeles, Los Angeles, CA. (Tracking ID #: 154628)
STATEMENT OF PROBLEM/QUESTION: Care management for depressed primary care patients in closed systems has been shown to improve clinical outcomes. However, most patients receive mental/behavioral health care from managers and care organizations (CMOs) in carve-out systems; the benefits of care management in this model are unknown.
OBJECTIVES OF PROGRAM/INTERVENTION/WEB SITE: TO DETERMINE WHETHER A NOVEL PRIMARY CARE PROGRAM IMPROVES DEPRESSION CONTROL AMONG INNER CITY, IMMIGRANT DIABETIC PATIENTS?
OBJECTIVES OF PROGRAM/INTERVENTION/WEB SITE: TO DETERMINE WHETHER A NOVEL PRIMARY CARE PROGRAM IMPROVES DEPRESSION CONTROL AMONG INNER CITY, IMMIGRANT DIABETIC PATIENTS?
OBJECTIVES OF PROGRAM/INTERVENTION/WEB SITE: TO DEVELOP AND EVALUATE A STANDARDIZED PROCESS OF SUBSPECIALTY REFERRALS USING THE ELECTRONIC MEDICAL RECORD, AND TO DETERMINE WHETHER A NOVEL PRIMARY CARE PROGRAM IMPROVES DEPRESSION CONTROL AMONG INNER CITY, IMMIGRANT DIABETIC PATIENTS?
OBJECTIVES OF PROGRAM/INTERVENTION/WEB SITE: TO DETERMINE WHETHER A NOVEL PRIMARY CARE PROGRAM IMPROVES DEPRESSION CONTROL AMONG INNER CITY, IMMIGRANT DIABETIC PATIENTS?
OBJECTIVES OF PROGRAM/INTERVENTION/WEB SITE: TO DETERMINE WHETHER A NOVEL PRIMARY CARE PROGRAM IMPROVES DEPRESSION CONTROL AMONG INNER CITY, IMMIGRANT DIABETIC PATIENTS?
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OBJECTIVES OF PROGRAM/INTERVENTION/WEB SITE: TO DETERMINE WHETHER A NOVEL PRIMARY CARE PROGRAM IMPROVES DEPRESSION CONTROL AMONG INNER CITY, IMMIGRANT DIABETIC PATIENTS?
to attend the program, and those who attended were scheduled for follow-up sessions every two weeks over a 2 to 4 month period. Session duration was equal to usual visit duration in the resident primary care clinic, but time was structured differently to allow the patient to interact with multidisciplinary staff. Patients spent approximately 25% of the session with a licensed practical nurse, 25% with a nutritionist, and 50% with a resident supervised by a primary care attending without formal training in diabetes. The multidisciplinary team discussed each patient at the time of the session so that barriers to glycemic control identified by any team member could be addressed. During the 50% of the session that was spent with physicians, visit content differed from usual primary care by exclusively focusing on diabetes.

FINDINGS TO DATE/EVALUATION OF WEB SITE: Entry HbA1c was defined as the latest value from 6 months prior to the initial visit until 2 weeks after the initial visit. Final HbA1c was defined as the first value more than 3 months after the final visit. For patients who lost to follow-up or enrolled too recently for a final value, the latest value recorded was used as the final HgbA1c. To date, 104 patients have enrolled. Four have been lost to follow-up, and 11 enrolled too recently for a final HbA1c value. Patients were included in this analysis if they had type 2 diabetes for over one year and 2 consecutive HbA1c values were greater than 8.0%. Of these (n=66), the average number of program visits was 3.6. Mean entry HbA1c was 10.5%, which was a mean absolute increase of 3.0% (p=0.028) from the previous value. Baseline patient characteristics were as follows: 28% Black, 66% Hispanic, 34% not proficient in English, 70% immigrant, 6% uninsured, 69% with only Medicaid coverage. Comparing entry and final HbA1c, the decrease in HbA1c was 1.2% (p=0.0001). Mean reductions among Hispanic and Black patients were 1.6% (p<0.00001) and 0.6% (p=0.23), respectively. There were non-statistically significant reductions in LDL and systolic blood pressure, and a non-statistically significant increase in BMI.

KEY LESSONS LEARNED: Patients with chronically poorly controlled diabetes can improve glycemic control through interventions through a brief primary care program of semimonthly clinic visits designed to address diabetes-related care. This required a reallocation of physician, nursing, and nutritionist time, as well as exam room space, to allow all members of the team to discuss each patient. Even when the time of the visit, but no other resources were required. The program was more successful among Hispanic patients than Black patients. Reasons for this difference are unknown and merit further investigation to refine future interventions.

TARGETING DISPARITIES IN DIABETES CARE WITHIN A LARGE HEALTH PLAN THROUGH USE OF INDIRECT MEASURES OF RACE/ETHNICITY AND INTERACTIVE MAPPING J.B. Kim1; F. Allen2; C. Lewis3; A. Tytell4; J.J. Heffernan1; K. Brown3.

STATEMENT OF PROBLEM/QUESTION: Lack of enrollee race/ethnicity (R/E) data has hindered health plans’ abilities to assess R/E disparities in care. Though some plans have begun to collect this data, it can take years before sufficient data is collected. Even when disparities are demonstrated, it is often unclear to plans how to best use this information. Refinements in indirect approaches to estimating R/E and in geospatial mapping analysis (GMA) can potentially provide plans with an efficient and effective approach to begin targeting disparities.

OBJECTIVES OF PROGRAM/INTERVENTION/WEB SITE: To use indirect measures to demonstrate the existence of disparity of diabetic care in a large health plan. To assess the utility of using GMA to identify and characterize communities that account for a high proportion of the demonstrated disparities, as a tool to efficiently target interventions.

TESTS ON COLON CANCER SCREENING TEST COMPLETION C. Lewis5; A. Tytell4; J.J. Heffernan1; K. Brown3.

STATEMENT OF PROBLEM/QUESTION: Access to care is dependent, among many factors, on reasonable patient panel size. Divisions of General Medicine are often under great pressure to add new patients to existing panel and to increase visit volume. Over time, these pressures promote excessively large panels, poor patient access to primary care providers, increased work not directly related to visits and poor job satisfaction for providers. Calculations utilizing provider session data and average productivity, panel data and average patient visit frequency can quantify panel and identify issues of excessive panel resulting in poor care access.

OBJECTIVES OF PROGRAM/INTERVENTION/WEB SITE: To determine actual and potential panel/session productivity. Calculations utilizing provider session data and average productivity may help foster practice utilizable data, and to determine a threshold for closure of individual faculty patient panels.

DESCRIPTION OF PROGRAM/INTERVENTION/WEB SITE: We performed several data analytic calculations: (1) using each patient’s visit frequency, average faculty session productivity and work year expectations we determined theoretical estimates of panel per 4-hour practice session for different proportions of shared care (management); (2) total numbers for each practice were based on average relative visit volumes of faculty, nurse practitioners (NPs), mental health providers (MHPs) and housestaff (HS) we determined a more realistic single estimate of panel per session for faculty; (3) we calculated actual panel/session, adjusted for gender and age. FINDINGS TO DATE/EVALUATION OF WEB SITE: (1) At an average patient visit frequency of 3.0/year and average faculty productivity of 10 visits/session and 43 visits/year, care per panel/session, decreased with age; (2) when looking at standardized measures the R/E of demographic and age group composition; (3) when looking at standardized measures we found no statistically significant difference between male and female visits per panel/session.

THE EFFECT OF MAILING DECISION AIDS AND DIRECT ACCESS TO SCREENING TESTS ON COLON CANCER SCREENING TEST COMPLETION C. Lewis5; A. Tytell4; J.J. Heffernan1; K. Brown3.

STATEMENT OF PROBLEM/QUESTION: Colon cancer screening is underutilized; only about half of eligible adults over 50 complete screening. Barriers to screening include patients’ lack of awareness about the risks of colon cancer, providers and patients not being aware when screening is due, patients’ lack of awareness about screening options, and difficulty in scheduling colon cancer screening. The purpose of this study was to determine the most effective strategies for overcoming these barriers.

OBJECTIVES OF PROGRAM/INTERVENTION/WEB SITE: To overcome these barriers we tested the effectiveness and efficiency of mass mailing an intervention (decision aid) plus standing orders in order to increase the utilization of colon cancer screening. We mailed two intervention packets to 1358 patients that included 1) a letter signed by their physician encouraging colon cancer screening; 2) an eligibility survey; 3) a colon cancer screening decision aid in both DVD and VHS formats; 4) a survey to be completed after reviewing the materials to determine screening intent and 5) return mailing instructions and postage. Telephone numbers to schedule a colonoscopy or flexible sigmoidoscopy or obtain FOBT cards were included in the letter. One month after the initial mailing a reminder letter was sent to those...
who had not responded. At two months, a follow-up phone call will be made to determine whether the remaining non-responders have received, read, or used the materials. The main outcome of interest is completion of any colon cancer screening. Data were collected using chart and follow-up review of the two health centers and 100 control group patients. Preliminary results from a chart review performed approximately 2 months after the initial mailing is complete and will be repeated at 6 months for the final results.

**THE EFFECT OF THE CANCER HEALTH DISPARITIES COLLABORATIVE ON CANCER SCREENING AND FOLLOW-UP.** D.A. Haggstrom 1; S. Taplin 2. Cancer Prevention Program, National Cancer Institute, Bethesda, MD. (Tracking ID # 753469)

**STATEMENT OF PROBLEM/QUESTION:** Cancer screening rates are lower among vulnerable populations served by community health centers, including minority groups and the uninsured.

**OBJECTIVES OF PROGRAM/INTERVENTION/WEB SITE:** To increase the following care processes among health center patients: (1) breast, cervical, and colorectal cancer screening; (2) timely notification of screening results; and (3) appropriate follow-up of abnormal screening test results.

**DESCRIPTION OF PROGRAM/INTERVENTION/WEB SITE:** A multi-institutional quality improvement collaborative (the “Breakthrough Series”) was implemented among 16 primary care community health centers in 2003–2005 to meet the program’s objectives regarding cancer screening and follow-up. The collaborative used data collected and shared monthly among health centers to set goals for improvement and assess the effect of practice interventions. Practice interventions were drawn from the chronic care model. Comparisons of care processes at the start and end of a 6-month collaborative period were done using chi-squared tests. By the end of 16 months, 29,704 individuals ages 21 and older were eligible for some type of screening.

**FINDINGS TO DATE/EVALUATION OF WEB SITE:** The following care processes have increased during the collaborative: Pap smear within the last 3 years (39.2% vs. 62.4%, p < 0.001), screening results sent to patients within 30 days (39.9% to 58.1%, p < 0.001), and additional evaluation/treatment done within an appropriate time frame (65.5% to 69.4%, p = 0.001), screening results sent to patients within 30 days (39.9% to 58.1%, p < 0.001), and additional evaluation/treatment done within an appropriate time frame (65.5% to 69.4%, p = 0.001). The following care processes have not increased during the collaborative: mammography within the last 2 years (36.2% vs. 36.2%, p = 0.83) and appropriate screening for colon cancer (35.1% to 28.3%, p < 0.001).

**KEY LESSONS LEARNED:** Attention to what care activities take place within the scope of the primary care practice may be useful in predicting what can be measured and improved successfully during the course of a quality collaborative in this setting. Pap test screening may have increased because of the test's availability on-site at primary care practices; mammography and colon cancer screening are commonly performed at another health care location. Notification of test results may have increased because of the high degree of control that primary care practices exert over this process. Primary care practices may not have enough patients with abnormal results to have adequate power to measure changes in follow-up, although for this care process, near 100% compliance may be a reasonable goal. All screening tests occurred within the health centers at a rate below national population averages, even at the end of the collaborative. However, measurement at the health centers occurs among individuals seen at least once in the prior two years so is not always comparable to other national rates reported from telephone surveys or managed care populations. The precision and accuracy of the health centers' self-reported measures, as well as how their method of collection differs from other organizations, needs further clarification to better inform comparisons and planning.

**THE FINANCIAL COSTS OF “SNAIL MAIL” TO THE CLINICAL PRACTICE OF MEDICINE.** S.V. Joy 1; K. Udayakumar 1. Duke University Durham, NC. (Tracking ID # 152952)

**STATEMENT OF PROBLEM/QUESTION:** What is the volume of mail received by a primary care physician related to patient care, CME events and pharmaceutical promotional materials in a given time period, and what are the costs of such mailings to the practice and the patient?

**OBJECTIVES OF PROGRAM/INTERVENTION/WEB SITE:** Technologies to improve methods of communication for physicians continue to expand, with ongoing strategies to utilize and develop tools such as e-mail and electronic medical records for clinical practice. However, the use of standard mail services (also referred to as “snail mail”) to deliver patient lab and x-ray reports, letters from consulting or referring physicians, forms to complete for patients to receive services or products, and pharmaceutical promotional material remains common in clinical practice. We sought to quantify the volume of snail mail received in a given practice, and to estimate the costs to the practice associated with sorting and distributing this mail to physicians.

**DESCRIPTION OF PROGRAM/INTERVENTION/WEB SITE:** All mail related to patient care was collected for 1 week. All pharmaceutical promotional mail received within one physicians office mailbox was collected for a 1 month period (August 2002–August 2003). The total number of letters received by the assistant was spent daily to collect, sort and distribute this mail for the 7 physicians in the group.

**FINDINGS TO DATE/EVALUATION OF WEB SITE:** A total of 306 pieces of mail (average 61 pieces/weekday/group) were received that related to patient care for all physicians in 1 week. An average of 310 pieces of mail (62 pieces/day/weekday/group) were received relating to promotion of pharmaceutical products, with the most common promotional material related to the management of depression/mental illness (17%). The office assistants spent an average of 52 minutes of time sorting and collecting all mail, with 14 minutes of this time spent distributing the pharmaceutical promotional material. To collect, sort and distribute all snail mail (as measured by salary/benefit costs of the office assistants time) equated to practice costs of $520/MD/year, with $150/MD/year spent to sort and collect pharmaceutical promotional material. Extrapolating to the 570,000 physicians in the United States equates to a yearly cost to clinical operations of $292 million.

**KEY LESSONS LEARNED:** A significant volume of snail mail continues to be received by physicians in clinical practice settings.

**TOWARDS PATIENT LEVEL RESULTS IN LATIN AMERICA: PILOT STUDY FOR THE ARGENTINE HEALTH CARE COST, UTILIZATION AND OUTCOMES STUDY.** J.T. Insua 1. CEGES/Hosp. Universidad Austral, Austral University, Buenos Aires. (Tracking ID # 729299)

**STATEMENT OF PROBLEM/QUESTION:** Global health, particularly for chronic diseases analysis and management, requires patient level data that are not captured by crude and basic minimum data set (MDS), usually not available in an extractable form in Argentina and Latin America. An information gap or divide among transition and established market economies countries exists. Lack of standardization of costing and budgeting procedures; resource utilization and patient outcomes data are pervasive. Our purpose was to solve this problem by a project of prospective data collection following basic data set after Health Care Cost and Utilization Project (HCUP), USA. The objective was to generate outcome and cost data in a simple and accessible database for health policy research purposes.

**OBJECTIVES OF PROGRAM/INTERVENTION/WEB SITE:** To obtain patient level data with mortality and diagnosis, coding, ranking, costs per diagnosis (described as median, 25/75 percentiles and range), obtained from the costing collection instrument and historical survey in three hospitals.

**DESCRIPTION OF PROGRAM/INTERVENTION/WEB SITE:** The “Utilización de Servicios, Costos y Resultados de la Argentina (USCR-An) project, (NGO/Public Sector financed; VIGIA/CNAPRIS/Ministry of Health, Argentina (2yr. Total Budget: US $800k). 3 objectives and components, designed to avoid data fragmentation of the system, were: 1) Hospital survey, modeled after American Hospital Association Survey (AHA), 2) step-down costing method (using WHO CHC) and 3) patient level MDS (after HCUP Inpatient data set). A web based application service provider (ASP) was designed.

**FINDINGS TO DATE/EVALUATION OF WEB SITE:** 6000 discharges were collected with the required data (not presented here) in two Hospitals (1 public/1 Non for Profit), > 1.5 years delay occurred, HCUP format principal discharge diagnosis ranking and costs were obtained (ranking of 50 first Diagnoses, their costs, mortality, ALOS, 1 hospital failed data entry at patient level)/costing and replaced (rate hospital). We expanded the data base with standardized safety, quality and discharge status data. The main obstacles were: 1) non-adherence of hospital directions, public health offices, and lack of efficient public support, 2) lack of standardization costs, 3) hospital specific data, and 4) primary procedure registra-tion in charts, and need of ICD9CM/ICD10 conver-
WEIGHT LOSS THROUGH LIVING WELL (WILLow): INTEGRATING OBESITY TREATMENT INTO PRIMARY CARE. K. M. McTigue1; L. Bigi2; M. B. Conroy1; K. Kelly1; J. Riley1; M. A. McNeil2; 1University of Pittsburgh, Pittsburgh, PA; 2University of Pittsburgh Medical Center, Pittsburgh, PA. (Tracking ID #: 56964)

STATEMENT OF PROBLEM/QUESTION: Although obesity screening and intensive lifestyle intervention is recommended in the primary care setting, evidence-based intervention programs are lacking.

OBJECTIVES OF PROGRAM/INTERVENTION/WEB SITE: We implemented the Weight Loss through Living Well (WiLLow) program as a quality improvement initiative for promoting weight loss, fully integrated into primary care practice.

DESCRIPTION OF PROGRAM/INTERVENTION/WEB SITE: We designed a delivery model for a group-based adaptation of an efficacious lifestyle curriculum (the Diabetes Prevention Program) in a large University-based primary care practice. Primary Care Provider (PCP) referral to WiLLow occurs via the electronic medical record (EMR). The intervention includes education on obesity-related risk factors (e.g. hypertension, diabetes), evaluation regarding safe for moderate physical activity, and orders for obesity-appropriate lab work (e.g. lipid profiles). Participants pay $100 for the first 12 sessions (less than most commercial weight loss programs).

FINDINGS TO DATE/EVALUATION OF WEB SITE: We evaluated the effect of Willow by comparing the change in weight between patients who were referred between 3/1/05 and 9/15/05 and enrolled, and who were referred but chose not to enrollo. The mean (SD) weight at initial visit was 34.4 (8.1) kg at the 6-month analysis and 32.1 (7.9) kg at the 12-month analysis, a mean change of -2.3 kg (p<0.01). The mean (SD) weight loss was achieved by 38% of enrollees and 0% of non-enrollees (p = 0.02). The LOCF analysis found that participants enrolled in WiLLow achieved a 7% loss (p<0.05) more than those not enrolled in WiLLow (p<0.05).

KEY LESSONS LEARNED: An intensive lifestyle intervention can be integrated into a primary care practice and promote clinically significant weight loss.

WIDE STERILE BARRIERS: HOW LONG DOES IT REALLY TAKE? A. R. Harrington1, B. T. Rosen2, M. J. Ault2. 1The David Geffen School of Medicine at UCLA, Los Angeles, CA; 2Cedars-Sinai Medical Center, Los Angeles, CA. (Tracking ID #: 56732)

STATEMENT OF PROBLEM/QUESTION: One frequently cited reason for omitting Wide Sterile Barriers (WSB) during central line placement is time constraints. However, the amount of time required to utilize WSB for routine line insertion has not actually been quantified.

OBJECTIVES OF PROGRAM/INTERVENTION/WEB SITE: To quantify the time required for an experienced practitioner to apply WSB during central line placement.

DESCRIPTION OF PROGRAM/INTERVENTION/WEB SITE: We planned to observe 50 central venous catheter placements by 5 experienced practitioners, and to document the time needed to perform each step of the procedure, including WSB application, although only one WSB was applied (WSB-a). Time was measured from when the operator entered the room until the catheter was placed and secured. Time was also measured for WSB application, although only one WSB was applied (WSB-b). The average total procedure time, making it comparable to other essential steps including physician documentation (3.5 minutes), patient education and informed consent (3 minutes).

OBJECTIVES OF PROGRAM/INTERVENTION/WEB SITE: We planned to observe 50 central venous catheter placements by 5 experienced practitioners, and to document the time needed to perform each step of the procedure, including WSB application, although only one WSB was applied (WSB-a). Time was measured from when the operator entered the room until the catheter was placed and secured. Time was also measured for WSB application, although only one WSB was applied (WSB-b). The average total procedure time, making it comparable to other essential steps including physician documentation (3.5 minutes), patient education and informed consent (3 minutes).

CASE: A 46 year old white male with a history of hypertension and back pain for three months presented with six days of worsening mid thoracic back pain described as aching, non-radiating, intermittent, and exacerbated by movement. He endorsed shortness of breath, dry cough and chills, and a seven-pound weight loss over six months. He consulted his PCP with new onset night sweats, fever, abdominal pain, nausea, vomiting or diarrhea. His medications included atenolol and ibuprofen. He consumed 4 beers daily for 20 years and denied tobacco use. Physical exam revealed a blood pressure of 120/83, pulse 109, respirations 22, 90% saturation on room air and 100% on 4 liters. He was cachectic without scleral icterus or cervical adenopathy. The left lung had decreased excursion with breath sounds audible only at the apex, dullness to percussion, decreased breath sounds throughout and end expiratory wheeze or crackles. The right lung, heart and abdominal exam were unremarkable. Stool was hemoccult negative. CXR showed a massive left sided pleural effusion with mediastinal structures shifted to the right. Pleural fluid analysis revealed green turbid fluid, with a pH of 6.8, total protein 4.7, glucose 8, LDH 385, WBC 6.8 (96% PMNs), RBC 5, amylase 6277, and negative gram stain and culture. Laboratory values were significant for WBC 14 (87% PMNs), total protein 7.2, albumin 2.4, LDH 83, amylase 632, lipase 205, Electrolytes, BUN, creatinine and LFTs were normal. The pleural fluid was found to be exudative by Light’s criteria (ratio of LDH 4.6 and protein ratio of 1.9). CT abdomen revealed diffuse pleural effusion with no calcifications, pancreatic ductal dilatation consistent with chronic pancreatitis, and a pancreatic pseudocyst. MRCF revealed a pancreaticoleciperal fistula. The patient was managed conservatively and discharged four weeks later.

DISCUSSION: Approximately 80% of chronic pancreatitis cases are secondary to alcoholism, while the remainder are due to hereditary pancreatitis, pancreas divisum, cystic fibrosis, hyperparathyroidism and ductal obstruction from gallstones, tumor or trauma. Common clinical characteristics include intermittent or chronic epigastric pain radiating to the back, worsened with eating and associated with nausea and vomiting, and symptoms of pancreatic insufficiency including steatorrhea, vitamin deficiency and diabetes. Common complications include mechanical obstruction of the duodenum/ileal duct and pseudocyst formation, which occurs in 10% of affected patients. Pseudocyst expansion may produce abdominal or back pain, bilary obstruction, vascular occlusion, infection, fistula formation into the abdominal wall, pleural or pericardial space or peritoneum. Pancreaticoleciperal fistula is uncommon; its presentation is often initially missed secondary to the preponderance of pulmonary manifestations and the absence of abdominal pain. Pancreatic duct disruption from chronic inflammation leads to fistulization. The pleural effusions tend to be large and recurrent, with markedly elevated amylase levels, secondary to the direct pancreaticoleciperal connection and the negative intrahepatic pressure. Less frequent complications of chronic pancreatitis include pancreatic ascites, splenic vein thrombosis, and pseudosinuses formation.

"D.A.R.T."ING TO PLASMA EXCHANGE FOR HEMOLYTIC UREMIC SYNDROME. D. M. Hare1, N.A. Younis2, D. Philbert3, A. J. Gordon1. 1University of Pittsburgh, Pittsburgh, PA. (Tracking ID #: 15324)

LEARNING OBJECTIVES: 1. Learn the clinical presentation of Hemolytic Uremic Syndrome (HUS) 2. State the tests necessary to diagnose HUS 3. Outline the management of HUS

CASE: A 9 year-old male with history of CRI, CHF, HTN, atrial fibrillation and diabetes presented to an outside hospital complaining of diarrhea. The patient reported ten loose non-bloody bowel movements per day, decreased appetite, nausea and one episode of non-bloody emesis, over the last week. He denied fevers, chills, chest pain and shortness of breath. Initial platelet count, indirec bilirubin, hemoglobin, LDH and creatinine were normal. The patient was diagnosed with gastroenteritis and admitted to a community hospital. He was hydrated for presumed pre-renal azotemia and treated with antibiotics for a urinary tract infection. Over the next two days, the diarrhea persisted and the patient developed increasing anemia, thrombocytopenia and oliguria. He was transferred to JGH for further evaluation. On admission, he exhibited increased lower extremity edema, ongoing diarrhea, decreased urine output, and increased confusion. He denied nausea, vomiting, fevers, chest pain, shortness of breath and abdominal pain. The physical examination was...
significant for reduced mentation, bibular rales, abdominal petechiae, lower extremity edema, and gaucic positive stools. His laboratory findings included decreased platelet and red blood cell counts with increased creatinine, LDH and indirect bilirubin. Both the hepatogram and reticulocyte count were decreased. The peripheral smear showed occasional schistocytes. The clinical presentation and supporting laboratory findings were consistent with a diagnosis of hemolytic uremic syndrome. After receiving single volume plasma exchange and dialysis, the patient eventually recovered and was discharged to home. Two months later, the patient had recovered completely.

DISCUSSION: HUS represents less than 5% of acute renal failure in adults each year with 40-60% of the developing patients progressing to end-stage renal failure. The mortality rate associated with hemolytic uremic syndrome (HUS) was historically 80-100%. Fortunately, with the advent of plasma exchange, the mortality rate has decreased to approximately 20%. While more common in children, the incidence of HUS in the United States each year is seven per ten million. To achieve the benefit of plasma exchange, physicians must recognize the clinical presentation of HUS. A recent diarrheal illness with Shigella or E-coh O157:H7 is associated with this syndrome. Less commonly, fever and neurologic changes may be present in patients. HUS is characterized by microangiopathic hemolytic anemia (MAHA), thrombocytopenia and renal failure. Schistocytosis on blood smear examination is consistent with this diagnosis. Near normal urinalysis is common. Additional evidence of MAHA includes a decreased haptoglobin, increased LDH and unconjugated bilirubin, reticulocytosis and negative Coomb’s test. HUS manifestations can be summarized by the acronym D.A.R.T: (DIARRHEA, ANEMIA, RENAL IMPAIRMENT AND THROMBOCYTOPENIA). The mainstay of treatment for HUS is plasma exchange and supportive care including dialysis. Plasma exchange should be initiated promptly, even if clinical uncertainty remains, in order to avoid high morbidity and mortality associated with diseased-treated HUS. Through prompt clinical recognition, focused diagnostic testing and rapid initiation of therapy, patients with HUS have the best chance of recovery.

LEARNING OBJECTIVES: 1. Diagnose the cause of an acute onset hallucination and confusion. 2. Recognize endophthalmitis as an ophthalmic emergency. 3. Understand the treatment of bacterial endophthalmitis.

CASE: A 54-year old male with history of intravenous drug abuse (IVDA), chronic hepatitis C, membranous glomerulonephritis with end-stage renal disease on hemodialysis, and multiple perma-cather infections presented with one day of fever, chills and pain at sites of perma-catheter insertion. The patient was admitted using his perma-cather for cocaine injection recently. On admission, his vital signs were temperature 37.2 °C, HR 92, BP 96/55, and RR 20. Physical exam revealed right internal jugular vein perma-catheter entry site with local erythema and tenderness without fluid collection. His WBC was 11K/mm3. The perma-cather was removed and the catheter tip was sent for culture. The patient immediately started on vancomycin. On the second day after admission, the patient complained of acute onset of bilateral vision loss. On exam, the patient had bilateral visual deficits with perception of motion-only except in the left lateral visual field where he could count fingers. The rest of his neurologic exam was unremarkable. Emergent computerized tomography (CT) of the head was done which showed an old left occipital lobe infarct with calcification. An ophthalmologist was consulted. Eye exam revealed cells in anterior chambers with hypotony. Vitreous debris was noted in both eyes. Bilateral periphlebitis and retinal venous periphlebitis was diagnosed. The patient subsequently received intra-vitreal injection of vancomycin and ceftazidime. On the third day, the patient completely lost his vision. Both the perma-catheter tip and blood culture grew Staphylococcus aureus with a minimum inhibitory concentration (MIC) of 2 mg/mL. The ophthalmologist recommended that gatifloxacin be added to vancomycin for better eye tissue penetration. Gradually, the patient’s vision improved, and he could detect motion. Transcranial echocardiogram did not reveal any valvular vegetation. However, on the eighth day of admission, the patient was found to be hypotensive and was transferred to medical intensive care unit and succumbed 2 days later.

DISCUSSION: Staphylococcus aureus is an organism which can cause both disseminated infection and endogenous endophthalmitis. Endogenous endophthalmitis accounts for only 2-6% of infectious endophthalmitis; and 12% of those cases are bilateral. Staphylococcus aureus accounts for about 14% of endogenous endophthalmitis. Bacterial endophthalmitis is a sight-threatening ophthalmic emergency. The predisposing medical conditions for endophthalmitis includes diabetes, intravenous drug use, HIV infection/AIDS, autoimmune disease, heart valve disease, malnutrition, alcohol abuse, and trauma. Our patient, a diabetic with a history of IVDA. Treatment is intravitreal vancomycin and ceftazidime injection. Intravitreal vancomycin plus ceftazidime or fluoroquinolone are recommended as first-line antibiotics. A recent study suggested that vancomycin might improve the vision outcome, but the data remains controversial. Despite the treatment, the outcome is usually poor. Literature review since 1986 showed only 5% patients had complete recovery with 20/20 visual acuity, 27% had count fingers vision, and 10% were blind in one eye or worse. Diagnosis of endophthalmitis is often associated with poor outcome. Therefore, in the setting of bacteremia, it is critical to include endogenous endophthalmitis in the differential diagnosis of acute vision loss.

CASE: 63 yo female was brought to the hospital by family as she was acting different and talking to herself. On interview, pt described both visual and auditory hallucinations and also complained of ringing in her both ears. Denied any chest pain, shortness of breath, headache or fever. Review of symptoms was otherwise normal. PMH: She was diagnosed with major depression 2 months ago and was given paroxetine, which she only took for 1 week. She insisted she did not take any medication at all for the past 1 month. EXAM: Pt was visibly tachypneic with respiratory rate of 30, otherwise normal. She was restless without repetitve hand movement bilaterally but was otherwise normal. Investigations: Initial head CT was negative. CBC was normal. ABG showed: PH 7.52 CO2 19.9 O2 100% HR 80 BP 140/60. She was started on paroxetine, which she stopped with acute confusion. And the patient would pause for brief periods during interview to listen to the voices but otherwise scored 30/30 on mini mental status exam. Rest of the general physical exam was unremarkable. The patient had no history of any psychiatric disorder. The patient had a history of smoking and alcohol. Her husband had a history of chronic poisoning.

DISCUSSION: This case illustrates the importance of paying attention to subtle clues during new patient evaluation and maintaining high suspicion for drug abuse even when patient denies it by history. In this case timely diagnosis and appropriate acute management led to favorable outcome. Salicylate poisoning can be severe due to acidosis, hypocalcemia, hypokalemia, and mims such as seizures, coagulation disorders, respiratory depression, metabolic acidosis. With the constellation of findings of acute hallucination, tinnitus, tachypnea, impaired coordination and the ABG findings in a pt with major depression, salicylate poisoning was suspected and blood salicylate level was sent which came back as 49 mg/dl. She was started on bicarbonate drip, had gastric lavage done and was given activated charcoal. Her blood and urine were monitored every 2 hours and bicarbonate drip was adjusted accordingly. Potassium levels were monitored every 2 hours and were replaced aggressively. Salicylate levels were repeated every 4 hours and dropped to below 30 in eight hours. She became completely asymptomatic the next day and spoke to her primary MD and admitted intentionally taking lots of baby aspirin from her husband’s medication. Psychiatry was consulted for her attempted suicide.

LEARNING OBJECTIVES: 1. Recognize the increased risk of lung cancer in HIV patients 2. Recognize the increased need for smoking cessation in HIV patients 3. Recognize the utility of HIV testing in young patients with metastatic lung cancer.

CASE: A 42 year old male with no significant past medical history presented with a chief complaint of left arm weakness accompanied by numbness and tingling. The symptoms had begun spontaneously on the day of admission, but had become more severe by the time the patient was presented to the ED. The patient denied any chest pain, shortness of breath, headache or fever. Review of symptoms was significant for reduced mentation, bibasilar rales, abdominal petechiae, lower extremity weakness, and talking to herself. On interview, pt described both visual and auditory hallucinations and was also reported to have a shortened five-year survival. HAART has not been shown to improve survival, but it has been associated with increased smoking rates in HIV patients, but statistically HIV patients with lung cancer have a shorter pack year history than non-HIV positive lung cancer patients. In addition, lung cancer in HIV positive patients has been shown to occur at an earlier age (38 vs. 68) and is associated with more aggressive clinical behavior and a shorter survival. HAART has not been shown to eliminate this risk and may actually increase the incidence due to increased HIV survival rates. While the pathophysics is not clear, it may involve an inability of the HIV infected individual to control the proliferation of oncogenic cells.
LEARNING OBJECTIVES: Recognize acute sarcoidosis by its clinical presenta-
tion, know the criteria necessary for diagnosis, and form a rational approach to
management.

CASE: A 49 year old female without significant past medical history presented
with fever and polyarthritis. Two weeks prior to admission, the patient
developed a dry non-productive cough, followed by left ankle pain and swelling.
Ten days later she developed fevers and night sweats, and a week later her acute
arthritic symptoms progressed to her wrists and knees, though the left ankle
remained the most severely affected. At the time of presentation, the patient
also had development of bilateral hilar lymphadenopathy. The first description of
sarcoidosis was in 1877 by the English physician Jonathon Hutchinson, who
described multiple, raised, purple cutaneous patches which he attributed to gout.
Sven Loefgren, who made important contributions to the

LEARNING OBJECTIVES: 1. Recognize that thymic carcinoma can have unu-
usual presentations, including epigastric abdominal pain. 2. Recognize the
nuance of fibromyalgia as a possible diagnosis in the appropriate clinical
setting. Viral infections, rheumatic diseases, and malignancies must be ruled out.

A 53 YEAR OLD WOMAN WITH FEVER, RASH, MYALGIAS, ARTHALGIAS

...AS A DIAGNOSIS OF EXCLUSION. DIAGNOSTIC CRITERIA BY YAMAGUCHI ET AL.

The disease was confirmed by the characteristic skin lesion at the site of the
nodule. The culture of the nodule grew blastomycosis. The swelling and pain
improved on amphotericin and the right 5th finger amputation site continued to heal
with no further evidence of infection.

A 49 YEAR OLD FEMALE WITH ERYTHEMA NODOSUM AND ARTHRITIS. C.E.
Schulze1, B. Singh1. University of California, Los Angeles, Los Angeles, CA. (Tracking ID : 153974)

A BLAST TO THE BONES: SYMMETRIC BONY DESTRUCTION OF THE FINGERS. L.K.
Buckley2, G. Feldstein3, C.L. Rich4, K.A. Gutowski5. University of Wisconsin-Madison, Madison, WI. (Tracking ID : 152188)

LEARNING OBJECTIVES: 1) Recognize the presentation of acute multifocal osteomyelitis
and individuals with extensive outdoor exposures.

Screening for lung cancer has traditionally been limited to older patients who
have pulmonary symptoms. In HIV patients who smoke, there should be some
consideration of doing more aggressive initial screening sans typical symptoms
as well as a more comprehensive workup for a primary lung nodule in a HIV

CASE: A fifty-year-old male from Northern Wisconsin with a past medical
history significant for pulmonary sarcoidosis presented to urgent care (UC) with
swelling and pain of the right 5th digit. He denied any preceding trauma,
puncture wounds, or skin changes. He works as a machinist in a metal factory
and lives on a farm. A fracture was clinically diagnosed and his finger was
splinted. He returned to UC one week later with increased swelling and pain.
X-ray confirmed bone destruction of the bone. He was diagnosed with osteomyelitis/
cellulitis and treated with a dose of ceftriaxone and oral cephalaxin. One month
later he had not responded to the antibiotic regimen and was admitted for IV
antibiotics. He now developed swelling and pain in the left 5th digit. He denied any
systemic symptoms, but the erythema, edema and sausage deformity of the

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with fever and polyarthritis. Two weeks prior to admission, the patient
developed a dry non-productive cough, followed by left ankle pain and swelling.
Ten days later she developed fevers and night sweats, and a week later her acute
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also had development of bilateral hilar lymphadenopathy. The first description of
sarcoidosis was in 1877 by the English physician Jonathon Hutchinson, who
described multiple, raised, purple cutaneous patches which he attributed to gout.
Sven Loefgren, who made important contributions to the

LEARNING OBJECTIVES: 1. Recognize Adult Still's disease as a cause of
systemic symptoms, but the erythema, edema and sausage deformity of the

CASE: A 53-year-old gentleman presented with a 6-month history of multiple
nerve paralysis as a complication of thymic carcinoma rather than atypical

...AS PERSISTENT FEATURING OF THE LEFT HEMIADRIPHAGM. AND 'A SNIF' TEST CONFIRMED LEFT HEMIADRIPHAGM PARALYSIS. CHEST CT SHOWED A 2.8 CM DUMBELL SHAPED LEFT MESENTERIC LIPOMA. SUBSEQUENT WHOLE-BODY PET SCAN SHOWED NO EVIDENCE OF METASTASIS. MEDIASTINO-

A 53 YEAR OLD WOMAN WITH FEVER, RASH, MYALGIAS, ARTHALGIAS. V.A.
Rodriguez1, R. Lee1, A.P. Burger1, Montefiore Medical Center, Bronx, NY (Tracking ID : 157460)

LEARNING OBJECTIVES: Goals: 1. Recognize Adult Still’s disease as a cause of
systemic symptoms, but the erythema, edema and sausage deformity of the

...YET IN DURATION, TO INTERMITTENT FLARE-UPS, TO A CHRONIC DISEASE WITH EVENTUALLY

...ALL SIGNS OF THE HANDS AND FINGERS. X-RAY OF THE HANDS SHOWED HYPERTROPHIED FINGERTIPS WITH HYPERTROPHIED PHALAN-

A BLAST TO THE BONES: SYMMETRIC BONY DESTRUCTION OF THE FINGERS. L.K.
Buckley2, G. Feldstein3, C.L. Rich4, K.A. Gutowski5. University of Wisconsin-Madison, Madison, WI. (Tracking ID : 152188)

LEARNING OBJECTIVES: 1) Recognize the presentation of acute multifocal osteomyelitis
and individuals with extensive outdoor exposures.

Screening for lung cancer has traditionally been limited to older patients who
have pulmonary symptoms. In HIV patients who smoke, there should be some
consideration of doing more aggressive initial screening sans typical symptoms
as well as a more comprehensive workup for a primary lung nodule in a HIV

CASE: A 72 year-old gentleman presented with a 6-month history of multiple
nerve paralysis as a complication of thymic carcinoma rather than atypical

...STETHoscope noted that the mass was attached to the parietal pericardium and left upper lobe lung parenchyma, and encased the left phrenic nerve.
showed duodenal mucosa with mild chronic inflammation not significant for villous atrophy or increased intraepithelial lymphocytes. Celiac Sprue was diagnosed based on antibody data.

DISCUSSION: Celiac Sprue is an autoimmune enteropathy, is typically thought of as a childhood disease presenting with recurrent diarrhea, abdominal pain, and life threatening malabsorption. However, epidemiologic studies show that Celiac Sprue often presents later in life and with non-classic clinical features. The majority of patients are diagnosed between the ages of 10-40, though 20% of people are diagnosed at 60 or older. Celiac Sprue can present with intestinal and/or extra-intestinal manifestations including dermatitis herpetiformis, neuropsychiatric disease, IDA, and thrombocytosis. The prevalence is 1:300 in people of European decent. IDA is the most common presenting sign, and studies of patients undergoing evaluation for IDA show 4-9% have Celiac Sprue. Tissue transglutaminase IgA is the gold standard for diagnosis, and it is recommended that at least 4 samples be taken, due to sampling error this may be negative. Serological evidence may aid in the diagnosis. Anti-endomysial IgA antibodies have nearly a 100% positive predictive value, with a sensitivity of 85-98% and specificity of 97–100%. TGG is more sensitive (95-98%) then anti-endomysial IgA, but is less specific (94-95%). Anti-gliadin IgA and IgG are 75-90% and 65-85% sensitive, 82-95% and 73-90% specific, respectively. When positive, repeated serologic testing is recommended. If the patient, there is a form of the disease defined as the "potential form" in which duodenal biopsies are negative but serology is positive. This case illustrates that when evaluating a patient with IDA it is worthwhile to consider the non-classic clinical manifestations of Celiac Sprue and confirm the diagnosis with the appropriate serologic assays and tissue biopsy.

A CASE OF APPENDICEAL MUCINOUS ADENOCARCINOMA RESULTING IN PSEUDOMYXOMA PERITONEI

A CASE OF GEMELLA MORBILLORUM ENDOCARDITIS

LEARNING OBJECTIVES: 1) Recognize Gemella morbillorum as an unusual cause of infection including endocarditis. We report a case of Gemella morbillorum endocarditis. LEARNING OBJECTIVES: 1) Diagnose Celiac Sprue in the geriatric population with non-classic Tissue Transglutaminase IgA

CASE: A 39 year-old gentleman with no significant past medical history presented to UCLA Medical Center with a 5-week history of acute on chronic, non-bloody diarrhea associated with nausea and vomiting, decreased appetite, fatigue, and weight loss of 20 pounds over 1 year. Her symptoms did not change with oral intake or fasting. Upon visualization at UCLA, patient had initially presented to a community hospital and received extensive, but non-diagnostic evaluation including negative stool cultures, negative deoxyribonucleic acid (pDNA), negative stool cultures, and shown only mild antral gastritis. At UCLA, her physical exam was remarkable only for cachexia and mild hypertension. She had normal CBC, chemistries, liver transaminases, but low albumin of 1.7. Her serum IgA level was normal, and her repeated Tissue Transglutaminase IgA was negative. A colonoscopy performed at UCLA showed grossly normal-appearing mucosa. Random colon biopsies, however, revealed lymphocytic colitis. An EGD with push enteroscopy also demonstrated grossly normal mucosa. Again, microscopic evaluation of biopsy samples of stomach and small bowel revealed lymphocytic gastritis, and Marsh 3B villous atrophy. These findings were consistent with Celiac Sprue, and patient was started on a gluten-free diet, and given TPN for nutrition augmentation. Prednisone was also started given concern for potential refractory sprue. She was eventually discharged in stable condition.

DISCUSSION: Celiac Sprue is an inflammatory disorder of the small intestine characterized by intestinal inflammation and malabsorption. Celiac Sprue often presents with intestinal symptoms including malnutrition, maldigestion, and anemia. Celiac Sprue can present with intestinal symptoms including malnutrition, maldigestion, and anemia.

DISCUSSION: A Marsh 3 lesion on biopsy is a classical Celiac lesion. Gluten-free diet is recommended, but the patients' serology will remain elevated. As with our patient, there is a form of the disease defined as the "potential form" in which duodenal biopsies are negative but serology is positive. This case illustrates that when evaluating a patient with IDA it is worthwhile to consider the non-classic clinical manifestations of Celiac Sprue and confirm the diagnosis with the appropriate serologic assays and tissue biopsy.
A CASE OF ISCHEMIC COLITIS IN A YOUNG MAN

S.M. Mourad1; T.F. Mangan1. 1University of Pittsburgh, Pittsburgh, PA; 2University of Pittsburgh School of Medicine, Pittsburgh, PA.

ABSTRACTS

A CASE OF PROPYLTHIOURACIL-INDUCED ANTINEUTROPHIL CYTOPLASMIC ANTI-BODY DEVELOPMENT

S. Rail1; D. Martinez1. 1University of California, Los Angeles, Los Angeles, CA. (Tracking ID: 75678)

LEARNING OBJECTIVES: 1) To recognize the clinical presentation of ischémic colitis 2) To recognize amphetamine/dexstroumaphetamine use as a cause of ischémic colitis CASE: A 27 year old man with history of attention deficit hyperactivity disorder (ADHD) presented to the emergency department with complaints of cramping abdominal pain, 24 hours of bloody diarrhea, but no nausea, vomit, fever, or chills. Amphetamine/dexstroumaphetamine (Adderall) was the only medication he was taking for ADHD. He denied illicit drug abuse, and he is a graduate student. On exam he was afebrile. Abdominal exam revealed positive bowel sounds, mild diffuse tenderness to palpation more prominent in the left lower quadrant, with no guarding or rebound tenderness. A hemocueil stool test was positive. Laboratory findings included white blood cell count of 8.0, normal liver function tests. Abdominal CT scan revealed thickening of the wall of the descending colon beginning at the splenic flexure and continuing distally to the region of proximal sigmoid colon, findings compatible with colitis. The distribution was consistent with ischémic colitis. Stool tests were negative for white blood cells, ova, parasite and culture. Colonoscopy was performed and showed a large, irregular, serosanguineous collection of pus in the region of the sigmoid colon. The rectum showed no abnormalities, findings suggestive of ischémic versus inflammatory colitis. Biopsies were obtained and the biopsy results confirmed the diagnosis of ischémic colitis. Hypercoagulable profile was normal. His high dose amphetamine/dexstroumaphetamine for ADHD was thought to be the high likely cause of his ischémic colitis. It was discontinued, his symptoms improved with supportive care by the second hospital day and he was discharged home.

DISCUSSION: Colonic ischemia is the most common ischemic disorder of the gastrointestinal tract. Noneocclusive colonic ischemia most commonly affects the “watershed” areas of the colon that have limited collateralization, such as the splenic flexure and rectosigmoid junction. There are multiple causes of ischémic colitis including major vascular occlusion, mesenteric venous thrombosis, hypercoagulable state and drugs. It usually occurs in patients over age 60. Clinical ischemic colitis may present with subjective symptoms of mild cramping abdominal pain, or followed by bright blood per rectum or bloody diarrhea. The diagnostic test of choice is colonoscopy. Ischémic colitis rarely occurs in young individuals. In this patient, he presented with signs and symptoms of ischemic colitis. Adderall is the likely precipitating factor. There have been reported cases of ischémic colitis associated with amphetamine and the mechanism is likely vasospasm. Treatment of ischémic colitis is supportive care, bowel rest and intravenous fluids.

A CASE THAT’S HARD TO SWALLOW: SECONDARY ACHALASIA IN AN 85-YEAR-OLD WOMAN WITH NEW ONSET DYSPHAGIA

K.M. Swez1; T.F. Mangan1. 1Mayo Clinic, Rochester, MN. (Tracking ID: 51943)

LEARNING OBJECTIVES: 1. Construct an age-appropriate differential diagnostic for dysphagia in an elderly patient with a new onset of symptoms. 2. Review the appropriate diagnostic workup of dysphagia based on presentation.

CASE: An 85-year-old female with a negative medical history presented for annual examination, which was unremarkable, with negative screening labora-
tories. She continued in her usual state of health, but over the next six weeks, she noted new onset epigastric pain while swallowing solids greater than liquids. She underwent evaluation of presumed gastroesophageal reflux disease with a barium swallow, which showed no problem, and an esophagogastroduodenoscopy which showed edematous and whitish lips of the stomach, but was otherwise “grossly normal.” Pantoprazole and sucralfate failed to alleviate her progressive symptoms. Endoscopic examination revealed distal esophageal stenosis thought to represent achalasia or spasm. Luminal biopsy was performed to obtain tissue for endoscopic ultrasound. The patient did not reveal an endoluminal mass or show signs of inflammation. History revealed a new onset of dysphagia, typical of achalasia. The patient was transferred to our institution for further evaluation. On presentation, a standing column of barium was noted on chest X-ray, as well as aspirated barium in the right lung. Subcutaneous bilateral pleural effusions were also present. Esophageal manometry was attempted, but could not be performed due to a barium cast in the distal esophagus. A CT chest identified soft tissue thickening in distal esophagus, and bilateral pleural effusions. A thoracentesis was positive for adenocarcinoma. An endoscopic ultrasound revealed parietal esophageal nodes, biopsies of which were positive for adenocarcinoma. Given her clinical stage at presentation, the patient was placed in hospice care, where she expired 5 weeks after transfer.

**DISCUSSION:** Dysphagia is a common problem with varied etiologies. Once the differentiation between oropharyngeal and esophageal dysphagia is made, the age of the patient, temporal sequence, and associated symptoms must be considered. Given this patient’s age and the brisk pace of symptom progression, malignancy was high in the differential diagnosis. The initial workup should include esophagogastroduodenoscopy to an exclude intraluminal mass. Though this patient’s patient’s history did not reveal an endoluminal mass, it does not suggest the possibility of achalasia. The next diagnostic step is to differentiate primary versus secondary achalasia. Given the patient’s age and onset of symptoms, secondary achalasia was felt to be the likely etiology. Evaluation for secondary achalasia should include CT chest/abdomen or esophageal ultrasound looking for extraluminal mass lesions, lymphadenopathy, or a lesion causing a paraneoplastic achalasia. The late diagnosis in this patient precluded effective treatment with primary endoscopic or percutaneous therapy. This case illustrates the need to appropriately recognize symptoms of dysphagia, particularly when accompanied with pain and rapid progression, in order to institute an appropriate workup in a timely fashion.

**A CATH SURPRISE**

**LEARNING OBJECTIVES:** 1. Evaluate imaging modalities to identify unusual contributors to myocardial ischemia or infarction 2. Discuss the prevalence and risk associated with coronary artery aneurysms 3. Identify the etiologies of coronary aneurysms

**CASE:** A 73 year old woman with a history of chronic obstructive pulmonary disease and hypertension presented with dyspnea at rest and chest tightness ongoing for several hours. She experienced no radiating pain, nausea or vomiting. Past medical history was significant for appendectomy, hypertension and a methylprednisolone taper. She had baseline dyspnea, but normally she was able to ambulate on flat ground with no symptoms. She was in mild respiratory distress, and had an oxygen saturation of 92% on room air. Oxygen. Her chest examination revealed decreased air movement with faint respiratory wheezes. Her cardiac exam was notable for a 1/VI systolic ejection murmur noted most prominently at the left lower sternal border. Her laboratory evaluation was non-contributory except for a troponin t of 0.03. A CT angiogram showed T wave inversions in leads II, III, and avF. She was treated for a non-ST elevation MI with beta blockers, nitrroglycerin, aspirin, clopidogrel, heparin, and integrilin. Her pain soon resolved, and two days later, she was transferred to a tertiary care center for coronary catheterization. Prior to catheterization, she had an echocardiogram showing what appeared to be a large right ventricular aneurysm. On cardiac MRI and subsequent left heart catheterization, this was confirmed to be a 3 cm x 3 cm x 6 cm right coronary aneurysm that communicated with the right ventricle. Proximal to this aneurysm was a 90% discrete lesion, and the right coronary artery was heavily calcified. Flow from the aneurysm into the right ventricle was present. Because the risk of spontaneous rupture was considered high, she underwent a successful surgical resection of this aneurysm with a repair of the right ventricular defect using a hypoplastic segment of the resected area. Pathology of the aneurysm showed severe atherosclerotic disease.

**DISCUSSION:** Coronary artery aneurysms are rare, found in up to 5% of patients undergoing coronary catheterization for suspected coronary artery disease; prevalence in the general population is unknown. Echocardiography can also identify aneurysms; however, the exact site of the aneurysm may be difficult to determine without functional imaging such as available with cardiac magnetic resonance imaging. Coronary aneurysms may be complicated by a medical emergency and should be suspected in any clinical setting of acute altered mental status, anion gap metabolic acidosis, elevated osmolar gap, methemoglobinemia and hypocalemia. The most important factor is prompt initiation of appropriate therapy can prevent considerable morbidity from neurological, cardiac and renal dysfunction. Though not toxic itself, EG is converted by alcohol dehydrogenase to glycolate and oxalic acid. These metabolites are responsible for the metabolic acidosis, CNS depression and cardiovascular instability. Oxalic acid precipitates with calcium leading to hypocalcemia. Calcium oxalate crystals accumulate within renal tubular cells causing acute renal failure. Calcium oxalate crystals are common in the urine of patients with high risk of myocardial infarction than patients with non-obstructive coronary artery disease without aneurysm. The development of myocardial ischemia or infarction is exacerbated when the aneurysm erodes into chambers of the heart leading to coronary steal into the connecting chamber (in the case of this patient, blood did seem to flow into the right ventricle).

**A CHRISTMAS WITHOUT POINSETTIA: THE IMPORTANCE OF A DETAILED HISTORY.**

**LEARNING OBJECTIVES:** To educate health personnel regarding the cross-reactivity between latex allergy and Poinsettia plants. To share important facts regarding the Poinsettia plants.

**CASE:** A 50 year old white female was admitted to the hospital during December 2004 for evaluation of near syncope. She had a detailed history, which was negative. She has history of latex allergy and continued to be in a latex free environment during hospitalization. On her third day of hospitalization, she developed more severe dyspnea and an extremely prominent right sided upper and lower arm. The rash was very pruritic. She was not on any medication that could explain the rash. There was no history of shortness of breath, wheezing or rashes. A thorough investigation was done to identify the cause of her rash with special attention to rule out any accidental exposure to latex. We investigated each object in the room, noting that one of her friends had brought her a Poinsettia plant on the second day of her hospitalization. The plant was on the right bedside table and the patient originally had fomites contact with the telephone. Parenteral anti histamine relieved the itching and the rash resolved completely after the removal of the plant.

**DISCUSSION:** Poinsettia is a very well known ornamental plant during the Christmas season. Typically, they are colored red, pink, white or marbled. Poinsettias are native to Mexico and were not introduced to the United States until 1825. They are part of the Euphorbiaceae family similar to natural rubber latex. Studies conducted by researchers at Medical College of Georgia revealed that 40% of individuals with a latex allergy are allergic to Poinsettia. This is because latex and Poinsettia share several proteins. By means of special tests like ELISA, IFA and immunoblot, identical peptides called cross-reactive allergens were identified. These are major and minor latex allergen proteins Hve b 6.01 and Hve b 10 respectively. This case emphasizes the importance of a detailed history including allergies, especially in high risk individuals, and recognizing the cross-reactivity of latex allergy other with common foods and plants. It also stresses the importance of patient education, awareness and close monitoring of the environment in people with latex allergy.

**A COMMON METABOLIC MASQUERADE**

**LEARNING OBJECTIVES:** 1. To recognize the presentation of Ethylene Glycol (EG) Toxicity. 2. To recognize EG toxicity as a medical emergency and that prompt treatment can prevent acute renal failure. 3. To recognize that acute renal failure in EG toxicity may present without crystalluria.

**CASE:** A 50 year old white female was admitted during December for evaluation of acute altered mental status. On presentation, the patient was alert and oriented to person, place, time and present. Past medical history was remarkable. On presentation, the patient complained of a 5 day history of headache, nausea, vomiting, photophobia, and diaphoresis. She was noted to have hypothermia, tachycardia, and tachypnea. On examination, the patient was noted to be obtunded, with a temperature of 35.9°C, HR 130/minute and RR 24/minute. Head CT was significant only for diffuse brain swelling. His pupils were 5mm bilaterally and minimally responsive to light. The rest of the exam was unre- markable. Initial head CT was significant only for diffuse brain swelling. His laboratory evaluation was notable for a pH of 6.9, HCO3 14, Ca 7.9, K 7.7, osmolar gap of 62, BUN 16 and Creatinine 3.3. A urine toxicology screen was negative. Chest X-ray was normal. 12-lead EGK showed peaked T waves in leads V3-V6. In this clinical scenario, biochemical evaluation demonstrated ethylene glycol, oxalate-glycolate, and glycolic acid. Ethylene glycol was detected by gas chromatography. A urine toxicology screen was positive for ethylene glycol. A blood sample was sent for fomipazole sensitive crystals. Immediate treatment with fomipazole was effective at clearing the urine. Ethylene glycol renal failure was suspected because of the metabolic acidosis, osmolar gap, hypocalcaemia, negative urine tox screen, methanol, isopropyl alcohol and ethylene glycol levels were obtained. The latter were not detected while EG was found to be 112 mg/dL. Urine osmolar gap analysis failed to demonstrate calcium oxalate crystals. Immediate treatment with fomipazole was effective. Fomipazole sensitive crystals were identified on the urinalysis. An endoscopy was performed which revealed no significant abnormality. The patient was placed in hospice care, where she expired 5 weeks after transfer.
present a classic case of acute renal failure due to EG toxicity that remains atypical due to the absence of crystalluria in a setting of hypocalcaemia.

A COMPLEX CASE OF BACK PAIN: AN EVIDENCE-BASED DIAGNOSTIC SOLUTION
C.T. Simons1; P.W. Helgerson2.
1Stanford University, Stanford, CA; 2VA Palo Alto, CA. (Tracking ID: 154866)

LEARNING OBJECTIVES: 1) To recognize a characteristic clinical presentation of vertebral osteomyelitis and potential pitfalls in diagnostic evaluation thereof. 2) To model the appropriate use of the test characteristics of a common diagnostic imaging test to guide further evaluation of a common clinical problem.

CASE: 86 year old man with history of lower back pain due to lumbar spinal osteoarthritis presented to an outside hospital eleven days after a transurethral resection of a bladder tumor with fever to 102°F and a dramatic weight loss of 12.8 kg in his baseline back pain. The patient’s peripertoperative course had been complicated by persistent hematuria necessitating Foley catheter irrigation and exchange. Blood cultures at admission revealed extended spectrum beta lactamase producing E. coli. No focus of infection was identified despite an extensive work up, including MRI of the lumbar spine on day 11 of hospitalization, two TEs, two abdominal and pelvic CTs, WBC scan, aortic MRA, and temporal bone CTs. The patient underwent a 12 hour period for evaluation of a vertebral osteomyelitis despite the prior negative MRI, the decision was made to re-image the patient’s spine. A repeat spinal MRI 26 days after original presentation showed osteomyelitis of the first and second lumbar vertebrae with possible discitis and extension into the left psoas muscle and associated 5 mm epidural abscess.

DISCUSSION: Vertebral osteomyelitis often presents with nonspecific symptoms, including fever, frequently chronic back pain. The clinical diagnosis is challenging in severe settings, where general population often leads to delays in workup and diagnosis; some studies report an average time to diagnosis of up to 6 months. Such delays increase the chance of neural compromise and spinal deformities. The genitourinary tract is a common source of infection leading to osteomyelitis in the geriatric population. Staphylococcal species are the most common pathogens. However, E. coli is a well recognized cause and should raise suspicion for a genitourinary origin. E. coli has become the standard of care to diagnose vertebral osteomyelitis. Meanwhile, the literature shows that MR is an excellent test for spinal osteomyelitis well into the disease course, the sensitivity at two weeks may be low as 30%, in this particular case, the MRI was also expected to find disease early in the patient’s course, and MRI on day 11 of symptoms was negative for signs of infection. This result led to extensive additional testing. A critical appraisal of the patient’s pre-test probability for osteomyelitis and knowledge of the poor test characteristics early in the disease course helped to inform subsequent evaluation and eliminate the need to repeat multiple additional tests. At two weeks, for example, the patient’s post test probability of disease given a negative test was up to 38%. This had decreased to 5% at four weeks. In short, recognizing the only modest sensitivity of the test in the acute setting alerted the providers that this test, widely held to be very accurate, was in fact insufficient to rule out a diagnosis of high pre-test probability. Given the improved sensitivity of MR later in the disease course, a second MR was indicated in this patient and, indeed, provided a diagnosis of osteomyelitis.

A DARK HORSE: UNSUSPECTED DIAGNOSIS OF NONFUNCTIONING PITUITARY ADENOMA IN A PATIENT WITH MULTIORGAN INVOLVEMENT SARCOIDOSIS. M. Auron-Gomez1 M. D. Yurán-Castillo1, R. Raina1; J. P. Hanna1; S. Khan1. ’Case Western Reserve University, Cleveland, OH. (Tracking ID: 152843)

LEARNING OBJECTIVES: A patient with history of multorgan sarcoidosis was admitted with new neurological symptoms with multiple cranial nerve involvement from a right sellar mass. Biopsy discovered a non-functioning adenoma. The importance of an anatomopathologic diagnosis is emphasized because of the possibility of a significant genetic component and the difficulty of a clinical diagnosis in a patient with multiple cranial nerve involvement from a right sellar mass.

A DIABETIC WOMAN WITH A BREAST LUMP. D. Wahner-Roedel1; Mayo Clinic, Rochester, MN. (Tracking ID: 159795)

LEARNING OBJECTIVES: Alert the clinician to the entity of diabetic mastopathy (diabetic sclerosing lymphocytic lobulitis) when evaluating a diabetic woman with a breast lump.

CASE: A 40-year old nurse was referred by her primary care provider for evaluation of a right breast mass. Pertinent medical history: Diabetes mellitus of 35 years duration, on Insulin pump since 2 years, known diabetic retinopathy, frequent foot infections. Pertinent findings on physical examination: No lymphadenopathy, palpation of left breast: 1.5 cm firm nodule in the 10 o'clock position under the areola. Imaging procedures: Mammogram: dense breasts, no abnormality seen. Further: bone scan showed no abnormality. Axillary lymph nodes: ill defined hyperplasia. Oligoclonal bands. CSF: 1×2 cm, biopsy advised. Diagnostic Procedure: Ultrasound guided core needle biopsy. Pathology: Dense fibrotic (keloid-like) breast parenchyma with lymphocytic lobulitis, consistent with diabetic mastopathy.

DISCUSSION: Among the list of complications of diabetes mellitus, breast tissue involvement had not been included until a report by Soller in 1984. Subsequently, the association between breast disease and long standing type 1 diabetes mellitus is well described in several studies. Interestingly, this clinical disorder is poorly recognized since the breasts are frequently not routinely examined in young diabetic patients. Clinical features: Firm to palpable unilateral or bilateral breast masses typically occurring in premenopausal women with a longstanding history of Type I diabetes mellitus, generally, with severe diabetic complications, such as diabetic neuropathy, nephropathy, cheiroarthropathy, or microvascular complications. Mammography: Diabetic mastopathy is associated with radiographically dense, homogeneous breasts, rather than fatty replaced breasts. An irregularly outlined opaque area without stipulation is the only mammographic finding in many cases, while in others the pathology mimics invasive cancer. Radiologically, mammography is a poor modality of choice for the palpable mass, it is often generously seeding. The histologic picture includes dense keloid-like fibrosis with lymphocytic ductitis and lobulitis, perilobular and perivascular lymphocytic infiltration. The lymphocytic infiltrate consists predominantly of B-cells. However, the presence of B cell pre-dominant lymphoid infiltrates does not appear to increase the risk of lymphoma or carcinoma. Diagnosis: Fine-needle aspiration biopsy has been reported to yield inadequate cellular material for establishing the diagnosis in mammography, and the diagnosis is usually made by core needle biopsy. Pathogenesis: Unknown: it is postulated that hyperglycemia-induced glycosylation of proteins may lead to the creation of neo-antigens for a subsequent autoimmune response. Clinical implications: The diagnosis of diabetic mastopathy without known tendency to malignant evolution. Clinically the lesion simulates cancer. The lesion may recur after excision in the same site or in another location of the ipsilateral breast. Physicians should be aware of the entity, prove the diagnosis of diabetic mastopathy by tissue sampling and keep in mind that breast cancer may develop also in diabetic patients.

A DILEMMA OF HEART AND MIND: EPISODIC ATAXIA AND DYSARTHRIA IN A PATIENT WITH REFRACTORY VENTRICULAR TACHYCARDIA. E.L. Leenmann1. ’Stanford University, Stanford, CA. (Tracking ID: 159790)

LEARNING OBJECTIVES: 1. Recognize ataxic ataxia as a source of unusual and varied neurologic symptoms. 2. Expand the differential diagnosis in cardiac patients for acute onset of neurologic symptoms. CASE: A 60-year old man with a medical history of chemotherapy, cheiroarthropathy and refractory ventricular tachycardia due to AICD and multiple drugs was transferred to this hospital for ablation. Following ablation the patient had ventricular arrhythmia requiring external shocks. He received 150 mg amiodarone intravenously; oral amiodarone was titrated to 400 mg twice daily and his heart rate was optimized to 60-70bpm. One episode of VT presented on his event monitor triggered at a rate of 191bpm and was treated with lidocaine. Blood cultures at admission revealed extended spectrum beta lactamase producing E. coli. No focus of infection was identified despite an extensive work up, including MRI of the lumbar spine on day 11 of hospitalization, two TEs, two abdominal and pelvic CTs, WBC scan, aortic MRA, and temporal bone CTs. The patient underwent a 12 hour period for evaluation of a vertebral osteomyelitis despite the prior negative MRI, the decision was made to re-image the patient’s spine. A repeat spinal MRI 26 days after original presentation showed osteomyelitis of the first and second lumbar vertebrae with possible discitis and extension into the left psoas muscle and associated 5 mm epidural abscess.

DISCUSSION: The likelihood of neurosarcoïdosis is high in the setting of multiple organ sarcoidosis and new neurologic findings. Multiple cranial nerve palsies are the most frequent finding occurring in 52% of patients in the largest series of neurosarcoïdosis. CSF is usually abnormal with non-caseating lymphocytic pleocytosis and hyperproteinorachia. Our patient had all these characteristics and the treatment without a biopsy would have been high dose steroids due to the presumptive diagnosis of neurosarcoïdosis. Surprisingly, the biopsy result was negative and confirmed the diagnosis and treatment of D.E. At our institution, neurosarcoïdosis diagnosis is the setting in CNS involvement in patients with multorgan sarcoïdosis remains critical to therapy as potential alternative diagnoses can co-exist.
Learning Objectives: 1) Identify the presenting features of acute pyelonephritis.

CASE: A 48-year-old female with a past medical history significant for type 2 diabetes mellitus, hypertension and nephrolithiasis presented to her local hospital with a 4-day history of fevers, malaise, and right-sided backache. Her medical history was significant for a history of nephrolithiasis. She denied recent travel or a history of sexually transmitted disease. Her medications included metformin, HCTZ, and a multivitamin. She was found to have a 4-day history of right lower quadrant pain, fevers, and chills. Physical examination revealed an obese female, without rebound or guarding. An umbilical mass was noted and bowel sounds were present but diminished. CT scan showed a large cystic and solid intraperitoneal mass, without rebound or guarding. An umbilical mass was noted and bowel sounds were present but diminished. CT scan showed a large cystic and solid intraperitoneal mass. She was admitted to the ICU with a diagnosis of acute pyelonephritis and was started on intravenous antibiotics. Despite these treatments, mortality from EP remains high at 15–40%.

Learning Objectives: 1) Recognize the clinical presentation and diagnosis of Giant cell myocarditis. 2. Learn the diagnostic features of GIST. 3. Recognize potential novel therapeutic interventions for GIST.

A man with an abdominal mass - getting to the gist of GIST (Gastrointestinal Stromal Tumor).

Learning Objectives: 1) Recognize the spectrum of clinical presentations of gastrointestinal stromal tumors (GIST). 2. Learn the diagnostic features of GIST as distinct subset of gastrointestinal tumors 3. Recognize potential novel therapeutic interventions for GIST.

A Life Threatening Backache: D.A. Brat1, I. Rosas2. 1Society of General Internal Medicine, Pittsburgh, PA; 2University of Pittsburgh, Pittsburgh, PA. (Tracking ID #: 153804)

Learning Objectives: 1) Identify the presenting features of acute pyelonephritis. 2) Distinguish emphyesmous pyelonephritis (EP) from other urinary tract infections in diabetic patients. 3) Recognize EP as a urological emergency with high mortality, necessitating immediate treatment.

A Giant Cause of Congestive Heart Failure: Giant Cell Myocarditis. M. Kochar1; A. Lopez-Candales1. 1University of Pittsburgh, Pittsburgh, PA. (Tracking ID #: 153896)

Learning Objectives: Recognize the clinical presentation and diagnosis of Giant cell myocarditis. Identify the pathologic hallmark that pathlytic biopsy of patients with Giant cell myocarditis. Recognize the treatment and management of patients with Giant cell myocarditis.

A Life Threatening Backache: D.A. Brat1, I. Rosas2. 1Society of General Internal Medicine, Pittsburgh, PA; 2University of Pittsburgh, Pittsburgh, PA. (Tracking ID #: 153804)

Learning Objectives: 1) Identify the presenting features of acute pyelonephritis. 2) Distinguish emphyesmous pyelonephritis (EP) from other urinary tract infections in diabetic patients. 3) Recognize EP as a urological emergency with high mortality, necessitating immediate treatment.

A Man with an Abdominal Mass - Getting to the Gist of GIST (Gastrointestinal Stromal Tumor). S. Toh1; J. Miller2. 1Temple University, Philadelphia, PA; 2University of Pittsburgh, Pittsburgh, PA. (Tracking ID #: 153804)

Learning Objectives: 1) Recognize the spectrum of clinical presentations of gastrointestinal stromal tumors (GIST). 2. Learn the diagnostic features of GIST as distinct subset of gastrointestinal tumors 3. Recognize potential novel therapeutic interventions for GIST.

A Giant Cause of Congestive Heart Failure: Giant Cell Myocarditis. M. Kochar1; A. Lopez-Candales1. 1University of Pittsburgh, Pittsburgh, PA. (Tracking ID #: 153896)

Learning Objectives: Recognize the clinical presentation and diagnosis of Giant cell myocarditis. Identify the pathologic hallmark that pathlytic biopsy of patients with Giant cell myocarditis. Recognize the treatment and management of patients with Giant cell myocarditis.

A Man with an Abdominal Mass - Getting to the Gist of GIST (Gastrointestinal Stromal Tumor). S. Toh1; J. Miller2. 1Temple University, Philadelphia, PA; 2University of Pittsburgh, Pittsburgh, PA. (Tracking ID #: 153804)

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rendering initially inoperable tumors resectable) in the overall management of GIST, refraining from ineffective toxic conventional chemotherapy and early consideration of molecularly targeted therapy specific for GIST.

**A MICROANGIOPATHIC ANEMIA IN A 19 YEAR OLD POSTPARTUM WOMEN: IS IT HELLP, TTP, OR HELLP SYNDROME?**

LEARNING OBJECTIVES: 1) Distinguish HELLP, TTP and HUS 2) Management of a microangiopathic process.

**A PUZZLING CASE OF ANEMIA AND LEUKOPENIA.**

**LEARNING OBJECTIVES:** 1. To recognize the presentation of copper deficiency. 2. To identify the risk factors for copper deficiency.

**A RARE CASE OF ADRENAL CRISIS INDUCED BY EPIDURAL STEROID INJECTION.**

**LEARNING OBJECTIVES:** 1) Recognize intermittent corticosteroid interjections as a potential cause of secondary adrenal insufficiency. 2) Discuss the pathophysiology of corticosteroid hypoadrenalism.

**CASE: 21 year-old female, wheelchair-user since age 12, presented with no chief complaint for her first physical with an internist. Past medical history was significant for spinal bifida and scoliosis with multiple surgeries between ages 6–18. Review of systems was positive for primary amenorrhea. Physical exam was normal except for bilateral knee osteoarthritis and L-spine DJD treated with steroid injections every 3–6 weeks; the last injection was 10 days prior. Administration of normal saline raised the BP only to 90/57 and she remained clinically orthostatic.
Cortisol level was 2.4 mcg/dl and her BP stabilized after administration of dexamethasone 4 mg IV. ACTH stimulation test revealed secondary adrenal insufficiency and was confirmed by metyrapone test. The adrenal glands were without mass, hemorrhage or atrophy by CT. Pituitary hormone levels, aldosterone and glucose were normal, and MRI was negative for pituitary mass or apoplexy. Treatment with hydrocortisone was initiated and patient was discharged with stable BP. Exogenous glucocorticoids impose a negative feedback on pituitary ACTH and cause ACTH deficiency (CRH excess and hypoaldosteronism) results in hypostimulation of the adrenal cortex. Both cortisol and epinephrine are low because cortisol is necessary for mediatory synthesis of epinephrine and aldosterone is normal. Secondary hypoglycemia with severe hypovolemia due to lack of gluconeogenic effect of cortisol and hyperglycemic effect of epinephrine. Adrenal crisis is rare since hypotension is precipitated by epinephrine and norepinephrine. Significant bleeding disorders associated with bullous pemphigoid, which is extremely rare. Significant bleeding can occur in patients with bullous pemphigoid and cause bleeding complications. 2. Recognize that acquired factor VIII inhibitor can present with myocardial ischaemia or infarction. It is important to recognize that SCAD occurs even outside the puerperium, as was the case with our patient.

LEARNING OBJECTIVES: 1) Recognize that unadministered cosmetic surgery is common and can have deleterious effects 2. Recognize Klebsiella pneumoniae as a common organism of infection in diabetics. CABS is presented to the emergency department complaining of bilateral cheek pain and swelling for 5 days. The patient also reported intermittent foul smelling discharge from both nostrils and mouth. The patient denied fever, chills, nausea, vomiting, headache, recent dental work, dental or sinus problems. The patient was afebrile. Significant exam findings included prominent, mildly erythematous cheeks with areas of fluctuate and induration with associated tenderness to palpation. The patient was unable to fully open her mouth due to pain and swelling. Labs revealed a WBC of 11, blood glucose of 390 and normal anion gap. The patient was started on antibiotics. A CT of the face revealed bilateral subcutaneous air and abscesses extending from the maxillary sinus to the mandible. Air extension to the maxillary sinus was considered to be a significant finding and she was taken to the operating room for an intra-oral incision and drainage. Wound cultures grew Klebsiella pneumoniae. On further questioning, the patient admitted to injecting “homemade collagen from pork” into her cheeks for cosmetic purposes.

DISCUSSION: The number of surgical and non-surgical cosmetic procedures performed in the United States has increased over the last few years. In fact, non-invasive and minimally invasive cosmetic treatments are more common than surgical cosmetic procedures. Most of these non-invasive procedures consist of injectable neuropeptidogenic agents, microdermabrasion and filling agents. Given the cost of these interventions, not all members of society can afford them, and people are self-administering substitutes to try to obtain similar results. Unfortunately, these substitutes can have detrimental effects. In this diabetic patient, self-treatment caused severe facial abscesses. Patients should be worried about the dangers of such practices, especially if they are immunocompromised. It is well know that diabetics have increased susceptibility to infection because of defects in immune function, vascular insufficiency, and sensory neuropathy that leads to wound neglect. These defects predispose diabetics to purulent infections. The identification of baseline pneumoniae from wound cultures supports the high incidence of K. pneumoniae infections among diabetics. This case illustrates that self-administration of cosmetic surgery does occur in the diabetic LAD with a substantial risk of complications. This also provides additional evidence for the association of K. pneumoniae infection in diabetic patients.

A RARE COMPLICATION OF ROUTINE SCREENING COLOSCOPY. C. Danhan1; S. Chen1; M. Drummond2; S.D. Sisson1. Johns Hopkins University, Baltimore, MD; (Tracking ID: 153494).

LEARNING OBJECTIVES: 1) To learn the differential diagnosis of hepatic subcapsular fluid collections. 2) To learn the differential diagnosis and current treatment recommendations for pyogenic liver abscesses.

A RARE CAUSE OF CHEST PAIN IN A YOUNG WOMAN. M. Velagapudi1; A. Kalyanasundaram1; 1Geisinger Medical Center, Danville, PA. (Tracking ID: 735692).

LEARNING OBJECTIVES: 1) To recognize an uncommon cause of myocardial infarction. To get an overview of the pathogenesis and management of spontaneous coronary artery dissection. CASE: A 36-year-old white female with a few weeks of anginal-type chest pain presented to an outside hospital after a particularly intense episode of chest pain. Her pain radiated to her left arm and neck, and was associated with diaphoresis and nausea. She had no history of trauma and an otherwise unremarkable medical history. She had no family history of connective tissue disease. She had indulged with alcohol 8 years earlier and was associated with routine screening colonopy. Risk factors for coronary artery disease. Her vitals were stable and exam was unremarkable. EKG revealed ST elevation in her anterior leads. Her peak CK was 1405, MB was 109, and troponin I was 36.78. She was started on a nitroglycerin and heparin drip and transferred to our institution for further care. Cardiac catheterization revealed a spontaneous dissection at the junction of the proximal and mid left anterior descending (LAD) artery that extended proximally and LAD with a subtotal occlusion. This was the culprit lesion for the patient’s myocardial infarction. Ejection fraction was noted to be 30% with an apical thrombus. She had subsequent PCI with two drug-eluting stents placed with a residual lesion of 0%. Intravascular ultra-}

A RARE CASE OF FACTOR VIII INHIBITOR ASSOCIATED WITH BULLOUS PEMPHIGOID. A. Mahapatra1; S. Gupta1. University of Connecticut, Farmington, CT. (Tracking ID: 157042).

LEARNING OBJECTIVES: 1. Recognize that acquired factor VIII inhibitor can occur in patients with bullous pemphigoid and cause bleeding complications. 2. Recognize that unadministered cosmetic surgery is common and can have deleterious effects

DISCUSSION: Spontaneous coronary artery dissection (SCAD), also known as dissecting coronary angioectasia or intramural hematoma, is a rare morbid condition described mostly in young, otherwise healthy women, particularly in the puerperum. SCAD is often a postmortem diagnosis in victims of sudden death. Most patients have no known risk factors for coronary artery disease. SCAD has been associated with cocaine abuse, chest trauma and intense physical exercise. Primary disruption of the vasa vasorum and subsequent hemorrhage into the media of the arterial wall has been postulated as a possible mechanism. This leads to rupture of the media thereby creating a false lumen. Expansion of this lumen through blood or clot accumulation leads to compression of the real lumen and myocardial ischemia. The outlook for patients presenting with SCAD is often grim. Suspi-}

A RARE COMPLICATION FROM PORK. M. Munoz1; L. Lovoatto2. University of California, Los Angeles - San Fernando Valley Program; Olive View Medical Center, Sylmar, CA; Olive View Medical Center, Sylmar, CA. (Tracking ID: 153894).

LEARNING OBJECTIVES: Learning Objectives: 1. Recognize that self-administered cosmetic surgery is common and can have deleterious effects 2. Recognize Klebsiella pneumoniae as a common organism of infection in diabetics. CASE: A 53-year-old diabetic woman presented to the Emergency Department after a particularly intense episode of chest pain. Her pain radiated to her left arm and neck, and was associated with diaphoresis and nausea. She had no history of trauma and an otherwise unremarkable medical history.

LEARNING OBJECTIVES: 1) To learn the differential diagnosis of hepatic subcapsular fluid collections. 2) To get an overview of the pathogenesis and management of spontaneous coronary artery dissection. CASE: A 36-year-old white female with a few weeks of anginal-type chest pain presented to an outside hospital after a particularly intense episode of chest pain. Her pain radiated to her left arm and neck, and was associated with diaphoresis and nausea. She had no history of trauma and an otherwise unremarkable medical history. She had no family history of connective tissue disease. She had indulged with alcohol 8 years earlier and was associated with routine screening colonopy. Risk factors for coronary artery disease. Her vitals were stable and exam was unremarkable. EKG revealed ST elevation in her anterior leads. Her peak CK was 1405, MB was 109, and troponin I was 36.78. She was started on a nitroglycerin and heparin drip and transferred to our institution for further care. Cardiac catheterization revealed a spontaneous dissection at the junction of the proximal and mid left anterior descending (LAD) artery that extended proximally and LAD with a subtotal occlusion. This was the culprit lesion for the patient’s myocardial infarction. Ejection fraction was noted to be 30% with an apical thrombus. She had subsequent PCI with two drug-eluting stents placed with a residual lesion of 0%. Intravascular ultra-
developed fevers and abdominal pain, followed by chills and anorexia. Symptoms persisted over the next four weeks, at which point he presented for medical evaluation. On arrival, he was febrile (temperature of 101.4 degrees Fahrenheit), with a heart rate of 125 beats per minute, blood pressure of 100/62 mmHg, and a respiratory rate of 24 breaths per minute. Laboratory data were notable for: aspartate aminotransferase 1261 U/L, alanine aminotransferase 2501 U/L, alkaline phosphatase 212 U/L, gamma glutamyl transferase 169 U/L, total bilirubin 5.2 mg/dL, direct bilirubin 3.4 mg/dL. Ultrasound imaging demonstrated a 4 x 6 cm cystic subcapsular fluid collection adjacent to the liver suspicious for abscess versus resolving hematoma. The patient was treated with intravenous antibiotics, including adenomycotic amphotericin B (0.5 mg/kg/day), associated with colonic biopsy or poly-...colonoscopy, less common complications include infection as well as splenic bleeding, and colonic injury are well-recognized as possible complications of main causative event underlying abscess formation. Although perforation, compared to surgical intervention. In our patient, the isolated pathogen and treatment regimen for liver abscesses, percutaneous drainage in addition to American countries (such as Argentina). While there is currently no standard...of the abscess and normalization of liver enzymes. DISCUSSION: The differential diagnosis of a hepatic subcapsular fluid collection includes hematoma or abscess. Hematomas are seen in patients on anticoagulation or with recent abdominal trauma. Pyogenic liver abscesses can arise from biliary tree disease, portal vein infections, systemic infections such as endocarditis, direct extension from contiguous infectious foci, and direct penetrating trauma to the liver. The most common pathogens are gram negative aerobic bacteria such as E. coli and Klebsiella, followed by gram positive aerobic bacteria such as Streptococcus faecalis and Staphylococcus aureus. While rare in the United States, liver abscesses of hydatid origin should be considered in patients emigrating from African, Middle Eastern, and South American countries (such as Argentina). There is no standard treatment regimen for liver abscesses, percutaneous drainage in addition to antibiotic therapy has been shown to have similar or decreased mortality when compared to surgical intervention. In our patient, the only clinical point to the cause of colonic perforation and peptic ulcer at the main causative event underlying abscess formation. Although perforation, bleeding, and colonic injury are well-recognized as possible complications of colonic injury, less common complications include infection as well as rupture and small bowel obstruction. Interestingly, the rate of bacteremia...with colonic perforation and peptic ulcer as the main causative event underlying abscess formation. Although perforation, bleeding, and colonic injury are well-recognized as possible complications of colonic injury, less common complications include infection as well as rupture and small bowel obstruction. Interestingly, the rate of bacteremia associated with colonic perforation and peptic ulcer is 2-5% with or without mucosal biopsy or p...ctectomy. As increasing reports of infections are performed in the United States, the wide range of procedure-associated complications may be seen with increasing frequency.

A RARE MANIFESTATION OF MULTIPLE MYELOMA, S. Kakani1; H. Lazarte1; R. Warner1. 1.Creighton University, Omaha, NE. (Tracking ID # 152865)

LEARNING OBJECTIVES: (1) Recognize that multiple myeloma can present with extramedullary organ involvement. (2) Recognize that extramedullary multiple myeloma is characterized by specific mutations that portend an aggressive disease and a very poor prognosis. CASE: A 59 year old white male who was diagnosed five months ago with multiple myeloma with extensive bony involvement, was admitted with acute renal failure. At the time of presentation he denied any symptoms except low back pain which was thought to be due to vertebral involvement. On examination his vitals were within the normal range and his heart and lungs were unremarkable. Significantly however, the patient had matted and indurated hard nodule on the upper back. CBC revealed mild anemia with a normal white count and platelet count. The hematocrit was significantly elevated BUN of 58 mg/dL, a creatinine of 3.7 mg/dL and a serum uric acid of 23.4 mg/dL. Urinalysis with microscopy revealed multiple uric acid crystals. The patient was diagnosed to have acute uric acid nephropathy and was treated with rasburicase with an impressive reduction of uric acid within 24 hours. Histopathological examination of the lymph nodes and tonsil revealed replacement of the architecture by proliferating large plasmablasts with atypia. A bone marrow biopsy showed infiltration of the marrow with numerous large plasmablasts comprising more than 30% of all cells. This was in contrast to a marrow biopsy five months ago which revealed plasma cells comprising of only 5-10% of marrow cellularity. The patient was diagnosed to have a plasma cell malignancy and was started on chemotherapy. However the patient suffered from a cardiopulmonary arrest after his first dose. He was not resuscitated as per his wishes. DISCUSSION: Multiple myeloma is a disorder in which plasma cells accumulate in the bone marrow and cause immunologol deficiencies. IgA. Common complications include osteolytic lesions, infections marrow failure and renal insufficiency. Multiple myeloma is thought to be confined to the bone marrow and is transmitted by conformational change in the CSF with large activated cells of the monocyte/macrophage lineage termed...elevated protein level with an increase in IgG and IgM fractions, and decreased IgA. Multiple myeloma typically occurs after years of recurrent attacks. No evidence suggests acyclovir and valacyclovir may be effective prophylaxis and treatment.

A STITCH IN TIME...COULD SAVE A LIFE: METASTATIC BREAST CANCER AND THE COST TO THE UNINSURED PATIENT. J.J. Levine1; M. Waisel2. 1.Va...JGIM ABSTRACTS

LEARNING OBJECTIVES: Recognize that breast cancer is the primary cause of death in women between the ages of 45 and 55 and insurance status is a major difference. Recognize that uninsured women are 35-49 age range are 60% more likely to die of breast cancer than privately insured women. Understand that uninsured and Medicaid patients generally present with more advanced disease than do privately insured patients.

CASE: Ms. A is a 48 year old female who was presented to HCMC with a three month history of left breast pain and an inadvertent ten pound weight loss. In the week prior to admission, she noted left pleuritic chest pain and a cough productive of white sputum. Physical exam of the chest revealed a palpable mass which was previously noted on a mammogram one year prior. She was a long term smoker for several years because, as the full-time primary care attendant for her ailing mother, she did not have health insurance. Computed tomography of the chest and abdomen revealed a large and irregular mass involving the breast and the chest wall. Needle core biopsy of the breast mass was performed and yielded estrogen receptor (ER) positive invasive ductal carcinoma. Diagnostic and therapeutic thoracoscopists yielded an exudative fluid containing malignant ER positive cells. Magnetic resonance imaging of the spine revealed numerous metastatic lesions in the cervical, thoracic, and lumbar vertebrae. Imaging of the brain discovered enhancing lesions in the left cerebral hemisphere. After years of quitting medical care, Ms. A was diagnosed with metastatic breast cancer. She was initiated on a course of gemicatine and paclitaxel during this hospital admission, responded well to a course of palliative radiation therapy, and was discharged on home oxygen. She succumbed to respiratory failure approximately two months after diagnosis.

DISCUSSION: Breast cancer is the primary cause of death in women between the ages of 45 and 55. A woman’s risk of developing the disease during her late third and fifth decades of life is almost entirely based on her physical age at the time of diagnosis. In 2000, 15.6% of Americans were without health insurance and 6.6 million were women in their fortieths and fifties. Uninsured women and those covered by Medicaid presented with more advanced disease than did patients with health insurance (P < 0.01, respectively). Length of survival after diagnosis was also markedly different. Survival time was shorter for uninsured patients than privately insured patients with local disease (P =0.001) and regional disease (P =0.001). Strikingly, length of survival after diagnosis was shorter for patients with distant metastases regardless of the type of coverage. Although early detection has increased the overall survival rate, women must have access to medical care for successful detection and management. Women who do not have health insurance and are made to bear the out-of-pocket cost of breast cancer screening may defer physician visits until they are finally faced with the burden of metastatic disease.

A RECURRENT PAIN IN THE NECK, N. Coleman1; M. Guidry2. 1.Tulane University, New Orleans, LA; 2.Tulane Health Sciences Center, New Orleans, LA. (Tracking ID # 156863)

LEARNING OBJECTIVES: 1. Recognize the clinical presentation of Mollaret’s meningitis 2. Understand the link between Mollaret’s meningitis and HSV...was initiated on a course of gemcitabine and paclitaxel during this hospital admission, responded well to a course of palliative radiation therapy, and was discharged on home oxygen. She succumbed to respiratory failure approximately two months after diagnosis.

DISCUSSION: Breast cancer is the primary cause of death in women between the ages of 45 and 55. A woman’s risk of developing the disease during her late third and fifth decades of life is almost entirely based on her physical age at the time of diagnosis. In 2000, 15.6% of Americans were without health insurance and 6.6 million were women in their fortieths and fifties. Uninsured women and those covered by Medicaid presented with more advanced disease than did patients with health insurance (P < 0.01, respectively). Length of survival after diagnosis was also markedly different. Survival time was shorter for uninsured patients than privately insured patients with local disease (P =0.001) and regional disease (P =0.001). Strikingly, length of survival after diagnosis was shorter for patients with distant metastases regardless of the type of coverage. Although early detection has increased the overall survival rate, women must have access to medical care for successful detection and management. Women who do not have health insurance and are made to bear the out-of-pocket cost of breast cancer screening may defer physician visits until they are finally faced with the burden of metastatic disease.
LEARNING OBJECTIVES: 1) Appreciate Hodgkin's Disease as a potential cause of obstructive jaundice 2) Recognize the common clinical manifestations of Hodgkin’s Disease 3) Outline the staging work-up and treatment of a patient with Hodgkin’s Disease.

CASE: A 32-year-old male presented with abdominal pain, jaundice and a 45 lb weight loss over 4 months. His abdominal pain was crampy, peri-umbilical and had increased in intensity over 1 month. He noted worsening jaundice and scleral icterus developing over 2 weeks and associated fatigue and malaise. He denied any fever, chills, night sweats, pruritis or bowel habit changes. PMH included prior non-gonococcal urethritis. He denied tobacco use and reported rare alcohol use. He worked as a janitor, but had no significant chemical exposures. FH was negative for cancer or gastrointestinal disorders. Physical exam revealed normal vital signs. He appeared fatigued and jaundiced with icteric sclera. He had large right-sided cervical, lateral retroperitoneal and umbilical lymph nodes. His right upper quadrant was distended and he had marked right upper quadrant tenderness. Shifting dullness was detectable. He had no hepatosplenomegaly. He had scrotal swelling with an 8 x 8 cm firm mass on the right. Initial lab values included WBC 22,000, Hgb 8.5, total bilirubin 4.4, AST 192 and ALK PHOS 1805. Amylase and lipase were normal. An abdominal CT revealed a 10.5 x 8.6 cm necrotic mass surrounding the porta hepatis, biliary ductal dilatation, significant peri-portal edema and cirrhosis. The necrotic abdominal mass both confirmed a diagnosis of Nodular Sclerosis Hodgkin’s Lymphoma.

DISCUSSION: Hodgkin’s Disease (HD) is the most common lymphoma in young adults. Its etiology is unclear, although EBV is frequently implicated in HD and HIV. A subsequent scrotal ultrasound revealed a large, complex hydrocele, surrounding the porta hepatis, biliary ductal dilatation, significant peri-portal edema and cirrhosis. The necrotic abdominal mass both confirmed a diagnosis of Nodular Sclerosis Hodgkin’s Lymphoma.

LEARNING OBJECTIVES: Recognize the dynamic pseudoinfarction pattern of Wolff-Parkinson-White syndrome

CASE: A 32-year-old man presented to our hospital with a recent episode of palpitations. An ECG showed first time demonstration of a supraventricular flutter, which reverted to sinus rhythm after vagal maneuvers. Three days later, he reported dyspnea and malaise and denied chest pain, palpitations, or syncope. He described no risk factors for coronary artery disease, family history of sudden death, or illicit drug use. Six weeks earlier, while traveling in Africa, he suffered an axillary tick bite, followed by fever and myalgias. Cultures were positive for Rickettsia africae and he received a course of doxycycline with symptom resolution. Physical examination revealed a pulse of 77 beats per minute, a blood pressure of 128/64 mmHg, 2 cm axillary lymphadenopathy and an unremarkable cardiac exam. An echocardiogram showed normal left ventricular size and function. Angiography revealed normal coronary arteries. Serial troponins and serum creatine kinase levels were normal. An MRI did not show any myocardial enhancement. Diagnostic evaluation using adenosine was conducted to induce preferential conduction through a suspected accessory pathway. Continuous monitoring revealed a prominent delta wave and widening of the QRS complex, indicative of a Wolff-Parkinson-White (WPW) syndrome. Additional ECGs demonstrated a dynamic pseudoinfarction pattern with one taken while the patient was experiencing pain at his catheterization site demonstrating prominent delta waves and new ST elevations in V5 and V6. Electrolyte panel testing revealed a lower postcoronary tract and inducible AV re-entrant tachycardia. After radiofrequency ablation, no evidence of conduction via the accessory pathway was noted. A post-procedure ECG demonstrated resolution of the delta waves and ST elevations.

DISCUSSION: Several clinical entities including myocarditis and early repolarization can present with a pseudoinfarction pattern - ST elevations in the absence of myocardial ischemia. Misdiagnosis of myocarditis is of concern as this may result in unnecessary anticoagulation and appropriate treatment of the WPW pseudofacion pattern. In our patient, adenosine administration and groin pain following catheterization highlighted parasympathetic tone and facilitated the diagnosis of pre-excitation.

A TRAGIC CASE OF ESCHERICHIA COLI AND THROMBOTIC THROMBOCYTOPENIC PURPURA: LESSONS IN QUALITY IMPROVEMENT AND COMMUNITY-BASED PATIENT SAFETY

K. Luce1, M. Panda1
1University of Tennessee, Chattanooga, TN.

CASE: A 30-year-old woman presented to her primary care provider (PCP) with one day of bloody diarrhea, fevers and severe abdominal cramping. She believes the symptoms emerged shortly after consuming an Asian take-out meal that she shared with her husband, who did not develop any symptoms. Recent history also included a course of amoxicillin for a tooth abscess. The PCP sent stool for Clostridium difficile toxin, enteropathogens and ova/parasites and stool cultures. Physical examination revealed an axillary tick bite, followed by fever and myalgias. Cultures were positive for Escherichia coli and other hemorrhagic diarrhea pathogens with antibiotics. Consider the diagnostic and therapeutic challenges of a patient in fulminant thrombotic thrombocytopenic purpura (TTP). Discuss our efforts to investigate a source in the community that led to preventative measures.

LEARNING OBJECTIVES: 1) Appreciate Hodgkin’s Disease as a potential cause of obstructive jaundice 2) Recognize the common clinical manifestations of Hodgkin’s Disease 3) Outline the staging work-up and treatment of a patient with Hodgkin’s Disease.

DISCUSSION: A 48-year-old white male presented with complaints of back pain for 2 years and palpitations. The patient had been treated for atrial fibrillation and had recently experienced an episode of uncontrolled hypertension. During hospitalization, the patient was noted to be hypertensive. An ECG revealed a wide, slurred QRS complex with prominent delta waves and ST elevations mimicking acute transmural infarction.

DISCUSSION: A 48-year-old white male presented with complaints of back pain for 2 years and palpitations. The patient had been treated for atrial fibrillation and had recently experienced an episode of uncontrolled hypertension. During hospitalization, the patient was noted to be hypertensive. An ECG revealed a wide, slurred QRS complex with prominent delta waves and ST elevations mimicking acute transmural infarction. Prolonging AV nodal conduction through vagal maneuvers or adenosine administration can produce ST elevations mimicking acute transmural infarction. Prolonging AV nodal conduction through vagal maneuvers or adenosine administration can produce ST elevations mimicking acute transmural infarction. Prolonging AV nodal conduction through vagal maneuvers or adenosine administration can produce ST elevations mimicking acute transmural infarction. Prolonging AV nodal conduction through vagal maneuvers or adenosine administration can produce ST elevations mimicking acute transmural infarction. Prolonging AV nodal conduction through vagal maneuvers or adenosine administration can produce ST elevations mimicking acute transmural infarction. Prolonging AV nodal conduction through vagal maneuvers or adenosine administration can produce ST elevations mimicking acute transmural infarction. Prolonging AV nodal conduction through vagal maneuvers or adenosine administration can produce ST elevations mimicking acute transmural infarction. Prolonging AV nodal conduction through vagal maneuvers or adenosine administration can produce ST elevations mimicking acute transmural infarction. Prolonging AV nodal conduction through vagal maneuvers or adenosine administration can produce ST elevations mimicking acute transmural infarction. Prolonging AV nodal conduction through vagal maneuvers or adenosine administration can produce ST elevations mimicking acute transmural infarction.
vertebral body, lytic lesions involving T11 and T12 vertebral bodies and soft tissue swelling at the same level consistent with a para vertebral hematoma. X-ray and CT scan of the chest showed diffuse reticular interstitial process predominately involving the lower and upper lung fields. Both kidneys were spared. Gas was noted in the duodenal region, consistent with bowel intussusception. Sudden onset of swelling of the lips without airway compromise or abdominal symptoms. The therapy followed the general principles of control of the levels of bradykinin and fixation of spine. Decision was made to closely follow the patient as an outpatient.

Discussion: Spinal tuberculosis accounts for about 2% of all cases of TB. Overall bone and joint infection may account for 10 to 35% of cases of extra pulmonary tuberculosis. It is the most common site of extra pulmonary disease. The most common site of skeletal TB is the vertebrae. The mimicry of symptoms due to tuberculosis and those due to organisms such as Staphylococcus aureus, brucellosis, melioidosis, actinomycosis, candidiasis and histoplasmosis, depending upon epidemiologic factors. Metastatic disease to bone should also be considered. Infection begins in the antero-inferior aspect of the vertebral body with destruction of the intervertebral disc and adjacent vertebral. A negative smear for AFB, a lack of granuloma on histopathology, and failure to culture mycobacterium tuberculosis do not exclude diagnosis. Surgery is a useful adjunct to medical therapy for selected patients who require or can benefit from drainage of an abscess, debridement of infected material, and stabilization of vital structures such as the spinal cord. A six- to nine-month regimen (two months of isoniazid, rifampin, pyrazinamide and ethambutol followed by four to seven months of isoniazid and rifampin) is recommended as initial therapy for all forms of extra pulmonary tuberculosis. Our case describes a previously healthy man with milie tubal TB. Persistent complaints of backache, which antedated chest symptoms, positive spumut for AFB resulted in a diagnosis of Pot's disease.

A UNIQUELY SYMBIOTIC RELATIONSHIP: THERAPEUTIC PHLEBOTOMIES FOR THE TREATMENT OF HEREDITARY HEMOCROMATOSIS USED FOR ALLOGENIC BLOOD DONATION SELECTION. R.A. Sacher1, G.W. Rouan1. University of Cincinnati, Cincinnati, OH. (Tracking ID # 53437)

LEARNING OBJECTIVES: 1. Diagnose hereditary hemochromatosis. 2. Prevent long term sequelae of hereditary hemochromatosis. 3. Recognize the potential for blood donation by hereditary hemochromatosis patients.

CASE 1: A generally healthy 57 year old white male patient presented as a new patient with no complaints. His past medical history was significant for hypertension, controlled with Benazapril 10 mg daily. His family history was significant for a question of a myocardial infarct in his mother and a brother with hemochromatosis. Review of systems was notable for blood donation about 3 times yearly. Physical exam was unremarkable. Pertinent lab results revealed a normal CBC and LFT’s, serum iron of 192 mcg/dL (normal 50–160 mcg/dL), total iron binding capacity of 294 mcg/dL (normal 245–400 mcg/dL), transferrin saturation of 65% (normal 20–55%), and serum ferritin of 667.9 ng/mL (normal 22–322 ng/mL). PCR testing revealed homozygosity for the C282Y mutation of the HFE (hemochromatosis) gene. The patient was diagnosed with asymptomatic hereditary hemochromatosis. He was placed on a therapeutic phlebotomy regiment to remove excess iron and his blood was used for donation.

Acquired Visceral Angioidema as a Cause of Chronic Abdominal Pain. E. Maldonado1. Lehigh Valley Hospital, Allentown, PA. (Tracking ID #: 156694)

LEARNING OBJECTIVES: Recognize visceral angioidema as a cause of chronic episodic abdominal pain. Recognize the clinical and diagnostic clues of the disorder. Identify medical conditions associated with acquired angioidema.

CASE: A 75-year-old woman presented with a 6-year history of episodic, diffuse abdominal pain. The pain was described as severe and "crampy." It was interrupted on occasion. Her self-limited abdominal symptoms were associated with nausea, vomiting, and diarrhea; she also noted right hand and wrist pain. He was oliguric during his hospital stay, the patient received IV furosemide with increase in his urine output and eventual normalization of his serum creatinine to a baseline of 1.0 mg/dL. Right kidney biopsy was not performed due to normalizing creatinine. Plain films of the right wrist and hand were unremarkable and swelling gradually resolved. His creatinine level slowly returned to normal post-discharge; he continued to be nauseated but did not vomit. Six months after his hospitalization his symptoms had completely resolved.

A UNIQUELY SYMBIOTIC RELATIONSHIP: THERAPEUTIC PHLEBOTOMIES FOR THE TREATMENT OF HEREDITARY HEMOCROMATOSIS USED FOR ALLOGENIC BLOOD DONATION SELECTION. R.A. Sacher1, G.W. Rouan1. University of Cincinnati, Cincinnati, OH. (Tracking ID # 53437)

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ACUTE ADULT PARVOVIRUS B19 INFECTION PRESENTING WITH ARTHRITIS, OLGURIA AND EDEMA WITH MINIMAL CREATININE ELEVATION. H.F. Rydel1, C. Block2. Dartmouth College, Lebanon, NH. (Tracking ID #: 153040)

LEARNING OBJECTIVES: 1. Recognize human parvovirus B19 as a cause of oliguria without concomitant creatinine elevation. 2. Identify distinguishing clinical features of acute adult parvovirus B19 infection.

CASE: A 35-year-old insulin-dependent diabetic man was admitted to the general medicine service for oliguria, proteinuria, and renal insufficiency of five days duration. He had been otherwise healthy until three weeks prior when he had an upper respiratory infection. He had recovered completely but then presented to an outside hospital with nausea and vomiting. He had fevers, chills, arthralgia; he had right hand and wrist pain and upper extremity edema. He and became grossly edematous. His serum creatinine level increased from 1.0 mg/dL to 1.3 mg/dL and he was transferred to our institution. On transfer, physical exam was remarkable for pitting edema and upper extremity edema and non-blanching petechiae on the eyelids. Urine analysis showed proteinuria (protein >300 mg/dL, urine protein/creatinine ratio >0.5 mg/dL), hematuria, renal cell casts, and granular casts. Renal ultrasonogram was remarkable, blunted, and no ultrasound evidence of hydronephrosis. Bilateral pleural effusions were found on right upper quadrant ultrasound and confirmed by chest CT. Total complement CH50 was low at 29/μL (normal range 30–75); as complement factor C3, 67 mg/dL (normal range 90–180). Complement factor C4 was normal. Parvovirus IgG titer was 3.67 (normal 0.1–1.0) and IgM titer was 8.13, suggesting recent infection. Over the course of his five-day hospital stay, the patient received IV furosemide with increase in his urine output and eventual normalization of his serum creatinine to a baseline of 1.0 mg/dL. Right kidney biopsy was not performed due to normalizing creatinine. Plain films of the right wrist and hand were unremarkable and swelling gradually resolved. His creatinine level slowly returned to normal post-discharge; he continued to be nauseated but did not vomit. Six months after his hospitalization his symptoms had completely resolved.

DISCUSSION: In 1975 in the serum of asymptomatic blood donors. It is best known as the cause of erythema infectiousum or Fifth disease, a benign, self-limited exanthematous illness of childhood. Other observations have been made in hydrops fetalis, transient aplastic crisis and symptomatic polycythemia. It has been thought that most cases of PBV19 in healthy adult hosts are asymptomatic, however results of the literature review of the literature suggest subclinical manifestations of PVB19 infection in adults with generalized edema, proteinuria, hematuria, hypocomplementemia with normal renal functions. Patients typically develop generalized edema within 2 weeks of flu-like symptoms. The clinical characteristics of patients with PBV19 include acute nephritic syndrome, hypocomplementemia and spontaneous recovery. Clinical manifestations of acute glomerulonephritis (systemic edema, proteinuria, hematuria and hypertension) without evidence of impaired renal function and persistence of edema. Positive titers of PVB19 may be present at the presentation of PVB19. Acute, symptomatic PBV19 in the adult population may be underdiagnosed and should be considered in the differential diagnosis of acute nephritic syndrome.
CASE: A 33-year-old male with a history of irritable bowel syndrome (diarrhea variant) and illicit substance use was admitted for severe abdominal pain starting several hours prior to admission. His pain originated from the right side of his abdomen before generalizing diffusely. He described his pain as constant, with spontaneous exacerbations. The pain increased with movement, making the subsessment and ambulatory ride to the emergency room difficult. Following the onset of pain, he experienced nausea, emesis, and subjective fever. He ate pizza just prior to the onset of symptoms and reported being hungry during the interview. The patient presented similarly 18 months ago, when he was diagnosed with irritable bowel syndrome and was given a new regimen of colonscopy and CT of the abdomen and pelvis. On exam, the patient appeared to be in mild distress due to pain, and was lying still and supine. Vital signs were: BP 120/90, temperature 36.5°C, pulse 78, and weight 90.6 kilograms. His abdomen was grossly distended and diffusely tender to light palpation, with guarding and hypoactive bowel sounds. Posso sign was negative. Rectal exam including stool guaiac was negative. Initial CT of the abdomen and pelvis showed an appendix with borderline diameter, partially opacified with contrast, without signs of inflammation, and unchanged from 18 months ago. WBC was 6.6 with 63% neutrophils, ALT 92, and lipase 395. A urinalysis revealed 1+RBC, 1+WBC, and a urinalogohpathy for albuminemia positive for benzodiazepines and marijuana, and opiates. High clinical suspicion for acute appendicitis led the medical team to repeat a CT scan of the abdomen and pelvis. This study was preliminary read as normal. The final read revealed inflamed appendix and surrounding fatty tissue. The patient underwent laparoscopic appendectomy revealing a necrotic, perforated appendix.

DISCUSSION: This case serves as an excellent example of the need for a multidisciplinary approach to patient care, especially when dealing with acute abdominal pain. Laparoscopic appendectomy is the standard of care for acute appendicitis, and has been shown to have similar outcomes to open appendectomy while reducing postoperative morbidity and mortality. In this case, the patient was successfully treated with appendectomy and a course of antibiotics, resulting in a favorable outcome.

LEARNING OBJECTIVES: 1. Recognize a patient with an acute surgical abdomen despite confounding history and radiographic findings. 2. Review diagnostic methods in acute appendicitis.
tions, and EKG changes. Levels of troponin, creatinine kinase, and WBC trended downwards, and he was counseled to stop smoking and eventually discharged on oral cephalaxin.

DISCUSSION: Neisseria meningitidis is a life-threatening illness and a leading cause of bacterial meningitis and sepsis in the US. Early diagnosis and treatment is crucial, but can be complicated and delayed by an atypical presentation. While nausea, nuchal rigidity, and rash suggested Neisseria meningitidis, a clear diagnosis was hindered by the absence of neurologic and cardiac findings in a vaccinated adult. Particular attention must also be paid to the strain of meningococcus. Serogroup B, which is not covered by the meningococcal vaccine, poses a deadly threat to the young and immunocompromised, and all close contacts need to be treated to avert a deadly outbreak.

ACUTE MYOCARDITIS DIAGNOSED BY CARDIAC MRI

LEARNING OBJECTIVES: 1. Recognize that the clinical presentation of acute myocarditis can mimic acute coronary syndrome. 2. Recognize the difficulties in diagnosing myocarditis and the utility of MRI as a non-invasive tool for the evaluation of inflammatory heart disease such as myocarditis.

CASE: A 19 yo man with no PMH presented three hours after waking from sleep with chest pain and tachypnea. Laboratory evaluation showed blood and muddy brown granular casts. Pulmonary-renal syndrome, dyspnea and diarrhea. He was febrile to 101.5°F with pulse 64, BP 114/75. CRP 170, WBC 11.8. Coronary angiography showed normal coronary arteries. His cardiac enzymes trended to normal levels. Serologic tests for enterovirus, HSV, CMV and atypical bacteria were all negative. Gadolinium-enhanced cardiac MRI (CMR) showed delayed uptake of contrast with a subepicardial and intramyocardial patchy pattern that spared the subendocardium and was localized to the posterior and lateral regions, highly suggestive of myocarditis. He was discharged home after 4 days in stable condition. CMR can be used to identify patients with active myocarditis. It is not a diagnostic test and can be normal in the acute stages of myocarditis. The diagnosis of acute myocarditis is based on clinical and laboratory findings, and is not definitive until the patient recovers.

DISCUSSION: Secondary migration of a central venous catheter is an unusual complication and occurs as a consequence of myocyte membrane breakdown resulting from the inflammatory process. Myocardial infarctions tend to occur in a peculiar pattern, predominantly in the lateral wall, originating from the epicardial surface of the ventricular wall. However, elevation of J-groove can be seen in the subendocardium whereas it is absent in the MI. The contrast enhancement is seen in the subendocardial border in a coronary distribution. An intriguing observation is that the contrast enhancement points to the epicardial surface of the ventricular wall. The catheter tip was no longer in the superior vena cava. A diagnosis of hydrothorax due to secondary migration of the central venous catheter was made. The catheter tip was removed and a chest tube was put in which drained 1800cc of serous fluid.

DISCUSSION: Neisseria meningitidis is a life-threatening illness and a leading cause of bacterial meningitis and sepsis in the US. Early diagnosis and treatment is crucial, but can be complicated and delayed by an atypical presentation. While nausea, nuchal rigidity, and rash suggested Neisseria meningitidis, a clear diagnosis was hindered by the absence of neurologic and cardiac findings in a vaccinated adult. Particular attention must also be paid to the strain of meningococcus. Serogroup B, which is not covered by the meningococcal vaccine, poses a deadly threat to the young and immunocompromised, and all close contacts need to be treated to avert a deadly outbreak.
reflecting his deterioration from mild to moderate dementia documented one month prior to a state of agitated delirium. Conservative therapy to control delirium with neuroleptics and treat infection with broad-spectrum antibiotics was met with gradual decrease in his condition. A clinical decision was made whether to initiate more invasive diagnostic and therapeutic measures versus initiating palliative care was necessary. Attempts at identifying a surrogate decision-maker proved difficult as he had been estranged from his family for 57 years. A sister’s diagnosis of Alzheimer’s disease would not contribute meaningfully to the decision-making. The medical team was thus compelled to make decisions based on his previously expressed wishes concerning aggressive treatment and end-of-life care. The patient had a documented DNR/DNI status and discussions with his primary care doctor revealed his articulation for comfort care in the past when he was failing to thrive after a right lower lobe amputation. As this was the best judgment of his wishes in the analogous situation, the decision was made by the medical team and nursing staff to institute a palliative care regimen including further control of pain and delirium. The case was discussed with the chair of the bioethics committee at the VA who agreed that the treatment plan was in accordance with existing VA policies.

DISCUSSION: The patient who lacks decision-making capacity and has no surrogate decision-maker is placed in a very difficult position when confronted with end-of-life issues. In such cases, the previously stated wishes of the patient, in all forms available, must be sought and honored. If these wishes are unknown, all reasonable efforts to locate a surrogate decision-maker must be made. Once these avenues have been exhausted, it is left up to the medical team to provide care that they deem to be in the best interest of the patient. If a consensus is not reached within the medical team, including nursing and ancillary services, the hospital ethics committee provides guidance with respect to providing care. In this case, the patient was seeking comfort care and not wishing to prolong life. The team decided that the patient’s medical condition puts them at-risk for losing capacity to participate in their medical decisions. Initiating end-of-life care discussions to document the patient’s wishes as well as identifying surrogate decision-makers is particularly important in cases that patients retain the ability to guide their care in accordance with their wishes.

LEARNING OBJECTIVES: 1. Recognize clinical features of African tick-borne illnesses in non-native settings 2. Diagnose and treat African tick-bite fever based on characteristic skin lesions

CASE: A 52-year-old male patient from Minnesota presented to the Emergency Department with a six-day history of fever, headache, and myalgia. The patient had returned from a three-week safari trip to Sub-Saharan Africa three days ago. He sustained multiple thorn puncture wounds while hunting wild animals in the forests of Zimbabwe. He denied drinking unboiled or unbottled water or unpeeled fruits and vegetables. His medical history was unremarkable, and he denied mosquito, tick, or insect bites or swimming in fresh waters or exposure to sexually transmitted diseases. He had visited the travel clinic three months prior to his trip and was up-to-date on all required vaccinations and underwent chemoprophylaxis for malaria. When he returned to the US, the patient presented to his primary care physician with flu-like symptoms and required only one brief admission for pneumonia in the following months.

DISCUSSION: African tick-bite fever (ATBF) is a rare disease characterized by early-onset pancreatitis and its complications. Though uncommon, one study found that 8% of patients with a diagnosis of idiopathic pancreatitis had a genetic cause. Mutations of several different genes, including PRSS1 and those encoding cystic fibrosis transmembrane conductance regulator (CFTR) and pancreatic secretory trypsinogen (PRSS) have been identified in patients with ATBF, but about 70% of cases are due to PRSS1 mutations. HP due to PRSS1 mutation is inherited in an autosomal dominant manner with approximately 80% penetrance. Only about 10% of families worldwide have been identified with this disease that leads to pancreatic autodigestion from increased trypsin activity inside the pancreas. The lifetime risk of pancreatic cancer is 40% and is even higher in patients who smoke. Apart from symptomatic treatment, pancreatic cancer screening and alcohol and tobacco abstinence is the specific therapy currently available. Similar to our patient, many patients with HP go undiagnosed for years and suffer from discriminatory assumptions about their lifestyle and behavior. It is imperative that clinicians maintain an unbiased, comprehensive clinical approach to patients with pancreatitis in order to detect this disease which can impact entire families.

LEARNING OBJECTIVES: 1. Recognize the importance of a potentially fatal adverse reaction to allopurinol. 2. Review the treatment of chronic gout in those with co-morbid illness.

CASE: A 31-year-old female presented to clinic with complaint of intense pruritus and generalized leathery over the past week. She also noted low-grade fever to 100.5 F as well as nausea and abdominal pain. Her past medical history was notable for insulin-dependent diabetes mellitus, hyperlipidemia, hypertension, and gout. On examination, she had a temperature of 100, blood pressure 100/60 and heart rate of 85. She was noted to be somnolent with diffuse abdominal tenderness, without rebound or guarding. Her skin was dry with marked pallor and linear excoriations. Initial laboratory studies revealed acute hepatitis with AST 1206, ALT 1293, total bilirubin 584 and alkaline phosphatase 22. She was in acute renal failure with a creatinine of 3.1 (baseline 1.2–1.3). Leukocyte count was 12,900 with 6.1 percent eosinophils. Abdominal ultrasound revealed normal hepatic vasculature, with no ductal disease, ascites or biliary obstruction. Hepatitis A, B, and C, ANA, anti-smooth muscle antibody, CMV, EBV, and HIV serologies were all negative. Liver biopsy was performed and demonstrated extensive hepatocellular necrosis with lobular and portal inflammation consisting of lymphocytes, numerous plasma cells, eosinophils, and neutrophils. These findings were felt to be most consistent with a diagnosis of drug-induced liver injury with a working diagnoses of allopurinol. She was hospitalized and discharged home on a combination of valproic acid and prednisone. She was referred to infectious disease for further evaluation. She was discharged home after 2 weeks with a diagnosis of drug-induced liver injury with a working diagnosis of allopurinol. She was discharged home after 2 weeks with a diagnosis of drug-induced liver injury with a working diagnosis of allopurinol. She was discharged home after 2 weeks with a diagnosis of drug-induced liver injury with a working diagnosis of allopurinol. She was discharged home after 2 weeks with a diagnosis of drug-induced liver injury with a working diagnosis of allopurinol. She was discharged home after 2 weeks with a diagnosis of drug-induced liver injury with a working diagnosis of allopurinol.
syndrome. This syndrome is dose-dependent and includes fever, eosinophilia, rash, hepatic and renal dysfunction and has a mortality rate of approximately 20%. In the majority of reported cases, the development of this syndrome was associated with the use of standard (200 to 400 mg per day) doses of allopurinol in patients with underlying renal insufficiency. Concomitant diuretic therapy has also been reported in nearly 50% of cases. Although alternative agents such as the nonpurine selective xanthine oxidase inhibitors may prove helpful in difficult-to-treat patients, adequate education and selection of alternative antihypertensives is an important component of management. Prior to initiating therapy, patients should be made aware of possible adverse reactions to allopurinol, including the potentially fatal Stevens-Johnson syndrome. If therapy is initiated, a lower dose of 50 mg per day should be used in those with underlying renal insufficiency.

ALTERED MENTAL STATUS AND MUSCULAR RIGIDITY DUE TO ANTIPSYCHOTIC MEDICATIONS. L. Krishnan; P. Stechman; K. Gravett; J. Joseph; D. O'Brien; B. Gordon; H. Friedman. Sl. Francis Hospital, Evanston, IL; Sl. Francis Hospital, Evanston, IL; St. Francis Hospital, Evanston, IL. (Tracking ID: 150309)

LEARNING OBJECTIVES: 1) Recognize altered mental status and muscular rigidity as side effects of antipsychotic medications. 2) Suspect neuroleptic malignant syndrome when any two of the four cardinal clinical features, mental status change, rigidity, fever, or dysautonomia, appear in the setting of neuroleptic use.

CASE: 52-year-old African American male presented with a chief complaint of difficulty in walking. 5 months prior to admission, he had undergone an uneventful right hip arthroplasty and had poor follow up for physical rehabilitation. His medical conditions included HIV, hypertension, schizophrenia and asthma. The medications were Indinavir, Efavirenz, Oxandrolone, Risperidone and Dexamethasone. He was admitted to the ICU for respiratory distress secondary to hypoxia. He was transferred to the floor on the third day of admission, the nurse noticed that he was not following verbal commands and notified the MD. On examination, the patient was lying supine on bed; head turned to right, with eyes deviated upwards to the right. He was not responding to verbal or painful stimuli. Lead pipe rigidity was noted in bilateral lower extremities. His fists were clenched. His jaw was clenched. Plantar reflex was flexor bilateral. 6 hours later, he extended his tongue out of his mouth for about 10 minutes. His vitals were essentially normal. Stat CT of the brain with contrast revealed normocellular marrow with 5% monotypic plasma cells expressing kappa light chains as side effects of antipsychotic medications. 2) Suspect neuroleptic malignant syndrome if any two of the four cardinal clinical features, mental status change, rigidity, fever, or dysautonomia, appear in the setting of neuroleptic use.

LEARNING OBJECTIVES: 1) Recognize altered mental status and muscular rigidity as side effects of antipsychotic medications. 2) Suspect neuroleptic malignant syndrome if any two of the four cardinal clinical features, mental status change, rigidity, fever, or dysautonomia, appear in the setting of neuroleptic use.

DISCUSSION: Neuroleptic malignant syndrome (NMS) is a life threatening neurologic emergency associated with the use of neuroleptic agents and characterized by a distinct clinical syndrome of mental status change, rigidity, fever, and dysautonomia. Changes in either mental status or rigidity could be initial symptoms of NMS and are still more likely to be reversible before hyperthermia and autonomic dysfunction [1]. One study reported that in an analysis of 340 cases, 70% of patients followed a typical course of mental status changes appearing first, followed by rigidity, then hyperthermia, and finally autonomic dysregulation. Some case reports demonstrated the absence of fever for more than 24 hours, leading to initial diagnostic confusion [2]. Important considerations in the differential diagnosis include meningitis, encephalitis, systemic infections, heat stroke, and malignant hyperthermia. Diagnostic testing includes tests to rule out the above conditions and laboratory evaluation of metabolic sequelae of NMS, especially elevated plasma creatinine kinase. Anticholinergic drugs can reverse the muscular rigidity and altered mental status side effects of antipsychotic drugs. [1] Velamoo, VT, Norma, RM, Caroff, SN, et al. Progression of symptoms in neuroleptic malignant syndrome. J Neurol Ment Dis 1994; 182:168. [2] Levenson, JL. Neuroleptic malignant syndrome. J Neurol Ment Dis 1994; 182:168. [3] RM, Caroff, SN, et al. Progression of symptoms in neuroleptic malignant syndrome. J Neurol Ment Dis 1994; 182:168. [4] Levenson, JL. Neuroleptic malignant syndrome. J Neurol Ment Dis 1994; 182:168.

AMIODARONE ASSOCIATED ACUTE RESPIRATORY DISTRESS SYNDROME FOLLOWING NON-CARDIO THORACIC SURGERY. U. Valayapathy1. University of Tennessee, Chattanooga, TN. (Tracking ID: 150334)

LEARNING OBJECTIVES: 1. Consider Amiodarone toxicity in the differential diagnosis of post operative acute respiratory distress syndrome (ARDS). 2. Review the spectrum of Amiodarone associated pulmonary toxicity.

CASE: A 66 year old female with a history of stage III C primary peritoneal carcinoma who had undergone exploratory laparotomy, bilateral salpingopherectomy, resection of omental and mesenteric fat, and omentectomy 5 years ago, presented with elevated CA-125 on a routine follow up. Subsequent CT scan revealed recurrence of the carcinoma. She also had a history of atrial fibrillation which was rhythm controlled on 200 mg of Amiodarone one day. She had hypothyroidism and she was on her thyroxin. Her chest X-ray at presentation was clear. She underwent an exploratory laparotomy with no evidence of disease. She was discharged from hospital on 50% alveolar cells and macrophages and cytoplasmic vacuolation. Transbronchial biopsy revealed organizing pneumonitis with foamy macrophages consistent with Amiodarone effect. The patient was treated with steroids in addition to respiratory support and cessation of Amiodarone. Her condition continued to deteriorate and the family elected to withhold resuscitative measures. She expired secondary to respiratory failure.

DISCUSSION: Amiodarone pulmonary toxicity has been described mostly in patients receiving large doses of the drug over prolonged periods. In the perioperative setting, Amiodarone induced pulmonary toxicity is usually seen with surgical patients who have received high doses of Amiodarone for arrhythmias over prolonged periods. In this report, we describe the onset of rapidly progressive pulmonary toxicity leading to ARDS following noncardiothoracic surgery. Gallium scan indicated an intense inflammation in the lungs consistent with pneumonitis. BAL and bronchoscopy findings were consistent with Amiodarone associated pneumonitis. Our literature review did not reveal any reported case of Amiodarone associated ARDS in a non cardiothoracic setting. Though the development of ARDS in this patient can be multifactorial, it emphasizes that Amiodarone should be avoided or used judiciously in patients undergoing any type of surgery after careful consideration of the risk benefit analysis.

AMYLOID ANGIOPATHY RESULTING IN RETROPERITONEAL HEMATOMA AS THE PRESENTING SYMPTOM OF PRIMARY AL AMYLOIDOSIS. A.B. Jeffers1; P. Kandah1; T. Quinn1; K. Saeian1. 1Medical College of Wisconsin, Milwaukee, WI. (Tracking ID: 154070)

LEARNING OBJECTIVES: 1) Recognize spontaneous retroperitoneal hematoma secondary to amyloid angiopathy as an early presentation of amyloidosis. 2) Diagnose amyloidosis based on electrophoresis, immunofixation, free light chain assays, and biopsy.

CASE: 59-year-old man presented with severe epigastric pain, radiating to the umbilicus and associated with nausea and vomiting. He was in mild distress with normal vital signs. Examination revealed a tender but soft abdomen, palpable epigastric fullness, and no organomegaly or bruises. US and CT revealed a mass suspicious for pancreatic neoplasm, while MRI showed it to be consistent with a retroperitoneal hematoma superimposed on a pancreatic mass. EGD revealed diffuse gastritis, and a visceral arteriogram showed no aneurysm. He had a reduced hematocrit, elevated lipase and INR, and normal AST/ALT, BUN, Cr, and vWF panel. He was discharged as an outpatient follow-up. Six months later, he presented with ascites and leg edema. CT revealed the hematoma to be contracting, but now visible were splenomegaly, esophageal varices, and umbilical vein recanalization. Hepatic and portal veins were patent. US showed diffusely decreased liver attenuation. The patient was then referred to our center, where laboratory evaluation revealed hypercalcemia, nephrotic range proteinuria, elevated alkaline phosphatase, and mildly elevated AST. Arterial blood gas showed respiratory acidosis with a pH of 7.36, PaCO2 of 50 mmHg, and an arterial base deficit of 4.6 mmol/L. The patient was transferred to the ICU for further evaluation. His medications were Indinavir, Efavirenz, Oxandrolone, Risperidone and Dexamethasone. He was admitted to the ICU for respiratory distress secondary to hypoxia. He was transferred to the floor on the third day of admission, the nurse noticed that he was not following verbal commands and notified the MD. On examination, the patient was lying supine on bed; head turned to right, with eyes deviated upwards to the right. He was not responding to verbal or painful stimuli. Lead pipe rigidity was noted in bilateral lower extremities. His fists were clenched. His jaw was clenched. Plantar reflex was flexor bilateral. 6 hours later, he extended his tongue out of his mouth for about 10 minutes. His vitals were essentially normal. Stat CT of the brain with contrast revealed normocellular marrow with 5% monotypic plasma cells expressing kappa light chains. The patient was discharged from hospital on 50% alveolar cells and macrophages with cytoplasmic vacuolation. Transbronchial biopsy revealed organizing pneumonitis with foamy macrophages consistent with Amiodarone effect. The patient was treated with steroids in addition to respiratory support and cessation of Amiodarone. Her condition continued to deteriorate and the family elected to withhold resuscitative measures. She expired secondary to respiratory failure.

DISCUSSION: Amiodarone pulmonary toxicity has been described mostly in patients receiving large doses of the drug over prolonged periods. In the perioperative setting, Amiodarone induced pulmonary toxicity is usually seen with surgical patients who have received high doses of Amiodarone for arrhythmias over prolonged periods. In this report, we describe the onset of rapidly progressive pulmonary toxicity leading to ARDS following noncardiothoracic surgery. Gallium scan indicated an intense inflammation in the lungs consistent with pneumonitis. BAL and bronchoscopy findings were consistent with Amiodarone associated pneumonitis. Our literature review did not reveal any reported case of Amiodarone associated ARDS in a non cardiothoracic setting. Though the development of ARDS in this patient can be multifactorial, it emphasizes that Amiodarone should be avoided or used judiciously in patients undergoing any type of surgery after careful consideration of the risk benefit analysis.
spread to his entire body. He also noted hematuria of 2 weeks duration, hematochezia, constipation, subjective fevers, fatigue and a sudden onset of right arm numbness. At the onset of the rash, the patient had developed a sore throat and was treated with amoxicillin/clavulanate. Physical examination was significant for a diffuse petechial rash with no other abnormalities noted. Initial laboratory studies included a platelet count of 9,000, hemoglobin and hematocrit of 8.9 and 25.9, respectively, an LDH of 4894 (normal upper range is 600), creatinine 1.4 mg/dL (90% of a 125/65 mmHg), and WBC count of 12.2 and 1.8, respectively, and the patient was started on prednisone. The patient was diagnosed with TTP, as he had fulfilled the entire pentad. The underlying etiology of TTP has been proposed to be from the accumulation of unusually large von Willebrand factor multimers through plasma exchange. 

An Ancient Disease in a New Era: A Forgotten Case of Tetanus

AN ANCIENT DISEASE IN A NEW ERA: A FORGOTTEN CASE OF TETANUS

Kasher1; S. Basiratmand1.

1John H Stroger Jr. Hospital, Chicago, IL.

Learning Objectives: 1. Recognize the variable presentation of tetanus with a mixture of lymphocytes) as seen with our case have been reported previously in this condition.

An Atypical Presentation of Polymyositis

AN ATYPICAL PRESENTATION OF POLYMYOSITIS

Domsky1; Z. Szepl.

1Temple University, Philadelphia, PA.

Learning Objectives: 1. Recognize the variable presentation of polymyositis. 2. Review the diagnosis and management of polymyositis.

Case: A 54 year old roofer presented with total body stiffness 3 days after puncturing his arm on the roof. Even though immunized as a kid, he reportedly hasn’t been “eradicated”, and should not be forgotten. There has been a dramatic decrease in the incidence of tetanus in the U.S. due to a successful vaccination program. The spores of bacterium Clostridium tetani continue be present in the soil and will germinate under the right conditions. Upon spore germination, these gram positive bacteria produce the neurotoxin tetanosasmin. Tetanosasmin blocks the action of inhibitory neurons causing uncontrolled muscle spasm, autonomic instability leading to tetanus. In generalized tetanus, there is total body spasm including spasm of facial muscles causing closure of the eyes producing the grimace known as “trismus sardonicus” (sardonic smile). The diagnosis of tetanus is a clinical one and its treatment involves administration of human immunoglobulin and tetanus toxoid. Treatment of tetanus is considered the antibiotic of choice and seems to have comparable or better efficacy than penicillin for treatment of tetanus. However, prevention is the best management strategy for this disease which causes mortality of up to 50%. Immunity against tetanus wanes over time and a booster is recommended every 10 years for every adult unless there is a history of allergic reaction. It remains the responsibility of all physicians to not forget about this deadly disease, and to recognize and report tetanus. In our case, this patient was lost to follow up doses every 10 years as part of routine health maintenance to all their patients.

An Atypical Presentation of Neutrophilic Eczematous Hidradenitis

AN ATYPICAL PRESENTATION OF NEUTROPHILIC ECZEMATOUS HIDRADENITIS

Y.S. Guerra1; 1John H Stroger Jr Hospital, Chicago, IL. (Tracking ID: 154916)

Learning Objectives: 1. Recognize the clinical features and histological criteria of neutrophilic eczematous hidradenitis. 2-Recall the association of neutrophilic eczematous hidradenitis with malignancy 3-Distinguish between neutrophilic eczematous hidradenitis and Sweet’s syndrome.

Case: 51 years old female patient was admitted due to multiple skin nodules and edema, 1 week after being admitted to an emergency department with having multiple red looking skin nodules predominantly on the extremities and neck. Patient indicated that some of the lesions appeared on bruised areas from a fall two days prior. She also reported subjective fevers. Past medical history is significant for hypertension and type 2 diabetes 3-5 years. On physical exam she was diagnosed with acute myeloblastic leukemia (AML-M1). She has no allergies, smoking or alcohol use. On physical exam she had temperature of 102.3, blood pressure of 125/65 mmHg, heart rate of 122, and regular rhythm. Her skin nodules and plaques, ranging from 0.5 cm up to 4.5 cm, were distributed proximally in upper and lower extremities, neck and upper thorax, one lesion over her left periorbital area. Pathergy on skin incisions was noted to be present. There was no lymphadenopathy. Cardiopulmonary, abdominal and neurologic exam were essentially normal. Her complete blood count showed white count of 13,200/µl (differential of 3% of neutrophils, 7% of lymphocytes, 4% of monocytes and 86% of blasts), a hemoglobin of 9.8 g/dL, and a platelet count of 65,000/µl. A basic metabolic profile showed hyperglycemia of 284 mg/dL. Two sets of blood cultures drawn on admission were negative after 5 days. Chest X ray showed no active disease. Skin biopsy obtained showed superficial and deep perivascular, and perineural mixed cell collection of neutrophils and lymphocytes which is consistent with neutrophilic eczematous hidradenitis.

Discussion: This case features an atypical presentation of neutrophilic eczematous hidradenitis. This disease is part of the neutrophilic dermatoses, a group of idiopathic neutrophilic disorders. It is strongly associated with malignancies (90% of cases), especially hematological ones, AML being the most frequent, with 64% of the cases. 84% of the 51 cases reported in a recent review were receiving chemotherapy or immunotherapy. Despite its name, the neutrophils are not the dominant cells in AML, but rather, the neutrophils are considered to be reactive. The presence of neutrophils and lymphocytes which is consistent with neutrophilic eccrine hidradenitis with malignancy. 3. Distinguish between neutrophilic eccrine hidradenitis with malignancy 3-Distinguish between neutrophilic eccrine hidradenitis and Sweet’s syndrome.

AtRisk2; S. Basiratmand1.

1John H Stroger Jr. Hospital, Chicago, IL. (Tracking ID: 154859)

Learning Objectives: 1. To recognize the continuing presence of tetanus as a serious, deadly disease. 2. To emphasize the importance of routine tetanus immunization booster in tetanus prevention.

Case: A 54 year old roofer presented with total body stiffness 3 days after puncturing his arm on the roof. Even though immunized as a kid, he reportedly hasn’t been “eradicated”, and should not be forgotten. There has been a dramatic decrease in the incidence of tetanus in the U.S. due to a successful vaccination program. The spores of bacterium Clostridium tetani continue be present in the soil and will germinate under the right conditions. Upon spore germination, these gram positive bacteria produce the neurotoxin tetanosasmin. Tetanosasmin blocks the action of inhibitory neurons causing uncontrolled muscle spasm, autonomic instability leading to tetanus. In generalized tetanus, there is total body spasm including spasm of facial muscles causing closure of the eyes producing the grimace known as “trismus sardonicus” (sardonic smile). The diagnosis of tetanus is a clinical one and its treatment involves administration of human immunoglobulin and tetanus toxoid. Treatment of tetanus is considered the antibiotic of choice and seems to have comparable or better efficacy than penicillin for treatment of tetanus. However, prevention is the best management strategy for this disease which causes mortality of up to 50%. Immunity against tetanus wanes over time and a booster is recommended every 10 years for every adult unless there is a history of allergic reaction. It remains the responsibility of all physicians to not forget about this deadly disease, and to recognize and report tetanus. In our case, this patient was lost to follow up doses every 10 years as part of routine health maintenance to all their patients.
LEARNING OBJECTIVES: 1. Discuss the common causes of liver abscess. 2. Recognize Klebsiella liver abscess as a distinct entity and its association with diabetic mellitus. 3. Recognize the usefulness of CT scan in diagnosing liver abscess. CASE: A 73-year-old Filipino female with Type 2 diabetes, immunized to US 2 years ago and presented with fever for one day, weakness & fatigue for 3 months. The patient had undergone LP due to a left inguinal hernia containing portions of both large and small bowel. A bone marrow biopsy showed infiltrated mature lymphocytes with a high index of suspicion of K. pneumoniae haemolytic hepatitis in their diabetic patients with fever and elevated liver enzymes since often, no localizing signs are present. Our patient showed an absence of CD2 expression on the atypical mast cells. This finding is often associated with the presence of a nonmast cell hematologic clonal disorder. There is no curative treatment for systemic disease. Treatment is aimed primarily at symptomatic relief and chemical debulking in cases of severe disease.

AN UNUSUAL CASE OF LYMPHADENOPATHY 1. Castellani’s disease should be considered in the differential diagnosis in HIV+ patients with generalized lymphadenopathy. 2. Lymph node biopsy should be considered in HIV+ patients with generalized lymphadenopathy. 3. Treatment of Castellani’s disease includes antiviral therapy with ganciclovir.

CASE: A 42 year old HIV+ patient presented with a 2 month history of fever, night sweats, and fatigue. He denied cough, dyspnea, chest pain, or skin rash. He was diagnosed to be HIV+ a year after when referred to his physician with excessive weight loss, and has been on HAART since. His most recent CD4 count was 680/cm³. On examination he was found emaciated. He had cervical, axillary, and inguinal lymphadenopathy. He also had hepatosplenomegaly. Laboratory workup revealed anemia (Hb 7.5 g/dl), elevated liver enzymes (AST 150 U/L, ALT 77 U/L), and B12 deficiency. Work-up for CD4 T cell count, viral load, and the results were within normal limits. Cytological studies and virology studies failed to reveal lymphoma. Given the constellation of clinical findings and the biopsy Castellani’s disease was diagnosed. Bilateral percutaneous nephrostomies were performed to relieve the obstruction, and the patient was managed with ganciclovir. The diagnosis of Castellani’s disease is a benign, non-clonal disease of the lymph nodes. There is a follicular hyperplasia of lymph nodes with abnormally increased interfollicular vascularity. Castellani’s disease can be classified as unicentric or multicentric, based on clinical and radiological findings. Unicentric Castellani’s Disease is usually a slow growing solitary mass typically located in the mediastinum or mesentry. There are no constitutional symptoms. In 90-95% cases surveillance ultrasound of the lymph nodes is performed. The prognosis is excellent with a 5yr survival of close to 100%. In multicentric Castellani’s Disease there is usually widespread lymphadenopathy with in some instances hepatosplenomegaly. Systemic symptoms including severe fatigue, night sweats, fever are typically present. These symptoms are typically driven by overproduction of interleukin 6. Multicentric Castellani’s Disease runs a more aggressive course and can progress to non-Hodgkin’s lymphoma. HIV+ patients with Multicentric Castellani’s Disease have more frequent plasmacytic disease and the clinical course is less favorable. Multicentric Castellani’s Disease often requires systemic chemotherapy and the antiviral ganciclovir in HIV+ disease, combination chemotherapy (e.g. CHOP). Other therapies include anti-IL6 therapy. The diagnosis of CD is based upon a thorough clinical evaluation which includes a detailed patient history, laboratory studies, including IL6 and ESR. CRP, histopathology of affected lymph nodes and a variety of imaging techniques (CT scan, MRI and more recently PET-scanning).
plasty of the right shoulder and completed physical therapy. The patient is now doing well with resolution of pain and significantly improved range of motion in her right shoulder.

DISCUSSION: Shoulder pain is a common complaint in primary care clinics. The majority of cases can be explained by degenerative joint disease, rotator cuff injury, or other musculoskeletal strain or sprain. However, when there is a history of steroid use, clinicians should always consider AVN in the differential diagnosis. Radiation AVN develops when there is a decrease in blood flow to the area of bone. It is much more common in the femoral head than the humeral head. It is thought that corticosteroids cause microscopic fat emboli to lodge in the endosteal bone thereby causing decreased blood flow to bone, and necrosis. Studies have shown that the risk of AVN increases with the cumulative oral corticosteroid dose rather than the daily dose. Other risk factors for AVN seen commonly in the primary care setting include smoking, hyperlipidemia, and gout. Sickle cell disease, HIV, chronic renal failure, and systemic lupus erythematosus also pose significant risk. Current treatment options for AVN include conservative management, consisting of physical therapy and anti-inflammatory medications, or surgery. Many patients respond well to conservative therapy and this should be the first-line treatment.

LEARNING OBJECTIVES: Recognize unusual presentations of Group B beta-hemolytic Streptococcus infection in adults. Identify risk factors for vertebral osteomyelitis due to Group B Streptococcus. CASE: A 39-year-old African-American gentleman with no significant past medical history initially presented to an outside hospital with an 8-day history of right hand weakness and pain in his left shoulder, scapula and both arms. The patient also had difficulty writing and performing other daily activities with his right hand. He had no recent fevers, headache, dizziness, vision changes, weakness in the lower extremities or IV drug use. The patient was afibrile and hemodynamically stable on admission but had decreased motor strength and mild sensory deficits in his right arm. No tenderness was appreciated over the cervical spine. IV corticosteroids were started on admission to empirically treat spinal cord inflammation related to his previously identified prevertebral mass. Subsequent workup included neck MRI which showed extensive abnormal enhancement of the C7-T1 vertebral bodies as well as the prevertebral and epidural space. Abnormal enhancement extended into the neural foramina bilaterally at C7-T1 and on the right at T1-T2. EMG was consistent with C8-T8 acute radiculopathy, and WBC scan, echocardiogram and blood cultures were negative. Open surgical biopsy of the prevertebral mass showed mixed acute and chronic inflammatory changes consistent with osteomyelitis. Culture of the biopsy specimen grew Group B beta-hemolytic Streptococcus. Fungal culture and stains for acid-fast bacilli were negative. The patient received 47-day course of iv clindamycin mostly given during hospitalization and he was discharged on day 42 on oral clindamycin. His history included a 24-year-old son who was also diagnosed with vertebral osteomyelitis and underwent a similar course of antibiotics. The patient was discharged home on day 42.

DISCUSSION: Group B beta-hemolytic Streptococcus is a major cause of sepsis and meningitis in neonates and pregnant females. However, the incidence of Group B streptococcal disease in nonpregnant adults without predisposing risk factors is exceedingly rare. In most cases of vertebral osteomyelitis, the bacteria gain access to the vertebral bodies through hematogenous spread. Other causes of vertebral osteomyelitis include direct extension of infection from contiguous structures or traumatic implantation of bacteria during spinal surgery. In many cases the causative organisms are difficult to isolate and the infection may be polymicrobial in origin. In cases where the source of infection is unknown but significant quantity of the gas after an equipment malfunction. He presented with complaints of fatigue, hematuria, and mild abdominal pain. Physical examination revealed significant jaundice. Initial laboratory results showed a hemoglobin level of 1.14. and a creatinine level of 1.0. Total bilirubin level was elevated at 10.3. Additional labs were consistent with a hemolytic anemia. The patient was started on IV fluid hydration with sodium bicarbonate for urine alkalinization and had hemoglobin and creatinine levels monitored. He noted the onset of a headache on day two of admission, which resolved. Hemoglobin and creatinine levels remained stable. Bilirubin levels also improved. The patient was discharged on day 11.

DISCUSSION: Arsenic is a colorless and odorless gas that is a derivative of arsenic, and arsenic toxicity is a rarely reported event. Most arsenic exposures occur occupationally in the electronics (semiconductor) and metal refining industries. Acute exposure includes inhalation of the gas, ingestion, and dermal absorption. The most common clinical manifestations of acute arsenic exposure are upper respiratory tract irritation, nausea, vomiting, abdominal pain, and jaundice. Almost all reports of persons exposed to arsenic gas are secondary to occupational exposure. The most common route of toxicity is inhalation. Renal and hematologic manifestations are the most concerning effects of arsenic toxicity. Arsenic also effects the cardiovascular, pulmonary, and nervous systems. Exposure to the gas causes instability of the red blood cell membrane, leading to massive hemolysis and anemia. The major cause of renal toxicity is secondary to heme pigment nephropathy, which can progress to acute renal failure. Important other clinical manifestations are dyspnea, muscle weakness and headache. The treatment of patients exposed to arsenic in support. To date, studies have not shown any benefit to the use of chelating agents such as British antilewisite (BAL). The cornerstone of treatment involves aggressive IV fluid hydration and urine alkalinization to prevent heme pigment induced nephropathy. Nephrology consultation early in the course of management is suggested. Severe hemolysis from acute arsenic toxicity may require exchange transfusion. Prognosis varies in relation to the length and intensity of exposure, as well as the presence of underlying premorbid conditions. The most recent data from the study found a survival rate for patients who develop renal failure after arsenic exposure. Arsenic has also been identified as a possible chemical warfare agent, as it was briefly evaluated for this purpose during World War I. Recent concerns are centered on the potential for small scale terrorist attacks. An important clue is the reported garlic odor that is present in many cases of arsenic and arsenic exposure. Although unlikely, the presentation of multiple patients seeking medical care with findings suggestive of arsenic exposure should raise the suspicion of a potential chemical agent attack.
The patient described the abdominal pain as dull aching with intermittent sharp stabbing pain lasting a few minutes at a time. The patient denied fever, nausea, vomiting or other gastrointestinal symptoms. She denied ETOH use, tattoos and blood transfusions. She had presented to several other urgent care facilities in the past with similar complaints but denied nausea, vomiting or other gastrointestinal symptoms. She denied ETOH use, tobacco use and any other illicit drug use.

CASE: A 38 yo Caucasian woman presents to urgent care clinic complaining of progressive abdominal distention and diffuse abdominal pain for five months. The patient described the abdominal pain as dull aching with intermittent sharp stabbing pain lasting a few minutes at a time. The patient denied fever, nausea, vomiting or other gastrointestinal symptoms. She denied ETOH use, tattoos and blood transfusions. She had presented to several other urgent care facilities in the past with similar complaints but denied nausea, vomiting or other gastrointestinal symptoms. She denied ETOH use, tobacco use and any other illicit drug use.

ASSUAGING THE UNEXPLAINABLE K.M. Stoner1 1Medical College of Wisconsin, Milwaukee, WI.

LEARNING OBJECTIVES: 1. Recognize the typical features and recall the Diagnostic and Statistical Manual of Mental Disorders IV (DSM-IV) criteria used to diagnose somatoform disorders. 2. Describe the incidence-based, cost effective management strategy for patients with somatoform disorders that reduces the risk of iatrogenic harm, improves functioning and alleviates symptoms.

CASE: 31 y/o female presented to the ER with 2 days of fevers and 4 years of nausea and vomiting. The nausea and vomiting had started during pregnancy, never resolved and worsened with onset of fevers. She denied medication use. ROS was diffusely positive. Exam was normal other than temperature of 103F.

JGIM ABSTRACTS

ATRIAL MYXOMA PRESENTING WITH CHF Z.K. Siddiqui1, M. Kochar1, M. Cunnane1
1University of Pittsburgh, Pittsburgh, PA. (Tracking ID: 76359)

LEARNING OBJECTIVES: 1. To recognize CHF as a presenting symptom of atrial myxoma and to recognize that atrial myxoma can mimic a variety of other disorders. 2. To describe uses and limitation of common imaging modalities in diagnosis of atrial myxoma. 3. To recognize the urgency required in management of atrial myxoma.

CASE: Ms. D.M. is a 74 year old female with HTN, breast cancer and DVT who presented to her PCP with 3 weeks of non-productive cough, dyspnea and new-onset CHF.

The patient underwent echocardiography and cardiac catheterization, which revealed hemodynamics consistent with constrictive pericarditis as well as a small right VSD.

DISCUSSION: The patient’s ascites, abdominal distension and pain were the result of systemic venous congestion and splanchic engorgement from constrictive pericarditis. Patients presenting with right-sided heart failure are frequently evaluated for primary liver disease before constrictive pericarditis is diagnosed. Constrictive pericarditis is characterized by restrictive ventricular filling due to a calcified pericardium and can be caused by prior cardiac surgery, collagen vascular disease, pericardial infarction, tuberculosis or may be idiopathic. The main presenting clinical features include dyspnea, marked systemic venous congestion with hepatomegaly and ascites, and peripheral edema. The patient’s symptoms were suggestive of constrictive pericarditis.

Physical exam revealed no JVD or pedal edema; cardiac exam revealed no S3 or S4. Laboratory tests including CBC, chemistries, hepatic enzymes and hepatitis panel were all within normal limits. EKG revealed sinus bradycardia with occasional PAC’s. The patient underwent echocardiography and cardiac catheterization, which revealed hemodynamics consistent with constrictive pericarditis as well as a small right VSD.

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atrial thrombus, no data is available about risk of embolization over a given time period. Distal emboli require surgical removal. Prognosis is good, though recurrence rates rarely occur.

**Atrial Septal Aneurysm Causing Recurrent Stroke—A Long Way to Go**

R. Jinda1; B. Simgi1; B. Arca1; H. J. Friedman2. 1University of Massachusetts Medical School (Worcester), Worcester, MA. 2St. Francis Hospital, Evanston, IL, Evanston, IL. (Tracking ID #: 154795)

**LEARNING OBJECTIVES:** 1. To recognize the importance of atrial septal aneurysm with patent foramen ovale as a significant cause of recurrent stroke. 2. To recognize the importance of performing Transesophageal echocardiogram in patients presenting with recurrent stroke. 3. To recognize the importance of enrolling stroke patients with PFO with ASA in clinical trials to assess efficacy of secondary prevention.

**CASE:** 50-year-old female was admitted through Emergency room with the complaint of headache. She admitted to having an episode of left sided numbness 5 days prior to admission, which lasted 2 hrs and resolved spontaneously. Her past medical history is significant for hypertension and hypothyroidism; both well controlled with medications. Physical examination was essentially normal with no focal neurological deficit. Initial routine labs were normal. CT scan of the head showed a 1.5 cm hyper density in right parietal lobe consistent with acute ischemic stroke. Transesophageal echocardiogram, carotid doppler, EEG, venous doppler of lower extremities and coagulation studies were done and were normal. Transesophageal echocardiogram with saline bubble study was done to evaluate the cause of stroke and was negative for intracardiac masses. Atrial septum with atrial septal defect and patent foramen ovale. Patient was anticoagulated and referred to cardiothoracic surgeon for possible surgical intervention.

**DISCUSSION:** Cryptogenic stroke, which constitute 30–40% of all strokes, is defined as stroke with no identifiable cardioembolic or large vessel source, and in a distribution that is not consistent with small vessel disease. The combination of PFO and ASA, which is seen in 14–18% of stroke patients confers an increased risk for subsequent stroke (but not death) compared with other cryptogenic stroke patients without atrial abnormalities. Thus PFO with ASA constitute a significant potential modifiable risk factor for secondary stroke prevention. Role of PFO alone in causation of stroke is controversial. Transesophageal echocardiography (TEE) is the most sensitive test in detecting PFO with ASA and is the diagnostic modality of choice. Treatment options for PFO with ASA including either medical therapy (Aspirin or Warfarin) or surgical closure percutaneous closure. The optimal therapy of patients with PFO and ASA who have had a cerebrovascular event is not well defined because definitive controlled trials to address this issue do not exist. There is short insufficient evidence to evaluate the efficacy of surgical or percutaneous closure compared with medical therapy. Therefore, all patients with cryptogenic stroke (especially patients younger than 55 years of age) should undergo TEE for possible PFO with ASA and if positive should be enrolled in a clinical trial to assess efficacy of various treatment options for secondary prevention of stroke.

**AUTOIMMUNE PANCREATITIS MIMICKING A PANCREATIC NEOPLASM**

E. Tsai1; W. Wasserfall1. 1University of Massachusetts Medical School (Worcester), Worcester, MA. (Tracking ID #: 156099)

**LEARNING OBJECTIVES:** Recognize the clinical and diagnostic features of autoimmune pancreatitis

**CASE:** A 62-year-old woman with a seven month history of abdominal discomfort, steatorrhea, and newly diagnosed diabetes presented to the hospital with a ten year history of recurrent attacks of acute epigastric pain and jaundice. The patient did not have any risk factors for pancreatitis; she did not consume alcohol; serum calcium and triglyceride levels were normal. She tested negative for the cystic fibrosis transmembrane conductance regulator (CFTR) mutation. Serum hepatic function tests were elevated in a pattern consistent with obstructive cholestasis (total bilirubin 7.1; alkaline phosphatase 1494; AST 119; ALT 140); amylase and lipase levels were normal. Abdominal CT scan revealed a bulky, enlarged pancreas with a heterogeneous mass in the pancreatic head associated with intrahepatic biliary ductal dilatation. EUS was non-diagnostic. Due to the high suspicion for pancreatic malignancy, the patient was referred for a pancreaticojunostomy. At surgery, dense inflammation and sclerosis of the pancreas and extrahepatic biliary tree were found. Biopsy revealed a marked fibrosis and a lymphoplasmacytic inflammation involving the entire gland, consistent with autoimmune pancreatitis. Immunohistochemistry demonstrated IgG4-positive cells. Oral prednisone therapy was started at 40 mg daily. Within two weeks of the initiation of steroids, the patient had symptomatic relief and liver function tests were normalizing.

**DISCUSSION:** Autoimmune pancreatitis (AIP) has been described as being most prominent in Japan, but this disease entity is gradually being recognized worldwide as a potential etiology of chronic pancreatitis in patients without risk factors or a hereditary predisposition. Clinical features include recurrent attacks of acute pancreatitis, abdominal pain, jaundice, weight loss or new-onset diabetes. On radiologic imaging, a diffusely enlarged “sausage-shaped” pancreas is commonly seen with irregular structuring of the pancreatic and occasionally the biliary duct. ERCP findings may vary depending on the main pancreatic duct and the distal common bile duct, which may raise suspicion for a pancreatic head mass or tumor. Since clinical and radiographic findings alone may not be sufficient to distinguish AIP from pancreatic cancer, definitive diagnosis often requires tissue biopsy. Histologically, AIP is characterized by an infiltration of lymphoplasmacytic plasma cells and fibrosis in the pancreas. Since these plasma cells may bear immunoglobulin G4, the serum IgG4 level may be elevated. However, in a large fraction of cases, the IgG4 level is normal, contributing to the difficult diagnosis. AIP may be associated with other autoimmune disorders such as rheumatoid arthritis or Sjogren’s syndrome; therefore, the antibodies may be present. The mainstay of therapy is corticosteroids. Oral prednisone at 20 to 40 mg/day offers symptom abatement and structure improvement, which may parallel a decline in serum immunoglobulin (total and class 4 IgG) level and liver chemistries. AIP should be considered in the differential of pancreatic exocrine disease; this may identify patients who may benefit from corticosteroids without subjecting them to extensive pancreas surgery.

**BE STILL MY HEART! A SHOCKING DIAGNOSIS IN A 54 YEAR OLD MAN WITH NON-ISCHEMIC CARDIAC ARREST**

M. Cohen1; C. J. Dine1; A. Barden-Maja1. 1University of Pennsylvania, Philadelphia, PA. (Tracking ID #: 153365)

**LEARNING OBJECTIVES:** 1. Generate an appropriate differential diagnosis for non-ischemic causes of ventricular fibrillation. 2. Recognize Type I Brugada syndrome and understand the appropriate therapeutic options as well as the implications of the diagnosis.

**CASE:** A 54 year old Caucasian man with schizophrenia, bipolar affective disorder, and dyslipidemia was observed by a bystander in a movie theater to suddenly collapse. CPR was initiated by a physicist in the theater prior to the arrival of the paramedic team. The patient was noted to be pulseless at the onset of CPR and further, by the paramedics, to be in ventricular fibrillation. This rhythm resolved to normal sinus rhythm with three consecutive unsuccessful attempts at automated external defibrillator. After transport to the hospital and stabilization, initial ECG was read as normal sinus rhythm with a right bundle branch block (RBBB). The patient had a peak CK of 3724 U/L and a peak troponin of 0.8 mcg/L. Cardiogram and transesophageal echocardiogram were normal for acute coronary syndrome or structural heart disease. Additional historical review reported a report of two previous syncopal episodes of unknown origin. Medications were olanzapine and clozapine. There was no history of sudden cardiac deaths caused by ventricular fibrillation or heart disease. The patient was transferred to our institution for implantation of an automated implantable cardioverter-defibrillator. Further review of the ECG revealed a pattern consistent with Type I Brugada syndrome. The patient remained asymptomatic during his hospital stay, and an AICD was implanted prior to discharge. The patient planned to have his family members screened for Brugada syndrome.

**DISCUSSION**

Recent published results from a large study (the ROCKET AF trial) of patients presenting with cryptogenic stroke. 3. To recognize the importance of performing Transesophageal echocardiogram in patients presenting with cryptogenic stroke. 4. To recognize importance of performing Transesophageal echocardiogram in patients presenting with cryptogenic stroke. 5. To recognize the importance of performing Transesophageal echocardiogram in patients presenting with cryptogenic stroke. 6. To recognize the importance of performing Transesophageal echocardiogram in patients presenting with cryptogenic stroke.

**LEARNING OBJECTIVES:** 1. To recognize the importance of atrial septal aneurysm with patent foramen ovale as a significant cause of recurrent stroke. 2. To recognize the importance of performing Transesophageal echocardiogram in patients presenting with recurrent stroke. 3. To recognize the importance of enrolling stroke patients with PFO with ASA in clinical trials to assess efficacy of secondary prevention of stroke.
patients present with extrathoracic manifestations of sarcoidosis. Women are more likely to have neurologic or ocular involvement while men more commonly have abnormalities in calcium homeostasis. Ophthalmologic involvement occurs in 20% of patients and may be the presenting symptom in 5 percent. Ocular involvement can take various forms, including anterior or posterior uveitis, retinal vasculitis, keratoconjunctivitis, or conjunctival follicles. Maculopapular eruptions about the nose, lips, eyelids, or forehead; lupus pernio involving the nose, cheeks, chin, ears, and gingiva involving swelling of the salivary, parotid, or lacrimal glands may all be facial manifestations of disease. Pulmonary disease can be staged based upon chest x-ray findings, though HRCT is usually preferred for the assessment of extent of disease. Ophthalmologic examination, pulmonary function testing, blood testing, EKG, Tb testing, and urinalysis are all other recommended parts of the initial work-up for a patient suspect of having sarcoidosis. In most cases, histologic evidence of noncaseating granulomas should be sought.

BETA BLOCKADE IN ACUTE MYOCARDIAL INFARCTION: MAINSTAY OR MAELstrom? B. Carlson1; M. Walsh1; K. Luce1; K. Perez1; G. Gopalakrishnan1; B. Misra1; C. Smitas1; T. Tupper1; R. Evans1; L. Gerber2.

LEARNING OBJECTIVES: 1) To recognize visceral varicella and its possible association with spinal stenosis and to discuss the diagnostic work-up of suspected sarcoidosis. 2) Recognize the clinical presentation and management of AMI.

CASE: A 48-year-old Somalian male presents to clinic with a two-week history of mid-epigastric pain. He has no chest pain, palpitations, or syncope, and states an exercise tolerance of only two to four flights of stairs. His past medical history is significant for anemia of chronic kidney disease (CKD). Upon presentation, his vital signs reveal mid-epigastric tenderness upon palpation, but is otherwise unremarkable. The patient is treated for presumptive esophageal reflux and instructed to return in two weeks for a two-week therapeutic trial of diet modification and diffuse mid-epigastric tenderness. On exam, he is normotensive but tachycardic with a heart rate of 125 bpm. He has abdominal distension and decreased skin turgor. An EKG is obtained, revealing sinus tachycardia and ST depression in I, II, V4, V5, V6, and Q waves in V1, V2, and V3. His troponin is noted to be elevated to 1.8. He is admitted for a non-ST elevation myocardial infarction. He subsequently receives aspirin, heparin, and nitroglycerin per the Acute Coronary Syndrome protocol and is treated with a high dose of intravenous heparin. Within 48 hours of medication administration, he rapidly decompensates into flash pulmonary edema and cardiogenic shock. His blood pressure is 74/52 and pulse is 99. He is transferred emergently to the cardiac catheterization laboratory for balloon pump catheterization and coronary artery bypass grafting for his left main disease.

DISCUSSION: Beta-blockers are widely recognized as mainstays of AMI management. Current AHA guidelines recommend their administration early in the management of AMI, but also highlight the relative contraindications to their use such as shock, bradycardia, and decompensated CHF. Upon presentation, our patient met the criteria for administration of beta-blockers in AMI. Unfortunately, even a small dose of metoprolol decompensated him quickly as he was dependent on his tachycardia to maintain cardiac output. Beta-blockade inhibited this compensatory mechanism, resulting in cardiogenic shock and clinical instability. One must be cognizant of the ramifications of beta-blocker use in the early phases of AMI and the risks in producing cardiogenic shock, especially in patients with no signs of heart failure (KILLIP Class II). This caution must be balanced with the benefits of beta-blockade in prevention of arrhythmias. In patients with known CHF, the secondary causes of death are not the primary concern. Within the COMMIT/CCS-2 trial highlights this issue. Their study results indicate that intravenous metoprolol in the setting of AMI did not lead to a reduction in in-hospital mortality. Moreover, this intervention increased the risk of cardiogenic shock, especially on days 0-1. Rates of reinfection and ventricular fibrillation, however, were decreased. This data gives strong voice to the argument that beta-blockers may be better suited for patients in the later stages of AMI and as maintenance therapy, although current guidelines still maintain its use in the first few minutes of AMI.

BEWARE WHAT LIES BENEATH A RASH: R. Evans1; L. Gerber2

LEARNING OBJECTIVES: 1) To recognize visceral varicella and its possible association with spinal stenosis and to discuss the diagnostic work-up of suspected sarcoidosis. 2) Recognize the clinical presentation and management of AMI.

CASE: A 52-year-old male presented with colicky epigastric, non-radiating abdominal pain of 5 days duration. He was afebrile, tachycardic (to 140) and orthostatic. His abdominal exam revealed epigastric tenderness without guarding or rebound. His bowel sounds were high-pitched and bowel sounds and gastrointestinal function were normal. His postural hypotension did not respond to fluid resuscitation. A Tzanck smear from these ulcers was positive for multinucleated vesicular lesions. His postural hypotension did not respond to fluid resuscitation.

DISCUSSION: Varicella is a common infection. There were 220,642 new cases in the USA in 1995 leading to an estimated 5000 to 9000 hospital admissions. In 50 cases of varicella is associated with a complication. Its characteristic rash usually diagnoses varicella clinically. It can be diagnosed by viral cultures, the Tzanck smear and by serologic testing. In cases of visceral varicella the risk of serious complications such as pneumonia, encephalitis and death characterize primary varicella in adults. Visceral varicella is extremely rare in patients who do not have a severely compromised immune system. We did not find any previous case reports of visceral varicella in adults who were not known to be immunocompromised. Those adults most at risk of this complication are those with HIV and the elderly. Bone marrow transplants recipients who have emerged as being at extreme risk of varicella infection (30-50% develop infection in first year). They have a higher incidence of visceral varicella. A case series of 10 patients reports that visceral varicella presented with abdominal pain an average of 6 days before the onset of the rash. In vulnerable patients, severe abdominal pain and abnormal liver tests may be the only presenting signs of disseminated varicella. In disseminated varicella, the autonomic system may be affected, resulting in signs such as postural hypotension and persistent tachycardia. The initiation of antivirals such as acyclovir or valacyclovir is recommended for all adults who develop varicella. Treatment with oral acyclovir for 5 to 10 days is sufficient for those who are not severely immunosuppressed. In immunosuppressed patients should receive IV acyclovir. Acyclovir and valacyclovir disrupt viral DNA replication and hence must be initiated within the first 48 hours of onset of the rash.

BIG HANDS, BIG JAW, BAD BACK: AN UNUSUAL PRESENTATION OF PREVIOUSLY UNDIAGNOSED ACROMEGLY. K. Luce1; University of Tennessee, Chattanooga, TN.

LEARNING OBJECTIVES: To explore the differential diagnosis of cauda equina syndrome and its possible association with spinal stenosis and to discuss the diagnostic work-up of suspected sarcoidosis.

CASE: A 60-year-old woman had a several week history of gradual onset lower extremity weakness and worsening chronic back pain. History included several years of pain management for severe spinal stenosis. Initial examination revealed profound right lower extremity weakness, sensory abnormalities consistent with cauda equina syndrome, and poor rectal tone. Magnetic resonance imaging (MRI) revealed interval worsening of her spinal stenosis with areas of disc impingement and nerve impingement. Neurosurgical intervention resulted in significantly improved motor function and resolution of sensory and rectal abnormalities. The neurosurgeons expressed surprise that the severity of the patient's spinal stenosis led to a presentation of cauda equina syndrome, resembling an epidual abscess or vertebral neoplasm. On further examination of the patient, there were subtle physical findings such as prominence of mandible, large hands, a prominence of the sternum, and thick heel pads that were consistent with a possible underlying endocrine abnormality. The suspicion led to a detailed research effort into possible secondary causes of spinal stenosis. Screening showed an increased serum insulin growth factor 1 (IGF-1) level (4.0 ng/dL; reference 1.0 ng/dL normal) and a confirmation glucose suppression test demonstrated a high serum growth hormone (2.6 mg/dL; reference <1.0 mg/dL normal), establishing the diagnosis of acromegaly. Brain imaging revealed an enlarged sella turcica, which could be indicative of a pituitary adenoma. However, the patient reviewed treatment options available and chose a conservative approach with oral cabergoline therapy.

DISCUSSION: When faced with a neurologically debilitating case of spinal stenosis, the consideration of the possibility of the patient, detailed history and physical examination still remain crucial to recognizing important diagnoses. What the mind knows, the eyes see and the hands feel.

BIG HEAD DISEASE. K. Perez1; G. Gopalakrishnan1; B. Mena1; C. Smits1; T. Tupper1

LEARNING OBJECTIVES: Recognize the clinical presentation of Uremic Leontiasis Ossea (ULO) in patients who have developed renal osteodystrophy.

CASE: 40yo female with end stage renal disease (ESRD) on hemodialysis presenting with progressive mid-epigastric pain over 2 days while on dialysis. Her past medical history was significant for ESRD secondary to glomerulonephritis, and her course has been complicated by failed allograft renal transplant and parathyroideectomy. Her exam was significant for absent visual acuity, enlarged cranial nerve II, and brachio-facial spasticity (left more than right). Her ceruloplasmin and copper were normal. Her creatinine 5.6: corrected calcium 7.96: phosphorus 6.1; alkaline phosphatase 96; Vitamin D 1, 25; Vitamin D 25 17; and PTH 13. A head CT was normal except for a slight minute calcification posteriorly. Bowel sounds were hyperactive and sigmoidoscopy in appearance. A lumbar puncture was significant for an elevated opening pressure, otherwise negative for infectious etiology. Patient was treated with high dose steroids and a lumbar drain was placed for presumed pseudotumor cerebri. Despite interventions, there was no improvement of her vision. Considering her presentation and diagnostic work-up, her case met the criteria for administration of beta blockers in AMI. Unfortu-
BILATERAL PULMONARY NODULES IN A HEAVY SMOKER: WHAT WOULD YOU DO?

CASE: A 73-year-old male with a 70 pack year smoking history, presented with exertional dyspnea for several months. Complete review of systems including respiratory, cardiac, musculoskeletal, neurologic, dermatologic and lymphatic systems was unremarkable. This case illustrates the need for prompt recognition of nerve impingement resulting from bone overgrowth as a complication of ESRD.

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CASE: A 73 year old male with a 70 pack year smoking history, presented with exertional dyspnea for several months. Complete review of systems including chest pain, hemoptysis, edema, paroxysmal nocturnal dyspnea, orthopnea, fever, weight loss or night sweats was negative. Physical exam revealed stable vital signs, diminished breath sounds, prolonged expiration without any adventitious sounds. The rest of the exam was unremarkable. Complete blood count, CMP, urinalysis were normal. Echo was unremarkable. This case illustrates the need for prompt recognition of nerve impingement resulting from bone overgrowth as a complication of ESRD.

nodule parenchymal and diffuse parenchymal. Tracheobronchial presents with airway obstruction symptoms. Nodular parenchymal is mostly asymptomatic. Diffuse primary pulmonary amyloidosis usually presents with dyspnea. Giving the few very few cases that had a strong suspicion for infection and malignancy which were ruled out. The lack of effective treatment for PPA renders the prognosis grim. Though PPA is a rare entity, this case emphasizes the value of tissue diagnosis especially in a patient with a high pretest probability for malignancy, and the need for further research on this entity.
glandular breast tissue. Unlike pseudogynecomastia, which is caused by fat deposition without proliferation of glandular tissue, gynecomastia concentrically surrounds the nipples. Physical examination alone can distinguish the two. To include the tissue in question, an examiner should ask the patient to place his hands behind his head. The examiner should then centripetally run an index finger toward each nipple from a perimeter of clearly normal tissue. Gynecomastia is likely if circular ridges of rubbery tissue are centered by each nipple. This condition is common in elderly men and may occur in certain hypogonadal states, always unilateral, asymmetric, and can be associated with regional lymphadenopathy. If the physical examination is equivocal, mammography or ultrasonography can be helpful. Common causes of gynecomastia are: photo, androgens, estrogen, and endocrine neoplasms. Circumcision, testicular torsion, and priapism are among the clinical entities associated with gynecomastia. Circumcision is the most common surgical cause of gynecomastia. The majority of gynecomastia cases are self-limited and resolve within a few years. The duration of gynecomastia varies from a few months to years. The occurrence of gynecomastia is generally transient and usually resolves spontaneously. The etiology of gynecomastia is multifactorial and may include a combination of genetic, hormonal, and environmental factors. "Gynecomastia" is a term used to describe the development of breast tissue in males. It can be caused by a variety of factors, including medications, hormone imbalances, and certain medical conditions. The treatment of gynecomastia depends on the underlying cause and the severity of symptoms. In some cases, no treatment may be necessary as the condition may resolve on its own. In other cases, medications or surgery may be recommended. The natural history of gynecomastia varies, and it is generally self-limited. The condition tends to resolve within a few months to years. If the gynecomastia is persistent or causes discomfort, further evaluation and treatment may be necessary. The risk of breast cancer in men with gynecomastia is generally low, but it is important to continue regular monitoring and screening as recommended for the general population. The prevalence of gynecomastia in men is estimated to be between 10% and 50%, depending on the population studied. It is more common in older men and in men with hormone imbalances or certain medical conditions. Factors that may increase the risk of gynecomastia include: age, obesity, use of certain medications, and hormonal imbalances. The management of gynecomastia should focus on the underlying cause and symptom control. Lifestyle modifications, such as weight loss and avoidance of medications that can contribute to gynecomastia, may be recommended. Treatment options may include: medications, hormonal therapy, or surgery. Stay tuned for the next installment of our ongoing series on the management of common medical conditions.
LEARNING OBJECTIVES: 1. Recognize the presentation of disseminated blasto-
tomyces; 2) Diagnosis and treatment of blastomycoses and 3) Recognize the potential dangers of indiscriminate glucocorticoid use.
CASE: A 57 year-old nonsmoking man with no prior lung disease presented to his primary care physician complaining of cough and an abdominal skin lesion for one week. He denied fever, chills, dyspnea, or weight loss. He was diagnosed with pneumonia and cellulitis and was subsequently prescribed cefazolin and azithromycin. Nine days later, he was admitted to his local hospital complaining of resolution of his symptoms. He was treated again with antibiotics for pneumonia and cellulitis. During outpatient follow-up, prednisone was prescribed for a skin lesion with a suggestive diagnosis of inflammatory bowel disease.

Starting prednisone, the abdominal lesion increased and new lesions were noticed on his right shoulder and back. The patient was transferred secondary to multiple skin lesions. Physical exam revealed a 10 × 10 cm red, tender, mobile lesion over the right shoulder, a 2 × 3 cm RLQ abdominal nodule, and multiple ulcerations on his back. CT of the chest and abdomen showed multiple lung nodules, a gluteal mass and a 2.3 cm left subcutaneous lesion. Biopsy of right shoulder and lung nodule showed broad-based budding yeast. Hiracronazole was started for disseminated blastomycoses. Three days after discharge, he developed unsteady gait. MRI of the head showed a ring enhancing lesion in the right cerebellum. Itraconazole was changed to amphotericin B. Repeat MRI showed increased edema and neurosurgery was consulted for craniotomy. Cultures again showed broad-based budding yeast. Surprisingly, the renal biopsy revealed renal cell carcinoma. Nephrectomy was performed after completing treatment for blastomycoses and renal cell carcinoma (RCC) was resected (Stage 1).

DISCUSSION: This case demonstrates the difficulty in diagnosing fungal infections in patients with a history of disseminated blastomycoses who do not respond to usual treatment, fungal infections should always be considered in the differential. Disseminated blastomycoses most often presents with disseminated skin involvement and would always be considered in a patient with pneumonia and skin lesions. Besides cutaneous and pulmonary involvement, blastomycoses often causes osteomyelitis and prostatitis. Central nervous system (CNS) involvement is unusual unless the patient is immunocompromised. The patient would have developed RCC if he had not been given steroids. This gentleman was fortunate, his RCC may not have been diagnosed at such an early stage if he had not been given prednisone resulting in further dissemination of his blastomycoses. In fact, there may be a link between his RCC and his initial development of disseminated blastomycoses. RCC adversely affects lymphocytes; however, lymphocytes in direct contact with the tumor are more greatly affected than peripheral blood lymphocytes. (1) Also, immunotherapy has been used for years in the treatment of RCC. RCC adversely affects lymphocytes; however, lymphocytes in direct contact with the tumor are more greatly affected than peripheral blood lymphocytes. (1) Also, immunotherapy has been used for years in the treatment of RCC. RCC adversely affects lymphocytes; however, lymphocytes in direct contact with the tumor are more greatly affected than peripheral blood lymphocytes. (1) Also, immunotherapy has been used for years in the treatment of RCC. RCC adversely affects lymphocytes; however, lymphocytes in direct contact with the tumor are more greatly affected than peripheral blood lymphocytes. (1) Also, immunotherapy has been used for years in the treatment of RCC. RCC adversely affects lymphocytes; however, lymphocytes in direct contact with the tumor are more greatly affected than peripheral blood lymphocytes. (1) Also, immunotherapy has been used for years in the treatment of RCC. RCC adversely affects lymphocytes; however, lymphocytes in direct contact with the tumor are more greatly affected than peripheral blood lymphocytes. (1) Also, immunotherapy has been used for years in the treatment of RCC. RCC adversely affects lymphocytes; however, lymphocytes in direct contact with the tumor are more greatly affected than peripheral blood lymphocytes. (1) Also, immunotherapy has been used for years in the treatment of RCC. RCC adversely affects lymphocytes; however, lymphocytes in direct contact with the tumor are more greatly affected than peripheral blood lymphocytes. (1) Also, immunotherapy has been used for years in the treatment of RCC.
She underwent surgical removal of the benign insulinomas and two weeks later was discharged home to tube feedings, seizure free.

DISCUSSION: Insulinomas are rare pancreatic neuroendocrine tumors. Patients usually present with recurrent hypoglycemic attacks including nausea, vomiting, or loss of consciousness. The treatment is surgical removal. Recurrence is common in untreated cases.

LEARNING OBJECTIVES: 1) Recognize the clinical presentations of celiac disease. 2) List the diagnostic tests for celiac disease. 3) Recognize when screening for celiac disease is appropriate.

CASE: A 79 year-old thin woman with a history of ”colitis,” lactose intolerance, deprecation and anxiety, history of 4 years of intermittent nausea, vomiting, decreased oral intake, fatigue, weakness, and a 10–20 pound weight loss. Her emesis and nausea were typically preceded by abdominal bloating and cramplike pain, and they were not related to dietary intake. Upon presentation she was orthostatic and had persistent nausea and vomiting. Her abdominal exam was benign. Electrolytes, CBC, glucose, liver enzymes, bilirubin, amylase, lipase, and a TSH were normal. A recent upper endoscopy and a colonoscopy at an outside hospital were also normal, showing normal mucosa. With a clinical presentation is usually insidious and the diagnosis rare, insulinomas are often initially mis-diagnosed as seizures. In one study, 39% of documented insulinomas were initially wrongly attributed to seizures. The diagnosis is made by demonstrating inappropriately high insulin and C-peptide levels and normal sulfonylurea in the setting of hypoglycemia during a 72-hour fast. C-peptide levels and sulfonylurea levels must be checked to exclude exogenous insulin and oral hypoglycemic administration. The tumors can be localized by multiple radiographic techniques and the surgical treatment is surgical removal. Recurrence is rare and most patients make a full recovery.

CELIAC SPRUE: THE GREAT MASQUERADER. K.E. Bicker1; R. Buranosky1; R. Granier1. 1University of Pittsburgh, Pittsburgh, PA. (Tracking ID # 151186)

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CHARCOT MARIE TOOTH... THE WRONG TRIAD. B. Merevich1; F.H. Rubin1; G. Tabas1. 1University of Pittsburgh, Pittsburgh, PA. (Tracking ID # 151186)

LEARNING OBJECTIVES: 1) Recognize that different disease state may share similar clinical presentations. 2) Outline the presentation of Normal Pressure Hydrocephalus. 3) Recognize the role of lumbar puncture in the treatment of Normal Pressure Hydrocephalus.

CASE: 77 year old white man was hospitalized due to subacute worsening of gait and balance. He had been diagnosed with Charcot Marie Tooth peripheral neuropathy 30 years ago. His symptoms had been consistent to his legs and trunk for 36.8 years. The patient had been on insulin treatment for 30 years and he had been leading an independent life with the aid of bilateral ankle/foot orthotics and a wheeled walker. His past medical history included hypertension, obesity, and coronary artery disease. He was a lifelong diabetic and had been treated with dietary changes and oral hypoglycemic administration. His medications were oxybutynin, quinapril, felodipine and losartan. During the six months prior to his presentation to the hospital he has noticed increasing weakness in his legs, with progressive deterioration in his gait and recurrent falls. He noticed forgetfulness and difficulty concentrating, which he attributed to recent emotional stress. The patient also noticed worsening of his urinary incontinence, which was presumed to be related to his known prostatism. A rehabilitation specialist suggested a motorized scooter to insure safe mobility and function. On admission his BP was 156/74 mmHg, pulse was 76 bpm, and temperature was 36°C. He was wearing a protective undergarment. His attention span and concentration were good. He could not remember any of three objects after five minutes. His cranial nerves were intact. He had striking atrophy of his distal lower extremities. He had pes cavus and hammer toes bilaterally. He had negative Babinzinski reflex on the left. DTR's were present throughout except absent at the ankles. He was unable to maintain a sitting position on the side of his bed, or to stand without assistance. Gait was unsteady, with inability to walk a straight line without toppling laterally. His labs showed broad spectrum of presentation, the question of whom to screen arises. Although there is insufficient data to recommend screening of the general population, the NIH Consensus Statement suggests screening for the following: 1) patients with suggestive gastrointestinal symptoms 2) patients with one or more of the “atypical” signs or symptoms and without other explanations 3) patients with a family history of celiac disease 4) patients with a history of ulcerative colitis or Crohn's disease 5) patients with a history of type 1 diabetes or other autoimmune endocrinopathies; history of Turner’s, Down’s, or William’s syndromes. Because celiac sprue is common and can masquerade as other diseases, we must increase our awareness of this disease and be able to screen for it appropriately.

CHARCOT NEUROARTHROPATHY IN THE MODERN ERA: DISPROVING CERTAIN MISCONCEPTIONS. B. Merevich1; F.H. Rubin1; G. Tabas1. 1University of Pittsburgh, Pittsburgh, PA. (Tracking ID # 151186)

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CHEMOTHERAPY-INDUCED FLARE OF HEPATITIS. B. A. Walsh1. 1Temple University, Philadelphia, PA. (Tracking ID # 156829)

LEARNING OBJECTIVES: Recognize chemotherapy-induced Hepatitis B flare. Recognize mechanisms based on published literature. Review the data for lamivudine prophylaxis in chemotherapy-induced Hepatitis B flare.

CASE: 40-year-old woman diagnosed with stage II, T1N1M0, invasive ductal carcinoma of the right breast had a lumpectomy with axillary lymph node evacuation and oral hypoglycemic administration. The tumors can be localized by multiple radiographic techniques and the surgical treatment is surgical removal. Recurrence is rare and most patients make a full recovery.

elevated temperature and slightly decreased sensation as compared to the left ankle. His blood pressure, heart rate, respiratory rate and oxygen saturation were normal. Arthrocentesis identified a WBC of 36,000/mm3 without any crystalline material. The culture results were non-reactive. His serum calcium was normal as was his serum phosphorus. There were normal levels of magnesium and potassium. An orthopedic surgery consultation was requested and it was felt that the radiographic findings are consistent with Charcot’s arthropathy. The right ankle was immobilized in a total contact cast. There was an immediate improvement in the content of his right ankle pain and swelling. He was discharged from the hospital and followed up one month later with improvement in his symptoms and range of motion.

DISCUSSION: It is a misconception that Charcot neuroarthropathy is an uncommon disease in the present era. Its prevalence ranges from 0.16% in a general population of patients with diabetes to 13% of patients presenting to a high end diabetic foot clinic. Primary care physicians involved in the management of patients with diabetes are likely to encounter the diagnostic and treatment challenges of Charcot neuroarthropathy. The diagnosis of Charcot’s arthropathy is based clinical grounds with features consisting of a painful, swollen and warm foot in the setting of a diabetic peripheral neuropathy. These are overlapping clinical characteristics that can mimic cellulitis, crystal-induced arthropathy, septic arthritis or osteomyelitis. Radiographic diagnosis is based on the presence of destructive bone changes. Although the early phase of the disease, the x-rays are often normal. This creates a diagnostic dilemma especially because many patients present with atypical symptoms or absence of severe neuropathy. Lack of awareness about this condition led our patient to develop multiple fractures secondary to improper weight bearing techniques. In conclusion, early recognition with MRI, immobilization and prompt consultation with orthopedic surgeons, could minimize the degree foot deformity and loss of function.
techniques hold promise for improving non-invasive diagnosis of acute myocarditis. As in our patient, spontaneous recovery is the usual outcome, although 5-10% of all patients may progress to develop chronic dilated cardiomyopathy. Myocarditis is occasionally the unrecognized culprit in cases of sudden death.

**LEARNING OBJECTIVES:** 1) Review the distinguishing features of Reactive and Clonal Thrombocytosis 2) Review the divergent management of the two types. CASE: A 59 year old man with HTN presented to the ED with 2 weeks of pain, numbness and swelling of his left arm. The ABI was unremarkable. The right limb was grossly normal with an ABI of 0.54. The left limb being unsalvageable, amputation was performed, the pathological analysis of which revealed marked diffuse stenosis of large vessels. An ICGO showed no cardiac source of embolism. Tests for hypercoagulability were normal. The hospital staff was complicated by infection of the stump and marked thrombocytosis that progressed from a platelet count of 604,000/mm³ at admission to 1,058,000/mm³ on Day 16. These findings, along with the serial increase in the number of circulating platelets in view of rising concern of an etiologic relationship between the thrombocytosis and the ischemic event. The peripheral smear showed increased platelets and mild neutrophilic leukocytosis, with minimal polychromatophilia. The peripheral smear was made and no treatment or further investigation was indicated. The platelet count peaked at 1.199,000/mm³ on Day 19 and then trended down to normal as the amputation stump healed.

**CHURG-STRAUSS SYNDROME INDUCED BY MONTELUKAST. M.D. Nair 1; J. Ross 2.** Lehigh Valley Hospital, Allentown PA. (Tracking ID #: 153586)

**LEARNING OBJECTIVES:** 1) Recognize the clinical manifestations of Churg-Strauss Syndrome 2) Recognize the association between Churg-Strauss Syndrome and leukocytoclastic antigenants. CASE: A 54 year-old female, without significant past medical history, presented to her doctor’s office with symptoms consistent with allergic rhinitis. She was started on montelukast. Subsequently, she developed acute dyspnea which required hospitalization. Admission chest x-ray showed patchy right upper lobe infiltrate with basilar nodules and infiltrates. Consequently, a CT scan of the chest was completed and demonstrated patchy airspace disease throughout both lungs. Her laboratory data were within normal limits. The patient was started on antibiotics for presumed pneumonia. Subsequently, her dyspnea and tachypnea improved and she was discharged. However, in retrospect, resolution of thrombocytosis after the insults had subsided. The conclusion was that the platelets were the bystanders rather than the culprits of this vascular accident.
which was suggestive of a healed or resolving vasculitis. Based on the finding of conjunction with the confirmatory biopsy, the diagnosis of Churg-Strauss Syndrome (CSS) was made. The patient was initiated on glucocorticoid therapy with transition to methotrexate after 2 months following the initiation of anticoagulation therapy.

DISCUSSION: Churg-Strauss Syndrome is a rare disease of unknown etiology characterized by systemic vasculitis of small and medium sized vessels. Transverse myelitis has been associated with certain autoimmune diseases; however, thus far a common link between CSS and transverse myelitis has not been appreciated. The learning objectives for this clinical vignette include: 1) Review the diagnosis of Churg-Strauss Syndrome; 2) Review the diagnosis of Transverse Myelitis (TM); 3) Review the case - based relationship between Churg-Strauss Syndrome and Transverse Myelitis.

CASE: A 30 year old male presented with a three week history of progressive lower extremity numbness and bowel/bladder dysfunction. A MRA of the spine demonstrated C4-T1 transverse myelitis (TM). He was treated with high dose steroids but unfortunately demonstrated poor clinical improvement with subsequent ventilator dependent respiratory failure. Plasma exchange therapy was initiated followed by IVG infusion. Gradual improvement occurred over two months however, newly occurring bronchospam was prompted placement of a tracheostomy. Approximately 9 months later new symptoms occurred including an intermittent punctuate erythematous rash, night sweats, lymphadenopathy, weight loss and dyspnea on exertion prompting admission for congestive heart failure. Laboratory studies demonstrated eosinophilia, an elevated rheumatoid factor (RF), and a cryoglobulinemia rapid sedimentation rate (ESR) of 120 (Normal=10). A head CT scan demonstrated sphenoid sinus disease and a chest CT scan demonstrated bilateral pleural effusions with multiple infiltrates. A cardiac catheterization revealed aneurysms of the multiple coronary arteries consistent with vasculitis. Skin biopsy results of the rash demonstrated superficial and deep neutrophilic and eosinophilic dermatitis in addition to eosinophilic vasculitis. The patient was treated with oral steroids and IV Cytoxan with prompt resolution of the hypereosinophilia. Within three months of therapy, the constitutional and pulmonary symptoms had completely resolved.

DISCUSSION: We describe the unusual occurrence of TM heralding the onset of CSS. We believe heparin-induced vasculitis was present and proposed that withdrawal of the high dose steroids utilized for treatment of TM likely revealed the CSS underlying the patient’s constellation of symptoms. Given the importance of accurate diagnosis and treatment, increased recognition of TM with autoimmune disorders and CSS is encouraged.

This, together with thrombin generation in vivo, causes paradoxical thrombo- sis (venous: arterial r=4:1) in up to 35% to 75% of cases, necessitating anticoa- gulation for several weeks. In typical onset HIT (70%), the platelet count starts to drop within two days after treatment with heparin. Patients who have received heparin within the last 100 days (while the antibodies persist) can develop rapid onset HIT (25%-30%) with platelet counts dropping within 24 hours of reexposure to heparin. Typically, the thrombocytopenia in HIT is of moderate severity, with the median platelet count nadir being 50,000 to 60,000 per cubic mm. For 90% of patients, the nadir ranges between 15,000 and 1,50,000 platelets per cubic mm. Very severe thrombocytopenia (platelet count < 15,000 per cubic mm) is caused by HIT (50% of cases). This case illustrates the treatment of HIT involves discontinuation of heparin in all forms and initiation of an alternative form of anticoagulant therapy, most commonly the direct thrombin inhibitor, bivalirudin, by the endovascular drug-eluting balloon or the anti-Xa agent, danaparoid. The early initiation of warfarin is associated with an increased risk of acute venous limb gangrene and coumadin-induced skin necrosis and should be avoided. The brief reintroduction of heparin in patients with a history of HIT who have cleared their antibodies is probably safe. The presence of HIT antibodies is not highly specific for the diagnosis of HIT, and may not be very sensitive either, as our case demonstrates. Indeed, recent research suggests that alternative diagnostic criteria and the magnitude of HIT antibody positivity on the enzyme linked immunosorbent assay (ELISA) may help more in deciding which patients with a history of HIT may tolerate reintroduction of heparin.

COLORADO CHISTOSOMIASIS AND COLON CARCINOMA: AN EMERGING TREND DUE TO TRANSMIGRATION. S. Gupta1; P. Garg1; P. Boruoh1. Unity Health System, Rochester, NY. (Tracking ID #: 154394).

LEARNING OBJECTIVES: 1. Recognize the clinical and endoscopic spectrum of colonic Schistosomiasis and its increasing prevalence due to transmigration, 2. Recognize the distinction between Churg-Strauss Syndrome and Transverse Myelitis.

CASE: A 45 year old female from Sri-Lanka who recently immigrated to United States presented with chronic bilateral lower abdominal cramps which worsened with defecation and decreased stool caliber for the last 6 years. Examination of her abdomen revealed normal bowel sounds and bilateral lower quadrant tenderness without guarding, rigidity or organomegaly. Colonoscopy was positive for multiple recto-sigmoid polyps. Histology of the polyps showed a differentiated tubular adenocarcinoma with multiple schistosoma mansoni ova in the mucosa and submucosa.

DISCUSSION: Schistosomiasis, a tropical disease, infects over 200 million people worldwide causing 200 thousand deaths annually. It is the second most common parasitic infection after malaria and infects colon, bladder and lungs primarily. We report, to our best knowledge, the first case of colonic schistoso- miasis with carcinomatous changes in the United States. Schistosomiasis is acquired via water containing cercariae larva of schistosoma shed from the snails. Parasite migrates through the bloodstream to mesenteric venules of colon, matures and lays eggs which invade local tissues and release toxins and enzymes causing an immune response leading to fibrosis and scarring. Colonoscopic manifestations of schistosomiasis are capillary congestion, polyposis, superficial ulceration and pseudotumor. Polyps can be up to 20 mm in size and considered sessile or pedunculated. In these cases the polyposid and non- polyposid non viable eggs are sometimes present as well. The repeated bouts of mucosal destruction and repair are a stimulus to carcinomatous transformation in chronically inflamed and replicating colonic epithelium. Chen Chihui etal reviewed 454 cases of colorectal carcinoma from China and found a associ- ation between colonic schistosomiasis and colorectal carcinoma. These patients had a long history of constipation and a diffuse involvement of the large intestine by schistosomiasis. The criteria for carcinomatous changes associated with schisto- somiasis include anaplasia in a pseudopolyp, polyformation adjacent to a schistosomal ulcer with ectopic submucosal epithelial proliferation. Symptoms due to colonic schistosomiasis can be localized or generalized. Patients may present with swimmer’s itch, fever, abdominal pain or discomfort with bloody diarrhea. Hepatomegaly, splenomegaly secondary to portal hypertension is seen in hepatic schistosomiasis. Diagnosis is confirmed by microscopy and egg identification in stool sample. Treatment of choice is chemotherapy. Schisto- somiasis is praziquantil. In today’s jet age with increasing transmigration it is important for physicians in the United States to be aware of clinical and endoscopic spectrum of Schistosomiasis. A high index of suspicion depending on epidemiologic and travel history is the cornerstone in diagnosing colon schistosomiasis in early stages in United States. Role of colonic schistosomiasis in the causation of colorectal carcinoma needs to be further elucidated.

COMMUNITY-ACQUIRED METHICILLIN-RESISTANT STAPHYLOCOCCUS AUREUS OSTEOMYELITIS AFTER INJECTING SPEEDBALLS MADE WITH CRACK COCAINE DISOLVED IN KOO-LAID. M. LEMONADE, S. Tchmouomido1, B. P. Lucas1. John H. Stroger Jr. Hospital of Cook County, Chicago, IL. (Tracking ID #: 157517).

LEARNING OBJECTIVES: 1. Recognize that crack cocaine can be mixed with readily available solvents for intravenous injection. Polyformation adjacent to a schistosomal ulcer with ectopic submucosal epithelial proliferation is often causing a partial bowel obstruction. Mucosa of the polyps contain glands with mucoid activity and adenomatous hyperplasia which can progress to carcinoma. Ulceration with inflammatory hemorrhagic foci in these glands are sometimes present as well. The repeated bouts of mucosal destruction and repair are a stimulus to carcinomatous transformation in chronically inflamed and replicating colonic epithelium. Chen Chihui etal reviewed 454 cases of colorectal carcinoma from China and found an association between colonic schistosomiasis and colorectal carcinoma. These patients had a long history of constipation and a diffuse involvement of the large intestine by schistosomiasis. The criteria for carcinomatous changes associated with schistosomiasis include anaplasia in a pseudopolyp, polyformation adjacent to a schistosomal ulcer with ectopic submucosal epithelial proliferation. Symptoms due to colonic schistosomiasis can be localized or generalized. Patients may present with swimmer’s itch, fever, abdominal pain or discomfort with bloody diarrhea. Hepatomegaly, splenomegaly secondary to portal hypertension is seen in hepatic schistosomiasis. Diagnosis is confirmed by microscopy and egg identification in stool sample. Treatment of choice is chemotherapy. Schisto- somiasis is praziquantil. In today’s jet age with increasing transmigration it is important for physicians in the United States to be aware of clinical and endoscopic spectrum of Schistosomiasis. A high index of suspicion depending on epidemiologic and travel history is the cornerstone in diagnosing colon schistosomiasis in early stages in United States. Role of colonic schistosomiasis in the causation of colorectal carcinoma needs to be further elucidated.

CASE: A 51 year old man with chronic hepatitis C infection presented with a lower leg ulcer. Since age 30, he has injected heroin mixed with cocaine. When
powdered cocaine became less available in the mid-1990s, however, he began mixing heroin with crushed free-base, or "crack," cocaine dissolved with Kool-Aid® lemonade. His ulcer developed after attempting to inject this mixture but missing his vein; he immediately developed a burn that became more intense and prolonged than those associated with failed injections of powdered cocaine dissolved in water. On physical examination he had no fever; beneath both knees his skin was thick, dry, and ichnephid with hyperpigmented "track marks" and localized edema. Anti-inflammatory salve, mouth wash, rectal gels, as well as low dose amitryptiline and trazodone. Physical exam revealed normal vital signs and nutritional state. Neurological exam was grossly non-focal, but limited range of motion of legs. The patient's left lower leg was cool and pale with no muscle atrophy, fasciulations, joint inflammation, or rash. The patient was admitted for further evaluation and pain control. Laboratory studies including CBC, chemistries, thyroid, LFTs, ABO Rh CR CP, CK, LDH were within normal limits. Urine and serum toxicology screens were negative. Plain films of knees and hands revealed minimal degenerative joint disease of the knees. MRI studies of her brain and spinal cord were unremarkable.

CASE: A 43-year-old non-English speaking Somali woman in the United States (U.S.) since 2001 was brought to the Emergency Department complaining of severe total body pain and weakness. She reports that symptoms started approximately 15 years ago. She had a progression of events that led to this point where she is unable to walk without assistance. She brings two plastic bags with more than 60 prescription bottles of medications from providers in the past year. These include acetaminophen, levothyroxine, hydrochlorothiazide, multiple non-steroidal anti-inflammatories, muscle relaxants, selective serotonin reuptake inhibitors and psychotherapy do show benefit. Clinicians should routinely inquire about torture history, conduct a medical/mental health examination, consider the possibility of depression, PTSD, and somatization in the evaluation of physical symptoms. When caring for immigrants, it is important to consider cross-cultural barriers, including the patient’s specific cultural views of illness, psychological distress, and mental health. In addition, physicians must be aware of the dangerous potential of polypharmacy in patients who seek help in multiple sites and whose English proficiency is limited, as well as the importance of developing a relationship with the patient. 2. Identify the psychological distress, and mental health. In addition, physicians must be aware of the dangerous potential of polypharmacy in patients who seek help in multiple sites and whose English proficiency is limited, as well as the importance of developing a relationship with the patient.

CASE: A 77-year-old woman with a history of Type 2 diabetes, hypertension, peripheral vascular disease and multiple myeloma presented for a primary care appointment. She had been admitted for further evaluation and pain control. Laboratory studies including CBC, chemistries, thyroid, LFTs, ABO Rh CR CP, CK, LDH were within normal limits. Urine and serum toxicology screens were negative. Plain films of knees and hands revealed minimal degenerative joint disease of the knees. MRI studies of her brain and spinal cord were unremarkable. The patient had normal physical exam findings except tachycardia, tachypnea and mild left upper extremity weakness. Laboratory studies and chest radiograph were unremarkable, but her electrocardiogram showed an S1Q3T3 pattern. PE-protocol chest CT demonstrated large, bilateral, central pulmonary emboli, and deep venous thrombosis (DVT) in the left superficial femoral vein was revealed by lower extremity ultrasound. Moreover, brain MRI showed an acute posterior putamen and internal capsule ischemic stroke, while bilateral carotid ultrasound was within normal limits. Based on these findings, ischemic stroke due to paradoxical embolism through a patent foramen ovale (PFO) was a strong consideration.

LEARNING OBJECTIVES: 1. Recognize that venous thromboembolism (VTE) may be associated with complications of multiple organ systems. 2. Identify paradoxical embolism through a patent foramen ovale (PFO) as a major differential diagnosis in patients with concomitant pulmonary embolism (PE) and ischemic stroke.

DEEP VENOUS THROMBOSIS WITH CONCOMITANT PULMONARY EMBOLISM AND ISCHEMIC STROKE DUE TO PARADOXICAL EMBOLISM. C. Oczarz1; K. Gultjut1; K. Pfeifer1. 1Medical College of Wisconsin, Milwaukee, WI. (Tracking ID #: 754668)

DEBILITATING PAIN IN A SOMALI M. A. Arize1; L. A. Piwowarczyk2; M. K. Paasche-Orlow1; L.C. Siegel1; M.A. Ariza1; L.A. Piwowarczyk2; M.K. Paasche-Orlow1; 1Brigham and Women’s Hospital, Boston, MA. (Tracking ID #: 151675)
cerebral infarct due to paradoxical embolism through a PFO in association with oral contraceptives.

DEGLUTITION INDUCED ATRIAL FIBRILLATION. N. Malik1; E. Warm1; D. Patel1; A. Patil1; K. Pfeifer1.

LEARNING OBJECTIVES: 1) Identify the different dysrhythmias (common and uncommon) that can be related to swallowing, 2) Discuss mechanisms for swallowing induced atrial fibrillation, 3) List the different treatment options for swallowing induced atrial fibrillation.

CASE: A 38 year old female with no past medical history presented with intermittent palpitations, occurring up two or three times a day. The patient described chest pain, shortness of breath, dizziness, or syncope. Each of these episodes lasted for a few seconds, and was associated with eating. She denied dysphagia, dysphonia or odynophagia. She was a non-smoker and not a consumer of alcohol. She also denied using caffeine. Physical exam and laboratory studies were negative. ECG revealed a sinus rhythm with a PR interval of 200 ms, which corrected to 135 ms after a meal. Following this, her mental status improved and she was able to express herself freely. She continued to be asymptomatic.

DISCUSSION: The mechanism by which swallowing induces tachyarrhythmias is unclear. One proposed mechanism for swallowing induced tachyarrhythmias is vagal reflex discharge to the atrial myocardium rather than to the sinus node, which can result in atrial fibrillation. This case highlights the importance of considering swallowing induced tachyarrhythmias in the differential diagnosis of palpitations. Further studies are necessary to determine the prevalence and risk factors associated with swallowing induced tachyarrhythmias.

DELIBERATE STEPS TO DIAGNOSE A FEVER. J.B. Hossain1.

LEARNING OBJECTIVES: 1) Recognize presenting features and diagnostic evaluation of vertebral osteomyelitis/discitis, 2) Treat Pott’s disease with optimal therapy.

CASE: An 86 year old female with a history of recurrent urinary tract infections was admitted with multiple fevers, and confusion. She was found on her apartment floor in a pool of urine. The patient has a history of chronic low back pain. Her pain worsened in the 2 weeks prior to admission. She denied dysuria, cough, weight loss, abdominal pain, and any change in bowel habits. She was born in the Ukraine and moved to the United States 10 years ago. She had no history of IV drug use, high-risk sexual practices, or specific exposures to tuberculosis. The physical exam was notable for fever (101.8 F) and delirium. She had no spinal or paraspinal tenderness. She had no motor or sensory deficits. Her chest X-ray revealed calcified granulomas in the right upper lung field. Her ECG and head CT scan were unremarkable. The patient was admitted to the hospital with fever and presumed urinary tract infection. Her urine analysis had 10 WBC/hpf (0–5 #/hpf) and her urine culture grew Escherichia coli. She was dehydrated but remained confused. The patient was reluctant to walk or sit up, but when she did walk, her gait was unsteady with slow and deliberate steps. Her ferritin was 2000 ng/mL (13–150 ng/mL), ESR 39 mm/hr (0–20 mm/hr), and CRP 84.0 mg/L (0–5.0 mg/L). An MRI of the lumbar spine was obtained and showed osteomyelitis/discitis at the L4/5 interspace. Fluoro- scopy-guided intervertebral disc biopsy yielded 4 cc of purulent fluid which contained acid-fast bacilli and grew Mycobacterium tuberculosis (TB).

DISCUSSION: Pott’s disease, or tuberculous spondylitis, most often involves the lumbar and lower thoracic region. Upper thoracic and cervical disease is less common but potentially more disabling. Bone and joint infection may account for 10 to 35 percent of cases of extrapulmonary tuberculosis and, overall, for almost 10 percent of all cases of TB. The treatment of Pott’s disease includes anti-tuberculous drugs selected on the basis of susceptibility testing. The initial phase of treatment consists of a four-drug regimen for 2 months followed by a two-drug regimen for 4 months. A fluoroquinolone and an injectable drug such as INH or RIF are recommended. Consensus guidelines recommend 6 months of anti-tuberculous therapy for uncomplicated Pott’s disease. Therapy should consist of a four-drug regimen which includes rifampin.
up there was resolution of fevers and mild improvement in movement and memory.

**DISCUSSION:** In the United States, HIV-associated dementia (HAD) represents a major cause of dementia in the elderly, and one of the main causes contributing to the poor ability of the patient to walk and inpatient mental health diagnosis is critical. Serological testing should be considered in patients presenting with “early dementia,” and in patients with unexplained constitutional symptoms, risk factors for HIV, or an underlying medical problem. This patient presented with a history of residence and/or travel to endemic areas. The patient had been at a clinic for several days prior and told him he had a viral infection. In the emergency department the patient appeared acutely ill, with a temperature of 40.0, heart rate of 110, and clinical signs of dehydration. He complained of non-productive cough, shortness of breath, muscle aches, fever, and generalized weakness. The patient had been taking azithromycin and asacol for three years, with a flare eight months prior. He was having three non-bloody loose stools for the past several weeks. On admission complete blood count showed pancytopenia with WBC 1.5, Hgb 8.6, platelet count 81. Chest radiography was normal. The patient was admitted to the general medicine service and improved after hydration, granulocyte stimulating factor, discontinuation of azithromycin with broad spectrum antibiotics. The patient had an underlying bone marrow biopsy which showed hypochromatosis, no blasts, and showed no histologic evidence of CMV. On hospital day 6, the patient became markedly short of breath and Chest CT showed bilateral patchy infiltrates with ground glass attenuation. He was intubated and transferred to the intensive care unit. Bronchoscopy showed cells consistent with CMV and no other bacterial or fungal pathogens. CMV viremia was noted on blood culture with a DNA quantification of 230235. There was no evidence of CMV colitis or retinitis. Gancyclovir and ultimately Foscarnet were used to treat the CMV infection during the duration of the hospitalization. The patient developed acute respiratory distress syndrome and was placed on high frequency ventilation and developed multiple pulmonary thrombemboli. After prolonged mechanical ventilation and respiratory acidosis, the family requested care be withdrawn and the patient expired on hospital day 40.

**DISCUSSION:** Disseminated CMV infection has been described in patients receiving azathioprine for inflammatory bowel disease. This unfortunate patient presented with pancytopenia and constitutional symptoms mimicking a viral illness in setting of low-grade immunosuppression. These non-specific findings are characteristic of disseminated CMV infection. CMV is geographically ubiquitous, and infects over 50% of adults in the United States by age 40. Uptake of CMV increases with age. It is commonly found in the elderly, and infects up to 10% of elderly patients with HIV. CMV viremia was noted on blood culture with a DNA quantification of 230235. There was no evidence of CMV colitis or retinitis. Gancyclovir and ultimately Foscarnet were used to treat the CMV infection during the duration of the hospitalization. The patient developed acute respiratory distress syndrome and was placed on high frequency ventilation and developed multiple pulmonary thrombemboli. After prolonged mechanical ventilation and respiratory acidosis, the family requested care be withdrawn and the patient expired on hospital day 40.

**DYSPEPSIA AND CHEST PAIN AT REST.** N. Al-Skaf1, M.H. Davidson1. Creighton University, Omaha, NE. (Tracking ID #: 152762)

**LEARNING OBJECTIVES:** Recognize the presentation of cardiac tamponade and its treatment. Identify pericarditis as part of the differential diagnosis of chest pain and dyspnea.

**CASE:** 54 year-old Caucasian male with history of hypertension and hyperlipidemia, presented with 10 days history of chest pain. The pain was episodic, diffuse, radiated to both shoulders and down his arms. The pain decreased with sitting and improved with deep inspiration. He had a productive cough with yellowish sputum. He also complained of muscle and joint aches, night sweats and an intermittent sore throat. On physical exam, the patient was anxious and in obvious respiratory distress. He was sitting in a 90 degree angle, unable to lay flat. His skin was clammy. Temp 101.7, HR 120 and regular with palpable pulse paradoxus, BR 25, BP 160/90 which decreased to 110/70 after one dose of nitroglycerin 0.4 sublingual. The nitroglycerin also decreased his pain from 6/10 to 3/10 within 5 minutes. He had increased jugular venous distention and a few basal crackles in the left lung base. Heart sounds were distant. No pericardial friction rub was appreciated. ECG showed sinus tachycardia with nonspecific ST-T wave changes. Chest X-ray showed cardio-megal and few lower left lobe infiltrates and blunting of the costophrenic angle. Echocardiogram showed signs of CHF with evidence of right ventricular diastolic collapse. Emergent pericardiocentesis was performed and 1200ml of hemorrhagic fluid was removed. This resulted in a significant improvement in symptoms. Pericardial fluid analysis showed 45,000 white blood cells, and cytology failed to identify a specific etiology for the effusion. Serum WBC was 11.6, ESR 30, C-reactive protein was 16.6. BMP was normal. He was started on levoxyracin. 5 days later repeated echo and chest X-ray were noted no pericardial effusion. He was discharged after a good condition.

**EHRlichIOSIS MIMICKING THERMOTRIC THROMBOCYTOPENIA PURPURA.** G. Harrison1, V.T. Martin1. University of Cincinnati, Cincinnati, OH. (Tracking ID #: 154455)

**LEARNING OBJECTIVES:** 1) Summarize the natural disease progression of Human Granulomatous Ehrlichiosis and Human Monocytosis Ehrlichiosis. 2) Appreciate the role of epidemiology in Ehrlichiosis 3) Last the diagnostic tests used in making the diagnosis of Ehrlichiosis.

**CASE:** A 58-year-old man was transferred to this hospital for management of new onset thrombocytopenia accompanied by fever, hypotension, hypoxia, mental status changes, diarrhea, and acute renal failure. Three days before admission, he had presented to his primary care physician complaining of polymalgias, fatigue, and dysuria. He was treated for a urinary tract infection with amoxicillin/clavulanate. Additional history: Born in Botswana, moved to Georgia native was a hunter and recently traveled to Ohio. His past medical history was significant for hypertension, Type II diabetes mellitus, hyperlipidemia, and coronary artery disease. His medications included atenolol, metformin, simvastatin, trimetazidine, niacin and atorvastatin. On exam, the patient was unresponsive to verbal stimuli and had a T=103.1. P =140 bpm: R=50 breaths/ min; BP =142/98 mm Hg. There were petechial lesions localized to the dorsum of his feet. Neurological exam revealed hyporeflexia and bilateral upgoing toes. The remainder of the exam was normal. Laboratory examination revealed a platelet count of 50,000, a WBC of 7,000 with 10% bands, a creatinine of 2.0 mg/dL, microscopic hematuria, an AST of 110 U/L and an ALT of 119 U/L. Blood and urine cultures were negative. The patient was empirically started on broad spectrum antibiotics and an antiviral medication. In the setting of ARF: progressive thrombocytopenia; schistocytes on peripheral smear; and an elevated LDH in a comatose patient, the presumptive diagnosis of thrombotic thrombocytopenia purpura (TTP) was made. Plasmapheresis was then started, and continued for two days with no improvement in the patient’s clinical status. Doxycycline was empirically started for coverage of presumed Rocky Mountain Spotted Fever (RMSF) and/or Ehrlichiosis. Ehrlichiosis was ruled out.

**DISCUSSION:** Cardiac tamponade is the accumulation of pericardial fluid which raises intrapericardial pressure, hence poor ventricular filling pressure. Cardiac tamponade may cause any cause of pericardiocentesis like tissue, bacteria, fungi, myocar-
dial infarction, lupus, radiotherapy and uremia. Fluid can also result from trauma, malignancy, and iatrogenic causes (i.e. pacemaker placement, central line insertion, cardiac cath.) Presenting signs include tachycardia, anxiety, hypotension, pulsus paradoxus, raised jugular venous pressure, muffled heart sounds, Kussmaul’s sign (paradochal increase in venous distention and pressure during inspiration.) Management : Emergent pericardiocentesis and treat the underlying cause.

**EMERGENCE OF COMMUNITY ACQUIRED MECHELIN-RESISTANT STAPHYLOCOCCUS AUREUS (CA-MRSA) PNEUMONIA AMONG INDIVIDUALS LACKING TYPICAL RISK FACTORS.** C. Fung1, V.A Greater Los Angeles Healthcare System, Los Angeles, CA. (Tracking ID #: 152753)

**LEARNING OBJECTIVES:** 1) Recognize presence of life threatening community acquired MRSA pneumonia, Staphylococcus Aureus (CA-MRSA) pneumonia among individuals lacking typical risk factors 2) Understand the role of H1N1 strains causing life threatening pneumonias.

**CASE:** A 59 year-old man with history of hypertension, was in his usual state of health until he presented to an urgent care clinic with a two week history of cough, fever with brownish sputum, night sweats, anorexia, and myalgias. At presentation, he had a temp of 36.4 degrees C, heart rate of 76 beats/minute, blood pressure of 101/62 mmHg, respiratory rate of 16 breaths/minute, and
room air oxygen saturation of 99%. Physical exam was significant for decreased breath sounds at the bilateral lower lung bases. Laboratory findings indicated a WBC count of 15 with a normal cell differential, Hb of 12, and platelets of 1395. His chest X-ray showed right lower lobe atelectasis, right mid, and lower lobe, and small atelectasis. Patient was admitted to medicine ward and placed in negative pressure respiratory isolation pending AFB sputum results. Several hours after admission, he developed a temp of 40 degrees C, HR of 117 beats/min, and BP of 98/57 mm Hg. His respiratory rate was 28/min, and his systolic arterial pressure was 102 mm Hg. He was afebrile, with a white blood cell count of 9800/mm^3, of which 85% were neutrophils. PEG tube placement was performed in the ER due to his agitated state. He had an unremarkable heart examination. His lungs were clear to auscultation. His abdomen was soft without rigidity, rebound, or guarding. His bowel sounds were active. His extremities were intact with no edema or clubbing. His initial blood work was hemoglobin of 8.4 g/dL, white blood cell count of 9900/mm^3, platelets of 308,000/mm^3, creatinine of 1.7 mg/dL, and amylase of 120 U/L. His chest X-ray revealed an empyema overlying the right lower lobe. On further evaluation, the patient was found to have a secundum atrial septal defect, which was treated with an Amplatz septal occluder. He was subsequently started on empirically treated with vancomycin and gentamicin. Subsequently, a chest CT revealed bilateral diffuse central and peripheral non-calciﬁed parenchymal opacities ranging from several millimeters to three centimeters. There were central lucencies in several of the opacities consistent with possibility of early cavitations. Patient’s sputum sample tested negative for AFB stain; however, it grew Mycobacterium tuberculosis sensitive to rifampin, trimethoprim-sulfamethaxazole, vancomycin, clindamycin, and doxycycline. Final blood cultures did not grow any organisms. He tested negative for HIV. Given the clinical presentation, laboratory and radiologic findings, patient was thought to have CA-MRSA pneumonia containing the Panton-Valentine Leukocidin (PVL) gene. Patient’s condition improved and was discharged with a three-week course of rifampin and clindamycin.

DISCUSSION: The existence of MRSA infections was originally described in 1961 among populations having risk factors including recent hospitalization, living in long-term care facilities, and using intravenous drugs. Currently, MRSA infections are evolving into a community-related health issue. Community acquired MRSA skin infections, which are increasing in prevalence, have been well described in the literature. However, less common but potentially more serious are CA-MRSA pneumonia infections. These infections are generally associated with higher morbidity, leucopenia, respiratory distress and failure, and even death. The different strains of MRSA contain toxins responsible for severity level of the illness. For instance, Panton-Valentine Leukocidin (PVL) is a cytotoxin produced by these strains that results in death by release of polymorphonuclear neutrophil chemotactic factors and variety of other inﬂammatory agents. PVL gene is only detected in strains responsible for CA-MRSA pneumonias and is not prevalent in hospital-acquired MRSA pneumonias. Early recognition of patients sufﬁciently unwell with CA-MRSA pneumonia for mortality reduction is mandatory. Other individual risk factors and those with co-morbidities are additional risk factors for mortality. Moreover, clinicians should become familiar with clinical characteristics of and effective therapeutic and preventive strategies for CA-MRSA infections.

EOSINOPHILIC ESOPHAGITIS - ASTHMA OF THE ESOPHAGUS

R. Gupta1; P. Gang1; J. Dyot1; Unity Health System, Rochester, NY (Tracking ID #: 154402)

LEARNING OBJECTIVES: 1. Recognize “Eosinophilic esophagitis” as a new entity causing dysphagia and heartburn which is unresponsive to antireflux treatment. 2. Distinguish eosinophilic esophagitis from conventional reflux disease by an early endoscopic biopsy in patients with reflux not responding to therapy.

CASE: A 59 year old male presented with heartburn of recent onset and a single episode of choking. He denied any dysphagia or regurgitation. Endoscopy revealed eosinophilic esophagitis and granular whitish mucosa extending from mid to distal esophagus. Eosinophilic esophagitis was positive for eosinophils (eosinophil count was done). Patient was treated with fluids and insulin. No anti seizure medication was started. His follow up MRI with contrast after 4 months revealed no changes in his brain. He was discharged home and advised to follow up with his neurologist.

DISCUSSION: The existence of MRSA infections was originally described in 1961 among populations having risk factors including recent hospitalization, living in long-term care facilities, and using intravenous drugs. Currently, MRSA infections are evolving into a community-related health issue. Community acquired MRSA skin infections, which are increasing in prevalence, have been well described in the literature. However, less common but potentially more serious are CA-MRSA pneumonia infections. These infections are generally associated with higher morbidity, leucopenia, respiratory distress and failure, and even death. The different strains of MRSA contain toxins responsible for severity level of the illness. For instance, Panton-Valentine Leukocidin (PVL) is a cytotoxin produced by these strains that results in death by release of polymorphonuclear neutrophil chemotactic factors and variety of other inﬂammatory agents. PVL gene is only detected in strains responsible for CA-MRSA pneumonias and is not prevalent in hospital-acquired MRSA pneumonias. Early recognition of patients sufﬁciently unwell with CA-MRSA pneumonia for mortality reduction is mandatory. Other individual risk factors and those with co-morbidities are additional risk factors for mortality. Moreover, clinicians should become familiar with clinical characteristics of and effective therapeutic and preventive strategies for CA-MRSA infections.

LEARNING OBJECTIVES: 1. Identify the rare and fatal form of gastritis called emphysematous gastritis. 2. Familiarize oneself to its clinical presentation, diagnosis and treatment. 3. Recognize the association of this condition with gastrostomy tubes.

CASE: A 94 year old African American female resident of a local nursing home was sent to the emergency room for assessment of her Perforative endoscopic gastrostomy (PEG) tube with a greenish maroon exudate at its insertion site. Abdominal examination revealed warm, tender, distended, and localized, with hypoactive bowel sounds. Her PEG tube was replaced and feedings resumed. She subsequently started having emesis and copious leakage from the insertion site. Culture of the exudates revealed Staphylococcus Aureus and Pseudomonas Aeruginosa. Her clinical condition deteriorated despite aggressive supportive care and antibiotics. An emergent computed tomographic (CT) scan of her abdomen was done and revealed gas in the stomach wall. Her condition worsened despite aggressive supportive management and she subsequently expired. 1. Emphysematous gastritis is a rare and fatal form of phlegmonous gastritis caused by invasion of stomach wall by gas forming bacteria from mucosa or rarely a hematogenous source. First described by Fransen in 1899 in a very few cases have been reported in the literature. The stomach is a well protected organ with abundant blood supply, acidity and mucosa. Conditions that damage the gastric mucosal wall predispose the stomach to this clinical entity. Ingestions of toxic, erosive substances like ammonia or acid, alcohol abuse, gastroesophageal, gastric ulcer, forceful emesis, trauma, or necrotizing tubular gastritis that present, can be caused by ischemia, hemorrhage, or iatrogenic injury. Gastric ulcers can increase the risk of mucosal injury and hence emphysematous gastritis. s. Staphylococcus Aureus, Pseudomonas Aeruginosa, Escherichia Coli, Serratia species, Chlostridium Perfringens. Emetogenous car- riers are the frequent pathogens involved. One case has been reported as being a result of gastric mucormycosis. The clinical presentation is typically with abdominal pain, nausea, vomiting, diarrhea, and occasionally hematemesis and melaena. Abdominal radiographic studies are the preferred modalities to confirm the diagnosis. Plain radiograph can show gas in the wall of stomach but the typical radiographic ﬁnding of presence of irregular mottled gas in the wall of stomach without focal wall thickening of gastric folds is suggestive of emphysematous gastritis better shown by CT scan. Use of ultrasound and MRI in the diagnosis of Emphysematous gastritis is limited. Endoscopic ﬁndings are non speciﬁc and include gastric erosions, exudates, and thickened gastric folds Treatment of emphysematous gastritis is mainly supportive and with broad spectrum antibiotics in the beginning, which can be narrowed down to cover the identiﬁed microorganism once culture results are obtained. Despite aggressive measures, mortality rate can reach up to 60% and is higher in patients requiring emergency surgery. This is a rare condition associated with high mortality. Our patient was predisposed to it due to the PEG tube insertion. This is a very important association as there is a large, debilitated and potentially vulnerable population of nursing home patients with gastrostomy tube related infections in today’s world.
abundance of a march of convulsions. Seizures can last from hours to weeks and usually involve distal more than the proximal muscle groups. It is seen equally in both sexes, but is more prevalent in children. EPC is etiologically related to metabolic derangements such as hypocalcemia, hyponatremia, acidemia, hypoxia, hepatic encephalopathy, non ketotic hyperglycemia and diabetic ketoacidosis. Structural abnormalities related to tumors (gliomas) and vascular lesions of sensorimotor cortex can also cause Epilepsia partialis continua. It has also been related to various infections such as Rasmussen encephalitis, muscles encephalitis and HIV, CMV and EBV. Seizures can be initial manifestation of diabetes. In diabetic patients presenting with seizures EPC was noted in 20%. In 1867, EPC is diagnosed in all cases in search of diabetes, which has not been recommended for cases related to cortical dysplasia and brain tumors. In diabetes, treatment consists of aggressive hydration with fluids and insulin. The effect of antiepileptics is disappointing. It is important to consider diabetic ketoacidosis as cause of EPC and these patients do not need long term anti-epileptic drugs.

ERGOTISM INDUCED BY RITONAVIR. M. Laguna1; M. Laguna1; K. Pfeifer1, 1Medical College of Wisconsin, Milwaukee, WI. [Tracking ID : T5017]

LEARNING OBJECTIVES: 1: Recognize life-threatening vassospasm induced by the combination of ritonavir and common antimigraine medications. 2-Describe the appropriate evaluation and treatment. CASE: A 28 year-old woman with HIV presented with pain and numbness in both her legs. Three days prior to admission, the patient developed sudden onset of numbness of both feet and tingling sensations in both calves. The following day, due to the absence of potential causes for this, and bilateral stocking distribution that occurred after walking a few feet. On the day of admission, the patient was unable to bear weight on her feet due to excruciating pain. Her temperature was 39°C and was compliant with an antiretroviral regimen of Reyataz and Truvada until one month prior to admission when she was switched to Kaletra and Combid. The remainder of her medications, including albuterol, Advair, citalopram, trazodone, nortriptalin, zolpidem, acetaminophen with codeine and Cafergot, were unchanged. Of note, she had been taking Cafergot almost every day for 2 weeks for her usual migraine headaches. Her physical exam was unremarkable except for bilateral ankle edema, absent pedal pulses, and cold, pale, hypoesensitive skin over both feet. Initial laboratory studies were unchanged from her chronic values, but arterial brachial indices (ABI) were <0.2 bilaterally. CT angiogram revealed marked stenosis of entire length of the iliac arteries. The patient was taken to the ICU with an unfractured heparin drip and glucocorticoids, and her anticoagulants were held. In 24 hours her bilateral foot capillary refill improved, and in 48 hours the patient had prominently palpable pedal pulses. Repeat ABI were normal, and repeat CT angiogram showed marked improvement in the lower extremity circulation with focal adherent mural thrombi in the bilateral proximal external iliac arteries. The patient was sent home on warfarin without further complications.

DISCUSSION: Ritonavir is a potent protease inhibitor that inhibits the metabolism of other drugs containing substrates. Ergotamine and triptans are cleared via metabolic concomitants, which required intubation. After several days, the patient’s respiratory status stabilized, her delirium resolved, and she was transferred to the floor. On the day prior to planned discharge, the patient was noted to be agitated and irritable. She had a blank stare and coarse tremors of her right hand and lips which resolved in a few minutes. Pupils were reactive and the oculophacetic reflex was intact. Her visual fields, blood glucose, ABG, and serum chemistries were normal. An urgent EEG showed seizure activity from the left hemisphere with no secondary generalization. The patient was diagnosed with Non-Convulsive Status Epilepticus. She was treated with IV lorazepam but required intubation and propofol for resolution of the seizure pattern on EEG. Later her mental status returned to baseline and her antiepileptic medications were adjusted. DISCUSSION: Non-convulsive status epilepticus (NCSE) is an epileptic condition without tonic-clonic motor activity, lasting more than 30 minutes with continuous or recurrent seizure activity as confirmed by electroencephalogram (EEG). It should be considered in patients with unexplained altered mental status, obtunded or comatose patients who have no localizing signs and an intact gait on admission (as indicated by normal anterior/posterior take-off and dorsiflexion of feet) and patients who are not arousable 30 minutes after an episode of tonic clonic seizure. A history of seizure disorder and discontinuation or change in anti-epileptic medications is the most common cause of NCSE. In the ambulatory setting, NCSE can be classified into Absence status epilepticus and Complex partial status epilepticus based on ictal EEG patterns. Absence status epilepticus, which typically occurs in patients with chronic absence epilepsy, is characterized by altered awareness, but not necessarily unconsciousness. There may be associated myoclonus, eye blinking, and perseveration. Complex partial status epilepticus is characterized by continuous or repeated episodes of focal motor, sensory, or cognitive symptoms with impaired consciousness, and may present as acute confusional state. NCSE may occur in 8% of all comatose patients and can develop as a consequence of a variety of metabolic derangements. Treatment and resolution of the epileptiform pattern on EEG may not result in clinical changes. An urgent EEG is required for diagnosis. Treatment is similar to that of tonic-clonic status epilepticus and includes benzodiazepines and other antiepileptics. Prognosis is typically related to the underlying cause of NCSE (the etiology of metabolic coma) and the severity of the mental status changes, and associated complications. Ambulatory patients with NCSE have a favorable outcome with resolution of their mental status changes and a good outcome, but comatose patients have a high mortality rate and poor outcome despite treatment.

EYES WIDE OPEN: AN UNUSUAL CASE OF ALTERED MENTAL STATUS. Z.K. Siddiqui1; M. Cunnane1. 1University of Pittsburgh, Pittsburgh, PA. [Tracking ID : T5024]

LEARNING OBJECTIVES: 1. To recognize Non-Convulsive Status Epileptics (NCSE) 2. To distinguish among the causes of facial nerve paralysis associated with aseptic meningitis 3) Diagnose neurologic Lyme disease using clinical and laboratory data 4) Recognize the presentation and diagnosis of NCSE 3. To state the prognosis of NCSE.

CASE: A 54-year-old woman with a history of hypertension, schizoaffective disorder and seizure disorder was admitted with epigastic pain, nausea and diarrhea. She was diagnosed with pancreatitis and was treated appropriately. Her pancreatitis gradually improved, but her hospital course was complicated by a urinary tract infection, delirium, and pneumonia, which required intubation. After several days, the patient’s respiratory status stabilized, her delirium resolved, and she was transferred to the floor. On the day prior to planned discharge, the patient was noted to be agitated and irritable. She had a blank stare and coarse tremors of her right hand and lips which resolved in a few minutes. Pupils were reactive and the oculophacetic reflex was intact. Her visual fields, blood glucose, ABG, and serum chemistries were normal. An urgent EEG showed seizure activity from the left hemisphere with no secondary generalization. The patient was diagnosed with Non-Convulsive Status Epilepticus. She was treated with IV lorazepam but required intubation and propofol for resolution of the seizure pattern on EEG. Later her mental status returned to baseline and her antiepileptic medications were adjusted. DISCUSSION: Non-convulsive status epilepticus (NCSE) is an epileptic condition without tonic-clonic motor activity, lasting more than 30 minutes with continuous or recurrent seizure activity as confirmed by electroencephalogram (EEG). It should be considered in patients with unexplained altered mental status, obtunded or comatose patients who have no localizing signs and an intact gait on admission (as indicated by normal anterior/posterior take-off and dorsiflexion of feet) and patients who are not arousable 30 minutes after an episode of tonic clonic seizure. A history of seizure disorder and discontinuation or change in anti-epileptic medications is the most common cause of NCSE. In the ambulatory setting, NCSE can be classified into Absence status epilepticus and Complex partial status epilepticus based on ictal EEG patterns. Absence status epilepticus, which typically occurs in patients with chronic absence epilepsy, is characterized by altered awareness, but not necessarily unconsciousness. There may be associated myoclonus, eye blinking, and perseveration. Complex partial status epilepticus is characterized by continuous or repeated episodes of focal motor, sensory, or cognitive symptoms with impaired consciousness, and may present as acute confusional state. NCSE may occur in 8% of all comatose patients and can develop as a consequence of a variety of metabolic derangements. Treatment and resolution of the epileptiform pattern on EEG may not result in clinical changes. An urgent EEG is required for diagnosis. Treatment is similar to that of tonic-clonic status epilepticus and includes benzodiazepines and other antiepileptics. Prognosis is typically related to the underlying cause of NCSE (the etiology of metabolic coma) and the severity of the mental status changes, and associated complications. Ambulatory patients with NCSE have a favorable outcome with resolution of their mental status changes and a good outcome, but comatose patients have a high mortality rate and poor outcome despite treatment.

EVALUATION AND MANAGEMENT OF PATIENTS WITH NIPPLE DISCHARGE. D. Wahner-Roedler1, Mayo Clinic, Rochester, MN. [Tracking ID : T1667]

LEARNING OBJECTIVES: Recognize patient and nipple discharge characteristics associated with breast neoplasms.

CASE: A 59 year old woman presented with a history of one episode of spontaneous right bloody nipple discharge (drop of blood noted on top of nipple after a bath). Breast cancer risk profile: G0, P0, menarche age 12, menopause age 40, no HRT, no previous breast biopsy, no family history of breast cancer. Physical examination: No lymphadenopathy, breasts symmetrical, no dimpling or retraction, nipples everted, fibroglandular changes on palpation, no discharge. The remainder of the mental status changes. Conversely, obtunded patients have a high prognosis, the severity of the mental status changes, and associated complications.

DISCUSSION: Complex partial status epilepticus is characterized by continuous or repeated episodes of focal motor, sensory, or cognitive symptoms with impaired consciousness, and may present as acute confusional state. NCSE may occur in 8% of all comatose patients and can develop as a consequence of a variety of metabolic derangements. Treatment and resolution of the epileptiform pattern on EEG may not result in clinical changes. An urgent EEG is required for diagnosis. Treatment is similar to that of tonic-clonic status epilepticus and includes benzodiazepines and other antiepileptics. Prognosis is typically related to the underlying cause of NCSE (the etiology of metabolic coma) and the severity of the mental status changes, and associated complications.

FACIAL NERVE PARALYSIS AND HEADACHE IN AN EL SALVADORIAN IMMIGRANT. E. Kahle1; R. Mehta2; S. Cohen3; M.J. Fagan1. 1Brown University, Providence, RI; 2Rhode Island Hospital/Brown Medical School, Providence, RI; 3University of Rhode Island, Kingston, RI. [Tracking ID : T5040]

LEARNING OBJECTIVES: 1) Recognize the presentation of Lyme neuroborreliosis 2) Diagnose neurologic Lyme disease using clinical and laboratory data 3) Distinguish among the causes of facial nerve paralysis associated with aseptic meningitis.

CASE: A 56-year-old previously healthy male from El Salvador presented in late August with headache, fever (101°F by history) and photophobia. His symptoms began two weeks prior to admission with back and neck pain, which two days later included facial weakness. The patient went camping in Massachusetts two
months prior to admission but did not note any tick bites or skin rashes. He had a history of a positive tuberculin skin test ten years ago for which he was treated with six months of isoniazid. Three months prior to admission the patient had a left upper quadrant pain which was treated with ibuprofen and analgesics. The patient's most recent travel outside the country was to El Salvador in 2002. Notable findings on physical exam included mild neck stiffness on flexion; bilateral facial weakness with difficulty squinting, raising his eyebrows, and smiling that was more pronounced on the left than right. Lumbar puncture revealed pleocytosis of 205 cells with 98% lymphocytes, 0% monocytes, 0% neutrophils, 0% eosinophils, 0% plasma cells, and 0% large lymphocytes. Gram stain and culture of CSF were negative for bacteria. Cytomegalovirus PCR and HIV PCR were negative in CSF. Oligoclonal bands were not detected in CSF. Serum HIV and hepatitis B and C were negative. CSF analysis in isolated Lyme disease facial palsy is often normal. The diagnosis of Lyme meningitis requires evidence of antibodies in the CSF. Clinically, one should consider neuropeithelioma in atypical presentations of facial palsy and meningitis in Lyme endemic regions. A third of Lyme facial palsy cases present bilaterally, which would be unusual in idiopathic Bell's palsy. All cranial nerves may be involved in Lyme disease, but VII is the most commonly affected. HSV-1 can cause both facial palsy and meningitis, but facial palsy is usually associated with HSV-1 and aseptic meningitis with HSV-2. Tuberculous meningitis can cause cranial neuropathy, hydrocephalus, and/or radiculopathy and may present with neck stiffness or meningismus. Cranial irradiation can cause cranial neuropathy and is also similar to aseptic meningitis with focal neurologic involvement and was a consideration in this case due to the patient's history of ear infection. Sarcoïdosis, syphilis, and HIV are other possible causes of both meningitis and facial palsy.

**FATAL AORTIC DISSECTION CAUSED BY ACUTE AORTITIS, PRESENTING AS NEPHROLITHIASIS IN A 52-YEAR-OLD MAN**

**H.F. Ryder;** Dartmouth-Hitchcock Medical Center, Lebanon, NH. (Tracking ID: J154808)

**LEARNING OBJECTIVES:** 1) Diagnose aortic dissection early in its presentation, thereby reducing mortality. 2) Recognize atypical presentation of aortic dissection and aortitis.

**CASE:** A 59-year old man presented to the emergency department with colicky flank pain and vomiting. He had been healthy until three weeks prior when he had a similar episode and was diagnosed with nephrolithiasis by CT at another hospital. He had smoked 2 packs/day with 40 packs per year for 50 years and had a 75 pack-year smoking history. His physical exam originally demonstrated right lower quadrant tenderness, agitation and restlessness; vital signs were stable. Urine analysis was remarkable only for proteinuria. Laboratory data was otherwise unremarkable. Nine days prior to presentation, the patient's ankles had shown no stones, free fluid or free air. After three hours of pain not controlled by ketorolac or morphine, the patient noted new sharp epigastric / chest pain. An electrocardiogram revealed normal sinus rhythm. A lateral chest radiograph revealed no pneumothorax or increased retrocardiac silhouette. There was no evidence of aortic rupture. Since he already was on ganciclovir for persistent CMV viremia within 2 to 4 weeks of transplantation. Infection is much more common after allogeneic transplantation than autologous transplantation. In these populations, HHV-6 is associated with fever and rash, encephalitis, interstitial pneumonitis, delayed engraftment, myelosuppression, graft versus host disease, opportunistic microorganisms, graft versus host disease, and opportunistic mycobacterial infection. HHV-6 has marked immunomodulatory properties, suppressing the lymphoproliferative response to CMV infection and is strongly associated with the occurrence of GVHD. Ganciclovir, foscarnet and cidofovir are currently in use as treatment for CMV infections. Other thymidine kinase dependent drugs are not. Ganciclovir has been reported to constitute effective prophylaxis. In this regard, it is of note that the HHV-6 U99 gene, which may be a functional homologue of the CMV US9 gene, phosphor-ylates ganciclovir, a crucial step in the drug’s mechanism of action. Mutations in this gene have been associated with reduced susceptibility to ganciclovir. CAMPATH [identuzumab] is a humanized, monoclonal antibody against the CD52 molecule. It targets CD52-positive cells, which are mainly T and B lymphocytes and is also extremely immunosuppressive, possibly leading to HHV-6 reactivation, an association not previously reported. HHV-6 reactivation, an association not previously reported. HHV-6 reactivation, an association not previously reported.
FEVER AND LYMPHADENOPATHY IN A PREVIOUSLY HEALTHY 18 YEAR-OLD MAN: NOT THE USUAL SUSPECT. J. Weiss1; J.M. Sosman1; M.J. Richman1; D. Yick2.

LEARNING OBJECTIVES: 1. Recognize the signs and symptoms of Multicentric Castleman’s disease (MCD) and the various cases reported in literature. 2. Identify potential treatment options. 3. Review the long-term risks of malignant sequelae.

Our patient represents an unusual case of idiopathic MCD in a previously healthy young man. Given the rarity of this disease there are no standard treatment guidelines. Case reports document treatment efforts with steroids, LAD, fever, malaise, pleural effusions, hepatosplenomegaly, cytopenias, and renal failure. MCD has been difficult to diagnose due to its rarity and should remain a differential for fever of unknown origin in young adults. 2) Recognize the importance of excisional lymph node biopsy with histological examination, as the clinical features are largely non-specific. FNA is usually non-diagnostic as the tissue sample is insufficient for demonstration of the necrotizing lymphadenitis. It is important to include KFD on the differentials in patients who present with fever and cervical lymphadenopathy because its course and treatment vary greatly from the other causes of FUO, including TB, atypical and autoimmune diseases. Accurate clinicopathologic recognition is essential, as KFD can often be the first clue of an underlying malignancy such as lymphoma. Supportive measures, as the clinical course is self-limited and rarely relapses. Corticosteroids have been used with limited success in some patients.

FEVER OF UNKNOWN ORIGIN AND CERVICAL LYMPHADENOPATHY IN A YOUNG WOMAN: KIKUCHI-FUJIMOTO DISEASE. S.A. Tayyik; R. Mehta; E. Kahler; S. Cohen; B. Mira1; S. Temple University, Philadelphia, PA.

LEARNING OBJECTIVES: 1. Review the diagnostic approach of a patient with lower GI bleeding. 2. Recognize the diagnostic challenge that represents uncommon causes of lower GI bleeding. 3. Review the clinical entity of jejunal diverticulosis.

A 96 year old patient with PMH of coronary artery disease was admitted with two episodes of painless hematochezia. The patient denied prior history of gastrointestinal bleeding, abdominal pain or weight loss. On exam, he was tachycardic, had normal oral blood pressure; his conjunctiva were pale; his abdominal exam was benign and there was maroon blood on rectal exam. Labs revealed hemoglobin of 7.8 g/dl, down from 12.7 g/dl one week prior admission. Prior upper endoscopy and angioembolization had been started and a diagnostic work-up was initiated. Nasogastric lavage was negative and a colonoscopy showed multiple diverticula in the descending colon without evidence of recent bleeding. The patient continued to have recurrent hematochezia. A bleeding scan was performed which showed bleeding most likely originating in the mid small bowel; a subsequent mesenteric arteriogram was negative. An extended upper endoscopy was performed with evaluation of the entire duodenum and the proximal jejunal area; no identifiable source could be found. The patient underwent exploratory laparotomy with resection of the affected segment of small bowel. After surgery there was no recurrence of the GI bleed and the patient was discharged in a stable condition.

DISCUSSION: Lower GI bleeding is defined as a hemorrhage originating from the GI tract distal to the ligament of Treitz and usually presents as hematochezia. Identifying the cause and the anatomical location of the bleeding needs to be performed promptly; in this case, the source was the retroperitoneal area that was not visible on the first postoperative arteriogram. The patient was discharged home with no further symptoms and is currently doing well.

FLACCID PARALYSIS CAN BE “0” K. M. J. Richman1; D. Yick2. University of California, Los Angeles, Los Angeles, CA; “Olive View/University of California, Los Angeles Medical Center, Sylmar, CA.

LEARNING OBJECTIVES: 1) Review the differential diagnosis for acute flaccid paralysis. 2) Describe thyrotoxic hypokalemic periodic paralysis (THPP).
CASE: A previously-healthy 40-year-old male developed ascending paralysis over 1 day. On the night PTA, he was unable to move both legs. In the morning, he fell down. By the afternoon, he could not move his arms. He denied F/H/A change in vision/weight change/hot or cold intolerance/CP/SEB/palpitations/incontinence. He had not eaten a large carbohydrate meal or heavy exercise. One week prior, he described fevers/rhinorrhea/dry cough/myalgias. Three years prior, on account of his “bulging” eyes, a friend suggested he may have Grave’s disease; he never followed-up with a physician. Initial PTC: F36.5, BP 146/65, P95, RR 18, RASS099%, exophthalmos, no thyromegaly; cranial nerves were intact. O/S strength in both legs and arms except for 4/5 plantar flexion of the right leg. O/D Diabetic retinopathy was present in the R eye. CT brain were (-). Initial labs: WBC 14,000, Hgb 16.4, Platelets 247, K<1.8, Ca 9.5, Mg 1.7, PO4 1.2; LFTs, INR, and troponin (-). TSH = 0.03, FT4 2.27 TT3 1.42. EKG: first degree AV block, LVH, diffuse ST depression, K was replenished using 60 meq IV and 40 meq IV, with no change in K+. An additional 60 meq was given. The next morning, the patient spontaneously moved both legs and arms. His serum K was 5.5, and peaked at 6.3. The patient was discharged with Endocrinology follow-up and instructions to take potassium pills and go to the ED if his weakness returned.

DISCUSSION: THPP attacks can abort the insulin surge after a high carbohydrate meal, or increased adrenergic diaphragm less so. As in non-thyrotoxic HPP, THPP is more common among disorder of the striated/skeletal muscles due to excessive activity of the Na-K pump. Proximal and LE muscles are mostly affected; facial muscles and the diaphragm less so. As in non-thyrotoxic HPP, THPP is more common among Asian American and Indian American patients. Attacks are more common in THPP than attacks, and there is no decrease in total body K+. Attacks can be precipitated by an insulin surge after a high carbohydrate meal, or increased adrenergic activity with physical exertion. As in this case, the patient may not have overt hyperthyroidism; THPP should be checked in all patients with HPP. Treatment of hyperthyroidism prevents THPP, though the degree of hyperthyroidism does not predict the degree of paralysis. The hypokalemia of THPP may be exacerbated by associated mild hypermagnesemia and hypophosphatemia. Propional (which stops the adrenergic stimulation of the Na-K pump) K+ supplementation, or spironolactone may also prevent attacks. Occasional spontaneous recovery of flaccid paralysis suggests that K+ can shift back out of the cell without permanent damage to the skeletal muscle.

FROM BAD TO WORSE: ONE ANEMIA BEGETTING ANOTHER

GATIFLOXACIN: NOT AS SWEET AS IT SOUNDS

LEARNING OBJECTIVES: 1. Identify the differential diagnosis of pure red cell aplasia in the HIV patient. Recognize anti-erythropoietin antibody-mediated pure red cell aplasia. Recognize pure red cell aplasia as a complication of recombinant erythropoietin. 2. Be aware of the differential diagnosis of pure red cell aplasia in the HIV patient. Recognize anti-erythropoietin antibody-mediated pure red cell aplasia. Recognize pure red cell aplasia as a complication of recombinant erythropoietin.

CASE: A 38-year-old Caucasian female New Hampshire resident was seen in general medicine clinic in Rochester, NH for nasal stuffiness and a sore throat which was at least one-month in duration. On physical exam, she was afebrile and had no thyroid palpation to suggest hyperthyroidism, so TFTs should be checked in all patients with HPP. Treatment by an insulin surge after a high carbohydrate meal, or increased adrenergic diaphragm less so. As in non-thyrotoxic HPP, THPP is more common among Asian American and Indian American patients. Attacks are more common in THPP than attacks, and there is no decrease in total body K+. Attacks can be precipitated by an insulin surge after a high carbohydrate meal, or increased adrenergic activity with physical exertion. As in this case, the patient may not have overt hyperthyroidism; THPP should be checked in all patients with HPP. Treatment of hyperthyroidism prevents THPP, though the degree of hyperthyroidism does not predict the degree of paralysis. The hypokalemia of THPP may be exacerbated by associated mild hypermagnesemia and hypophosphatemia. Propional (which stops the adrenergic stimulation of the Na-K pump) K+ supplementation, or spironolactone may also prevent attacks. Occasional spontaneous recovery of flaccid paralysis suggests that K+ can shift back out of the cell without permanent damage to the skeletal muscle.

FROM BAD TO WORSE: ONE ANEMIA BEGETTING ANOTHER

GATIFLOXACIN: NOT AS SWEET AS IT SOUNDS

LEARNING OBJECTIVES: 1. Identify the differential diagnosis of pure red cell aplasia in the HIV patient. Recognize anti-erythropoietin antibody-mediated pure red cell aplasia. Recognize pure red cell aplasia as a complication of recombinant erythropoietin. 2. Be aware of the differential diagnosis of pure red cell aplasia in the HIV patient. Recognize anti-erythropoietin antibody-mediated pure red cell aplasia. Recognize pure red cell aplasia as a complication of recombinant erythropoietin.

CASE: A 38-year-old Caucasian female New Hampshire resident was seen in general medicine clinic in Rochester, NH for nasal stuffiness and a sore throat which was at least one-month in duration. On physical exam, she was afebrile and had no thyroid palpation to suggest hyperthyroidism, so TFTs should be checked in all patients with HPP. Treatment by an insulin surge after a high carbohydrate meal, or increased adrenergic diaphragm less so. As in non-thyrotoxic HPP, THPP is more common among Asian American and Indian American patients. Attacks are more common in THPP than attacks, and there is no decrease in total body K+. Attacks can be precipitated by an insulin surge after a high carbohydrate meal, or increased adrenergic activity with physical exertion. As in this case, the patient may not have overt hyperthyroidism; THPP should be checked in all patients with HPP. Treatment of hyperthyroidism prevents THPP, though the degree of hyperthyroidism does not predict the degree of paralysis. The hypokalemia of THPP may be exacerbated by associated mild hypermagnesemia and hypophosphatemia. Propional (which stops the adrenergic stimulation of the Na-K pump) K+ supplementation, or spironolactone may also prevent attacks. Occasional spontaneous recovery of flaccid paralysis suggests that K+ can shift back out of the cell without permanent damage to the skeletal muscle.

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LEARNING OBJECTIVES: 1. Present a case of exertional leg pain and generate a differential diagnosis. 2. Describe the presentation, diagnosis, and management of diabetic foot syndrome. 3. Discuss the emerging role of MRI in the diagnosis of diabetic foot syndrome.

CASE: A 50-year-old woman reported several years of exertional leg pain. She described cramping in both calves walking as little as one block with severe pain ascending an incline. She reported episodes of debilitated pain, including having to stop and rest while sitting down. She was unable to cross the street at the time allotted. The pain resolved with rest. She denied numbness though endorsed weakness in the affected muscles. She denied radiation of the pain, bladder, or bowel involvement. Lower extremity examination was normal, with no dermal changes indicating a history of cellulitis in any imaging in her arms. She had an L4-5 disectomy four years prior for severe low back pain and afterwards had occasional mild low back pain without radiation into the legs. She suffered a cervical fracture at age 15 and is status post fusion of C4-5 and C5-6. Medical history also included hypercholesterolemia, hypertension, psoriasis, and depression. She was taking antidepressants, antihypertensives and atorvastatin. On exam, muscle tone, bulk and strength were normal. Sensation was normal and no other physical exam findings were present. There was no edema or muscle tenderness. Pulses were normal. MRI of her cervical and lumbar spine revealed only post-surgical changes. EMG revealed no evidence of a myopathic process or postisometric disorder. Arterial duplex study of her lower extremities was normal at rest and with exercise. A muscle biopsy querying mitochondrial myopathy was normal. Compartment pressures were non-diagnostic, but exertional leg pain worsened fluid uptake, which suggested posterior compartment compartment syndrome. She underwent bilateral anterior and posterior compartment fasciotomies with complete resolution of symptoms.

DISCUSSION: The differential diagnosis of exertional leg pain includes shin splints, stress fracture, muscle strain, vascular insufficiency, disk herniation, spinal stenosis, peripheral neuropathy, popliteal artery entrapment syndrome (PAES), peroneal nerve entrapment, osteomyelitis, tumor, and chronic compartment syndrome (CCS). Tenderness about the tibia is seen with shin splints and stress fracture. Plain radiographs, bone scintigraphy, or MRI may confirm the diagnosis of stress fracture. Concomitant low back pain or radicular pain in a dermatomal distribution suggests disk herniation. Radiocarpal pain in elderly patients suggests spinal stenosis. Vascular insufficiency may only be apparent with exercise Ankle-Brachial Index (ABI) testing. PAES and peroneal nerve entrapment are uncommon, but can mimic CCS. These can be ruled out with Doppler imaging and EMG. CCS is an uncommon diagnosis with an unclear incidence. It is most common in athletes and more commonly affects the lower extremities. Young women may be most at risk. The average duration of symptoms before diagnosis is two years. There is a two-year delay in diagnosis despite neurology and rheumatology consultation. Confirmation has classically relied on elevated intracompartmental pressures, but sensitivity appears to be higher with exertional MRI. Conservative therapy is ineffective in CCS. Fasciectomy is the most widely used treatment, has few complications and a fast recovery time.

GINGIVAL BLEEDING IN A SUICIDAL WOMAN: A CASE OF INTENTIONAL SUPERWARFARIN INGESTION

CASE: A 27-year-old female was admitted to psychiatry with suicidal ideation; medicine is consulted regarding the patient’s gingival bleeding. The patient reports gingival bleeding for the past 2 weeks and denies all other bleeding. When questioned about her mood, she admits to suicidal ideation but initially denies any suicidal behaviors including ingestions. Her medical history is notable for depression and bipolar disorder for which she is being treated with bupropion and quetiapine. She is an active smoker and denies all other substance abuse. Her physical exam is notable for gingival oozing from the lower and upper gums and a flat affect. Laboratory studies reveal normal renal and liver function. CBC and iron studies are consistent with iron deficiency anemia. Coagulation parameters are markedly elevated: PT greater than 90, aPTT 85. Fibrinogen and D-dimer levels are both normal. Urinalysis reveals microscopic hematuria.

DISCUSSION: The differential diagnosis for prolonged PT and aPTT includes superwarfarin ingestion and heparin ingestion. Other causes of ingestion include Munchausen syndrome and attempted suicide. The diagnosis of superwarfarin ingestion is often suggested by the patient’s history, but can be confirmed with further studies including superwarfarin levels, vitamin K1 epoxide-reduced to vitamin K ratio, levels of the vitamin K-dependent factors, and plasminogen studies. The urgent management of superwarfarin toxicity involves close monitoring for signs of bleeding including frequent physical exams, serial CBC, and coagulation studies. FFP can be used to correct an elevated PT in the setting of active bleeding. The long-term management is aimed at normalizing PT with massive doses of oral vitamin K and iron replacement as needed. The dosing of vitamin K is controversial but 7 mg/kg per day divided every 6 hours may be reasonable given the half-life and low potential for toxicity. This frequently causes tissue and mucosal bleeding. In our patient, it was advised to take 350 mg of vitamin K daily which is a total of seventy 5 mg tablets. In follow-up, she noted that the pharmacy initially refused to fill this quantity, then ran out of stock, and that the number of tablets required of her was daunting. To determine the potential for bleeding with warfarin, it is often useful to estimate an elimination curve by obtaining serial superwarfarin levels.

GROUP A BETA-HEMOLYTIC STREPTOCOCCAL MENINGITIS IN AN ADULT

CASE: A 46-year-old Caucasian female with no significant medical history presented with a one-day history of fever, five days of progressively worsening fatigue, sore throat, and swelling and tenderness of the neck and bilateral chucks. She had never been diagnosed in the ER with viral pharyngitis and discharged on over-the-counter medications. On exam she appeared ill with a temperature of 39.3°C. ENT exam was negative for pharyngitis, but significant tonsillar hypertrophy was noted. A sample was obtained for group A delta hemolytic streptococcus (GAS). Chest and neck plain films showed widening of soft tissue interfaces and increased neck. Neck CT was negative for abscess, however, showed paravertebral soft tissue swelling from the nasopharynx to the hypopharynx and bilateral cervical lymphadenopathy. Fiberoptic endoscopic evaluation showed tissue swelling of the pharynx, patent airway, and normal laryngeal structures. Neurologic exam was normal, no nuchal rigidity, and no Kernig and Brudzinski signs. WBC count was 20,600. PHB nasal and blood cultures were positive for group A Beta-hemolytic streptococcus (GAS). Chest and neck plain films showed widening of neck soft tissues and increased neck. Neck CT was negative for abscess, however, showed paravertebral soft tissue swelling from the nasopharynx to the hypopharynx and bilateral cervical lymphadenopathy with nodes <1 cm. The patient received cefazolin and one dose of vancomycin. On hospital day 1 she developed bleeder from her bilateral ear canals. Lab findings were consistent with mild DIC. On hospital day 2 she had decline in mental status. Brain CT was negative. Lumbar puncture revealed CSF consistent with bacterial meningitis. Antibiotic coverage was changed to piperacillin-tazobactam. The patient was transferred to the ICU. On hospital day 3, her mental status worsened and she was intubated. Brain MRI was negative for abscess. Her mental status gradually improved over next several days, and she was extubated and trans-
HEMOLYSIS IN AN ELDERLY MALE WITH NEAR DROWNING. K. Sandhu1, A. Segovia2, U. Muthyalia1, H. Friedman3. 1St. Francis Hospital, Evanston, IL; 2St. Francis Hospital, Evanston, IL; 3St. Francis Hospital, Evanston, IL. (Tracking ID # 1541 70)

LEARNING OBJECTIVES: Recognize hemolysis as one of the manifestations of near drowning. CASE: An 83-year-old male, with PMH of coronary artery disease, hypertension, and DM type II, was rescued from the bottom of a swimming pool by a lifeguard and given cardiopulmonary resuscitation. He regained consciousness and was transferred to the hospital in the emergency room, he was confused and hypodynamic. He was on a 100% non-rebreather mask to maintain oxygen saturation in the blood. Blood pressure and pulse were normal. Chest examination showed bilateral crackles. Rest of the examination was unremarkable. Chest x-ray had bilateral infiltrates consistent with the diagnosis of pulmonary edema secondary to submersion injury. Lab values showed normal electrolytes except a low sodium of 133 mmol/L. CBC was normal except for hematocrit of 10.7% and a hematocrit of 32%. His baseline hematocrit was 12–13% /dL. The next day hematocrit dropped to 7.1 with a hematocrit of 20.4. Workup for this acute drop in hematocrit was initiated. Patient did not have any rectal or urinary blood loss. A CT-scan of abdomen/ pelvis with and without contrast showed no complications. Our authors have suggested a higher association of such conditions as human immunodeficiency virus, malignant neoplasm, heart and lung disease, diabetes mellitus, and alcoholism with increased risks for red cell lysis. In a retrospective study of nine cases of GAS meningitis in adults, eight were found to be community acquired. No chronic underlying conditions were present, suggesting that GAS meningitis can occur in otherwise healthy adults. The drug of choice for early treatment is penicillin. Clindamycin should also be considered in patients with documented invasive infections to halt production of toxins. Immune globulin has also been administered in some cases to neutralize streptococcal toxins. Mortality rates associated with GAS meningitis appear to be lower than that associated with pneumococcal or nocardial meningitis.

HEPATIC CIRRHOSIS WITH MARKED ASCITES ASSOCIATED WITH VITAMIN A TOXICITY. M.A. Baig1; J. Rasheed1. 1St. Francis Hospital, Evanston, IL; 2St. Francis Hospital, Evanston, IL. (Tracking ID # s5558)

LEARNING OBJECTIVES: Recognize potential clinical manifestations of West Nile infection. CASE: A 60 year-old Hispanic female with hypertension, diabetes mellitus type 2, and prior history of breast cancer was admitted for headache and tremors. Her headaches, localized to the back of her head, started one week prior to admission and were associated with nausea but not photophobia or neck stiffness. For three days prior to admission, she exhibited hand tremors, which occurred at rest and with movement. She also reported subjective fevers but denied cough, shortness of breath, dysuria, or diarrhea. She denied recent travel or household contacts. The patient was retired and lived in Van Nuys, California. She denied cigarette, alcohol, or drug use. On physical exam, the patient had a fever of 39.5 C and pulse of 144. Examination of her lungs, heart, and abdomen was unremarkable. She had no meningismus but exhibited a static and kinetic hand tremor bilaterally; neurologic exam was otherwise normal. Her complete blood count and electrolytes were normal. A lumbar puncture was performed which revealed a lymphocytic pleocytosis with 17 lymphocytes, 2 red blood cells, and a protein of 62 mg/dL. West Nile IgG of the CSF returned a few days later as positive, confirming a diagnosis of West Nile meningitis.

DISCUSSION: Historically indigenous to Africa, Asia, Europe, and Australia, the West Nile flavivirus first arrived in North America in 1999. Another outbreak occurred in 2002 and over 4,000 cases were reported in the next six months. Peak incidence occurs in the summer to early fall, and its transmission is maintained through a mosquito-bird-mosquito cycle, with humans involved as accidental hosts. West Nile infection can present with a broad range of manifestations. Most patients are asymptomatic and approximately 20% have a self-limited illness, with symptoms such as headache, fever, and nausea. Less than 1% develop neuroinvasive disease, such as meningitis, encephalitis, or flaccid paralysis. Many patients with CNS involvement exhibit dyskinesias, including tremor, ataxia, pseudobulbar palsy, and myoclonus. A retrospective study of 12 prospective studies expected cases showed that tremor was present in 15% of 16 seropositive cases. MRI imaging and pathologic review shows that the virus preferentially affects the basal ganglia, thalamus, caudate nucleus, and substantia nigra. This might explain the presence of dyskinesias. Diagnosis relies on serological testing with serum or CSF West Nile IgM ELISA, which has a sensitivity of 95%. Because its presentation is often nonspecific, many cases of West Nile-like go undiagnosed. Physicians should engage thoroughly about exposure and geographic history. Testing for West Nile virus should be considered in patients with risk factors, movement abnormalities, or persistent fevers despite empiric treatment. Current, only supportive treatment is available for West Nile infections. Mortality is highest in neuroinvasive disease, reportedly 12% in cases of encephalitis. Potential treatments may involve propagating the interferon response, and human vaccines are under development. A case control study showed that increased time spent outdoors and presence of standing water such as avoiding mosquito exposure and using DEET-based repellants. West Nile infection can present with a broad range of manifestations. Most patients are asymptomatic and approximately 20% have a self-limited illness, with symptoms such as headache, fever, and nausea. Less than 1% develop neuroinvasive disease, such as meningitis, encephalitis, or flaccid paralysis. Many patients with CNS involvement exhibit dyskinesias, including tremor, ataxia, pseudobulbar palsy, and myoclonus. A retrospective study of 12 prospective studies expected cases showed that tremor was present in 15% of 16 seropositive cases. MRI imaging and pathologic review shows that the virus preferentially affects the basal ganglia, thalamus, caudate nucleus, and substantia nigra. This might explain the presence of dyskinesias. Diagnosis relies on serological testing with serum or CSF West Nile IgM ELISA, which has a sensitivity of 95%. Because its presentation is often nonspecific, many cases of West Nile-like go undiagnosed. Physicians should engage thoroughly about exposure and geographic history. Testing for West Nile virus should be considered in patients with risk factors, movement abnormalities, or persistent fevers despite empiric treatment. Current, only supportive treatment is available for West Nile infections. Mortality is highest in neuroinvasive disease, reportedly 12% in cases of encephalitis. Potential treatments may involve propagating the interferon response, and human vaccines are under development. A case control study showed that increased time spent outdoors and presence of standing water such as avoiding mosquito exposure and using DEET-based repellants.
HIV SEROCONVERSION IN A 20-YEAR-OLD AFRICAN AMERICAN MALE

CASE: A 20-year-old previously healthy African-American male presented with five days of fevers, chills, sweats, myalgias, vomiting, diarrhea, anorexia, sore throat and near syncope. He denied recent travel, insect or animal bites, sick contacts, recent sexual contacts or ingestion of any unusual foods. He denied prior alcohol or drug use. His current medications were none.

DISCUSSION: This case highlights the importance of conducting a thorough search for causes of fever in the young and under 40 years of age, including high index of suspicion for common and unusual infections. Early detection of HIV disease allows patients to receive timely care and recognition of an uncommon cause in a patient with cirrhosis. 2) Review the signs and symptoms of acute HIV usually present days to weeks following initial exposure. The most common symptoms include fever, fatigue, and maculopapular rash. Other symptoms may be present, including headache, lymphadenopathy, pharyngitis, myalgias, arthralgias, and gastrointestinal upset; all of these were present in our patient’s presentation. Six weeks after the index of suspicion, as its presentation can often mimic other viral syndromes such as influenza or mononucleosis. Early detection of HIV disease allows patients to receive timely care and management.

DISCUSSION: Acute HIV infection is a short-lived illness associated with a high viral titer and immune response to the virus. Approximately half of people infected with HIV will experience a symptomatic seroconversion. The signs and symptoms of acute HIV usually present days to weeks following initial exposure. The most common symptoms include fever, fatigue, and maculopapular rash. Other symptoms may be present, including headache, lymphadenopathy, pharyngitis, myalgias, arthralgias, and gastrointestinal upset; all of these were present in our patient’s presentation. Six weeks after the index of suspicion, as its presentation can often mimic other viral syndromes such as influenza or mononucleosis. Early detection of HIV disease allows patients to receive timely care and management.

HIV AIDS INFECTIONS AMONG THE ELDERLY: A NEED FOR IMPLEMENTING NEW SCREENING AND EDUCATIONAL MEASURES

LEARNING OBJECTIVES: 1. Recognize the signs of hepatitis C and other infections in the elderly. 2. Identify the signs and symptoms of hepatitis C and other infections in the elderly.

HIDA UP FROM DISIAGNOSIS, LINKING IN THE VASCULARITY: INTRAVASCULAR LYMPHOMA

CASE: A 57-year-old Caucasian man with a history significant for chronic liver disease, as well as profound tenderness, erythema and edema of the right upper arm and shoulder. The patient underwent incision, drainage, and prosthesis removal. A sexual history was obtained only after Pneumocystis jirovecii pneumonia (PCP) was considered in the differential diagnosis. Patient denied recent travel, insect or animal bites, sick contacts, recent sexual contacts or ingestion of any unusual foods. He denied prior alcohol or drug use. His current medications were none.

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LEARNING OBJECTIVES: 1) To recognize the clinical presentation of a patient at high risk for breast cancer. 2) To list features of the family history that indicate an increased hereditary susceptibility for breast cancer. 3) To describe the current recommendations for prophylactic surgery in BRCA 1 and 2 carriers. 
CASE: A 33-year-old woman presented to the breast cancer clinic for post-surgical management of a recently resected breast mass. The patient’s symptoms began two weeks postpartum with a palpable “golf-ball sized” mass in her right breast. She noted tenderness in the mass and had gynecomastia. A mammogram showed a large sharply-defined dense mass in the lower outer quadrant. An ultrasound revealed a 7 cm mass that was predominantly cystic, with a significant solid component. With her age (50 years), bilateral breast cancer, breast cancer in multiple relatives of the same lineage, male breast cancer, relatives with both breast and ovarian cancer, Ashkenazi Jewish ancestry, and a relative with ovarian cancer in the family, her risk of hereditary breast cancer is significantly increased. The primary mode of HIV transmission in this age group is by sexual contact rather than blood transfusion, or intravenous drug use. This vignette underlines the importance of preventive counseling and screening for individuals at high risk for breast cancer. 

HYPERPHOSPHATEMIA RESULTING FROM BOWEL PREPARATION FOR COLONOSCOPY. J. Schell1; N. Manuthur1; S.D. Sisson1. Johns Hopkins University, Baltimore, MD; Johns Hopkins Hospital, Baltimore, MD (Tracking ID # 545607)

LEARNING OBJECTIVES: 1. To recognize complex drug-drug interaction in patients taking multiple medications. 2. To describe pharmacokinetics of commonly used drugs. 3. To recognize the risk of hypoglycemia in diabetic patients on sulfonylureas and fluoroquinolones.
CASE: A 78 year old male with past medical history of bladder cancer, hypertension and Type II diabetes mellitus presented with dysuria. He was found to have culture-documented urinary tract infection. He was prescribed ciprofloxacin, with the dose adjusted to his chronic renal insufficiency (Cr 1.7; estimated GFR 17 ml/min). His chronic medications were glyburide 1.25 mgqd, fluoxetine 20 mgqd, furosemide 20 mgqd, lisinopril 40 mgqd, and glibenclamide 20 mgqd. After two doses of ciprofloxacin, he developed dizziness and confusion and was found to have glucose 40 mg/dl. He was admitted to the hospital. On admission, his BP was 168/98, and pulse was 80. On exam he was alert and oriented to time, place, person and had normal neurological examination. His laboratory tests revealed 4+ bacteria and 11–20 WBCs on urinalysis. Glyburide was stopped. His blood glucose over next 24 hrs was 70–80 mg/dl. He did not have any repeat episodes of hypoglycemia.

HYPOGLYCEMIC CRISIS FROM GYBURIDE-CIPROFLOXACIN INTERACTION: AN UNCOMMON REACTION FROM TWO COMMON MEDICATIONS. R. Aggarwal1; R. Graener1. University of Pittsburgh, Pittsburgh, PA. (Tracking ID # 55855)

LEARNING OBJECTIVES: 1. To recognize complex drug-drug interaction in patients taking multiple medications. 2. To describe pharmacokinetics of commonly used drugs. 3. To recognize the risk of hypoglycemia in diabetic patients on sulfonylureas and fluoroquinolones.
CASE: A 78 y.o. woman with a history of thoracic outlet syndrome, tobacco use, and Type II diabetes to improve glycemic control. Glyburide acts by blocking ATP-sensitive potassium channels in beta cells of pancreas and epigastric paresthesias. Chvostek’s sign was positive. She was treated with 1 degree heart block. Laboratory data was significant for a creatinine of 3.0 mg/dl, phosphate 8.5 mg/dl, bicarbonate 17 mEq/L, calcium 7.8 mg/dL, sodium 138 mEq/L, potassium 5.0 mEq/L, and elevated parathyroid hormone. Her initial presentation was characterized by cough, hypoxia, and altered mental status. 

HYPOLXIA AND PULMONARY INFILTRATE MASQUERADING AS PNEUMONIA. C. Skaggen1; A. Wilk1. University of Wisconsin-Madison, Madison, WI. (Tracking ID # 59686)

LEARNING OBJECTIVES: 1. Recognize typical symptoms and signs of pulmonary arterial reperfusion. 2. Recognize complications associated with pulmonary AVMs. 3. Recompose complicating factors in patients with a history of thoracic surgery who have signs and symptoms of hypoxia. 
CASE: A 50 y.o. woman with a history of thoracic outlet syndrome, tobacco use, and Type II diabetes to improve glycemic control. Glyburide acts by blocking ATP-sensitive potassium channels in beta cells of pancreas and epigastric paresthesias. Chvostek’s sign was positive. She was treated with 1 degree heart block. Laboratory data was significant for a creatinine of 3.0 mg/dl, phosphate 8.5 mg/dl, bicarbonate 17 mEq/L, calcium 7.8 mg/dL, sodium 138 mEq/L, potassium 5.0 mEq/L, and elevated parathyroid hormone. Her initial presentation was characterized by cough, hypoxia, and altered mental status. 

SEXUAL PARTNERS FROM THE DEATH OF HIS WIFE, FIVE YEARS AGO. SUBSEQUENTLY, HE WAS DIAGNOSED WITH PCP, ORAL CANDIDIASIS, AND TESTED POSITIVE FOR HIV. HE WAS FOUND TO HAVE A VIRAL LOAD GREATER THAN 100,000 AND A CD4+ LYMPHOCYTE COUNT OF 81. PATIENT 1: He was referred to their other code-named conditions. The primary mode of HIV transmission in this age group is by sexual contact rather than blood transfusions, or intravenous drug use. This vignette underlines the importance of preventive counseling and screening for individuals at high risk for breast cancer.
intravenous antibiotics, she was discharged on four liters of oxygen therapy. Since that time she had dyspnea without chest pain and minimal response to inhaled beta agonists. She was obese with a saturation of 89% on four liters of supplemental oxygen. Though she had normal cardiac and pulmonary examinations without edema, cyanosis, or clubbing, her CXR continued to show a right middle lobe infiltrate and PFTs demonstrated a low DLCO. Further evaluation included a normal sleep study and a non-contrast echocardiogram showing a normal left ventricular ejection fraction and pulmonary pressures. Chest CT scan raised concern for chronic pulmonary emboli, and a CT scan of the chest was performed. This confirmed the presence of two AVMs, the larger of which was located in the right middle lobe. She underwent embolization, followed by subsequently discontinued oxygen therapy. Further family screening revealed a daughter with cerebral AVMs. Thus, together with the patient’s new-onset epistaxis and right middle lobe AVMs, negative family history and subsequently negative laboratory workup, this is consistent with a diagnosis of hereditary hemorrhagic telangiectasia (HHT).

DISCUSSION: Pulmonary AVMs are a rare clinical finding with an incidence as low as 0.02%. Seventy percent of these patients have HHT, which has autosomal dominant transmission. However, patients do not typically present with pulmonary symptoms. This case demonstrates the need for a high index of suspicion for this condition in patients with unexplained hypoxia are the most common presenting signs. Other associated findings include ptyalism, hemoptysis, and cutaneous telangiectasia. The CXR is abnormal in about 98% of these patients, and may show a nodular mass, particularly in the lower lung fields. In the case of this patient, the radiologic findings may be less specific, manifesting as an acute infiltrate and interpreted as pneumonia. Both CT imaging with contrast and pulmonary angiography are standards for diagnosing pulmonary AVMs. However, a recent study showed a sensitivity and predictive value when CXR was combined with contrast echocardiogram for screening. Of those patients with pulmonary AVMs, about 30% develop CNS complications such as stroke, epilepsy, and headaches. Thus, early diagnosis is critical for appropriate treatment and monitoring.

INCREASING FREQUENCY AND NOCTURIA IN AN MIDDLE AGED MALE MAY NOT ALWAYS BE DUE TO BENIGN PROSTATIC HYPERPLASIA (BPH). K. Gaughrá,° 1University of Tennessee, College of Medicine - Chattanooga Unit, Chattanooga, TN. (Tracking ID #: 151324)

LEARNING OBJECTIVES: 1. Discuss the signs and symptoms of BPH and the work up of a male with urinary symptoms. 2. Recognize a rare type of bladder tumor in a middle aged male.

CASE: A 58 year old previously healthy Caucasian male presented with increased frequency of urination, feeling of incomplete emptying of the bladder and nocturia over the last five months. He had no history of fever, hematuria, nausea, vomiting or diarrhea. He had an 80 pack per year smoking history. Physical examination revealed a 2931 (88–243).

The laboratory data revealed Hb 10.5 g/dL, BUN 24 mg/dL, creatinine 2.8 mg/dL, FSA level 0.18 mg/dL. Urinalysis was negative for red blood cells, white blood cells, bacteria, nitrates, casts or protein. Renal CT showed bilateral hydronephrosis and hydroureretum. Renogram showed bilateral poor renal function. Cystography showed marked thickening of urinary bladder trabeculae. Cystoscopy showed entire bladder mucosa to be thickened, edematous with an exaggerated granular appearance and bilateral uretero-vesical junction stenosis. Biopsy, staining and pathology report of bladder tissue suggested primary signet ring cell carcinoma of urinary bladder. Patient underwent cystectomy and is undergoing chemotherapy.

DISCUSSION: BPH typically presents symptoms of increased frequency, nocturia, hesitancy, urgency or weak urinary stream. Correlation between symptoms and presence of prostate enlargement on rectal exam is poor. Some diagnoses to be considered with such symptomatology are urethral stricture, bladder neck contracture, carcinoma of prostate and bladder, bladder calculi, urinary tract infection, prostatitis or neurogenic bladder. Diagnostic workup of a patient presenting with such lower urinary tract symptoms should include urinalysis and serum creatinine. Serum PSA, a maximal urinary flow rate and postvoid residual should be checked and if found to be low, should be supplemented. In addition, if the patient does not have any vitamin deficiencies, though rare, CBS deficiency and MTHR gene mutation should be investigated. The patient was discharged on folate and vit B12 injections. She was also taught to take anticoagulants for 6 months. In the future, if the patient were to develop another thrombosis, she would then be instructed to be anticoagulated for life.

DIABETIC PULMONARY EMBOLISM AND HYPERHOMOCYSTEINEMIA. A.K. Han;° 1Albert Einstein College of Medicine, Bronx, NY. (Tracking ID #: 152240)

LEARNING OBJECTIVES: 1. To realize that a high suspicion of pulmonary embolism is always necessary. 2. To understand the importance of hyperhomocysteinemia as a risk factor for thromboembolic disease.
LEARNING OBJECTIVES: Recognize various sources of paradoxical emboli. 2. Describe the pathophysiology of intra-pulmonary shunt. CASE: An 18 year old female with no significant past medical history presented to the ED with pain in her right calf. Her BP was 165/95 mmHg and her heart rate was 92 beats/min. The remainder of her exam was normal. Extremities exam revealed diminished right dorsalis pedis and posterior tibial artery pulses. Right and left ABI were 0.6 and 0.8 respectively. Patient was started on HCTZ 12.5 mg, atenolol 25 mg and aspirin 81 mg/day. Four weeks later, BP was 144/70, pulse 68. Lab results were normal except LDL cholesterol (154 mg/dL). She was started on lisinopril 10 mg/day and Simvastatin 40 mg/day and was referred to a supervised exercise program. Six months later she was happy to be able to do her own shopping again.

DISCUSSION: Prevalence of PAD is 2% at age of 50 and 20% at 75. Only 10-35% of patients with PAD have IC. Furthermore, 1/3 of them consider their symptoms moderate or severe but do not seek medical attention. The majority of patients are asymptomatic (20-50%), present with atypical leg pain (40-50%) or critical limb ischemia (1-2%). PAD risk factors are age, smoking, diabetes, hypertension, hyperlipidemia, hyperhomocysteinemia and elevated C-reactive protein. Other risk factors are peripheral arterial disease in patients 70 years and older, those 50-60 with history of smoking or diabetes, those less than 50 with diabetes and one other risk factor and patients with known coronary, carotid, or renal artery disease. Internists should screen these groups by performing an ABI if any history of smoking or intravenous drug use and admitted to the use of oral contraceptives for the last three months. Examination was only significant for a dusky cyanosis of the distal third of the third and fourth digit without loss of sensation of the digit. Palpation of the brachial artery revealed 2+ pulses bilaterally. Lower extremity pulses were also 2+ and equal bilaterally. Cardiac examination did not reveal any murmurs, rubs or gallops. Angiography performed revealed an extremely Right to Left Embolus. Right To Left Emboli with normal digital angiogram and 2+ femoral pulses. Right femoral pulse was only 2+ with a normal tibial pulse. Review of past medical records demonstrated anemia and severe iron deficiency with history of menorrhagia. However, patient had no family history of breast cancer or Hodgkin's disease. Despite this, only 8% of internists will check ABI, even if the patient has absent peripheral pulses. Supervised exercise is the most effective therapy for PAD. It is associated with up to 150% increase in maximal walking distance. It is the internist's responsibility to detect and manage PAD. In part, our internists have caused some patients to unnecessarily land on the vascular surgeon table. We have the tools to prevent, detect and manage most PAD cases if we internists take charge.
IS IT JUST A GOUTY ATTACK? A.S. Morrow1; L. Lu1
1Bay College of Medicine, Houston, TX. (Tracking ID # 155704)

LEARNING OBJECTIVES: 1) Recognize the importance of performing arthrocentesis in evaluating acute swollen joints in patients with a known history of gout. 2) Recognize that septic arthritis and gout can occur concurrently.

CASE: An 80 year old man with a history of gouty attacks usually involved only his lower extremities. On admission, his vital signs were temperature 97.7 BP 180/65 HR 105 RR 14. Physical examination revealed tenderness, erythema, and edema in his right elbow, right first metatarsal and metatarsophalangeal joints, with limited range of motion in all of them, but with 80% neutrophils. Arthritis was performed on his elbow and patient was started on prednisone for presumed gout. Results revealed cell count of 3210 (99 segs, 1 lymph, 3 macrophages, glucose of 21, and protein of 3.6; negatively birefringent crystals were seen. The next day patient had joint fluid revealed gram negative rods, and the patient was started on ceftriaxone. Orthopedic surgery was consulted, and repeat arthrocentesis showed cell count of 5 w/99 segs, 1 lymph, gram stain positive for gram negative rods, and needle-shaped crystals. Patient was taken to surgery for incision and drainage of his elbow and was subsequently treated with ceftriaxone for 3 weeks. Cultures from both elbows were negative. A urinalysis was checked 2 days after the initiation of antibiotics had 7 wbc and few bacteria. Gouty symptoms were treated with colchicine once concomitant infection was ruled out. DISCUSSION: Although joint damage from pre-existing arthritis is considered a predictable factor for gouty arthritis, that is not the case with joint infection, but not gout. Concomitant gout and septic arthritis is rare; thus, a high index of suspicion is necessary in order to make the diagnosis. The first case was described in 1960; however, since then only twenty cases have been reported in the literature, including a “large” review of 30 additional cases. The presentation of gout and septic arthritis could be almost identical; both could present with an acutely inflamed joint, fever, and leukocytosis. If the former two signs are present, the American College of Rheumatology recommends performing arthrocentesis even in the patient with a known arthritis. Further factors that might favor performing the procedure include a polyarticular presentation, involvement of the upper extremities, or no prior arthrocentesis confirming the prior diagnosis of gout. As either a positive gram stain or culture can confirm a diagnosis of pyarthrosis, both tests should be sent in addition to the FBC and joint fluid analysis. Further tests may be considered if not clearly identified, the urine was considered to be a possible source as the urinalysis still revealed numerous wbc and few bacteria even after 2 days of antibiotic treatment.

IS LUPUS A PERIOPERATIVE CARDIAC RISK FACTOR? A. Saxena1; D. Mercado1
1Baystate Medical Center, Springfield, MA. (Tracking ID # 155704)

LEARNING OBJECTIVES: Premature coronary heart disease (CHD) has emerged as a major cause of morbidity and mortality in patients with systemic lupus erythematosus (SLE). Overall, SLE patients have a 5-6-fold increased risk of CHD. This risk is especially pronounced in younger women in whom the CHD incidence may be >50-fold. The resulting CHD may be significant enough to represent a risk for perioperative cardiac events. In summary, there is a need to redefine the approach to risk-factor management in SLE patients. Like diabetes mellitus, SLE should be considered a coronary heart disease equivalent condition when managing patients perioperatively.

IS THIS NOT ACUTE APPENDICITIS? M. Amini1; N. Siahalea1; V. Delgado1; C. Mendez1
1John H. Stroger Jr. Hospital of Cook County, Chicago, IL. (Tracking ID # 155707)

LEARNING OBJECTIVES: 1. Distinguish gonadal vein thrombosis from acute appendicitis. 2. Identify as gonal vein thrombus as a rare of the ovary. She was admitted in abdominal pain in a young female. 3. Gain knowledge of the etiology, diagnostic work-up and treatment of gonadal vein thrombosis.

CASE: A young, healthy female of 30yrs presented with one day of severe, continuous right lower quadrant (RLQ) abdominal pain, hematochezia, and nausea and had vomited once. Laboratory investigations revealed leukocytosis of 17,400 cells/µL. Palpation elicited tenderness and voluntary guarding in her RLQ, but Mcburney’s sign was negative. Her stool was negative for occult blood. Pelvic exam showed tenderness in the vaginal right lateral fornix, with no cervical motion tenderness and no bleeding per vaginum. Her last menstrual period was ten days prior to admission and a pregnancy test was negative. Six months ago, she was diagnosed with a right multiculated ovarian cyst, reported as a possible hydrosalphinx on a CT scan and pelvic ultrasound. Her gonococcal and chlamydia DNA PCR tests were negative. This admission, a CT scan of her abdomen with intravenous contrast surprisingly ruled out appendicitis. Her previous right adnexal cyst was unchanged in size. However, it showed an unexpected finding of a large thrombus in the right gonadal (ovarian) vein. A Doppler ultrasound was ruled out intravenous contrast. She was started on anticoagulation and intravenous antibiotics and pain improved. Laboratory testing for coagulation disorders including factor V Leiden mutation, ANA screen, lupus anticoagulant, homocysteine, protein C and protein S levels were normal. It was concluded that she may have had septic thromboembolism of the gonadal vein related to infection from the hydrosalphinx. She was discharged on oral antibiotics. On follow-up after 6 weeks, patient has had no further episodes of abdominal pain. DISCUSSION: Though a very rare cause of RLQ abdominal pain, gonadal vein thrombosis closely mimics appendicitis, as was the case in our patient. Gonadal vein thrombosis must be recognized and treated early to reduce the risk of serious complications, including extension into the inferior vena cava (IVC), pulmonary embolism, sepsis, peritonitis and ureteral obstruction. Unrecognized cases have resulted in death. This case underscores the importance of including this diagnosis in the examination of the RLQ. Etiology: Ovarian vein thrombosis arises classically in the post-partum period. It also occurs in hypercoagulable diseases such as antiphospholipid antibody syndrome, lupus anticoagulant, and antiphospholipid syndrome. This case further proves that patients cannot be be ruled out if the patient is not post-partum. Septic ovarian vein thrombosis is the other main cause. A few idiopathic cases have also been reported. Treatment: Surgery is not necessary and treatment consists of anticoagulants and antibiotics. Anticoagulation is done in most cases for a short-term period of 6-8 weeks. If there is extension in the IVC, an IVC filter may be needed. Antibiotics are required if the cause is septic thromboembolitis. When they are diagnosed in a timely manner and treated appropriately, the response is good and potential serious complications, including thromboembolism and death may be averted. Radiological imaging is useful in the diagnostic work-up of this condition. Early recognition of the condition is of paramount importance to institute the adequate treatment and avoid potential serious sequelae.

IT’S ALL IN THE FAMILY: AN UNUSUAL SOURCE OF HYPERTENSION IN A YOUNG ADULT J. Ridgway1; A. Porzio1; C. Lai1
1University of California, San Francisco, San Francisco, CA. (Tracking ID # 155436)

LEARNING OBJECTIVES: 1. Recognize the importance of a thorough family history in assessing young patients for hypertension (HTN). 2. Learn the clinical presentation, diagnosis, and management of phaeochromocytoma. 3. Recognize the clinical manifestations of Von Hippel Lindau disease and the importance of genetic testing for first-degree relatives.

CASE: A 20 year old previously healthy man presented with sudden onset of severe headache, nausea, vomiting, and right-sided weakness. He endorsed marijuana use but denied other drugs. Exam revealed a thin, intubated man with decreased strength 1/5 right upper extremity, right-sided papilledema, severe right horizontal nystagnus bilaterally, decreased gag reflex, and rapidly progressive somnolence. Head CT and MRI showed a 3-cm hemangioblastoma with intraventricular bleed at the inferior cerebellar vermis. Further questioning will almost always become iron deficient. In the setting of unexplained cardiac ischemia, severe iron deficiency due to menstruation or other causes of blood loss should be considered. Standard protocols for management of suspected cardiac ischemia are of little value in the face of anemia. Either the use of additional transfusion for protocols, without considering loss of oxygen delivery due to prolonged anemia, may exacerbate the ischemia. While urerine leiomysarcoma are considered benign, physicians should advocate for removal if the resulting menstruation results in repeated iron deficiency. Since 1982, our patient had been repeatedly treated with transfusions to correct the recurrent iron-deficiency anemia from the leiomysarcoma.
of family revealed Von Hippel Lindau (VHL) disease in three maternal relatives, although the patient had not been previously evaluated for VHL. Abdominal CT showed pancreatic cysts and a 5-cm right adrenal mass consistent with pheochromocytoma. 24-hour urinary metanephrines were elevated, and the patient's blood pressure was elevated, and physical exam was significant only for pallor. She had microcytic anemia (hemoglobin 6.5 g/dL), hematuria, proteinuria, hyaline casts, and a creatinine level of 3.9. She was admitted for transfusion. Her chest x-ray showed a new nodular opacity laterally at the left midlung. A work up was pursued. Evaluation of HTN in a young patient should focus on a careful history, physical exam, and family history to uncover endocrinologic, renal, and cardiac diseases. A review of medications and illicit drugs is also critical, as young patients may use oral contraceptives, amphetamines, and performance-enhancing drugs. Relevant physical findings include tachycardia (hyperthyroidism and pheochromocytoma), obesity or adenotonsillar hypertrophy (obstructive sleep apnea, e.g., sleep apnea), ear and nose (Hunt's syndrome and pheochromocytoma), and pallor (anemia). 1. Recognize that early diagnosis and prolonged antibiotic treatment with anaerobes is critical. 2. Recognize that a history of existing prosthesis is highly suggestive of proper treatment.

LEARNING OBJECTIVES: 1. Recognize the importance of clinical reasoning in determining an uncommon etiology of a familiar disease. 2. Interpret laboratory data for autoimmune disease. 3. Manage patients with pancreatitis.

CASE: A previously healthy 18 year-old woman presented to her physician because of a one-day history of sore throat, fatigue and difficulty swallowing. Examination at that time revealed tonsillar exudates, but a rapid streptococcal antigen assay was negative. She was suspected to have infectious mononucleosis. A review of medications and illicit drugs is also critical, as young patients may use oral contraceptives, amphetamines, and performance-enhancing drugs. Relevant physical findings include tachycardia (hyperthyroidism and pheochromocytoma), obesity or adenotonsillar hypertrophy (obstructive sleep apnea, e.g., sleep apnea), ear and nose (Hunt's syndrome and pheochromocytoma), and pallor (anemia). 1. Recognize that early diagnosis and prolonged antibiotic treatment with anaerobes is critical. 2. Recognize that a history of existing prosthesis is highly suggestive of proper treatment.

LEARNING OBJECTIVES: 1. Review a case of an unusual presentation of leukocytoclastic vasculitis. 2. Illustrate the importance of performing a comprehensive history and physical examination.

CASE: A 53-year-old Hispanic woman presented with a two-day history of progressive abdominal pain and increasing abdominal girth. She had been admitted on multiple occasions during the previous month for similar complaints and had been diagnosed with alcoholic hepatitis. She reported drinking three pints of vodka each weekend for twenty-five years. Her vital signs were normal. She was icteric, and had sublingual jaundice. There were scattered telangiectasias on her chest, and she had palmar erythema. Her abdominal exam revealed mild tenderness below the umbilicus, a fluid wave, and distended bridging veins. Her liver and spleen could not be palpated, and the remainder of the physical exam was normal. Her laboratory values were normal with the exception of the albumin level that was 2.3 g/dL, the AST that was 129 U/L, and the total bilirubin that was 11.3 mg/dL. A viral hepatitis panel was negative for A, B, and C. An abdominal ultrasound revealed a nodular liver and a portal vein thrombus.

DISCUSSION: Although alcohol contributed to our patient’s liver injury, the diagnosis of alcoholic hepatitis did not fully explain the portal vein thrombosis. A more detailed evaluation revealed an ESR of 110 mm/h, a positive rheumatoid factor, and a positive speckled ANA in a greater than 1:360 dilution. In addition, anticardiolipin A and smooth muscle antibodies were highly positive. Further history revealed that despite three pregnancies carried to term, she had two second trimester abortions in her twenties. She was diagnosed with autoimmune hepatitis and antiphospholipid antibody syndrome. She was started on prednisone and a Greenfield filter was placed; a pneumococcal vaccine was given. Her symptoms improved and she stopped drinking, but was lost to follow-up after Hurricane Katrina. Our patient had been evaluated for similar complaints on several occasions. Each time, she was dismissed with the admonition to stop drinking. While this is clearly important, it is also important to recognize that non-alcohol related disease is still possible in alcoholics. A disciplined method enabled discerning the primary cause of her ascites (portal vein thrombosis), enabling the appropriate management. The finding of anticardiolipin antibodies and a positive rheumatoid factor greatly increased the likelihood of this diagnosis. Hepatic biopsy is necessary for definitive diagnosis and to follow response to treatment. Intermediate intensity warfarin (INR of 2.0 to 3.0) has been shown to reduce rates of recurrent thrombosis in patients with antiphospholipid antibody syndrome. We chose not to start warfarin with this patient because of multiple risks for a GI bleed, including a history of a bleeding peptic ulcer. Although this case posed numerous obstacles, it was the internist’s clinical reasoning and that ultimately led to a complete diagnosis and initiation of proper treatment.

LEMIERRE’S SYNDROME: THE FORGOTTEN SEQUELA OF A SORE THROAT

L.V. Macranton 1, K. Pfeifer 1 1Medical College of Wisconsin, Milwaukee, WI (Tracking ID #: 156402)

LEARNING OBJECTIVES: 1. Create clinician awareness of a potentially fatal but curable complication of oropharyngeal infections. 2. Emphasize that the diagnosis of Lemierre’s syndrome rests on a high degree of clinical suspicion. 3. Recognize that early diagnosis and prolonged antibiotic treatment with anerobic coverage are crucial to reduce morbidity and mortality related to Lemierre’s syndrome.

CASE: A previously healthy 18 year-old woman presented to her physician because of a one-day history of throat, fatigue, and night sweats. Examination at that time revealed tonsillar exudates, but a rapid streptococcal antigen assay was negative. She was suspected to have infectious mononucleosis and was sent home with oral steroids. Five days later, the patient returned to
LESSONS IN TRANSPLANT MEDICINE: SIROLIMUS INDUCED INTERSTITIAL PNEUMONITIS H. Hussain1; M. Javed1; A. Cooper1.

1University of Pittsburgh, Pittsburgh, PA.

Sirolimus is commonly used as a potent immunosuppressant for treating rejection in organ transplant recipients. However, its use has been associated with a spectrum of drug-related toxicities. One of the more concerning toxicities is sirolimus-induced interstitial pneumonitis (SIIP), which can be a serious and potentially life-threatening complication. It is important to recognize the clinical features, diagnosis, and management of this condition to prevent its serious consequences.

LEARNING OBJECTIVES: 1. To recognize sirolimus as a cause of interstitial pneumonitis in transplant patients. 2. To list criteria used for diagnosis of sirolimus induced interstitial pneumonitis.

CASE: A 45-year-old female with past medical history of orthotopic heart transplant six years ago for familial cardiomyopathy was admitted to the hospital with abdominal pain, nausea and vomiting of two weeks duration. She was on immunosuppression with sirolimus (for one and a half year) and cyclosporine for prevention of rejection. An extensive work-up of her abdomen included liver function tests, an esophagogastroduodenoscopy and a computed tomography (CT) scan of chest and abdomen. The blood culture was negative. The CT showed diffuse ground-glass opacities. A transbronchial bronchial biopsy was performed with the diagnosis of SIIP. The patient was started on prednisone and it was continued on levofloxacin and metronidazole for two weeks. The patient was discharged on prednisone and sirolimus.

DISCUSSION: Sirolimus is commonly used as a potent immunosuppressant for treating rejection in organ transplant recipients. However, its use has been associated with a spectrum of drug-related toxicities. One of the more concerning toxicities is sirolimus-induced interstitial pneumonitis (SIIP), which can be a serious and potentially life-threatening complication. It is important to recognize the clinical features, diagnosis, and management of this condition to prevent its serious consequences.

LIVING LOCULATED IN THE LIVER: A CASE OF KLEBSIELLA HEPATIC ABSCESS Kuo1; J. Yeh1; B. Lee2.

1St. Mary Medical Center, Long Beach, CA; 2University of California, Los Angeles, Los Angeles, CA. (Tracking ID # 155941)

LEARNING OBJECTIVES: 1) Identify common causes of pyogenic liver abscesses. 2) Review treatment of bacterial liver abscesses.

CASE: A 65 year-old woman with a history of diabetes mellitus and arthritis was admitted to the hospital with a febrile illness. Her temperature was 39.4°C and heart rate was 130 with tachypnea and tachycardia. She was on immunosuppression with sirolimus (for one and a half year) and cyclosporine for prevention of rejection. An extensive work-up of her abdomen included liver function tests, an esophagogastroduodenoscopy and a computed tomography (CT) scan of chest and abdomen. The blood culture was negative. The CT showed diffuse ground-glass opacities. A transbronchial bronchial biopsy was performed with the diagnosis of SIIP. The patient was started on prednisone and it was continued on levofloxacin and metronidazole for two weeks. The patient was discharged on prednisone and sirolimus.

DISCUSSION: Liver abscesses can be secondary to microorganisms, such as amoebae, fungi, and bacteria. Bacterial liver abscesses are relatively uncommon, though the liver receives blood from the portal and systemic circulation, its Kupffer cells can clear bacteria so efficiently that infection rarely happens. When it does occur, potential processes associated with its development include bile duct obstruction, vascular disease, wound infection, and biliary tract infections. Potential causes of group G streptococci bacteremia.

LIVESTRONG TO YOUR HEART: A CASE OF SEPTIC ARTHRITIS FROM GROUP G STREPTOCOCCI ENDOCARDITIS J. Chang1; P. Balinti1.

1Olive View/University of California, Los Angeles, Los Angeles, CA. (Tracking ID # 155941)

LEARNING OBJECTIVES: 1) Suspect endocarditis in patients with bacteremia. 2) Recognize endocarditis as a potential cause of septic arthritis. 3) Recognize potential causes of group G streptococci bacteremia.

CASE: A 65 year-old woman with a history of diabetes mellitus and arthritis presented with left knee pain and swelling. She also described having rigors with a fever to 101 degrees F but denied any vomiting, abdominal pain or diarrhea. On initial examination she was afebrile and had a blood pressure of 90/62 and pulse of 136. Oral exam showed enlarged tonsils with no obvious asymmetry or exudates. The left side of her neck demonstrated erythema, induration and tenderness to palpation, but the remainder of her physical examination was unremarkable. Lab studies revealed a remarkable white blood cell count of 31,600/cumm with 32% bands and a platelet count of 50,000. Examination of a peripheral blood smear did not reveal schistocytes but showed toxic granulations and vacuolated neutrophils. Neck CT showed a 1 x 2 cm left peritonsillar abscess with thrombus in the external jugular vein extending inferiory to the thoracic inlet. The left internal jugular vein and carotid artery were patent. Chest CT showed multiple small nodules consistent with sepsis and significant bilateral pleural effusions. Blood cultures grew anaerobic Gram-negative rods resembling Fuso bacterium necrophorum, but transthoracic echocardiogram showed no gross vegetations or thrombus. Further investigation revealed the patient recently had a dental abscess requiring a root canal.

DISCUSSION: Although several cases were reported earlier, Dr. Andre Lemierre was the first to publish a comprehensive review of 20 cases of “anaerobic septicemia” with 16 deaths. Review of the literature identified fewer than 160 cases of classic Lemierre’s syndrome (opharyngeal infection complicated by jugular vein thrombosis and Fuso bacterium sepsis and septic emboli) with about one third occurring since 1983. Between 1950 and 1974, reports matching Lemierre’s description were rare, possibly due to the widespread use of antibiotics to treat pharyngeal infections. It is now also known as the ‘forgotten disease’ of this same era. Recent years have seen an increase in the incidence of reported Lemierre’s syndrome cases. This increased reporting of cases has been attributed to more restricted use of penicillin to treat pharyngeal infection. Improved diagnostic methods or improved anaerobic identification. It was almost universally fatal in the pre-antibiotic era, but earlier detection through diagnostic imaging, aggressive use of intravenous antibiotics and improved critical care modalities have reduced the mortality to approximately 8%. Since the 1970’s at least 50 cases have been reported, emphasizing the fact that clinicians need to be familiar with this syndrome in order to prevent its serious consequences.

LIVER PARTITIONING: SIMPLIFIED TECHNIQUES FOR COMPLETE LIVING DONOR LIVER TRANSPLANTATION ORIANTHIAN2; HOCHBERGER2; BINDER2; GROTH2; BOYTON2; REID2; COLE2; BIBER2; PINO2; STROMBERG2; ANDERSON2; AGNOLOTTI1; HULBERT1; SMITH1; JAY1; BERNSTEIN1; RUSSELL1; STADLER1; BURTON1; FERRO1; MUSILEK1.

1Liver Transplant, Beth Israel Deaconess Medical Center, Boston, MA; 2Department of Surgery, Beth Israel Deaconess Medical Center, Boston, MA. (Tracking ID # 151484)

LEARNING OBJECTIVES: 1. To outline the latest techniques for complete living donor liver transplantation. 2. To discuss the latest advances in liver partitioning.

CASE: A 18 year-old female with metastatic medulloblastoma presented with fever, chills, nausea, vomiting, anorexia, and abdominal pain for one week. She traveled to China and Mexico the previous year. Her father and brother both had hepatic cancer. The patient denied tobacco or alcohol use. Vital signs revealed a temperature of 102.3°F, pulse 110 bpm, blood pressure 100/67, respiratory rate 20, and oxygen saturation of 97%. He had a few rhonchi and rales at the bilateral lung bases. His abdomen was soft with slight R quad tenderness. Initial lab work showed WBC 12.9, Hgb 13.5, AST 162, ALT 119, LDH 248. Hepatitis panel revealed that the patient was vaccinated against hepatitis A and hepatitis B. Abnormal liver enzymes and liver function tests. The patient underwent a CT-guided aspiration of the abscess. CT abdomen and pelvis revealed an 8 x 7 x 9 cm hypodense mass consistent with liver abscess. Abdominal ultrasound showed a liver lesion suggestive of abscess and a small sequested fluid collection adjacent to the gallbladder without stones. Piperacillin-tazobactam and metronidazole were started, and the patient underwent an open surgical resection of the abscess. Pathology revealed gram-negative rods and few WBCs. The culture grew Klebsiella pneumoniae. He later underwent upper endoscopy and colonoscopy, which were negative for malignancy. He continued on levofloxacin and metronidazole for two weeks with improvement of symptoms.

DISCUSSION: Liver abscesses can be secondary to microorganisms, such as amoebae, fungi, and bacteria. Bacterial liver abscesses are relatively uncommon, though the liver receives blood from the portal and systemic circulation, its Kupffer cells can clear bacteria so efficiently that infection rarely happens. When it does occur, potential processes associated with its development include bile duct obstruction, vascular disease, wound infection, and biliary tract infections. Potential causes of group G streptococci bacteremia.

DISCUSSION: Octreotide is a synthetic analogue of the naturally occurring hormone somatostatin. It is used in the treatment of various conditions, including cancer, diabetes, and gastroenterology. However, it can cause a variety of side effects, such as gastrointestinal problems, allergic reactions, and hormonal imbalances. It is important to monitor patients for these potential complications.
gal is often noted. With timely administration of drainage procedures and antibiotics, mortality occurs in 5–30% of cases. The most common bacteria that cause liver abscesses are Escherichia coli, Klebsiella, Staphylococcus, Streptococcus, and Enterobacter. Enterobacteriaceae are particularly related to medical reasons, and the presence of the pathogen can be a major component of choice in the absence of an effective drug therapy. The presence of abscess fluid is key in establishing microbiologic diagnosis. CT scan with contrast and ultrasonography remain the radiologic modalities of choice as screening procedures and can be used to guide percutaneous aspirations and drainage as well. Unilateral blood abscesses are uniformly fatal from complications such as septicaemia, peritonitis from abscess rupture, and empyema. Percutaneous aspiration or catheter drainage along with prolonged antimicrobial therapy is the recommended treatment in most cases. Current indications for surgical treatment and drainage are peritonitis, failure of previous drainage attempts, and the presence of a complication, multiculculated, thick-walled abscess.

**LEARNING OBJECTIVES:** 1. Recognize radiculopathy as a presenting complaint of West Nile Virus (WNV) infection. 2. Diagnose WNV infection based on serology and cerebrospinal fluid laboratory findings.

**CASE:** A 59-year-old woman with controlled type 2 diabetes mellitus, hypertension, and chronic low back pain presented with one week of low-grade fever, leg pain and weakness. Ten days prior to admission she noted muscle transient diarrhea, followed by rectal pain and weakness in the left hand and, to a lesser degree, right leg. The pain and weakness progressively worsened to the point that she was unable to stand without assistance. She resided in Milwaukee, WI and had traveled to Zambia four weeks earlier and to northern CA just prior to the onset of her symptoms. In the nine months before her trip she was vaccinated against polio, hepatitis A, typhoid and yellow fever and took prophylactic medications for malaria while in Zambia. She was aware of contact with malaria vectors and had not removed ticks, but had waded into Lake Malawi. She reported fever to 102 degrees F at home but was afebrile on presentation. Her strength right/left was: hip flexors 3/2, hip adductors 4/2, hip abductors 4/2, knee extensors 5/4, knee flexors 4/3, foot dorsiflexors 5/4, and planar flexors 5/5. Deep tendon reflexes were absent in the left leg but otherwise normal. Sensation was diminished to vibration in the left toes only, and bladder function was intact. There were no other neurologic deficits, and the remainder of the physical exam was normal. Her CBC, electrolytes, creatinine, hepatic panel, creatinine kinase and urinalysis were normal. Serology was negative for syphilis, Lyme disease, malaria, syphilis, and human immunodeficiency virus. CSF PCR testing for Varicella, Herpes Simplex, Cytomegalovirus, and Enterovirus panel was negative. CSF bacterial, viral and mycobacterial cultures were negative. IgM and IgG to West Nile Virus (WNV) was detected in serum and in the CSF. WNV CSF PCR was negative. Her weakness improved slowly over 3 months, and her pain responded very well to the administration of anti-inflammatory medications. She was discharged home on the third hospital day to continue on home medications and physical therapy.

**DISCUSSION:** WNV is an arthropod-borne flavivirus that can present with a broad range of clinical symptoms, including fever, meningitis, encephalitis, cerebellar ataxia, seizures and a polio-like flaccid paralysis. Polyclonals is not the demonstration of IgM and/or IgG in the CSF since PCR for WNV is relatively insensitive. However, significant serologic cross-reactivity occurs with other flaviviruses, and a definitive diagnosis can be problematic, particularly in patients who have undergone recent vaccination or travel to endemic areas. The severity of symptoms and potential for serious morbidity and mortality illustrate the importance of early supportive treatment.

**LYME DISEASE AS A CAUSE OF THIRD DEGREE HEART BLOCK**

**CASE:** A 36 year old male presented to the emergency department with a chief complaint of a slow heart rate. Approximately seven weeks prior to the admission, he had spent two weeks doing outdoor activities in Long Island, NY. He reported feeling a small tick bite from a deer during this time period. Five weeks prior to admission he suffered from a flu-like illness that lasted for roughly two weeks, during which time he experienced a subjective fever, chills, myalgia, and arthralgias. Approximately three weeks prior to admission he developed the classic dermatologic findings of erythema migrans. The rash first appeared on his abdomen. It was oval in shape, raised, erythematous, pruritic, and it spread outwards with a dark red border and an area of central clearing. Later he developed a blotchy rash on his torso, arms, and legs. The rash resolved one to two days prior to the admission. Four days prior to admission he had palpitations while resting in bed. The following morning when he awoke, his heart rate was in the low 50s and he was noted to have sinus bradycardia. He was monitored on telemetry and treated with ceftriaxone 2 gm IV Daily. He remained bradycardic with a third degree heart block throughout the hospital admission, however was asymptomatic without any pauses. He was discharged home on the third hospital day to complete a two-week course of ceftriaxone. Lyme serology was positive, including western blot confirmation. Upon follow-up after completion of antibiotics, the patient was documented to be back in normal sinus rhythm.

**DISCUSSION:** It is important for clinicians to recognize that Lyme disease can cause complete heart block. Chloroquine should be avoided in patients presenting with cardiac conduction disturbances who have been exposed to Lyme-endemic areas. Such patients should be questioned about tick bites, rash, or fever. Cardiac conduction disturbances due to Lyme disease resolve with antibiotic treatment and do not require the insertion of a permanent pacemaker. The recommended treatment for complete heart block due to Lyme disease is in the range of 2 gm IV daily for 14 days.

**LUPUS: A GUT DIAGNOSIS**

**CASE:** A 41 year old man with no past medical history presented to the emergency department with a two month history of intermittent fevers, chills, nausea, vomiting, diarrhea, diffuse abdominal and lower extremity pain. He was admitted to the ICU where he was treated for several days at local hospitals for similar symptoms and was given the diagnosis of viral syndrome. On exam his temp was 39.8°C, HR 120, R 30, pulse 129 and RR 19. He was alert and oriented, lungs were clear, heart was tachycardic without murmurs, abdomen was soft, diffusely tender to palpation without guarding or rebound, and extremities were edematous but non-pitting. He was fluid resuscitated and was transferred to the ICU where he was begun on broad-spectrum antibiotics for presumed sepsis. Initial laboratory results were significant for mild hypotension, with normal creatinine and bicarbonate, anemia (Hgb 9.1, MCV 87), absolute lymphopenia and mildly elevated transaminases with a normal alkaline phosphatase and bilirubin level. His INR was normal and PTT was slightly elevated. Lactate level was 1.0 and HIV was negative. At this point, the differential diagnosis was quite extensive. CT of the abdomen revealed thickening of the gallbladder without stones, bilateral pleural effusions, and edema of the distal small bowel and colon. Enteroscopy was performed, but biopsy of the colon was negative. In addition, his ANA returned at 1:2560, ds-ANA >1:160, low C3 and C4 complement levels, and anti-cardiolipin antibodies were positive. In addition, his AM cortisol level was 2. Having met many of SLE criteria, the patient was diagnosed with lupus as well as adenral insufficiency. Renal biopsy showed significant nephritis requiring the clinical diagnosis of SLE. The patient was started on cellcept, fomepizol, and corticosteroids. After several subsequent visits his symptoms completely resolved and blood counts normalized.

**LEARNING OBJECTIVES:** Systemic lupus erythematosus (SLE) is a chronic inflammatory disease that may affect any organ system. The gastrointestinal tract is involved in 20–40% of SLE patients, and may present as dysphagia, abdominal pain, peptic ulcer disease, mesenteric vasculitis, pancreatitis, liver disease, or protein loss enteropathy. Rarely, adrenal insufficiency can occur in the setting of SLE and their coexistence should raise suspicion for possible polyglandular autoimmune syndrome.

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**DISCUSSION:** It is important for clinicians to recognize that Lyme disease can cause complete heart block. Chloroquine should be avoided in patients presenting with cardiac conduction disturbances who have been exposed to Lyme-endemic areas. Such patients should be questioned about tick bites, rash, or fever. Cardiac conduction disturbances due to Lyme disease resolve with antibiotic treatment and do not require the insertion of a permanent pacemaker. The recommended treatment for complete heart block due to Lyme disease is in the range of 2 gm IV daily for 14 days.
compliance with his medical regimen. He had a BP 130/57 mmHg, a heart rate of 62 beats/min., and a respiratory rate of 22 beats/min. He had a JVP of 7 cm, bibasilar crackles and bilateral lower extremity edema. A chest radiograph revealed bilateral pulmonary fibrosis with bilateral basilar densities. The patient included an initial BNP of 570, a troponin of 0.04, a hemoglobin of 15 g/dL, and normal electrolytes. Salt-restriction and furosemide led to the resolution of his symptoms. Upon discharge he adhered to a low-salt diet. The importance of avoiding regular consumption of MRE's was specifically discussed.

DISCUSSION: Acute exacerbations of congestive heart failure should be expected among aging patients. In most cases, exacerbations are attributed to pharmacological prescriptions, but as our patient illustrated, evacues are often relegated to either canned foods or MRE meals, both of which are sodium rich. Our patient tolerated 2.3 g of sodium, and theconsumer may opt to withhold it with the included salt package to increase the sodium content by an additional 4 g per MRE. Our patient noted opting for additional flavor. MRE's are designed for active soldiers who have healthy cardiovascular systems and subject to sodium loss due to sweating during vigorous activity. Distribution of bulk MRE's in post-disaster and emergency situations is an important component of immediate relief operations. However, the lack of effective labeling and consumer information may contribute to the patient's sodium consumption. A case of easy-to-understand content information and recommendations regarding certain health conditions along with the public disaster relief MRE packaging would be an excellent modification.

MAGIC SYNDROME: MOUTH AND GENITAL ULCERS WITH INFILATED CARTILAGE SYNDROME. R.V. Kedia1; J. Fish1; B. Singh1.

LEARNING OBJECTIVES: Review the clinical features and treatment of MAGIC Syndrome (Behcet and Polychondritis’ overlap syndrome).

CASE: 64-year old male with a long-standing diagnosis of undifferentiated connective tissue disease was admitted with worsening arthralgia, generalized weakness, and chronic non-healing ulcers of his left ear, sacrum and lower extremities. The patient was first diagnosed with undifferentiated connective tissue disease several years prior to this presentation because of recurrent episodes of oronasal ulcers, arthrites, pericardial effusions, and malar rash. She had a positive ANA, but all other rheumatologic serologies were negative. A few weeks before admission, she was diagnosed with a pulmonary embolism and bilateral deep vein thromboses. The chronic ulceration of her left ear was noted to have advanced to the partial destruction of cartilage. Physical exam-including the labia majora showed thickened tissue characteristic of the right trochanter, coccyx, and partial destruction of the pinna of the left ear. MIs of the spine and pelvis showed no compression or signs of osteomyelitis, and an MRA of the lower extremities did not show any sign of vasculitis. A bone marrow biopsy revealed no evidence of lymphoproliferative disorder. Biopsies of the breast showed chronic eosinophilic, but the skin biopsies were nondiagnostic.

The patient was initiated on prednisone and cyclophosphamide, with improvement of the ulcers and her weakness.

DISCUSSION: In 1985 Firestein et al. described five patients with relapsing polychondritis and Behcet’s disease and proposed the term of “MAGIC Syndrome” (mucous and genital ulcers with inflamed cartilage), and additional cases have been since reported. 2-5 Patients with MAGIC Syndrome have a combination of Behcet’s disease and polychondritis. Behcet’s disease typically presents with auricular involvement, though other skin and mucosal lesions may be involved. Associated symptoms include fatigue, malaise and fever. This patient has features of both diseases, with biopsy-proven chondritis. She has evidence of oral ulcers, vascular disease (pulmonary embolism and deep vein thromboses), and non-healing skin ulcers that are similar to those described in Behcet’s disease. The cartilaginous destruction of her ears is classic for polychondritis. The hallmark of treatment is immunosuppression, with azathioprine, methotrexate, or cyclophosphamide. REFERENCES 1. Firestein GS et al. Arthritis Rheum 1985;28:1341-7.

MASS IN THE COLON: TB OR NOT TO BE? H.K. Gavini1; A. Archana1; H. Friedman1.

LEARNING OBJECTIVES: 1. Recognize the emerging trends of atypical mycobacteria. 2. Recognize the unusual gastrointestinal manifestations of atypical mycobacteria in immunocompetent individuals. 3. Distinguish Mycobacterium Avium Complex (MAC) from Mycobacterium Tuberculosis (MTB) to avoid unnecessary chemotherapy. 4. Recognize the emergence of MAC as an important differential diagnosis for a mass in the colon.

CASE: A 31-year old Indian woman presented with complaints of crampy abdominal pain associated with multiple bouts of vomiting. The patient emigrated to the United States of America 3 years ago but had traveled back to India recently. She worked as a veterinarian caring for sick live stock, small animals and birds. An obstructive series X-ray was done which showed evidence of large bowel obstruction. She then underwent a colonoscopy, which showed a near total obstruction of the sigmoid colon. Biopsies from the colon mass included a total obstructing mass in the mid transverse colon and subsequently underwent a right hemicolectomy with biopsy of the mesenteric lymph nodes. Biopsy revealed granulomatous inflammation with caseating necrosis but smears was negative for acid-fast bacilli. The patient was empirically started on antituberculosis therapy (ATT). Subsequently, the patient's new MAC was confirmed by the state health department using high performance liquid chromatography (HPLC). The ATT was stopped and patient was started on rifampicin, ethambutol and clarithromycin with subsequent improvement.

DISCUSSION: We report the first known case of colon mass secondary to MAC in an immunocompetent patient causing large bowel obstruction. MAC is a ubiquitous organism found in soil, water, house dust, birds and farm animals. With the advent of ATT the incidence of gastrointestinal tuberculous (MTB) has declined sharply in immunocompetent subjects. MAC has now emerged as a cause of disseminated disease in the immunosuppressed. Rare pulmonary involvement in individuals without immunosuppression has been reported. MAC has been assuming an increasing role in patients with and without immunosuppression, involving lungs, soft tissues, skin, central nervous system, bone and joints. Biopsies may be critical in some cases of MAC presenting as a mass in the colon with obstruction. Gastrentestinal involvement has been previously described as enteritis or colitis but never masquerading as a colon tumor. This case illustrates the most unusual manifestation of MAC in an individual with no underlying immunosuppression and signifies the importance of maintaining a high index of suspicion to avoid a delay in diagnosis and initiation of appropriate therapy.

METHICAL CHAUVINISM AND THE PHYSICAL EXAM IN AN UNEXPECTED CAUSE OF HYPERCALCEMIA. Z.A. Keim1; C. Johnson1; R.D. Hobbs1; 1Henry Ford Hospital Detroit, Detroit, MI; 2Wayne State University, Detroit, MI.

LEARNING OBJECTIVES: 1) To identify the risk factors for male breast cancer. 2) To recognize hypercalcemia as an uncommon presentation of male breast cancer. 3) To underscore the importance of a breast exam in the evaluation of a male with an occult malignancy.

CASE: A 70 year-old male with a history of diabetes mellitus and atrial fibrillation presented with confusion. He was dehydrated. The serum calcium level was 19.1 mg/dL. Intravenous fluids, a loop diuretic, pamidronate and calcitriol were given. The PTH level was adequately suppressed at ~<2.0 pg/mL. Serum prostate specific antigen (PSA) was elevated. Urinalysis showed high nephrotic protein. The PSA was normal. As part of the workup a chest CT scan was done. Lytic lesions were present in all of the visualized bones but there was no lung pathology. Unexpectedly, there was a 3.4 cm lobular mass in the left breast. A breast examination revealed subtle bilateral gynecomastia with retraction of the skin and nipple and a 2 x 3 cm mass in the lower outer quadrant of the left breast. Infiltrating ducral carcinoma was found at breast biopsy.

DISCUSSION: In the United States breast cancer is the most common cancer in women but only accounts for 0.2% of all cancers in men. Risk factors for male breast cancer include testicular disorders, infertility, single marital status, Klippel-Trenaunay syndrome, breast cancer in males since it may be more obvious and therefore treated earlier. Hypercalcaemia with breast cancer is usually a much later finding and accordingly an occult malignancy a breast exam should be part of the workup. This simple procedure which would not be overlooked in a female patient may be missed because of the perceived extreme rarity of breast cancer in males and at some level the mistaken belief that it could not be present in this male. Such unconscious chauvinism should be avoided as a pitfall in examining these patients.

METASTATIC BREAST CARCINOMA AND HYPERCALCEMIA. P. Isaacs1; A. Sequeira1; Q. Sanders1; G. Nezami1; K. Fenton1; 1Hospital of Southern California State University Medical Center at Shreveport, shreveport, LA.

LEARNING OBJECTIVES: 1. Recognize unique characteristics of metastatic breast carcinomas (MBC). 2. Recognize the frequency of paraneoplastic syndromes associated with breast cancer.

CASE: A 56 year old female was brought to the emergency room for polyuria, generalized weakness and a 2 day history of mental status changes. The examination was remarkable for a febrile patient with a large 10 x 20 cm ulcerated breast mass occupying the entire right breast. Her white blood cell count was significant for calcium18.4mg/dl, albumin 3.3 mg/dl, BUN 107 mg/dl, creatinine 2.0 pg/mL. Serum protein electrophoresis revealed an inflammatory pattern with no monoclonal band. The patient was given hydration and correction of hyponatremia with free-water restriction. Biopsy of the breast mass was interpreted as estrogen and progesterone receptor negative metastatic breast carcinoma (MBC) with squamous features (adenosquamous). Contrast tomography re-
The document is a collection of medical cases and studies, discussing a variety of conditions. Here are some key points:

1. **Ruptured Baker's Cyst**: A patient with pain in the calf developed a Baker's cyst, which was initially misdiagnosed. The cyst eventually ruptured, causing severe pain and swelling. The patient's symptoms resolved after anticoagulation and antibiotic treatment.

2. **Hypersomnolent Lactic Acidosis**: A patient with a history of lorazepam use developed lactic acidosis, which was corrected upon discontinuing the lorazepam infusion. Dehydrogenase-based analysis showed an elevated anion gap.

3. **Mitral Stenosis and Deep Vein Thrombosis**: This case highlights the importance of considering a Baker's cyst in the differential diagnosis. The patient presented with leg swelling and was eventually found to have a ruptured Baker's cyst.

4. **Paraneoplastic Syndromes**: The case underscores the importance of considering a Baker's cyst in the differential diagnosis of severe and acute presentations of leg swelling.

The document also includes case studies on various conditions such as mesenteric ischemia, hypercalcemia, and joint infections. It emphasizes the importance of considering a Baker's cyst in the differential diagnosis of severe and acute presentations of leg swelling.
M.R.S.A. ON MY MIND: RECOGNIZING COMMUNITY-ACQUIRED METHICILLIN RESISTANT STAPHYLOCOCCAL AUREUS L.K. Snyder1, Tufts-New England Medical Center, Boston, MA. (Tracking ID # 156889)

LEARNING OBJECTIVES: 1. Understand the differences between community-acquired and nosocomial M.R.S.A. 2. Recognize the importance of diagnosing and treating CA-M.R.S.A. infections early.

CASE: A 44-year-old healthy female dancer presented with pain and swelling in her lower abdomen. She noticed a 1 cm nodule in her right groin four days prior to admission, which grew to the size of a grapefruit, was extremely painful and radiated to her back. She had a one-day history of fever, chills and nausea. Vital signs revealed fever 38.9°C, pulse 90, BP 105/57 and labs showed WBC 14.7 with 90% polymorphonuclear neutrophils. The patient was empirically started on ceftriaxone and vancomycin and she was discharged the following day. On hospital day 3, physical exam revealed a 4 cm area of fluctuance with surrounding induration and lateral extension of erythma and warmth. Vancomycin was added. An incision and drainage (I&D) was performed and 20 cc of copious pus was expressed, along with treatment of necrotic tissue. Methicillin resistant Staphylococcal aureus (M.R.S.A) grew which was sensitive to gentamicin, quinolones, rifampin, trimethoprim/sulfamethoxazole and vancomycin. After the I&D, the patient remained afebrile, WBC normalized and she was discharged home on day 6 to complete a two week course of IV vancomycin.

DISCUSSION: Community-acquired M.R.S.A (CA-M.R.S.A) was first reported in 1982 and its incidence is increasing in the United States and worldwide. CA-M.R.S.A is distinctly different from nosocomial M.R.S.A, with different epidemiology, clinical settings, molecular genetics and treatment options. There is no uniformly accepted definitive hand and arm hygiene or guidelines for treating CA-M.R.S.A. CA-M.R.S.A include children, athletes, prisoners, soldiers, intravenous drug users, men who have sex with men and certain ethnic populations. The populations who develop nosocomial M.R.S.A include patients in long-term care facilities, patients with diabetes mellitus, patients undergoing hemodialysis/peritoneal dialysis, intensive care unit admission, prolonged hospitalization and patients with indwelling intravascular catheters. CA-M.R.S.A strains express resistance to β-lactams alone whereas nosocomial M.R.S.A strains express multildrug-resistant. Most CA-M.R.S.A strains have a smaller staphylococcal cassette cartridge (SCC) than nosocomial M.R.S.A strains. The SCC holds the MecA resistance gene (mecA), which alters the binding of β-lactams to penicillin binding protein 2a. The larger SCC types are able to hold more resistance elements, which may explain why nosocomial M.R.S.A infections are multi-drug resistant. CA-M.R.S.A frequently have acquired extended spectrum β-lactams (ESBLs) as well as Panton-Valentine leukocidin (PVL) toxin. PVL toxin is lethal to neutrophils and is associated with skin and soft tissue infections and severe necrotizing pneumonia. The PVL toxin supports what we see clinically–patients presenting with CA-M.R.S.A have severe skin and soft tissue infections (cellulitis, skin abscesses, fasciitis, and necrotizing pneumonia). It is appropriate to empirically treat patients with trimethoprim/sulfamethoxazole (cotrimoxazole) or clindamycin, as long as they have not had serious comorbidities. Before prescribing clindamycin, it is important to test for inducible clindamycin resistance. Our understanding of CA-M.R.S.A is evolving and it is important for Primary-Care physicians to put CA-M.R.S.A on their differential list of diagnoses. When a patient presents with a soft or skin infection at our institution, we recommend testing for PVL toxin and clindamycin to reduce the risk of inducing clindamycin resistance.
CASE: A 34-year-old gentleman with a history of poorly controlled type 1 diabetes mellitus presented to the emergency department with 7 days of painful urination, urinary hesitancy and incomplete bladder emptying. He had no urethral discharge, however, he was admitted for pain control with narcotics. Physical therapy was initiated and he was discharged to an acute rehabilitation facility.

DISCUSSION: Myositis ossificans refers to benign, extraskelatal bone formation within soft tissue, usually muscle. It most often occurs in males in the second and third decades of life. It is typically seen in persons who are involved in athletic activities. Physical therapy was initiated and he was discharged to an acute rehabilitation facility.
CASE: A 33 y/o Asian male with no significant past medical history presented his FCP with a five day history of right thigh pain. The pain started one day after moving heavy furniture and progressed over the next couple of days to where he began experiencing weakness, tightness, and burning sensation to any direct trauma to this area, including wounds or bites marks. On examination he had right anterior thigh swelling, mild tenderness to palpation, no erythema, no ulceration, no bullae, no crepitations and no skin breakage. He was diagnosed with a muscle strain and sent him home. 24 hours later, left leg pain developed. Anti-Inflammatory Meds. Due to increased fevers, rigors, and weakness, the patient presented to the ER two days later. Detailed history revealed that his daughter had been diagnosed with streptococcal pharyngitis one week prior to the onset of his pain. Physical examination revealed right thigh-erythema, bullae filled with clear fluid, extreme tenderness on palpation, no crepitations, no gangrene. A CT scan revealed extensive right thigh edema and muscle necrosis. Blood cultures grew Group A Streptococcus. He was treated with intravenous penicillin, clindamycin and extensive surgical debridement.

DISCUSSION: Necrotizing fasciitis is a deep seated infection of the subcutaneous tissue characterized clinically by destruction of the tissue, systemic signs of organ failure and a high mortality rate. It is classified into two types: Type 1 is a mixed infection caused by anaerobic and aerobic bacteria most commonly after surgical procedures. Type 2 is associated with group A streptococcus (GAS). Predisposing factors in GAS infections include penetrating injuries, blunt trauma, muscle strain, varicella, child birth, and surgical procedures. A port of entry is observed in nearly 60% of patients. Necrotizing fasciitis, in its initial stages is very difficult to differentiate from cellulitis. Excruciating pain without any cutaneous findings may be the only clue of infection. If necrotizing fasciitis is not considered and NSAIDs are prescribed, the signs of inflammation may be masked leading to a delay in diagnosis. A detailed history is very important as demonstrated in this case. The patient was exposed to streptococcus pyogenes and during his strenuous activity, he probably suffered muscle injury predisposing to infection. To prevent this, antibiotic therapy should be started within 4-6 hours bullae filled with clear fluid appear which rapidly take on a violaceous color, and by this time extensive tissue destruction is present. Cellulitis is amenable to antimicrobial therapy whereas necrotising fasciitis requires both intravenous antibiotics and surgical debridement. Treatment with beta lactamase antibiotics is effective in most group A streptococcal infections, however in necrotizing fasciitis penicillin treatment alone is associated with high morbidity and mortality. A plausible mechanism for this is loss of penicillin binding proteins during the stationary growth phase. Clindamycin is not affected by inoculum size or stage of growth. It suppresses toxin formation by preventing ribosomal protein synthesis, therefore this should be used in conjunction with Penicillin as the mainstay of treatment.

NEPHROGENIC SYSTEMIC FIBROSIS: AN EMERGING DISEASE IN PATIENTS WITH RENAL FAILURE. S. Domsky1; B. Telivala1; J. Miller1. 1Medical College of Wisconsin, Milwaukee, WI. (Tracking ID # 154339)

LEARNING OBJECTIVES: 1. Recognize nephrogenic systemic fibrosis (NSF) as an emerging disease affecting those with renal failure. 2. Distinguish NSF from disease mimics or similar presentations.

CASE: 68 year old caucasian male with a history of dialysis, heart transplantation, diabetes, and peripheral vascular disease (PVD) presented with 3 weeks of progressive leg and hand skin tightness, leg pain and weakness which severely limited ambulation. He denied recent fever, change in appetite, dysphagia, Raynaud’s phenomenon, or increased edema. He has no history of rheumatologic disease. Physical exam was remarkable for bronzed, thickened skin, telangiectasias, and acral violaceous discoloration. Deep tenderness to palpation, no erythema, no ulceration, no bullae, no crepitations were present. The patient had mild contractures and limited range of motion of hands, and wrists. He had mild contractures and limited range of motion of feet, knees, elbows, and wrists. Two toes appeared cyanotic. Otherwise normal capillary refill. Posterior tibial pulses were present by doppler, and there was decreased capillary refill. Posterior tibial pulses were present by doppler, and there was decreased capillary refill. No other pulses were present. He had no muscle weakness, no skin rashes, no lymphadenopathy, no arthritis, no hypertension, and no endocrine problems. He had a history of hypertension, atherosclerotic heart disease, atrial fibrillation, and dyslipidemia. He was being treated with intravenous penicillin, clindamycin and extensive surgical debridement.

DISCUSSION: Necrotizing fasciitis is a deep seated infection of the subcutaneous tissue characterized clinically by destruction of the tissue, systemic signs of organ failure and a high mortality rate. It is classified into two types: Type 1 is a mixed infection caused by anaerobic and aerobic bacteria most commonly after surgical procedures. Type 2 is associated with group A streptococcus (GAS). Predisposing factors in GAS infections include penetrating injuries, blunt trauma, muscle strain, varicella, child birth, and surgical procedures. A port of entry is observed in nearly 60% of patients. Necrotizing fasciitis, in its initial stages is very difficult to differentiate from cellulitis. Excruciating pain without any cutaneous findings may be the only clue of infection. If necrotizing fasciitis is not considered and NSAIDs are prescribed, the signs of inflammation may be masked leading to a delay in diagnosis. A detailed history is very important as demonstrated in this case. The patient was exposed to streptococcus pyogenes and during his strenuous activity, he probably suffered muscle injury predisposing to infection. To prevent this, antibiotic therapy should be started within 4-6 hours bullae filled with clear fluid appear which rapidly take on a violaceous color, and by this time extensive tissue destruction is present. Cellulitis is amenable to antimicrobial therapy whereas necrotising fasciitis requires both intravenous antibiotics and surgical debridement. Treatment with beta lactamase antibiotics is effective in most group A streptococcal infections, however in necrotizing fasciitis penicillin treatment alone is associated with high morbidity and mortality. A plausible mechanism for this is loss of penicillin binding proteins during the stationary growth phase. Clindamycin is not affected by inoculum size or stage of growth. It suppresses toxin formation by preventing ribosomal protein synthesis, therefore this should be used in conjunction with Penicillin as the mainstay of treatment.

NEUROLEPTIC MALIGNANT SYNDROME: NOT JUST AN INPATIENT DIFFERENTIAL DIAGNOSIS. H. Benjamin1; P. Kurt1. 1Medical College of Wisconsin, Milwaukee, WI. (Tracking ID # 153765)

LEARNING OBJECTIVES: 1. Consider neuroleptic malignant syndrome (NMS) as a cause of fever in ambulatory patients without other signs of infection and with a history of antipsychotic medication use. 2. Describe diagnosis and treatment options for neuroleptic malignant syndrome.

CASE: A 51 year-old gentleman with schizophrenia, impulse control disorder, and chronic right arm tremor secondary to lithium toxicity presented with ten days of fever, slurred speech, increased somnolence, incontinence, and worsening right upper extremity tremor. A week earlier, the patient was seen in urgent care, and due to a lack of leukocytosis or an identifiable source of infection, the patient was discharged on acetaminophen. Despite therapy, the patient’s symptoms persisted. His fevers began to increase, reaching a maximum of 101.9 degrees F. A careful review of the patient’s medical records revealed that over the past two months his lithium and quetiapine were increased to treat rising agitation. Upon presentation to the hospital, the patient was diaphoretic with markedly slurred speech, dry mucosal membranes, prominent right upper extremity tremor, and clear bilateral lower extremity edema. Laboratory studies were normal except for a white blood cell count of 4580/cu/mm with 14 % bands. CSF analysis was unremarkable, and head CT revealed no acute intracranial pathology but volume loss greater than expected for the patient’s age. Repeat infectious work up and hepatic function panel were normal, and a CK level was found to be 3073/UL. NMS was diagnosed based on these data, and his quetiapine and lithium were held while amantadine therapy was initiated. At these interventions, patient’s CK status normalized, and his right arm tremor returned to baseline. The patient was observed for a few days thereafter and when at baseline, was discharged back to his group home.

DISCUSSION: NMS is a life-threatening syndrome characterized by mental status changes, muscular rigidity, fever, and dysautonomia. It requires immediate treatment as mortality without appropriate therapy is high. Although the diagnosis is mainly based on the clinical presentation, laboratory support is provided by CK levels greater than 10000/UL, leukocytosis, altered renal function and mild elevations in liver transaminases. NMS is associated with the use of antipsychotic agents, and is thought to be mediated by activation of anticholinergic receptors that act on the central nervous system (i.e. metoclopramide, promethazine). Treatment begins with discontinuation of antipsychotics, supportive care and critical care monitoring. Specific therapeutic options include dantrolene, bromocriptine, and benzodiazepines. Our patient had several of the characteristics for NMS, but secondary to a focus on the infectious sources of fever typical for ambulatory patients, this was overlooked on initial assessment. He also exhibited a non-classic neurological presentation on atypical antipsychotics. However, research has demonstrated that the degree of dopamine-2 receptor antagonism does not predictably correlate with the incidence of NMS; rather, features of NMS highly correlate with increasing extrapyramidal symptoms in our patient. This case highlights the necessity of maintaining a high degree of suspicion for NMS, even in patients on atypical antipsychotics presenting in the ambulatory setting.

NEUROPATHY AFTER BARIATRIC SURGERY. P. Kandel1; K. Pfeifer1; W. Peltier1. 1Medical College of Wisconsin, Milwaukee, WI. (Tracking ID # 153465)

LEARNING OBJECTIVES: 1. Describe the common neurological complications of bariatric surgery. 2. Describe the potential role of vitamin B6 and copper deficiency as a contributor to neuropathy in bariatric surgery.

CASE: A 38 year-old woman six months post uncompleted Roux-en-Y gastric bypass presented with bilateral lower extremity pain and weakness for 1 month. She started shooting pains radiating from the lumbar spine, down to the dorsal and plantar aspects of feet, worse at night and with ambulation. She described tingling in her fingertips and progressive arm and leg weakness. She was diaphoretic. She began surgical regimen of a multivitamin, monthly intramuscular vitamin B12 and potassium, and had lost 125 pounds in six months. On physical examination, she appeared dehydrated with normal vital signs. Her neurological exam revealed bilateral, diffuse muscle tenderness, proximal muscle weakness, and hyporeflexia. She also had diminished perception to light touch, pinprick and temperature in her fingers and below both knees. She had normal coordination with absent vibration and proprioception in the lower extremities. She also had mild hypoplasia and chronic anemia. WBC, creatinine kinase, liver, thyroid and kidney function were normal, Iron, vitamin B12, folate, albumin, carnitine, selenium, zinc and ferritin levels were within normal limits. The vitamin B6 level and thiamine levels were low at 1.3 ug/L and 14.5 ug/L respectively. The copper level was low at 62 mcg/dl. Nerve conduction studies and electrophysiology revealed low amplitude sensory responses, distal neuropathy and proximal myopathic changes. Muscle biopsy confirmed mild neuropathic and myopathic changes without inflammation. The patient was discharged on her previous medications with additional vitamin supplements and nutritional counseling. Six months later, her symptoms improved, but she continued to have residual sensory deficits.
DISCUSSION: Acute Post-Gastric Reduction Surgery (APGARS) neuropathy is a term recently introduced to describe polyneuropathy after gastric bypass surgery. It is a multisystem disorder characterized by protracted postoperative hyporeflexia, nausea, and a severe weakness that may be accompanied by vomiting. A retrospective study demonstrated that 71 of 435 bariatric surgery patients developed neuropathies, most commonly sensorimotor-predominant polyneuropathy, mononeuropathy and radiculoplexus neuropathy. In this study, vitamin B6, folate, and thiamine deficiencies played the biggest role in the development of neuropathy. In another study of 168,010 cases of bariatric surgery (mostly gastric bypass), 99 patients had APGARS neuropathy, suggesting an APGARS neuropathy incidence of 5.9 cases per 10,000 operations. 40% had vitamin B12 and/or thiamine deficiency, and about half of these cases resolved with supplementation. 60% did not have vitamin deficiencies. Two case reports have described postobstructive polyneuropathy years after gastric bypass surgery due to acquired copper deficiency. This patient's nutritional studies demonstrated vitamin B6, thiamine, and copper deficiency. Copper and vitamin B6 deficiency after bariatric surgery has not been evaluated or previously been associated with sensorimotor neuropathy. Measurement and/or supplementation of copper and vitamin B6 may be necessary in bariatric surgery patients and should be studied as other possible causes of APGARS neuropathy.

NEW PILL, NEW PROBLEM: TEGASEROD INDUCED ISCHEMIC COLITIS K. Nashir1; J. S.H. Orakzai1; R.H. Darby2; S. Tsai3; G. Gieson1. 1University of Pittsburgh, Pittsburgh, PA; 2University of Pittsburgh, Pittsburgh, PA; (Tracking ID: 105282)

LEARNING OBJECTIVES: 1. To list Ischemic Colitis as a possible adverse effect of using tegaserod. 2. To recall the mechanism of action and indications of tegaserod. 3. To identify the medications known to be implicated in Ischemic Colitis.

CASE: A 52 year old female with irritable bowel syndrome (IBS) and migraine headaches, presented with a one day history of generalized abdominal pain and blood per rectum. The pain was crampy, constant, not radiating, and associated with blood-streaked stool. Patient denied any recent changes in stool frequency or vomiting. They denied any recent changes in bowel habits. Review of systems was negative for fever, chills, or weight changes, or urogynecological symptoms. The patient's medications included propranolol and on as needed basis, sumatriptan last taken 4 weeks prior. In addition, tegaserod was started 4 weeks prior to presentation for IBS related constipation. The patient denied smoking, alcohol or illicit drugs use. Vital signs were: temperature 36.8, HR: 68 and BP 132/74. Physical exam was remarkable for abdominal tenderness at the lower quadrants with no rebound. Rectal exam revealed brown stool mixed with streaks of blood. Lab data included normal complete blood count, chemistries and coagulation profile. CT scan of abdomen showed colonic thickening and biliary thickening consistent with colitis. Colonoscopy revealed erythematous and edematous mucosa along with scattered ulceration involving the entire colon. Biopsies of the affected areas revealed colonic ischemia. This case coincided with a warning letter issued by the manufacturer of tegaserod regarding reports of a possible association between the use of tegaserod and ischemic colitis. The history provided no clues to suggest colonic hypoperfusion. Tegaserod was discontinued. The patient was treated conservatively with intravenous fluids, bowel rest and antibiotics. The symptoms completely resolved in 3 days. A follow up colonoscopy a few weeks later showed resolution of the colitis.

DISCUSSION: Tegaserod is a partial agonist of the serotonin 5-HT4 receptor. It is indicated for chronic idiopathic constipation when used as a treatment of occasional constipation. It acts by increasing intestinal transit time and chronic constipation in both men and women. Its long-term safety has not been established. Side effects include mild diarrhea which can be occasionally severe. However, in a post marketing evaluation, ischemic colitis was another potentially severe side effect of tegaserod. Other drugs implicated in ischemic colitis include alosetro, digitalis, cocaine, estrogen, NSAIDs, sumatriptan and on. Colonoscopy was done of the patient's colon within our patient population that had tegaserod for dose dated at least 4 weeks prior to presentation. The mechanism of tegaserod induced ischemic colitis remains uncertain. This case emphasizes the importance of considering the diagnosis of ischemic colitis in patients with IBS on tegaserod when they present with new or worsening abdominal pain and bloody diarrhea.

NEWLY DIAGNOSED TETRALOGY OF FALLOT (TOF) IN A YOUNG ADULT SOMALI REFUGEE L.W. Surbeck1. 1Hennepin County Medical Center, Minneapolis, MN; (Tracking ID: 364845)

LEARNING OBJECTIVES: 1. Review clinical features of Tetralogy of Fallot. 2. Recognize that immigrant refugees may not have had access to primary health care and thus would not have had the usual screening for pediatric conditions commonly performed for US born individuals. These individuals may have experienced symptoms since birth, but were either never diagnosed or unable to be adequately treated. 3. Expand one's differential diagnosis to include some congenital and pediatric conditions when seeing refugees from developing countries with limited access to health care.

CASE: A S is an eighteen year old refugee from Somalia. During her refugee assessment, she complained of life-long fatigue. She was referred to a physician who noted cyanosis, clubbing, right ventricular lift on precordial exam, single second heart sound, and a 2/6 systolic murmur along the left sternal border. Her ECG demonstrated right axis deviation and incomplete right bundle branch block. Given her exam and abnormal ECG, she was sent for echocardiogram which revealed a large right ventricular outflow tract (RVOT), pulmonary stenosis, and an atrial septal defect. Given her exam and abnormal ECG, she was referred to TOF with ultimately underwent surgical correction. The procedure was complicated by third degree heart block requiring placement of a pacemaker in the post-operative period. After completion of physical rehabilitation, she is now doing well and attending school in Minnesota. Her symptoms have largely resolved.

DISCUSSION: In presenting this vignette, the authors have two goals: 1. Illustrate, through the presentation of tetralogy of Fallot to physicians who generally provide care to adults. 2. Generate a list of certain non-infectious conditions, usually managed by US pediatricians, which general internists seeing new immigrants from less-developed countries may encounter. Briefly, TOF is defined by four anatomical features: pulmonary artery stenosis, overriding aorta, ventricular septal defect, and concentric right ventricular hypertrophy. This constellation of cardiac structural abnormalities leads to varying degrees of right outflow tract (RVOT) obstruction and shunting. The degree of right to left shunting, and thus also the clinical presentation, depends on the severity of RVOT obstruction. TOF is rarely seen in adults, and symptoms may be present at birth, or develop later in life. Often, relief of symptoms is found with squatting, which is thought to increase SVR, thus decreasing the right to left shunt and directing more blood across the RVOT. Surgical correction is the definitive treatment in both infants and adults. Review of the medical literature yields information regarding health screening for refugees with a primary focus on infectious disease. Indeed, all refugees are required to have a health department sponsored screening exam to look for communicable diseases and to vaccinate. However, many refugees have had much less access to primary care than US born individuals, and many childhood, non-infectious, illnesses may have been missed. HCMA is a county hospital with a large immigrant patient population. We provide primary health care to especially large numbers of Somali and Hmong patients, many of whom are refugees. We will be including in our discussion a list of other pediatric conditions which have been diagnosed in our adult refugee population, including developmental delay, large VSD, and advanced renal insufficiency due to longstanding reflux nephropathy, among many others.

NO SUNLIGHT- WHAT A PAIN! S. Abraham1; A.C. Jacobs2. 1Mercy Catholic Medical Center, Darby, PA; 2University of Virginia, Charlottesville, VA; (Tracking ID: 151352)

LEARNING OBJECTIVES: 1. Recognize that Vit D deficiency is frequently under diagnosed 2. Recognize that dull aching bone pain is common in vitamin D deficiency.

CASE: A 47-year-old Black man with no significant past medical history presented to the medical clinic with complaints of joint pains. His symptoms started in 2002 with pain in his wrists, elbows and shoulders bilaterally. He had worsened over the past 6 months. He described his pain in his hands and feet as if “they were on fire”. He admitted to a 15 minute morning stiffness and assessed as being no pain at any time. He denied any fatigue but admitted to a recent 20- pound weight. He denied any fevers. His only medication was naprosyn bid. He had no past rheumatologic history. Musculoskeletal examination demonstrated full range of motion. Muscle strength was 5/5 in all groups tested. There were no bony deformities. Joint assessment was significant for pain and tenderness in his bilateral wrists and first, second and third MCP joints. Laboratory assessment included normal CBC and comprehensive metabolic panels, negative hepatitis panels, normal ESR and ant CCP antibodies and negative rheumatoid factor assays. X-rays of feet demonstrated osteoarthritic changes at the 1st MTP joints bilaterally. X-rays of the hands were unremarkable. On his follow up visit, 25-Hydroxy Vitamin D levels were seen to be very low at 12. While PTH levels were elevated at 85. He was started on oral vitamin D supplementation at 50,000 IU weekly and 6 weeks later reported significant resolution of his pain symptoms.

DISCUSSION: While most physicians recognize that elderly people have a high risk of vitamin D deficiency, it is less appreciated that younger adults are also at high risk. 90% of required vitamin D comes from sun exposure. Extremely few foods naturally contain Vitamin D. The recommendation for the efficient utilization of dietary calcium. In a vitamin D deficient state, inadequate amounts of 1, 25 (OH) Vitamin D are produced to maintain intestinal calcium absorption, and as a result, the skeleton through a PTH mediated process serves as the surrogate source of calcium, resulting in osteopenia and later on, osteoporosis. The increased PTH also induces phosphaturia, which leads to hypophosphatemia, and thus the calcium phosphate product in the circulation decreases and becomes inadequate to mineralize the bone properly. However, since osteoblasts continue to deposit collagen matrix on both the endosteal and periosteal surfaces of the skeleton, on hydration this collagen matrix expands causing an outward pressure on the periosteal covering that is insufficient radiation for vitamin D stores will be insufficient and vitamin D supplementation will be required to have a health department sponsored screening exam to look for communicable diseases and to vaccinate. However, many refugees have had much less access to primary care than US born individuals, and many childhood, non-infectious, illnesses may have been missed. HCMA is a county hospital with a large immigrant patient population. We provide primary health care to especially large numbers of Somali and Hmong patients, many of whom are refugees. We will be including in our discussion a list of other pediatric conditions which have been diagnosed in our adult refugee population, including developmental delay, large VSD, and advanced renal insufficiency due to longstanding reflux nephropathy, among many others.

NONE SO BLIND AS THOSE THAT WILL NOT SEE (THE DIAGNOSIS): INFECTIVE ENDOCARDITIS PRESENTING AS MONOCULAR BLINDNESS S.H. Orakzai1; R.H. Orakzai2; K.L. Knaezer1. 1University of Pittsburgh, Pittsburgh, PA; 2University of Virginia, Charlottesville, VA; (Tracking ID: 726502)

LEARNING OBJECTIVES: 1. To recognize visual loss as a complication and prevention strategies for infective endocarditis. 2. To identify common surgical indications for infective endocarditis in the setting of complications.

CASE: A 64-year-old male with bicuspid aortic valve presented with sudden onset of right monocular visual loss. Four days prior to admission, the patient...
presented to a local hospital with intermittent fever and chills one week after a root canal for which he received prophylactic amoxicillin. He was started on ciprofloxacin and discharged to home where his fever subsided. On the day of admission, he described the sudden onset of severe bilateral ear pain radiating to his right eye which progressed to total right monocular blindness within minutes. Examination revealed a temperature of 38.7 °C, regular heart rate and rhythm, a 3/6 systolic ejection murmur at right upper sternal border and radiating to the carotid areas, mild neck stiffness and nuchal rigidity, and a 3+ right pupil absent light reflex. Laboratory data revealed a WBC of 14,200 (85% neutrophils) and an elevated ESR of 120. A chest radiograph revealed a left lower lobe infiltrate. An immediate computed tomography scan of the head with and without contrast was normal. An immediate ophthalmologic examination revealed no evidence of a retinal detachment. A complete blood count revealed a 6% eosinophilia, and the blood cultures were negative. The patient underwent surgery for an abscess and was started on intravenous ceftriaxone and metronidazole. Given the positive blood cultures, a treatment algorithm for hematogenous spread was initiated. The patient was discharged on oral amoxicillin and clavulanate with close follow-up.

DISCUSSION: Serotonin syndrome is a preventable adverse drug event, which can be rapidly fatal. It is most commonly associated with the use of selective serotonin reuptake inhibitors (SSRIs), but it can also occur with other serotoninergic medications, such as amphetamines, tricyclic antidepressants, and bupropion. The syndrome is characterized by a constellation of autonomic, neuromuscular, and psychiatric symptoms, which can range from mild to severe. The diagnosis is clinical, and it is important to recognize the potential for serotonin syndrome in all patients taking serotoninergic medications. Early recognition and intervention can prevent serious outcomes. In this case, the patient was admitted to the hospital with a history of recent SSRI use and the development of symptoms consistent with serotonin syndrome. The diagnosis was confirmed with a positive assay for SSRI metabolites in the patient’s urine. The patient was treated with discontinuation of the SSRI, supportive care, and close monitoring. The patient made a full recovery and was discharged home on a follow-up appointment.

NOT ALL GIANT T-WAVE INVERSIONS REPRESENT ISCHEMIA

O. Aksoy1; S. Cheng2; S.D. Sisson3
1 Johns Hopkins University, Baltimore, MD. (Tracking ID: 13633)
2 S. Naidu; K. Pachipala; D.M. Harris1; A.J. Gordon1.
30 minutes, worsened with exertion, and was relieved with rest. He last used cocaine within the prior 48 hours. His initial blood pressure was 149/94 and heart rate 62. Physical examination was significant for a hyperdynamic pre-cardium and a soft ejection murmur heard at the left sternal border. His initial ECG revealed T-wave inversions and up to 10 mm deep, broad-based T-wave inversions in leads I, II, and III as well as across leads V2 through V6. The patient subsequently was transferred to the cardiac intensive care unit for monitoring. Three sets of cardiac markers were drawn and the results were normal. A coronary angiogram with contrast revealed multiple right coronary artery stenoses with straddled significant apical hypertrophy associated with an "ace of spades" configuration of the left ventricular chamber at end-diastole, characteristic of AHCM. The patient remained asymptomatic upon arrival and his presenting chest pain was deemed likely the result of cocaine-induced ischemia. The diffuse deep T-wave inversions on his ECG remained unchanged on serial exams and were not related to ongoing ischemic cardiomyopathy. The patient continued improvement and was discharged with close follow-up.

LEARNING OBJECTIVES: 1) To become familiar with the differential of T wave inversions on the ECG and broad based T-wave inversions in AHCM. 2) To learn the differential diagnosis of AHCM. 3) To recognize the clinical presentation and management for patients with SS in order to improve patient care by decreasing morbidity and mortality.

NOT ALL GIANT T-WAVE INVERSIONS REPRESENT ISCHEMIA

O. Aksoy1; S. Cheng2; S.D. Sisson3
1 Johns Hopkins University, Baltimore, MD. (Tracking ID: 13633)
2 University of Pittsburgh, Pittsburgh, PA. (Tracking ID: 152328)

LEARNING OBJECTIVES: 1) Recognize the clinical presentation of serotonin syndrome (SS) 2. State the pathophysiology of SS 3. Outline the diagnostic and therapeutic approach to SS

CASE: A 53-year-old wheel-chair-bound female veteran with history of chronic back pain, previous suicide attempts with narcotics and chronic tremors was found suddenly unresponsive in the hospital where she was employed. A Condition C was called. Her co-workers noted that she lost consciousness and slumped to the floor. On examination, she was unconscious, hypertensive, tachycardic, diaphoretic and tremulous with Cheyne Stokes respirations and dilated pupils. She was in very bad shape. Two days after admission she developed an asymptomatic erythematous pustular vesicular eruption involving her back, chest and palms. Her blood work showed a mild leukocytosis, a high ESR 75 and negative blood cultures. She was empirically started on intravenous dexamethasone, and her dermatitis was discontinued. A biopsy showed neutrophilic dermatosis, which was compatible with a clinical diagnosis of Sweet’s syndrome. There was no evidence of erythema multiforme or vasculitis. Her biopsy cultures for herpes simplex, varicella zoster, bacteria, fungi and tuberculosis were negative. Her skin lesions improved with prednisone. She was discharged with good condition.

DISCUSSION: Neutrophilic dermatosis is a condition characterized by skin lesions, which on histological examination show intense neutrophilic infiltration of the epidermis and dermis without evidence of vasculitis or infection. Sweet’s syndrome is a prototype of the neutrophilic dermatoses and is characterized by fever, leukocytosis and erythematous plaques. It is an uncommon disease with a female predominance. It is associated with malignancies, bacterial and viral infections, drugs and autoimmune conditions. Differential diagnosis includes erythema multiforme, vasculitis, panniculitis, pyoderma, fungal infections and mycobacterial infection. Drug induced neutrophilic dermatitis is a common reaction and has been reported with G-CSF, oral contraceptives, hyalurane, minocycline and TMP-SMX. There is a temporal correlation between drug ingestion and clinical presentation and the average time from initiation of drug therapy to development of clinical symptoms is 10 days. Long-term treatment with prednisone is not effective in resolving drug induced dermatitis. It is important to resolve with drug withdrawal or after treatment with systemic corticosteroids.
glucagon, and can cause irreversible neurological damage. 2) Recognize the role of octreotide in the treatment of refractory, profound sulfonylurea induced hypoglycemia.

CASE: A 76-year-old African American female was seen in ER after she was found unresponsive at home with blood glucose of <20 mg/dl. She is a known type 2 DM patient who was on treatment with glyburide 5 mg/day. Patient had not been eating and drinking well for few days since recent hospitalization for pneumonia 1–2 weeks ago. She had been admitted to the ICU, intubated for airway protection and placed on broad spectrum antibiotics. Chest CT showed progressive interstitial infiltrates and right paratracheal adenopathy. Bronchoscopy revealed diffuse erythema without local areas of bleeding. A bronchoalveolar lavage (BAL) was negative for bacterial, fungal, mycobacterial, and viral pathogens. Cytology was negative for malignant cells. Extensive rheumatologic work-up was negative. An open-lung biopsy showed numerous lipid-laden macrophages, scattered multinucleated foreign-body giant cells and mild interstitial chronic inflammation and fibrosis. On further questioning, the patient admitted to taking mineral oil daily for years for relief of constipation and reported a history of frequent heartburn. The diagnosis of exogenous lipoid pneumonia (ELP) indicates that the patient’s mineral oil was made from her history and the results of open lung biopsy. The patient was discharged home with instructions to stop using mineral oil. She clinically improved on outpatient follow-up at 2 weeks and 2 months.

DISCUSSION: Exogenous lipoid pneumonia is found in the elderly following recurrent mineral oil use. This is in contrast to endogenous lipoid pneumonia which is caused by the release of cholesterol and other lipids from tissue breakdown. It is distal to obstructed airways and appears chronic like croup and sputum production, but are present in only half of patients with this disease. Many patients only have radiographic abnormalities. Lipoid pneumonia has a high mortality and can cause death in other diseases including carcinoma, acute or chronic pneumonia or a localized granuloma. PFT may reveal a diffusion defect. BAL is often non-revealing, but may show a high lipid-laden macrophage index. Sputum can also be examined for lipid.

CASE: A 45-year-old man presented with one year of progressive bilateral lower extremity edema. He noted aching pains in his feet, discolored lesions on the skin of his legs, and occasional serosanguineous drainage from multiple sites on his legs. His past medical history was significant for chronic lymphedema of his legs. He had a normal liver size, and no evidence of ascites. His legs were edematous with a woody, non-pitting edema extending to the knee on the right and to the inguinal region on the left. He had matted, non-tender lymphedematous tissue of the left inguinal region, and multiple purple, non-tender nodules scattered throughout both legs. A biopsy of the lesions was performed that confirmed the diagnosis of Kaposi’s sarcoma. Based upon this finding, an HIV test was obtained that was positive for HIV.

DISCUSSION: Edema is a common presenting complaint in the practice of internal medicine. By using the physical examination, we were able to sequentially eliminate cardiac and venous dysfunction as the cause of the edema. Lymphedema was established as the diagnosis. Lymphedema is caused by obstruction of lymphatics, and can be caused by damage to the lymphatic system from radiation, chemotherapy, lymph node surgery, infection (Wuchereria bancrofti) or traumatic injury. In NSM, the levels of cardiac enzymes may be elevated and EKG changes suggestive of ischemia or infarction may be seen in the absence of significant brain showed no acute changes.

OCTREOTIDE FOR TREATMENT OF PROFOUND, REFRACTORY SULFONYLUREA INDUCED HYPOGLYCEMIA. T. Shin1; B. Viswanathan1; B. Arora3; S. Pokharel1; G. Luger1; 1St. Francis Hospital, Evanston, IL; 2Evanston, IL; 3St. Luke’s Hospital, Evanston, IL (Tracking ID # 156978)

LEARNING OBJECTIVES: 1) Recognize that hypoglycemia in glycosgen depleted, sulfonylurea treated diabetics may not respond adequately to glucose and...
LEARNING OBJECTIVES: Recognize Protein Losing enteropathy as a cause of ascites.

CASE: A 26 year old Caucasian female with SLE and WHO grade III lupus nephritis diagnosed 4 months earlier presented to the hospital with severe nausea. There was no history of diarrhea or weight loss. Physical examination revealed significant 2+ pedal edema. Laboratory assessment showed normal CBC, metabolic and liver function panels. Her albumin levels were low at 2.4 g/dl, and her creatinine was 1.2 mg/dl. Her alanine aminotransferase levels were 382 IU/L. She was afebrile with normal blood pressure. A 24-hour stool collection revealed occult blood. An abdominal ultrasound revealed ascites and hepatomegaly. On examination, she was a well-nourished young woman with a body mass index of 31.5. Her abdomen was distended with fluid noted down to her umbilicus. Her bowel sounds were hypoactive. Ascitic fluid was cloudy, and had a white cell count of 2500 cells/mm³ with 90% neutrophils. A biopsy of the ascitic fluid revealed a nonspecific inflammatory infiltrate. The fluid was sent for gram stain which was negative. She was started on oral antibiotics and her symptoms resolved. She was discharged after 7 days of hospitalization.

OPCIT URINRIS IN A YOUNG ADULT ASSOCIATED WITH SYMPTOMATIC BRADYCARDIA. M. Delmitra-Dziekan1; A.P. Amin2; A. Leung3; G. Salame1. 1John H. Stroger Jr. Hospital of Cook County, Chicago, IL; 2Stroger Hospital of Cook County, Chicago, IL; 3Kaiser Permanente Hollywood Medical Center, Hollywood, CA. (Tracking ID #: 153497)

LEARNING OBJECTIVES: 1. Diagnose optic neuritis as an important cause of monocular vision loss in young adults, even when a fundoscopic and slit lamp exam are normal. 2. Recognize the oculo-cardiac reflex as a mechanism for symptomatic bradycardia.

CASE: A 27 year old male with an unremarkable past medical history, presented with 7 days of right eye vision loss. The vision loss initially began with blurred vision in the right eye and rapidly progressed to complete right monocular blindness. The patient complained of diziness and dizziness on exertion, nausea and vomiting which had started simultaneously with the blindness. His heart rate was 32 bpm on admission and an ERG revealed sinus bradycardia. The patient was admitted to the neuro-ophthalmology unit for continued monitoring. A fundoscopic and slit lamp exam revealed no abnormalities. His labs including a CBC, BMP, ANA screen and liver function tests were normal. Over the next two days his sinus bradycardia persisted along with the right eye vision loss. At discharge the patient had normal sinus rhythm with heart rate of 70 bpm.

DISCUSSION: Monocular vision loss that is abrupt in onset can have a wide differential. However, whilst many causes of monocular vision loss can be ruled out, in many cases, the diagnostic work up is often confusing and difficult. The differential diagnosis should include optic nerve compression, ischemia, infection, and inflammatory causes. In addition, the presence of a complete right monocular blindness makes the vision loss difficult to diagnose. If one is faced with a patient with sudden monocular blindness, it is important to include optic neuritis in the differential diagnosis. As this case demonstrates, the clinical presentation of optic neuritis can be quite variable, with case reports of complete monocular blindness, partial visual field loss, and even CNIB in young patients. The bradycardia seen in this case has been previously described in patients with optic neuritis and is known as the oculo-cardiac reflex. This reflex is characterized by a marked bradycardia in the contralateral eye to stimulation of the ipsilateral eye. In this case, the contralateral eye (left) had normal visual acuity and responded appropriately to the stimulations of the right eye with increased heart rate. The patient was started on oral steroids and his symptoms improved gradually over the next 4 weeks.

OSTEOPETROSIS - “MARBLE BONE” DISEASE. M. Romano1; S. Izuchukwu1. 1Department of Veteran Administration, Los Angeles, CA. (Tracking ID #: 156252)

LEARNING OBJECTIVES: 1. Recognize the clinical and radiological presentations of osteopetrosis. 2. Distinguish osteopetrosis from other diseases that cause a diffuse increase in bone density.

CASE: A 49 year-old male with past medical history of cervical spine fracture, diabetes mellitus and hearing loss presented for treatment of a complicated right femoral fracture. Six months previously, he had sustained a closed fracture of the right femoral neck. Despite adequate open reduction internal fixation, the patient remained non-weight bearing with persistent pain and limitation of motion. The patient had had a well-controlled diabetes mellitus. He had been managed on metformin alone. On examination, the patient was found to have a fixed flexion deformity of 90° at the right knee. He was afebrile without rash. He had no history of previous hospitalizations or surgeries. His medical history included hypertension, heparin related lung disease, hyperparathyroidism, hypothyroidism, and diabetes mellitus. He was known to be a non-smoker. Physical examination showed no signs of infection. The patient was admitted to the hospital for further work up and management.

DISCUSSION: The most common cause of osteopetrosis is CLN2 mutations. The most common presentation is in the male population with an onset of symptoms in childhood or early adulthood. In this case, the patient presented with a right femur fracture six months prior to admission. He was not on any prophylactic medications and had no history of previous hospitalizations or surgeries. On examination, he was afebrile without rash. He had no history of previous hospitalizations or surgeries. The patient had a fixed flexion deformity of 90° at the right knee. He was afebrile without rash. He had no history of previous hospitalizations or surgeries. The patient presented with a right femur fracture six months prior to admission. He was not on any prophylactic medications and had no history of previous hospitalizations or surgeries. On examination, he was afebrile without rash. He had no history of previous hospitalizations or surgeries. The patient had a fixed flexion deformity of 90° at the right knee. He was afebrile without rash. He had no history of previous hospitalizations or surgeries.
sion: This case summarizes the classic presentation of adult osteoporosis, with recurrent and poorly-healing fractures, osteomalacia, asymptomatic hearing loss and diffuse increase in bone density on the X-rays. This exceedingly rare disease may present in adult life, and presents an interesting diagnostic challenge.

OXACILLIN-INDUCED NEUTROPENIA - A RARE SIDE EFFECT OF A COMMON ANTI-BIOTIC

B. Telivala1; J. Miller1; K.V. Shenoy1; Z. Szep1; H. Shishodia1; J. Shah1; M. Panda1.

Oxacillin induced neutropenia may present in adult life, and presents an interesting diagnostic challenge. This case summarizes the classic presentation of adult osteoporosis, with recurrent and poorly-healing fractures, osteomalacia, asymptomatic hearing loss and diffuse increase in bone density on the X-rays. This exceedingly rare disease may present in adult life, and presents an interesting diagnostic challenge.

The differential diagnosis includes acute pancreatitis, chronic pancreatitis with Pancreatic fistulae (PF) and chronic effusion, sphagatus rupture, and malignancy. Diagnosis of pancreatic pleural effusions is made when the fluid amylase is more than 100 times of serum amylase and total albumin over 2.3 to 3 g/100 cc, confirmed with a secretin MRCP and ERCP main when endoscopic therapy is required. CT scan detects fluid collections. Treatment options for PF can be conservative (medical) or invasive including endoscopic, percutaneous drainage and percutaneous stenting. The main determinant of therapy for PF since their resolution can be expected in about 75% of patients. Conservative measures include nasojejunal feeding, antibiotics, correction of fluid and electrolyte disturbance, drainage of pleural fluid, and drainage of bile. If conservative measures fail, endoscopic therapy can be used mainly via stent placement across the disrupted pancreatic duct. One major complication of endoscopic therapy is infection which can be treated with antibiotics. If this is technically not feasible then either percutaneous or surgical modalities can be used. Percutaneous drainage can lead to the formation of pancreaticocutaneous fistulae. Different surgical modalities can be used when conservative and endoscopic methods fail. Surgical therapy has a success rate of 90% but a mortality rate of 6.3%. Our patient responded well to conservative management and the pleural catheter was removed 2 weeks later.

PANCREATIC DYSPNEA

W. B. Mansour1; F. Francis1. University of Pittsburgh, Pittsburgh, PA, “University of Pittsburgh/VA, Pittsburgh, PA. (Tracking ID: 152687)

LEARNING OBJECTIVES: 1. To recognize pancreatic cysts can present with pleural effusions 2. To recognize the treatment options for pancreatic pleural fistulas.

CASE: A 46 year old male with hypertension presented with new onset dyspnea and worsening back pain of 2 months duration. The back pain initially improved with ibuprofen but had become severe 1 day prior to presentation, diffusely spreading across the lower back. It was no longer relieved with ibuprofen. The patient also noted decreased appetite for the past 4 months, a 5 pound weight loss, intermittent chills and night sweats, but no abdominal pain, hemena, hematocrit or hematemia. Social history was current tobacco use and alcohol consumption of 2 beers per day for 20 years. Vital signs T 96.8, BP 110/65 mm, RR 18/min, Pox 99% on RA. Exam was notable for a 3/6-HSM at the tricuspid area and scattered bibasilar crackles. Laboratory data showed WBC 17.60/ml, Hb 12.5 gm/dl, Platelets 175,000/ml. Blood cultures were positive for Methicillin-sensitive Staphylococcus aureus (MSSA). Echocardiogram showed mild to moderate mitral regurgitation. She was started on Oxacillin and her symptoms improved. Her WBC count remained stable between 6900–9500/ml for the next 3 weeks. Her WBC count then dropped to 2200/ml with a differential of 35% lymphocytes, 65% granulocytes. Her croton was continued to drug and she received a total of 1100/ml with a WBC count of 125/ml. HIV, Hepatitis C ELISA as well as anti-neutrophil antibodies were negative. Her oxacillin was stopped and she was started on Vancomycin. Within 48 hours of discontinuation of oxacillin, her WBC count improved and had reached a level of 7200/cmm at the time of discharge.

DISCUSSION: Neutropenia is usually defined as an absolute neutrophil count (ANC) of less than 1500/ml. More than 70% of cases of neutropenia are drug-induced and the risk factors include advanced age, malignancy, infectious mononucleosis, renal failure and underlying autoimmune disease. Patients with HLA-B38 phenotype and combined alleles DR4 and DQW3 are at increased risk for neutropenia commonly associated with drugs due to direct toxicity. Bone marrow aspiration and biopsy findings showed WBC 17,600/ml, Hb 12.5 gm/dl, Platelets 175,000/ml. Blood cultures were positive for Methicillin-sensitive Staphylococcus aureus (MSSA). Echocardiogram showed mild to moderate mitral regurgitation. She was started on Oxacillin and her symptoms improved. Her WBC count remained stable between 6900–9500/ml for the next 3 weeks. Her WBC count then dropped to 2200/ml with a differential of 35% lymphocytes, 65% granulocytes. Her croton was continued to drug and she received a total of 1100/ml with a WBC count of 125/ml. HIV, Hepatitis C ELISA as well as anti-neutrophil antibodies were negative. Her oxacillin was stopped and she was started on Vancomycin. Within 48 hours of discontinuation of oxacillin, her WBC count improved and had reached a level of 7200/cmm at the time of discharge.

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occasions with no improvement. On examination the patient was afibrile, tachycardic and hypertensive. He had fistulae around ileostomy and scars of old healed fistulae in the perineum. The ileostomy bag had copious liquid brown output. Patient had a severe exudative rash with erythema involving about a third of the whole of the body including head and neck but excluding the palms and soles. Initial lab data was significant for mild anemia Hb/Hct of 12.7g/dl & 39.1%, MCV 84.8 fl, elevated ESR (80 mm in 1st hr), Na 126, K 5.5, Cl 92, CO2 17, BUN 34, Cr 5.0. HIV was negative. With fluid resuscitation repeat serum creatinine was 1.4. Serum Niacin, B1, B6, B12, folate levels revealed low niacin and B6 levels, others were normal. Dermatitis, diarrhea (here - high output of ileostomy) and low niacin level pointed to a diagnosis of pellagra. Patient was started on vitamin B supplementation. In order to reduce stomal effluent volume and bowel motility H2 blockers, proton pump inhibitors and antiinflammatory drugs together with education on hydration and oral hypotonic fluid restriction was used. She was one month follow up had gained 5 lbs weight and the rash was improving.

DISCUSSION: Pellagra is caused by a deficiency of nicotinamide or of its precursor tryptophan. It may occur in patients with dietary deficiency diseases (e.g. chronic alcoholics), carcinoid syndrome, HIV infections and drugs: fluorouracil, isoazind, chloramphenicol and mercaptopurine. Pellagra leads to the triad: dermatitis, diarrhea and dementia, eventually followed by death. The skin changes are characteristic and pathognomonic. Recognition of pellagra is important; the prognosis is good after treatment. In the developed world though the traditional causes of pellagra such as hunger, malnutrition have disappeared the disease is still extant. In these countries the current etiologic causes include alcoholism, psychiatric disorders like anorexia and bulimia, diseases causing cachexy, malabsorption. Carcinoid syndrome, Humpart Disease and chronic use of isoniazid as in treatment of latent tuberculosis and some other drugs. Diagnosis and intervention is very important because the treatment is simple and the damages are reversible in early stages. Once dementia sets in - the changes are usually irreversible and it may be vigilant about the diagnosis and symptoms as the recognition of pellagra is important and the prognosis is good after treatment.

LEARNING OBJECTIVES: 1. Review the diagnosis of persistent diarrhea after travel. 2. Describe the association between traveler’s diarrhea and celiac disease.

CASE: A 32 year-old female presented to her primary care physician with intermittent diarrhea since a visit to Ireland five months prior. She and her daughters’ symptoms resolved in two days, hers continued for two weeks.

Primary care physician had suspected IBD and did not display signs of either a hypersensitivity reaction (fever, rash, or urticaria) or gastrointestinal tract involvement. She was referred to the Gastroenterology Center where occult blood in stool was negative, and serological tests for viral and parasitic infections were negative. Stool cultures also were negative. She had not traveled since her last visit to Ireland and had no known dietary changes. She had no known allergies and no family history of Celiac disease. Her past medical history included mild hypertension which was well controlled on thiazides.

On examination, she was a healthy appearing woman who was 32 years old and weighed 110 lbs. Her vital signs included blood pressure of 120/78, heart rate of 70, respiratory rate of 12, and temperature of 98.6 F. She had a past medical history significant for hypertension. Physical examination was normal except for an abdominal examination that revealed a soft, non-tender, non-painful abdomen with symmetric bowel sounds. There was no rebound tenderness or guarding. No masses were palpable on abdominal examination.

Rectal examination revealed normal internal anal sphincter tone and normal muscle tone. There was no S-shaped configuration. There was no tenderness or muscle spasm. No rectal mucosal edema or friability was noted.

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No other significant findings were noted on his admission in the way of hepatic function abnormalities, renal function abnormalities, or other organ systems. A repeat CBC showed a hemoglobin of 11.7, hematocrit of 34, MCV 84.8 fl, elevated ESR (90 mm in 1st hr), Na 126, K 5.5, Cl 92, CO2 17, BUN 34, Cr 5.0.

Case Reports: In a patient with alcoholic liver disease, the presence of chronic alcoholics and other anti-epileptics are metabolized by the liver. Presence of chronic liver disease may lead to toxicities of many drugs. The phenytoin level of 32.7µg/mL. Liver biopsy displayed cholestasis compatible with drug effect, mild steatohepatitis, and bridging fibrosis without necrosis. The phenytoin was held and the patient’s jaundice, neurological dysfunction, and liver function abnormalities improved gradually over several days.

DISCUSSION: Anti-epileptics, though commonly reported to have several adverse events, are usually well-tolerated in patients with or without underlying liver disease. Hepatic adverse events are relatively rare with phenytoin use. Asymptomatic elevation of serum alkaline phosphatase and gamma glutamyl transferase is a common hepatic adverse event. Acute hepatitis secondary to acute hypersensitivity syndrome with phenytoin use has been well reported in the literature. Symptomatic dose-related cholestatic hepatotoxicity with phenytoin use has not been reported in the literature. Phenytoin and other anti-epileptics are metabolized by the liver. Presence of chronic liver disease may lead to toxicities of many drugs.

We suggest frequent monitoring with free drug levels beyond the six week window when hypersensitivity reactions manifest to avoid clinical toxicity in a patient already undergoing phenytoin dose reductions. Phenytoin and other related liver disease are prone to develop phenytoin toxicity at therapeutic doses. Phenytoin also causes dose-related cholestatic liver injury. Distinction between neurological manifestations of anti-epileptic toxicity in patients with liver disease and hepatic encephalopathy is important for appropriate treatment.

LEARNING OBJECTIVES: 1. Recognize the clinical manifestations of primary adrenal insufficiency. 2. Conduct appropriate screening for malignancy in a patient presenting with unexplained primary adrenal insufficiency.

CASE: A 64 year old woman with a past medical history significant for HTN and DM brought to the emergency room by paramedics for altered mental status. Blood glucose in the ED was 47. She admitted to multiple ED admissions in the past for hypoglycemia. She was given a glucose bolus and oral hypotonic fluid restriction was used. At his discharge his serum creatinine was 1.4. Serum Niacin, B1, B6, B12, folate levels revealed low niacin and B6 levels, others were normal.

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prolongation of QT interval results in torsades de pointes. PVCs are more common during periods of low-dose haldol administration. 2. Recognize the importance of reasonable side effect profile and should be considered in patients with cholestasis, hypoalbuminemia, azotemia, thrombocytopenia, and a coagulopathy. A work-up for other etiologies of chronic liver disease was negative. Abdominal ultrasound showed a nodular, echogenic liver with spiculated margins. MRI showed diffuse, subtle leptomeningeal enhancement. The patient responded to supportive care and was discharged from the hospital.

LEARNING OBJECTIVES: Recognize that recurrent aseptic meningitis can be a presenting manifestation of Primary Sjögren’s Syndrome. A 32-year-old woman was transferred to Mayo Clinic after being admitted to a local hospital with fever, headache and confusion. Initial evaluation including a normal CSF, negative results of the head CT scan, and an abnormal fluid (CSF) analysis showed a lymphocytic pleocytosis with elevated protein and normal glucose. She was started on intravenous antibiotics. Upon arrival she was noted to be drowsy, stuporous with a temperature of 38°C. Heart and lung examination were abnormal and neurologic examination was normal. Post medical history included several hospitalizations for similar episodes in the last four years. These were treated with empirical antibiotics, but no bacterial, viral or fungal or mycobacterial organisms were ever isolated. She remained completely asymptomatic in between the episodes. She smoked half a pack of cigarettes a day and drank alcohol rarely. She denied any illicit drug use or HIV risk behavior. A repeat CSF analysis at our hospital revealed 208 white cells (84% lymphocytes), protein was elevated 152 mg/dl (14–45), glucose was 46 mg/dl (40–80). CSF gram stain, bacterial antigen tests were negative. Polymerase Chain Reaction (PCR) test were negative for Herpes Simplex Virus (HSV), Cytomegalovirus (CMV), Epstein Barr Virus (EBV). Acid fast smears were negative. RPR and lyme serology were negative. MRI showed a diffuse, subacute leptomeningeal enhancement. Her Anti-nuclear Antibody (ANA) was elevated at 10 U (<1) and extractable nuclear antibodies (ENA) to SS-A 189 U (<25) and SS-B 70 U (<25) were positive as well. She recovered completely with supportive care. Rheumatology consultation was obtained and a recommendation to treat future episodes with prednisone was made. She remained asymptomatic few months after the hospitalization.

DISCUSSION: Our patient was otherwise healthy with episodes of recurrent aseptic meningitis. No microbiological pathogen was ever identified. In such cases it is important to take a careful medical history. Sjögren’s syndrome is often associated with the use of certain drugs (ibuprofen, sulindac, penicillin, azathioprine, immune globulin). She did not take any medications prior onset of symptoms. Other etiologic considerations included Mollaret meningitis, which is a rare syndrome characterized by recurrent episodes of aseptic meningitis, separated by symptom free periods and spontaneous remission. Herpes Simplex Virus type 2 (HSV-2) had been isolated in the CSF of many of the patients with this syndrome. Other characteristic features include the presence of Mollaret cells (large mononuclear cells) in the CSF. Our patient’s HSV PCR was negative and Mollaret cells were absent making this an unlikely possibility. Rarely, patients with epidermoid tumors may present with recurrent aseptic meningitis secondary to the rupture and release of the cyst contents into the CSF. The MRI scan did not support the diagnosis. The elevated ANA and ENA helped diagnosing Sjögren’s syndrome in our patient. Neurologic manifestations such as headache and focal neurologic deficits are very rare but reported in patients with Sjögren’s syndrome. Though aseptic meningitis is reported in Sjögren’s syndrome, as seen in this case, patients can present with ‘recurrent’ episodes of aseptic meningitis.

Progression of hepatic sarcoidosis to cirrhosis: An unusual complication

M. Slavin 1, 2, K. Lim 1
Mayo Clinic, Rochester, MN (Tracking ID: 151347)

LEARNING OBJECTIVES: 1. Review the differential diagnosis of cholestatic hepatitis. 2. Recognize the extrapolmonary manifestations of sarcoidosis, and its typical clinical course. 3. Illustrate an unusual complication of hepatic sarcoidosis.

CASE: A 67-year-old Caucasian female with a three-year history of pulmonary and hepatic sarcoidosis was admitted for acute renal failure, worsening hepatic dysfunction, and anasarca. She was presented three years ago with bilateral reticulonodular pulmonary infiltrates on chest CT, mildly decreased D-LCO, elevated serum angiotensin converting enzyme, and cholestatic liver abnormalities. No portal hypertension or cirrhosis was seen on ultrasound, but liver biopsy was critical to exclude primary biliary cirrhosis, cholestatic hepatitis, or drug effect. Cirrhosis shows granulomatous changes in up to 95% of cases of sarcoidosis, but most patients are asymptomatic, except for an elevated serum alkaline phosphatase. However, hepatic dysfunction and progression to advanced liver disease are rarely observed. In a series of 100 patients with sarcoid hepatitis, only 6 patients presented to liver cirrhosis, with death from hepatic insufficiency being rare. Concomitant splenic involvement is seen histologically in up to 75% of cases, but splenomegaly is reported in 5-18% of cases. Our patient most likely had sarcoidosis and cirrhosis to account for the splenomegaly. Although corticosteroids remain the mainstay of treatment for hepatic sarcoidosis, our patient progressed to cirrhosis despite continuous therapy. UDCA has been used in sarcoidosis-associated cholestasis, with favorable results in younger patients without cirrhosis, with a response rate exceeding six months. UDCA has a reasonable side effect profile and should be considered in patients with cholestasis, not responding to steroids alone.
lorazepam may have induced tordases de points at doses not typical for this disorder. This case has implications for management of agitated patients in the emergency setting for whom haldol is considered for the acute management of agitation. Based upon this case, cardiac monitoring appears to be indicated even when low doses of haldol are administered, and especially if co-administered with other medications.

PROPHYLACTIC SUBCUTANEOUS HEPARIN: CAUTIONARY TALES. S. Viradia1; M. Rollins2; Y. Scott1; A.A. Towfigh1.

starting on quetiapine for sleep. When he missed his follow-up visit, his PCP thy, neuropathy and proteinuria, creatinine=0.9.) presented to medical clinic in deterioration of his physical condition (PHQ9=27, creatinine =2.5), and was insulin added, sertraline titrated, SMG’s set and weekly social work contacts worker became his dedicated care manager, attempting to contact him weekly to He was enrolled in Depression and Diabetes registries and a multifaceted care Questionnaire 9 (PHQ9) and scored 18 (26) in October 2003 with considerable improvement (A1c=7.3, PHQ9=7). Three months later his gains have been sustained (A1c=7.5, PHQ9=5).

DISCUSSION: Diabetes is associated with a doubling in the risk for coronary death, limited but growing associations between depression treatment and glycemic control, likely attributable to improved self-care behaviors and potentially decreased insulin resistance associated with depression. This case illustrates that adequate antidepressant (in this instance, psychiatric admission) may be required to enable a patient to adhere to his diabetes medications. Although the patient was referred to psychiatric multiple times, he never followed up with any outpatient provider other than his PCP. Through application of the principles of the CCM and creative use of resources (social work care manager, mobile crisis and acute psychiatric service) the PCP played a pivotal role in managing both diabetes and depression resulting in a favorable outcome. Systems that permit integration of mental health treatment with care for chronic conditions are likely to benefit many patients with co-occurring medical and psychiatric illness.

PSYCHIATRIC ADMISSION IMPROVES GLYCEMIC CONTROL. D. Gunthik1; N. Shah1.

PSYCHIATRIC MANIFESTATIONS OF NEUROSYMPHILIS. Y. Scott1; A.A. Towfigh1.

CASE: Background: Low-dose SQ heparin is routinely ordered to prevent thrombotic events for many general medicine patients. While LMWH may be safer and more effective based on several RCTs, unfractionated SQ heparin is still used in many hospitals due to cost issues. However, it is and well appreciated that unfractionated heparin can elevate the PTT and/or cause bleeding complications, even with the ‘low dose’ used for DVT prophylaxis. Furthermore, the two usual dosing frequencies (Q8 & Q12 hrs) have never been studied in a clinical trial. Instead, the recommended daily dose is left to physician discretion, hospital policy, and “expert opinion”. We report 3 patients with significant PTT elevations potentially due to low dose heparin used for routine prophylaxis. 1) A 76 yo Philippine woman (122 lbs) with uncontrolled diabetes with insufficiency (Cr 1.5) was admitted for new onset CHF. A past PT/PTT had been normal. The intern ordered heparin 5,000 units subcutaneously Q8 hrs. The patient was diagnosed with an ischemic cardiomyopathy and a heart catheterization demonstrated previously undiagnosed mitral stenosis. He was started on heparin, with an initial PTT of 154.6. SQ heparin was discontinued and the PTT corrected quickly, to 56.8 by that evening and to 32 the following morning. 2) A 48 yo Philippine woman (133 lbs) with SLE was admitted for sepsis vs. lupus flare. Her admission PTT was normal. The intern ordered heparin 5,000 units subcutaneously Q8 hrs. The patient developed mild hemoptysis overnight, and her PTT was 58.4 the next morning and not adequately investigated. One patient who was small and heparin was discontinued. The PTT was 2.1 when patient was found to be acutely confused. The PTT was >201 and she had a large frontal subdural hematoma with significant mass effect and shift. She quickly deteriorated and was pronounced brain dead.

DISCUSSION: These cases illustrate that SQ heparin may significantly elevate the PTT, sometimes to high and potentially dangerously levels, thus resulting in bleeding complications or delay of appropriate medical care. Physicians should be aware of this, and should also not be unduly surprised at mild PTT elevations in patients on low-dose heparin. In addition, the efficacy and safety of Q8 vs Q12 hrs has not been adequately studied. One month later, sertraline was titrated and the patient was discharged with hemodialysis, steroids and cyclophosphamide. On hospital day 2, her PTT was 48.1. and the SQ heparin was held. The PTT normalized the following day, and the patient was discharged home. She began daily plasmapharesis and was doing well for several days, when the patient was found to be acutely confused. The PTT was >201 and she had a large frontal subdural hematoma with significant mass effect and shift. She quickly deteriorated and was pronounced brain dead. This patient was diagnosed with an ischemic cardiomyopathy and a heart catheterization demonstrated previously undiagnosed mitral stenosis. He was started on heparin, with an initial PTT of 154.6. SQ heparin was discontinued and the PTT corrected quickly, to 56.8 by that evening and to 32 the next morning. 2) A 48 yo Philipino woman (110.7 lbs) was admitted for severe acute renal failure. Her baseline PTT was 34.1. The intern ordered heparin 5,000 units subcutaneously Q8 hrs. The patient was diagnosed with VTE, and treated with heparin and methycobalamin and treated with hemodialysis, steroids and cyclophosphamide. On hospital day 2, her PTT was 48.1. and the SQ heparin was held. The PTT normalized the following day, and the patient was discharged home. She began daily plasmapharesis and was doing well for several days, when the patient was found to be acutely confused. The PTT was >201 and she had a large frontal subdural hematoma with significant mass effect and shift. She quickly deteriorated and was pronounced brain dead.

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patient's mental status exam continued to demonstrate memory deficits, perseveration, disinhibition, and was also noted to have problems with naming and ideas of grandiosity. The rest of the physical exam was unremarkable. The laboratory examination was also unremarkable (normal chemistries, CBC, ESR, RPR, HIV, ANA, and urine toxicology screen), except for a mild ALT elevation of 73. The patient had a completely negative infectious, rheumatological and inflammatory encephalopathy workup of both CSF and serum. During the hospitalization, the patient had a witnessed seizure resulting in lateral tongue lacerations. The patient was switched to Zonegram from phenytoin and valproic acid after it was noted that his liver tests became more abnormal. The acute viral hepatitis panel was negative and his liver tests subsequently normalized. The patient had normal TSH (1.85) and FT4, in addition, his anti-thyroglobulin antibodies were negative. The patient was discharged with neurology follow-up but was brought back on the ED the following day for a known temporal lobe epilepsy attack. Upon going over the work up for this admission, it was noted that the microsomal antibody, which had been pending, was strongly positive at 17 units/mL. The diagnosis was made of Hashimoto's encephalopathy, methylprednisolone 500 mg IV daily was started and the patient was discharged on prednisone. Six weeks later, the patient was seen in neurology clinic and noted to have returned to his high functional baseline.

DISCUSSION: Hashimoto's encephalopathy is rare, approximately 30 cases have been reported in the literature, 85% were women and the average age of onset was 47. However, HE may be under-recognized, since its clinical presentation is similar to more common disorders. Hashimoto's encephalopathy has been reported to be triggered by generalized seizures, which is the first type presented by acute transient stroke-like episodes and epileptic seizures. The second form has a more insidious onset, progressing to dementia, psychosis, uncontrolled seizures, and status epilepticus. Specific tests such as TSH, antigliadin antibodies, anti-glutamic acid decarboxylase antibodies are usually normal. Positive anti-thyroid antibodies are necessary in the diagnosis of HE. This diagnosis should be entertained in the setting of any neuropsychiatric condition that is not responding to conventional therapy, particularly when there is a history of autoimmune thyroiditis is suspected or known. Hashimoto's encephalitis, generally, responds well to steroid or other immunosuppressive therapy. Therapy duration is usually 4-6 weeks and 90% of the patients stay in remission.

PULMONARY ALVEOLAR PROTEINOSIS (PAP) SECONDARY TO PNEUMOCYSTIS carinii PNEUMONIA (PCP) L. V. Manamotom1; A. Rao2; J. Bilfer3; L. Santo Tomas1. 

LEARNING OBJECTIVES: 1. Recognize Hemophilus influenza as an etiological agent for purulent pericarditis. 2. Differentiate bacterial pericarditis early in the course from viral pericarditis.

CASE: A 78-year-old white female presented with sore throat, dysphagia and recent onset of shortness of breath. There was no cough, chest pain, or palpitations. Her past medical history was unremarkable. She was afebrile with oxygen saturation of 97% on room air. However, she was tachycardic (pulse of 106 per minute) and hypotensive (blood pressure of 70 mmHg systolic). Her posterior pharyngeal wall was erythematous. There was no cedema adnephalgia. Chest exam revealed bilateral basal crackles. Cardiovascular exam, abdominal and neurological exam were normal. Her white blood cell count was increased with significant bandemia. Chest radiograph revealed bilateral lower lobe infiltrates. Electrocardiogram revealed diffuse S-T segment elevation in all the leads. Troponins were elevated to 1.5 ng/mL. A bedside echocardiogram revealed ejection fraction of 35% and a pericardial effusion without tamponade. A diagnosis of pericarditis was made. She was started on non-steroidal anti-inflammatory agents for pain control and chest discomfort. On the 3rd day, she became hypoxic, acidic and hypertensive, despite fluid resuscitation. Sputum gram stain and culture were negative. However blood cultures returned positive for Hemophilus influenza. An urgent bedside echocardiogram revealed cardiac tamponade. Prompt bedside pericardiocentesis revealed brownish, greenish frank pus. Approximately 500 milliliter of pus was drained and drainage tube was left in place. The hemodynamics improved immediately after pericardiocentesis. Gram stain and culture of the pericardial fluid revealed Hemophilus influenzae. She was continued on antibiotics and made a gradual recovery. Repeat 2-D echocardiogram 3 weeks later revealed only scant pericardial effusion.

DISCUSSION: Bacterial infection of the pericardial space is uncommon in clinical practice. Most cases are associated with dialysis, thoracic surgery, chemotherapy and adult immunodeficiency syndrome. The common etiological organisms causing purulent pericarditis are staphylococcus, streptococcus, and tuberculosis bacillus. Though purulent pericarditis is commonly seen in the immunocompromised patients, our patient was immunocompetent and presented with upper respiratory tract infection, rheumatic fever, and progressive pneumonia and presumptive pericardial effusion leading to tamponade. She did not manifest fever and the typical symptoms of bacterial pericarditis. Absence of fever may have been due to empirical treatment with naproxen for acute pneumonia. Prompt diagnosis and aggressive medical therapy was essential in treating this life threatening disease. This patient was treated with closed drainage with good response. Development of constrictive pericarditis would have required pericardiectomy. Bacterial pericarditis should be differentiated from viral pericarditis early in the course as it is usually fatal if not recognized and treated early enough. Presence of upper respiratory tract symptoms, pneumonia or sepsis with evidence of pericarditis should alert the clinician to the possibility of a bacterial etiology. Hemophilus influenza should be recognized as a possible etiological agent of pyogenic pericarditis in immunocompetent elderly patients.

PULMONARY PERICARDITIS AND CARDIAC TAMONADE CAUSED BY HEMOPHILUS INFECTUS INFECTIONS. G. P. Gangavolu1; V. Gupta1; V. Das2; J. Szalados1. 

LEARNING OBJECTIVES: 1. Recognize Hemophilus influenza as an etiological agent for purulent pericarditis. 2. Differentiate bacterial pericarditis early in the course from viral pericarditis.

RAPID CLINICAL PRESENTATION OF BENIGN TERTIARY SYPTHIS IN THE SETTING OF HIV INFECTION M. Case 1; V. T. Martin 2. University of Cincinnati, Cincinnati, OH. (Tracking ID: 154689)

LEARNING OBJECTIVES: 1) Recognize the potential for rapid progression of syphilis in the setting of HIV infection. 2) Prioritize neurosyphilis evaluation and early treatment in patients with visual complaints in the setting of a positive rapid plasma reagin test.

CASE: A 28 year old HIV positive type 2 diabetic male with CD 4 count of 45, rapid plasma reagin test. 

DISCUSSION: Benign tertiary syphilis is characterized by gummatous inflammation in asymptomatic patients or patients with chronic dyspnea on exertion and diffuse lung infiltrate 3. Consider PCP as a possible diagnosis in all immunocompromised patients even if more than 12 months post transplantation.

CASE: A 29 y/o woman age 52 year transplant 5 years earlier presented with fatigue and progressive dyspnea. Crotomaxoazole prophylaxis was discontinued and Sirolimus was added a few weeks prior to development of symptoms. She was afebrile, comfortable at rest, and had a normal lung exam. She did not require any oxygen and did not desaturate with activity. Chest radiograph showed diffuse bilateral interstitial infiltrates with right middle lobe consolidation and perihilar predominance. Pulmonary function tests showed moderate restriction with normal diffusion capacity. High resolution CT of the chest showed patchy ground-glass opacification, thickened intralobular and interlobular septa in the right upper and middle lobes forming polygonal shapes resembling "crazy paving pattern". Electrocardiography revealed normal sinus function. A chest radiograph the following day showed worsening infiltrates though her oxygenation was unchanged. Due to concern for an opportunistic infectious process, an unusual diagnostic process a thoracic sarcoidogram was performed. Histology revealed thin delicate alveolar septa, expanded and filled with abundant granular eosinophilic debris, scattered alveolar macrophages and irregular large proteinaceous globules. Granular debris reacted positively with periodic acid-Schiff stain, Gomori-methenamine silver stain showed scattered clusters of Pneumocystis carinii cysts. These findings were consistent with PAP and PCP. She was treated with crotomaxoazole and steroids for PCP and was discharged after symptomatic improvement. Two weeks later she was readmitted with acute pancreatitis and bilateral alveolar consolidation that improved rapidly after diuretics and positive pressure ventilation. Pneumocystis was no longer detected on bronchoalveolar lavage fluid, but she still had FAS positive material. Treatment dosing of crotomaxoazole was completed and chest radiograph showed complete resolution of infiltrates prior to discharge.

DISCUSSION: Pulmonary alveolar proteinosis can be congenital, acquired or secondary. Secondary PAP develops in association with conditions involving functional impairment or reduced numbers of alveolar macrophages. Such conditions include some hematologic cancers, pharmacologic immunosuppression, radiation injury, infection or transplantation and certain infections. The standard of care for primary PAP is whole lung lavage but for secondary PAP involves treatment of the underlying condition. Most of the cases of secondary PAP to secondary PAP have been reported in HIV patients. PCP infection in transplant recipients was thought to cause similar illness as HIV related PAP. The incidence of secondary PAP secondary to PCP in a non HIV patient 5 years after a solid organ transplant.

PURPLENURC ERITIDID AND CARDICT TAMONADE CAUSED BY HEMOPHILUS INFECTUS INFECTIONS. G. P. Gangavolu1; V. Gupta1; V. Das2; J. Szalados1. Unity Health System, Rochester, NY. (Tracking ID: 154868)

LEARNING OBJECTIVES: 1. Recognize Hemophilus influenza as an etiological agent for purulent pericarditis. 2. Differentiate bacterial pericarditis early in the course from viral pericarditis.
RECONCILE AND TREATMENT OF POLYMYALGIA RHEumaticA IN THE OUT- PATIENT SETTING. I. Katz1; A. Wright2. Brigham and Women's Hospital, Boston, MA; 1Brigham and Women's Hospital, Cambridge, MA. (Tracking ID # 15296)

LEARNING OBJECTIVES: 1) Recognize the clinical features of polymyalgia rheumatica 2) Long term management of polymyalgia rheumatica. 3) Distinguish polymyalgia rheumatica from other diseases with similar presentations.

CASE: This is a case of a 77 year-old Caucasian woman who presented to the outpatient clinic with one month of increasing muscle soreness. She first noted this weakness that started in her shoulders and mild muscle soreness occurred a month after starting her statin and after each workout she would feel slightly sore. Then after receiving a flu shot, she reported that her left shoulder ached. The soreness progressed to her hips and inner thighs. Two days prior to her presentation she had to log-roll herself off the bed to get to the bathroom. She took ibuprofen with minimal effect. She denied fevers, chills, nausea, vomiting, cough, rash. She reported no recent change in her medications. Her past medical history included depression, hypothyroidism, and anemia. She was on tricyclic antidepressants, hydroxyurea, spironolactone, and vitamin D.

The remainder of her head, neck, cardiovascular, lung, and abdominal exam were normal. On musculoskeletal exam, she was noted to have mild bilateral shoulder girdle, thigh adductor, and biceps muscle tenderness. She denied paraspinal, trapezius, forearm, hip, knee, and calf swelling/tenderness. She denied temporal artery tenderness, headache, jaw pain or visual loss. For her initial workup, the patient was advised to discontinue spironolactone. In the emergency room, the patient had a temperature of 97.7, 144/83, 84, 14 and her exam, including abdominal exam, was unremarkable; however, bladder catheterization produced only 100 ml. She had anorexia, nausea, vomiting, cough, rash. She reported her past medical history included depression, hypothyroidism, and hypertension. Other diseases that could present in this manner include: myocardial infarction, troponin 0.18 ng/ml. She died on her presentation. She had a generalized tonic-clonic seizure. Laboratory studies were checked; the ESR was 99. Prednisone was initiated, and the patient's symptoms were immediately relieved. Over a one-year period, the steroids were gradually tapered with no residual symptoms.

DISCUSSION: This case is a classic presentation of polymyalgia rheumatica (PMR). Initially, however, the differential diagnosis was broad and included: statin-induced myositis; diabetic-associated electrolyte disturbances; or hypothyroidism. Other differential diagnoses included polymyalgia nodosa, pleurisy, myasthenia gravis, systemic lupus erythematosus, fibromyalgia, osteoarthritis, and rheumatoid arthritis. Of note, the patient denied visual symptoms and had no evidence of temporal artery tenderness. It is always important to rule out conditions that are diagnosable by PMR, due to its association with Giant Cell Arteritis. Epidemiologically, PMR tends to affect Caucasians more than African Americans, and females more than males. In general, patients with PMR tend to be over 50 years old as there is a classic pattern of abrupt onset of morning stiffness and proximal polyarthralgia (upper arms, neck, trunk). Often, their ESR is elevated (although it can be normal in up to 20% of those with the disease). Patients diagnosed with PMR usually have a biopsy-negative to steroids. It is essential to remember to do regular bone density testing, and prescribe calcium and vitamin D to patients on steroids to prevent bone loss.
hypertension. Eventually, the patient required intermittent hemodialysis for uremia and fluid overload. Slow recovery of renal function prompted a renal biopsy, which demonstrated nephrocalcinosis, a tubulointerstitial nephropathy characterized by calcified deposition and transient hyperphosphatemia secondary to the bowel preparation as the most likely etiology of her renal failure. The patient was discharged from the hospital one month later and continues to need hemodialysis.

DISCUSSION: The patient’s acute renal failure from the use of phospho- soda preparations in pts without pre-existing renal insufficiency is not well recognized. Multiple cases of hyperphosphatemia and renal failure have been reported. A few cases have occurred in patients without previously known risk factors such as renal disease or chronic dysmotility. Many of the patients without these risk factors, including this patient, were taking angiotensin converting enzyme (ACE) inhibitors or angiotensin receptor blockers (ARBs) prior to colonoscopy. Perhaps, these drugs predisposed patients to renal failure by exacerbating volume depletion or causing bicarbonaturia, thus potentially increasing calcium and phosphate concentration and subsequent precipitation. Because of the ease of use, phospho- soda preparations will continue to be used for colonoscopy preparations; however, this case highlights the possibility of acute renal failure for patients taking these preparations while taking ACE inhibitors or ARBs, even without previously known pre-existing renal insufficiency.

**REVERSIBLE POSTERIOR LEUKOENCEPHALOPATHY: AN UNPREDICTABLE CONSEQUENCE OF ALCOHOL WITHDRAWAL**

J. L. Strande1; J. Fife2; A. Goyal3; W. A. Li1; O. Pickett1; M. P. Zhao1; A. Khan1; T. Ahmad1; M. Zetkulic2.

1University of Medicine and Dentistry of New Jersey, Robert Wood Johnson Medical School, Somerset, NJ; 2Saint Peter’s University Hospital, New Brunswick, NJ; 3St. Joseph Regional Medical Center, Milwaukee, WI. (Tracking ID # 151790)

LEARNING OBJECTIVES: 1. Consider reversible posterior leukoencephalopathy syndrome as a cause of status epilepticus, especially in the setting of alcohol withdrawal. 2. Recognize the importance of intensive control early in the treatment of reversible posterior leukoencephalopathy syndrome to reduce long-term morbidity.

CASE: A 46 year-old man with a history of alcohol abuse was brought to the hospital after becoming unresponsive and having a witnessed seizure at home. His last drink was 18 hours prior to this episode. On arrival to the ER he was found to be hypertensive (BP 229/135), tachycardic (pulse 140) and seizing. He was treated with lorazepam, given a bolus of diltiazem and started on a continuous diltiazem infusion. His BP and pulse initially decreased to 183/106 and 135, but increased to 208/110 and 166 over 30 minutes. During this time he developed shortness of breath, and required intubation and mechanical ventilation. He was treated again with lorazepam, and the diltiazem was changed to labetalol. He was sedated and intubated, and started on a propofol infusion. This regimen eventually controlled his seizures as well as his hypertension and tachycardia. Following his initial stabilization, the patient underwent a more extensive work-up for his status epilepticus. His basic metabolic panel, CBC, urine toxicology and CSF analysis were unremarkable, but his serum alcohol level was 0.085. A head CT was unrevealing, but a subsequent brain MRI showed extensive edema throughout the cerebellum and occipital and parietal lobes. Based on these findings, the patient was diagnosed with reversible posterior leukoencephalopathy syndrome (RPLS). His blood pressure control remained satisfactory, and within 10 days his MRI findings had resolved and he returned to his baseline neurocognitive level.

DISCUSSION: RPLS classically presents with headache, vision disturbances, and shortness of breath. It is a complication of accelerated hypertension. This biopsy patients was unable to provide any history, his initial clinical picture (recent cessation of alcohol intake, tachycardia, hypertension and seizures) was more consistent with a toxic withdrawal. RPLS should be recognized promptly, as delay might result in permanent brain damage. Therapy involves control of blood pressure, withdrawal of offending medications, and use of anticonvulsants. Hypertension in RPLS should be treated aggressively to prevent progression to irreversible ischemia and infarction. The neurologic de- rangeent is often completely reversible if the condition is treated quickly. RPLS has been typically associated with eclampsia, renal disease and immunosup- pressant use. To our knowledge, this is the first case of RPLS reported in a patient associated with alcohol withdrawal. This case emphasizes the importance of determining whether RPLS is a cause of seizures in the setting of alcohol withdrawal. It also emphasizes the importance of aggressively lowering blood pressure early in the treatment of RPLS to prevent long-term sequelae.

**RIGHT ATRIAL MASS, ANEMIA, SPLENOMEGALY, AND VASCULITIS IN AN INTRAVE- NOUS DRUG USER. ENDOCRINODI OR NOT?**

P. Zhn1; A. Khan1; T. Ahmad1; M. Panda1. 1University of Tennessee, Chattanooga, TN. (Tracking ID # 151790)

LEARNING OBJECTIVES: 1. To recognize the clinical manifestations of right atrial myxoma. 2. To understand the overlap between clinical findings in bacterial endocarditis and atrial myxoma. CASE: A 43-year-old male with a long history of IV drug abuse presented with a six month history of shortness of breath, dyspnea on exertion, lower extremity edema and syncope. His BP was 180/100 with a heart rate of 130. Physical examination revealed a markedly elevated JVP and 3/6 systolic ejection murmur at the left lower sternal border, few purpuric lesions on the ankles, and hepatosplenomegaly. Laboratory showed leukocytosis, high ESR, normocytic anemia, thrombocytopenia, elevated PT and PT. Hepatitis C serology was positive. Blood cultures were repeated several times and remained negative. Transesophageal echo demonstrated a 3.6 x 3.7 cm mass attached to the septal leaflet of the tricuspid valve. There was severe tricuspid regurgitation and the right atrial and venous return were severely dilated. Although the patient had historical and clinical evidence of endocarditis blood cultures remained negative. Surgery was performed with removal of atrial mass and replacement of tricuspid valve. Pathology of the atrial mass revealed atrial myxoma. The patient was then started on digoxin and losartan. The patient’s jaundice was complicated by development of worsening palpable purpura in his lower extremities and lower abdomen and a hemolytic anemia with elevated LDH and low haptoglobin and hemoglobin. Cryoglobulin level was 1. Complement level was normal. C ANCA and P ANCA were negative. Pathology of skin biopsy showed leukocytoclastic vasculitis with capillary deposits of IgA, IgG, IgM, complement factors and fibrin suggestive of mixed cryoglobulinemia. Purpura responded to steroids. DISCUSSION: Atrial myxoma is a fairly rare tumor. It is even rarer in the right heart. The confounding history of IV drug use in our patient initially led us down the path of infectious endocarditis. Clinical findings that are common between endocarditis and myxoma include constitutional symptoms such as fever, malaise, myalgia, joint pain; pericardial rub; heart murmur; chest pain; shortness of breath; embolization; leukocytosis; anemia; and elevated ESR. Blood cultures and echocardiogram are very important tools to differentiate endocarditis from myxoma. Hemolytic anemia, and thrombocytopenia are often noted in left atrial myxomas as they are in endocarditis. Cutaneous manifestion of myxoma in hemorrhagic vasculitis syndrome is also common in our patient. We showed leukocytoclastic vasculitis which can occur in endocarditis as well as cryoglobulinemia. This case demonstrates the complexity of clinical decision making in the setting of multiple clinical findings that can be explained by more than one underlying disease process. In addition management of endocarditis and indications for doing right heart valvular surgery in a chronic IV drug user were brought to the fore.

**RISK OF THIAMINE DEFICIENCY IN THE NON-ALCOHOLIC, H.I.A.1; O. Pickett1; M. Zenkovic1; 2University of Medicine and Dentistry of New Jersey, Robert Wood Johnson Medical School, Somerset, NJ; 3Saint Peter’s University Hospital, New Brunswick, NJ. (Tracking ID # 153503)

LEARNING OBJECTIVES: Wernicke-Korsakoff syndrome is a preventable complication of thiamine deficiency. Rarely, we recognize the risk of thiamine deficiency in non-alcoholic patients. Treatment of the syndrome, once established, is only moderately successful. Therefore, recognizing the spectrum of thiamine deficiency and institution of thiamine administration is very important.

CASE: A 44 year old woman with bipolar disorder, who experienced prolonged anorexia and vomiting for three months after valproic acid had been added to her regimen. Her profound weakness prompted her psychiatrist to send her for emergency evaluation. Upon admission, she was afebrile, blood pressure was 90/60 and heart rate was 61. She was the rest of the exam was normal. Despite two liters of intravenous hydration with D5 1/2 NS, the patient became more hypotensive and was given further fluids resuscitation. After 36 hours, the patient developed confusion with pronounced vertical nystagmus, decreased sensory motor strength, truncal ataxia, and dysmetria. She then developed significant short-term memory loss and began to have auditory hallucinations. A lumbar puncture was performed and cerebrospinal fluid studies were normal. Serum folate was low. MRI showed an abnormal hypointense T2-weighted signal restricted to the mammary bodies with subtle enhancement of the post-gadolinium images consistent with Wernicke syndrome. EMG study showed moderate polyneuropathy in motor and sensory nerves. The patient was treated with thiamine and folate. Her nystagmus improved, however after three months, her hallucinations and short-term memory loss remained. Her mental status had improved, but her short-term recall remained severely impaired.

DISCUSSION: Thiamine deficiency, while common in alcoholic patients, may present in patients with malignancy, hyperemesis, AIDS, magnesium depletion, malabsorption syndromes, and after gastric bypass surgery. Thiamine is ab- sorbed in the jejunum and ileum. It serves in cellular metabolic activities such as in the pentose phosphate pathway, and as a catalyst in the oxidative decarboxylation reaction. It is found in food products such as rice, yeast, pork, and other grains. Occular abnormalities, ataxia, confusion are the triad of Wernicke syndrome. Polyneuropathy and orthostatic hypotension can be present as well. MRI is 93% specific, but only 50% sensitive. Early administration of thiamine is important to reverse some of the neurologic sequelae. Intravenous fluids can be overlooked as medications with preventable side effects. As in this case, failure to cognize of nutritional deficiencies in non-alcoholic patients could impair one’s ability to evaluate and treat the patient effectively.

**RUB-A-DUB-DUB-CHUGALUG! D. Brail1; E. Mose1; 2Society of General Internal Medicine, Pittsburgh, PA; 1University of Pittsburgh, Pittsburgh, PA. (Tracking ID # 152673)

LEARNING OBJECTIVES: 1) Recognize the possibility of isopropl alcohol (IA) ingestion in a clinically intoxicated patient with undetectable blood ethanol level (BEL). 2) Distinguish IA ingestion from ethylene glycol (EG) and methanol ingestions. 3) State the treatment and potential complications of IA ingestion. CASE: A 52-year-old male with a past medical history significant for alcoholism, delirium tremens, and depression was brought to the emergency department and admitted to intensive care unit (ICU) when found by his home by friends, confused and crawling on his floor. Initial evaluation revealed a disoriented, thin Caucasian male with a sweet odor emanating from his breath. He was afebrile with normal vital signs and oxygen saturation.
Neurological examination revealed global neurocognitive depression with focal neurological deficits. He had poor dentition; physical examination was otherwise unrevealing. The patient received multiple doses of fluconazole and naloxone without improvement in his mental status. Laboratory evaluation revealed a normal white blood cell count, hemoglobin, liver function tests, and electrolytes. The patient was treated with lorazepam and dexamethasone. He was transferred to the hospital with evidence of exacerbation of his disease and was improved with high-dose corticosteroids. The patient was discharged with a plan for follow-up with a neurologist and psychiatry.

DISCUSSION: The differential diagnosis of neurological symptoms in patients with sarcoidosis includes cognitive changes, seizures, and psychiatric symptoms. Early recognition and management of these symptoms can improve outcomes for patients with sarcoidosis. The use of high-dose corticosteroids and other immunosuppressive therapies may be necessary to control the disease and prevent further neurological complications.

Learning objectives: 1. Assess the neurological symptoms in patients with sarcoidosis. 2. Recognize the importance of multidisciplinary care in managing neurological complications of sarcoidosis. 3. Discuss the role of early intervention in improving outcomes for patients with sarcoidosis.
early diagnosis and treatment. Unfortunately, this is an area of medicine that tends to receive less attention than it should.

**LEARNING OBJECTIVES:** 1. Recognize the presentation of serotonin syndrome. 2. Identify common medications that can precipitate the condition. 3. Initiate early management.

**CASE:** A 45-year-old female with a history of rheumatoid arthritis, coronary artery disease, atrial fibrillation, and depression presented with a 1-week history of confusion, lethargy, tremors, and ataxia. There was no history of trauma, loss of consciousness, or infection. Medications included oxycodone, duloxetine, and prednisone, in addition to her cardiac medications. Tramadol was stopped, and a beta blocker was added. Snoring and a history of sleep apnea were noted.

**LAB RESULTS:**
- Sodium 133, potassium 7.9, chloride 94, BUN 49, Creatinine 3.8, phosphorus 1.75, CPK 311, CKMB relative index 2.9, CKMB 0.9. Her chemistries at that time were: sodium 145, potassium 3.4, chloride 113, bicarb 18, phosphorus 1.1, anion gap 35. Drug screen was negative including ETOH. EKG showed sinus tachycardia, non-specific intraventricular conduction delay and peaked T-waves. Cardiac enzymes were normal on admission. Patient was treated with continuous intravenous saline and insulin infusion and responded well. Anion gap continued to improve and about 36 hours into treatment (day 3 patient while sleeping had an episode of non-sustained monomorphic ventricular tachycardia which led to evaluation of cardiac enzymes and revealed a troponin I of 1.75, CPR 311, CKMB relative index 2.9, CKMB 0.9. Her chemistries at that time were: sodium 145, potassium 3.4, chloride 113, bicarb 18, phosphorus 1.75.

**DIAGNOSIS:** Septic lateral sinus thrombosis from otitis media: A forgotten nemesis.

**LEARNING OBJECTIVES:** 1. Recognition of a factor other than hypophosphatemia by causes such as hyperkalemia, diabetes mellitus (esp. chronic) causing left ventricular dysfunction. 2. Transient myocardial depression with complete reversal of function within 5-7 days of correcting acidosis. 3. Association of severe acidosis and hypoxia with myocardial injury. CASE: A 41-year-old African American female who is a known type I diabetic for 10 years admitted with severe diabetic ketoacidosis. She recently moved from out of town looking for work and did not take insulin for 4-5 days. On admission (day 0) lab was: bicarb 18, chloride 113, sodium 133, potassium 7.9, chloride 94, BUN 49. Creatinine 3.8, phosphorus 3.9. Anion gap 35. Drug screen was negative including ETOH. EKG showed sinus tachycardia, non-specific intraventricular conduction delay and peaked T-waves. Cardiac enzymes were normal on admission. Patient was treated with continuous intravenous saline and insulin infusion and responded well. Anion gap continued to improve and about 36 hours into treatment (day 3 patient while sleeping had an episode of non-sustained monomorphic ventricular tachycardia which led to evaluation of cardiac enzymes and revealed a troponin I of 1.75, CPR 311, CKMB relative index 2.9, CKMB 0.9. Her chemistries at that time were: sodium 145, potassium 3.4, chloride 113, bicarb 18, phosphorus 1.75.

**DISCUSSION:** Septic lateral sinus thrombosis is caused by five species of a parasitic trematode: Schistosoma japonicum, S. mansoni, S. intercalatum, Entamoeba coli, and rarely in the United States, these five species infect close to 300 million people in South America, Africa, and Southeast Asia. Most infections are asymptomatic; clinical manifestations include diarrhea, hepatospleno-megaly, abdominal pain, and eosinophilia. The infections pose a significant public health risk and are of high importance worldwide. Screening programs at our resident clinic, the patient underwent extensive testing based on where the patient immigrated from (Africa) and included PPD testing for TB, HIV, and stool samples for parasites. All of the above were negative. Because of the anemia and OB± stool, the patient had a colonoscopy which revealed diffuse small angiectasias. Colonic biopsies revealed active colitis with numerous schistosomal eggs and focal granulomatous inflammation throughout the lamina propria. Right upper quadrant ultrasound was done to evaluate the elevated transaminases and revealed a cicatrizing liver. Based on the colonoscopic findings, Praziqualent was prescribed. The patient is being discharged to follow up to evaluate her cirrhosis which is likely due to chronic schistosomal infection.

**SEPTIC LATERAL SINUS THROMBOSIS FROM OTITIS MEDIA: A FORGOTTEN NEMESIS.**

**LEARNING OBJECTIVES:** 1. Recognize the utility of colonoscopy in the diagnosis of schistosomiasis. 2) Recognize the importance of obtaining an appropriate epidemiologic history in patients who are recent immigrants. Primary care physicians can use web sites such as the Centers for Disease Control and Prevention (www.cdc.gov) which have up to date worldwide prevalence data on parasitic infections. Screening programs based on the patient’s geographic background can be useful in detecting chronic infections as well as preventing spread of these diseases.

**POSITIVITY SCHISTOSOMIASIS: AN UNUSUAL CAUSE OF MICROCYTIC ANEMIA AND HEME POSITIVE STOOL.** L. Kallenbach1; B. Misra1. 1Rhode Island Hospital/Brown Medical School, Back Bay 54640.

**LEARNING OBJECTIVES:** 1) To recognize schistosomiasis as an etiology of guaiac positive stool and microcytic anemia. 2) Recognize the importance of knowing the prevalence of parasitic infections in immigrant populations. 3) Recognize the utility of colonoscopy in the diagnosis of schistosomiasis.

**CASE:** 58 year-old woman pregnant last 3 months. The patient had an otherwise negative review of systems, but did describe crampy abdominal pain that was alleviated with defecation prior to immigrating to the United States. Her history was significant for living in refugee camps for 12 years prior to immigration to Rhode Island. She denied alcohol or IV drug use. On abdominal exam there was tenderness to deep palpation periumbilically without rebound or guarding. Rectal biopsies were helpful when diagnosis could not be obtained. As high schistosome load is required and can vary in number day to day in a patient. Rectal biopsies are helpful when diagnosis can not be obtained. Fortunately, stool tests for ova and parasites are often nondiagnostic because a stool tends to receive less attention than it should.

**LEARNING OBJECTIVES:** 1. Recognize septic lateral sinus thrombosis from otitis media as a complication of otitis media 2. Recognize the importance of rapid diagnosis and early intervention.

**CASE:** A 45-year-old Caucasian female presented to the emergency department with declining mental status and a one-week history of occipital headaches, dizziness, and fever. She was intubated for worsening respiratory distress while sleeping had an episode of non-sustained monomorphic ventricular tachycardia. Her cardiac enzymes trended down and about 96 hours (4 days) after the first troponin rise patient underwent coronary angiography (day 7) which revealed normal coronaries and normal LV size with calculated EF of 56%.

**DISCUSSION:** Effects on myocardial LV function in severe diabetic ketoacidosis have been described with some degree of injury to heart muscle, related either to acidosis per se or hyperkalemia. Hyperkalemia in DKA and increased cardiac specific troponin with EKG changes and normal angio has also been described as "pseudo-myocardial infarction". Very high levels of cardiac specific troponin in severe DKA with pattern of rapid reversibility of wall motion abnormalities and depressed LV function normal LV function within 3-5 days has also been observed. Whether this is a consequence of severe acid-base disorder with transient coronary spasm leading to ischemic myocardial damage is not entirely clear. Although acute myocardial ischemia has been described to occur in DKA, the mechanism seems unlikely in our case without preceding symptoms, however cannot surely be excluded without tissue diagnosis. Association of intracellular acidosis and hypoxia leading to death of cardiac myocyte has been postulated in a number of studies. In conclusion, severe diabetic ketoacidosis may be associated with myocardial ischemia, EKG changes, arrhythmias either as a result of severe acid-base disorder, electrolyte abnormalities or coronary vasoconstricting leading to transient myocardial wall motion abnormalities and decreased LV function. The duration of acidosis is likely related to the transient nature of these abnormalities, leading to permanent cell death with continuing acidosis if untreated.
The dexamethasone, tramadol, and oxicotin were discontinued. She also received intravenous hydration and was monitored closely for hemodynamic instability. Within twenty four hours, her rigidity resolved and her mental status returned to baseline and she also able toambulate without any difficulty and was soon discharged to home.

**Discussion:** Serotonin syndrome is a potentially life-threatening adverse drug reaction that results from therapeutic drug use, intentional self-poisoning, or inadvertent interactions between drugs. Commonly implicated drugs include monoamine oxidase inhibitors, tricyclic antidepressants, selective serotonin reuptake inhibitors, opiate analgesics, over-the-counter cough medicines, weight-reduction agents, anticonvulsants, and antihistamines. The condition is often described as a clinical triad of mental-status changes, autonomic hyperactivity, and neuromuscular abnormalities, although not all of these findings are always present. The treatment of serotonin syndrome includes supportive care, discontinuation of the offending medications, the administration of cyproheptadine (an antihistamine with serotonin antagonist properties). Serotonin syndrome can be fatal. Given the increased use of pro-serotonergic agents, it is therefore critical to recognize the symptoms and discontinue the offending medications as early as possible.

**Sirolimus Associated Diffuse Alveolar Damage and Hemorrhage.**

**Sirolimus** is an immunosuppressant drug used in solid organ transplant recipients. It is used in treating patients with severe kidney disease who have already received a kidney transplant. Sirolimus is known to be linked with side effects such as rash, muscle pain, and diarrhea. The use of Sirolimus in organ transplantation has become more widespread, and these patients are cared for by primary care physicians. It is important for physicians to be aware of this adverse effect and discontinuation of Sirolimus as timely recognition. The discontinuation of Sirolimus, and treatment with steroids can lead to rapid recovery as demonstrated in our patient.

**Small Bowel Lymphomas: How They Present and How to Diagnose.**

**Small bowel lymphoma** is a rare cause of GI bleeding. The role of exploratory laparotomy in the diagnosis of small bowel neoplasm. The rarity of these lesions, and delay in diagnosis is common which may result in the discovery of disease at a late stage, resulting in a poor treatment outcome. The diagnosis of small bowel tumors is often difficult due to the rare discovery of gastrointestinal symptoms together with a significant history of discovery of disease at a late stage, resulting in a poor treatment outcome. Lymphoma accounts for about 15% of small bowel malignancies. Abdominal pain, loss of appetite, night sweats, loss of weight are common presentations, and bleeding is reported in about 6% of cases. Our patient had normal EGD and colonoscopy findings, but further evaluation with abdominal CT and exploratory laparotomy led to the diagnosis. Despite a thorough history, physical examination and confirmatory imaging studies, the diagnosis was established preoperatively in only 50% of cases, with the remainder diagnosed at laparotomy. Exploratory laparotomy is the most sensitive diagnostic modality in evaluating a patient suspected of having a small bowel neoplasm, and should be considered in a patient with occult GI bleeding, unexplained weight loss, or vague abdominal pain, and an otherwise unrevealing negative diagnostic evaluation.

**Solitary Plasmacytoma in Hashimoto’s Thyroiditis.**

**Solitary plasmacytoma** are rare, localized lesions that can occur in various extramedullary sites. Hashimoto’s thyroiditis is an autoimmune disease characterized by the presence of thyroid autoantibodies and histological changes. The coexistence of Hashimoto’s thyroiditis and solitary plasmacytoma is rare. This case report highlights the importance of distinguishing it from other thyroid abnormalities. We also discuss the treatment options and the importance of early diagnosis.

**Sore Throat Gone Awry.**

**Sore throat** is a common complaint, but if it persists beyond two weeks, it may be a sign of more serious underlying conditions. A 65-year-old caucasian woman presented to the Endocrinology clinic with a complaint of progressive right neck swelling of eight months duration. Ten years ago, she was diagnosed with MGUS with elevated IgG and kappa light chain. The patient was also diagnosed with Hashimoto’s thyroiditis 4 months earlier and was prescribed levothyroxine. On examination, the thyroid gland was symmetrically enlarged and a hard nodule was felt on the right. Ultrasound and CT guided biopsy revealed an elevated thyroid peroxidase antibody level, normal blood urea nitrogen, serum creatinine, calcium, total protein and albumin levels. Serum protein electrophoresis showed a monoclonal (M) spike. Skeletal survey was normal. Sonogram of the thyroid gland showed a 3.4 cm × 2.6 cm irregular isoechogenic thyroid nodule in the right lobe. A technetium thyroid scan revealed a heterogenous, multinodular pattern of uptake and increased focal uptake within a nodule in the inferior right thyroid lobe. Fine needle aspirate showed lymphocyctic pleocytosis which includes small lymphocytes, transformed cells and plasma cells. Resection of the right thyroid lobe and isthmus was performed. The pathology report revealed moderately differentiated plasma cells in the presence of Hashimoto’s thyroiditis. There was no evidence of extra-thyroidal dissemination. Flow cytometry and immunophenotyping studies of the right lobe and isthmus were performed, and exhibited the characteristic of a plasma cell tumor. Bone marrow flow cytometry and urine protein electrophoresis were normal postoperatively. Serum immunofixation electrophoresis also revealed disappearance of the M spike. Postion emission tomography and computed tomography of the neck were unremarkable. Treatment was completed by local irradiation. The patient is well six months later with no evidence of recurrence.

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Her admission chest radiograph showed a possible right lower lobe infiltrate. Blood cultures grew out gram negative rods and Streptococci, and patient was given penicillin, cefazidine, and gentamicin. She developed mild hemoptysis and worsening dyspnea, right-sided chest pain, and jaw stiffness and continued to have throat pain. Throat pain and trismus elicited concern for pertussis abscess, so she was referred to Dartmouth Hitchcock Medical Center for evaluation by an otolaryngologist. No tonsillar abscess was found, but computed tomography of her head revealed a large extracerebral abscess. Echocardiogram showed normal cardiac echo was performed to rule out right-sided endocarditis, but no valvular pathology was found. At this time, blood cultures from the outside hospital grew out Staphylococcus epidermidis, Streptococcus mutans, and Staphylococcus milleri. Consideration was given to the possibility of a mycotic aneurysm, but this was ruled out by contrast studies. Laboratory tests revealed elevated liver function levels, high blood urea nitrogen and creatinine, and normal electrolytes. On the second hospital day, repeat chest radiograph showed a left pleural effusion, which was adequately drained with a left thoracentesis. Her repeat vascular duplex showed no residual thrombus.

**SPECIFIC CONSIDERATIONS FOR ENDOCARDITIS IN CIRRHOSIS:**

1. Recognize the association of Streptococcus bovis endocarditis and liver disease.
2. Differentiate the salient findings of S. bovis endocarditis from other causes of endocarditis.

**CASE:** A 57-year-old male with a history of alcohol abuse presented to an outside hospital with increasing abdominal girth, lower extremity edema and fatigue. Laboratory tests revealed elevations in his liver function tests, ammonia level, INR, and negative serologies for hepatitis B and C. He was diagnosed with acute alcoholic hepatitis and admitted for symptom management of cirrhosis. The patient had multiple infections and was eventually diagnosed with a chest x-ray and a rotator cuff tear. This was associated with apical and midventricular segments with associated apical ballooning. These changes can be associated with acute viral myocarditis resulting in transient akinesis or dyskinesis of the apical and mid ventricular segments with preserved systolic function.

**DIFFERENTIAL DIAGNOSIS FOR APICAL BALLOONING CARDIOMYOPATHY**

1. Diagnose stress induced cardiomyopathy (Takotsubo’s cardiomyopathy) using systematic review guidelines 2) Understand the differential diagnosis for apical ballooning on Echocardiogram 3) Recognize the clinical and social impact of the disease.

**CASE:** Ms. D. is a 61 year old woman with history of COPD, hypertension and anxiety who presented with shortness of breath, chest pain and altered mental status. Per report, Ms. D. had increased somnolence and fatigue for two days prior to admission. On presentation, she was febrile, tachycardic, tachypneic, and hypotensive. Physical exam was notable for a somnolent, acutely ill Filipino woman with altered mental status. She was hypotensive with narrow pulse pressure and significant tachycardia. Urgent cardiac catheterization demonstrated minimal 30% left main ostial atherosclerotic disease. Echocardiogram was remarkable for hypodynamic biventricular dysfunction with midventricular akinesia and apical ballooning. The left ventricle systolic function and size were preserved without evidence of left ventricular outflow tract (LVOT) obstruction. Laboratory evaluation revealed a percent of circulating lymphocytes.

**SPLENIC ABSCESES- RARE PRESENTATION OF SALMONELLA TYPHII**

**LEARNING OBJECTIVES:**

1. Recognize the typical and atypical presentations of typhoid fever and to recognize Salmonella typhi as an etiologic agent for splenic abscesses.
2. Review the pathology, clinical presentation, etiology and management of splenic abscesses.

**CASE:** We report a case of an 87-year-old male admitted after sustaining a traumatic amputation of the right upper extremity and an ankle fracture, during a farming accident. During the hospitalization, the patient underwent multiple debridements, revision amputation of the upper extremity, and open reduction of the right ankle fracture. Her repeat vascular duplex showed no residual thrombus.

**LEARNING OBJECTIVES:**

1. Recognize the association of Streptococcus bovis endocarditis and liver disease.
2. Differentiate the salient findings of S. bovis endocarditis from other causes of endocarditis.

**LEARNING OBJECTIVES:**

1. Recognize the association of Streptococcus bovis endocarditis and liver disease.
2. Differentiate the salient findings of S. bovis endocarditis from other causes of endocarditis.
LEARNING OBJECTIVES: 1. To learn about the clinical presentation and risk factors for spontaneous coronary artery dissection. 2. To realize the importance of intraocular ultrasound in patients with conjunctival angiitis. Although some studies have suggested that real-time corneal ultrasound (US) might be beneficial in patients with ocular trauma, our results failed to confirm these findings. Repeat corneal angiography revealed no change in corneal thickness between the first and second scans. The patient was discharged with no evidence of corneal involvement.

DISCUSSION: A common finding in patients with conjunctival angiitis is the presence of a thrombus within the superficial capillary plexus of the cornea. In the absence of inflammation, the thrombus may resolve spontaneously. On repeat angiography, the corneal neovascularization resolved completely with the resolution of the corneal edema. The patient was asymptomatic and had no recurrence of symptoms for one year after the initial presentation.

STAPHYLOCOCCUS AUREUS PROSTATIC ABSCESS COMPLICATED BY INFECTIVE ENDocarditis, N. Auras-Gomez, M. Y. Durrant-Castillo, R. Raina, R. Crook, J. C. Pie, Case Western Reserve University, Cleveland, OH. (Tracking ID: 154681)

LEARNING OBJECTIVES: We present a case of prostatic abscess caused by Staphylococcus aureus, complicated by mural valve endocarditis with the same organism. The patient presented with fever, chills, prostatitis, and right-sided pleuritic chest pain. Laboratory studies revealed a creatinine kinase (CK) of 3692 U/L, which is elevated in the setting of myocardial damage. The patient was admitted for further evaluation and management.

Myocardial infarction (MI) can be caused by coronary artery disease, coronary artery bypass grafting (CABG), or coronary artery stenting. MI is characterized by the development of a thrombus on the intima of the coronary artery, leading to occlusion of the artery and myocardial ischemia. The patient was managed with anticoagulation, antiplatelet therapy, and coronary intervention as needed. The patient was discharged on aspirin and clopidogrel.

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base associated with mild hypokinesism, consistent with myocarditis. The ejection fraction was 45%. A beta blocker was started. The patient was discharged home in good condition several days later.

**DISCUSSION:** Synovitis occur in many conditions other than acute myocardial infarction including left ventricular hypertrophy, left bundle branch block, early repolarization, acute myocarditis, ventricular aneurysm, Prinzmetal’s angina, pericarditis, hyperkalemia, pulmonary embolism, and Brugada syndrome. The appearance of the ST segment involved, and clinical scenario often differentiate these conditions. However, acute myocarditis can mimic acute myocardial infarction. Myocarditis should be suspected in such situations when patients are young, without a history of mononuclear artery disease, with a history of fever or viral syndrome, and with cardiac enzyme elevation soon after symptom onset. Symptoms of myocarditis range from asymptomatic electrocardiographic abnormalities to fatigue, fever, palpitations, chest pain, arrhythmias, heart block, congestive heart failure, and cardiogenic shock. The gold standard for diagnosis is endomyocardial biopsy showing myocytolysis and lymphocytic infiltration despite limited sensitivity and specificity. Contrast enhanced cardiac magnetic resonance imaging has been used to diagnose myocarditis. In Western countries entero viruses are the most common cause of myocarditis. Viral genome detection in endomyocardial biopsies can provide better diagnostic accuracy. Congestive heart failure, if present, should be treated in the standard manner.

**SUBARACHNOID HEMORRHAGE: A DIAGNOSTIC DIAGNOSIS**

A. Maris1; S.R. Adams1.

1University of California, Los Angeles, Los Angeles, CA. (Tracking ID #: 155057)

**LEARNING OBJECTIVES:** 1. To recognize that the diagnosis of subarachnoid hemorrhage (SAH) is frequently missed because of atypical presentations, limitations of the CT scan, and difficulties in CSF analysis. 2. To provide an approach for the recognition and diagnosis of SAH in the emergency room and primary care setting.

**CASE:** A 54-year-old male, with a past medical history significant for untreated hypertension and smoking, presented to the ER nine days after the sudden onset of a severe headache. The pain persisted for over a week with occasional violent exacerbations. Several days before admission, the patient went to a primary care setting. The patient went to a physician who prescribed an NSAID to relieve the headache, but his symptoms continued. In the ER, a non-contrast brain CT scan was negative. A lumbar puncture (LP) revealed a xanthochromic CSF with 505 RBC and 948 WBC per ml (differentiable white blood cells), xanthochromia. CSF glucose was low and protein slightly elevated. He was initially diagnosed with meningitis and started on broad antibacterial and antiviral agents. After 24 hours, when gram stain, bacterial culture, and a wide array of fungal and viral tests were all negative, he had an MRI/MRA of the brain. A patent, non-thrombosed vertebrobasilar artery aneurysm, 11 by 6mm, was found. Neurosurgical consultation was obtained, and the patient underwent a successful coiling procedure.

**DISCUSSION:** SAH most often results from ruptured saccular aneurysms, which have an estimated prevalence of around 5%. Risk factors include a positive family history, smoking, hypertension, and alcohol use. Misdiagnosis of SAH is a common problem complicating primary and emergency medicine (some published rates of misdiagnosis range from 12 to 51%). Patients with “typical” symptoms of severe headache (the “worst of their life”, loss of consciousness, nausea, vomiting, photophobia, neck pain, parietal or occipital headaches, or more often receive a correct diagnosis because of the prompt use of CT. However, patients who delay their presentation or who do not appear as ill may either have a negative CT scan or will not receive one at all. Delays in obtaining a CT scan when physical examination and initial clinical presentations, do not understand the limitations of CT, or fail to perform and correctly interpret the LP. The sensitivity of brain CT decreases from 92% on the first day of rupture to 58% five days later. Despite negative CT, a sudden, explosive headache should prompt further investigation. An LP may reveal numerous RBC and xanthochromic. “Traumatic taps” must be differentiated from SAH. Looking for decreasing RBC count in successive CSF tubes is used but not entirely reliable. In one series, xanthochromia was present in all 111 patients who underwent LP between 12 hours and 2 weeks after onset of symptoms. Most agree that CSF xanthochromia establishes a diagnosis of SAH in patients with negative CT. MRI using FLAIR and T2 also has a high sensitivity in patients with subacute presentation of their headache (> 4 days from bleed). SAH is life threatening and frequently misdiagnosed in the primary care setting. Reasons include atypical presentation; over-reliance on diagnoses such as meningitis, migraine, or sinus headache; and misinterpretation of CT scan or LP findings. In patients with an acute onset of a severe headache and risk factors for sacral aneurysms, attempts to secure a diagnosis with LP and possibly MRI should be made with rapidity.

**SUNDER SWOLLEN SYMMETRIC SERONEGATIVE SYNOVITIS**

A.C. Jacob1; W. Thien1.

1University of Virginia, Charlottesville, VA. (Tracking ID #: 155054)

**LEARNING OBJECTIVES:** 1. Recognize RS3PE as a cause of hand edema 2. Investigate for underlying malignancy in RS3PE not responding to steroids.

**CASE:** A 73 year old white male presented to the clinic complaining of pain and swelling in his bilateral wrists and hands for about a month. He reported the sudden onset of swelling in bilateral hands followed by pain. He reported no preceding viral illness. He tried over the counter NSAIDS for about 2 weeks, but had no improvement. He had no morning stiffness. He was a long time smoker. He had a history of arthritis, gout or pseudogout. Examination was striking for florid edema of bilateral hands and decreased hand grip strength. Difficulty tenderness was elicited over bilateral wrists and MCP joints. Laboratory data revealed an elevated ESR of 37 and CRP of 3.4 (n=0.8), negative rheumatoid factor and hepatitis panels, and a normal TSH, CPR and metabolic panel. Urinalysis showed no proteinuria. MRI of the hands demonstrated extensive synovitis across the metacarpophalangeal and interphalangeal joints, with no evidence of erosions. He was started on prednisone 10 mg a day and had significant improvement in all his symptoms within a week. An age appropriate malignancy screening did not reveal evidence of any underlying malignancy. He remained on prednisone leads inovative to date.

**DISCUSSION:** First described in 1985, Remitting Seronegative Symmetrical Synovitis with Pitting Edema (RS3PE) is a distinct syndrome characterized by the relatively rapid onset of symmetrical distal synovitis, xanthochromia of the flexor and extensor hand tendons, seronegativity for the rheumatoid factor, and pitting edema of the hands and/or feet. Patients present with the relatively acute onset of joint pain, swelling and limitation of movement at the wrists and hands. Laboratory tests demonstrate an inflammatory state with increased ESR and CRP. MRI demonstrate extensor tenosynovitis, which is felt to be the underlying cause of the pitting edema characteristic of the syndrome. Eruptions are typically absent. Classically described as occurring in elderly males, RS3PE has a 3:1 male predominance. It can occur in isolation or as a paraneoplastic manifestation of an underlying malignancy. Cases of gastric, endometrial and pancreatic cancer have been reported in association with RS3PE. The benign form is characterized by an exquisite response to low dose prednisone (10–15mg/d), whereas the paraneoplastic type does not, but usually remits once the underlying malignancy is treated. Recent reports have described a similarity between RS3PE and polymyalgia rheumatica, but whether they are different manifestations of the same process is uncertain. PMR however is more frequent in women, and involves the shoulder girdle in almost all cases, unlike RS3PE which may involve any girdle. Involvement is more often to the solid and hematologic malignancies and RS3PE is true or coincidental to the increased incidence of malignancies with aging is also unknown. However, the presence of pitting edema has been a confounding factor in patients who did not respond to steroid therapy, should prompt the search for an underlying malignancy. While pitting edema of the hands is rather unusual, other entities like CPPD disease, amyloid arthropathy, psoriatic and rheumatoid arthritis need to be considered in addition to RS3PE.

**THE “BLUE HAND” SYNDROME: A CASE OF MUNCHAUSEN’S REVISITED**

K. Connolly1; V. T. Martin1.

1University of Cincinnati, Cincinnati, OH. (Tracking ID #: 154274)

**LEARNING OBJECTIVES:** 1) List the features of factitious disorder. 2) Properly manage this difficult to treat disorder.

**CASE:** 72 year old female with a medical history with a past history of a total pancreatectomy and islet cell transplant for chronic pancreatitis, insulin dependent diabetes and an undefined hypercoagulable state who presented to the emergency room with complaints of a cold, painful, blue right hand. She stated that the cyanosis of her hand began shortly after a fall in the shower. Physical examination revealed that her right hand was cyanotic, but both radial and ulnar pulses were strong. Capillary refill was less than three seconds. There were discrete puncture marks on both hands on the palmar surface of her thumbs and wrists that the patient states are from a combination of trauma from the fall and ABG’s from the previous hospitalization. Both vascular and hand surgery were consulted and the patient was taken to the OR for angiography and possible resection of the distal arch but ulnar and radial arteries had good blood flow and no evidence of thrombosis. The patient received twenty-four hours of directed arterial thrombolysis. During a previous admission the patient was found to have been intentionally injecting herself with insulin, proven with appropriate laboratory testing. It was suspected that the current presentation could have been self induced by injections of epinephrine into the palm of her hand. The patient had a history of severe allergies and she carried an epinephrine pen. A psychiatry consult was obtained and a diagnosis of factitious disorder was established.

**DISCUSSION:** Factitious disorder, or Munchausen syndrome, is a rare, often unrecognized, psychiatric disorder that is difficult to manage. Patients typically have a history of physical and emotional abuse in the past. They can have brief psychotic episodes, concomitant depression and anxiety, and traits related to personality disorders. Treatment is limited because patients are often unwilling to accept the diagnosis and unlikely to follow-up. As demonstrated in this case, one must recognize Munchausen syndrome to avoid unnecessary diagnostic tests and hospitalizations.

**THE CART BEFORE THE HORSE: A CASE OF PARANEOPLASTIC NEPHROTIC SYNDROME**

A. Kahn1. University of Tennessee, College of Medicine—Chattanooga Unit, Chattanooga, TN. (Tracking ID #: 151026)

**LEARNING OBJECTIVES:** 1. Recognize the importance of having a high index of suspicion for malignancy in a case of paraneoplastic glomerulonephritis. 2. Recognize nephrotic syndrome as one of the paraneoplastic syndromes.

**CASE:** 56 year old male was admitted by the renal service after having several admissions at an outlying facility for progressively increasing dyspnea and generalized edema over the past four months. A renal biopsy done three months prior had revealed membranous glomerulonephritis with nephrotic syndrome, which was treated with prednisone and mizolastine. Prednisone was tapered off due to chronic obstructive pulmonary disease (COPD) with a history of heavy smoking, and was oxygen dependent. He complained of a cough for the duration of his illness. Physical exam revealed right sided pleural effusion, and bilateral DTVs.
Examination of the pleural fluid revealed it to be a transudate with no malignant cells. There was some suspicion of a right hilar mass being obscured by the fluid on the chest X-ray. A CT scan of the thorax revealed a lung mass with paratracheal and subcarinal lymphadenopathy. Bronchoscopy with biopsy revealed the mass to be small cell undifferentiated lung cancer.

**DISCUSSION:** Membranous nephropathy (MN) and focal glomerulosclerosis are the two most common causes of nephrotic syndrome in non-diabetic adults. The incidence of MN increases with age, making an elderly patient with MN uncommon. There is no evidence for leukopenia and lymphopenia as a risk factor in elderly patients. The risk being highest in patients over the age of 60. As a result, a tumor workup should be initiated only in the presence of some suggestive finding such as unexplained anemia, guaiac positive stool, weight loss, or DVT as in our case. A solid tumor (such as carcinoma of the lung or colon) is most often involved. Clinically significant paraneoplastic syndromes occur in about 10 to 20% of patients with bronchogenic carcinoma. The presenting symptoms may be the patient's first experience of malignant disease.

The patient started to have hematemesis and decreased mentation. The preoperative workup revealed the mass to be small cell undifferentiated lung cancer. His antinuclear antibody and rheumatoid factor were both negative. A bone marrow biopsy with flow cytometry showed a markedly hypogranular, normocellular bone marrow with no evidence for leukemia and lymphoma. There was no evidence of an infectious or inflammatory disorder. An excisional biopsy was eventually done which showed effacement of the nodal architecture with areas of necrosis surrounded by reactive and foamy histiocytes. Necrotizing Lymphoctic Fusocytosis. Kiikuchi Fujimoto Disease. Immunohistochemical studies confirmed this diagnosis with positive immunostains for CD 3, 30 and 68. During his hospitalization, the patient was evaluated with antineutrophil cytoplasmic antibodies and ANCA. He was discharged home and advised regular follow-up for recurrence and/or progression to Systemic Lupus Erythematosus.

**DISCUSSION:** Kiikuchi Fujimoto Disease was first described in 1972 as a lymph node India showing histiocytic cell hyperplasia, characteristic cell necrosis and phagocytosis. It is a rare, idiopathic, and self-limiting disease mostly affecting young Asian females but has become more prevalent worldwide. The proposed mechanism is an exuberant T cell response to multiple non-specific stimuli including infectious and autoimmune factors. The disease course subsides from a few weeks to six months. There is disease recurrence in about 30% of cases. The typical clinical manifestations include lymphadenopathy, fever, night sweats, weight loss, arthralgia, fatigue, chills, and cough. The disease overlaps with SLE and Lymphoma which can be distinguished histopathologically with the former having neutrophils, plasma cells, and hematoxylin bodies whereas the latter has the characteristic Reed Sternberg cells and necroinflammatory effacement of the lymph nodes. An excisional biopsy with immunohistochemical testing is the gold standard to obtain the diagnosis. The medical management is mainly supportive with addition of steroids and/or generalised disease. Patients should be followed up regularly in the clinic for recurrence and possible progression to SLE.
AAE. Type I AAE is associated with autoimmune disorders, B cell lymphatic C4, C2. There are two types of acquired angioedema, Type I AAE and Type II also characterized by decreased complement components including low C1q, component of the complement. Uninhibited activation of the complement cas-
eyelids, and tongue. Manifestations typically occur in the fourth decade of life, both visceral and hollow organs. Facial areas typically involved are the lips, gammopathy of unknown significance. C1 INH autoantibody was elevated. He presented to allergy and immunology clinic one month later for evaluation. remarkable for a swollen tongue obstructing his oropharynx. In the emergency associated rash, wheezing, lip or extremity swelling, or throat tightening. There (Type II AAE) 3. Discuss the management of AAE.

LEARNING OBJECTIVES: 1. Recognize the clinical manifestations and labora-
tory findings which define acquired angioedema (AAE). 2. Distinguish between Type I Acquired Angioedema (Type I AAE) and Type II Acquired Angioedema (Type II AAE).

CASE: A 62 year old male presented to the clinic with a history of sudden onset tongue swelling. This swelling was so severe he began having impending airway obstruction and was rushed to the emergency room for treatment. There was no associated rash, wheezing, lip or extremity swelling, or throat tightening. There was no stressful preceding event or recent change in medications. Past medical history was significant for allergic rhinitis and hypercholesteremia. He had been taking aspirin and niuapen ER for several years without side effects. Family history was noncontributory. He had recently modified his diet with a subse-
quently 15 pound weight loss. Physical exam included stable vital signs and was remarkable for a swollen tongue obstructing his oropharynx. In the emergency room, he received intravenous ephedrine which abated the swelling. After discharge from the hospital, he experienced no further episodes of swelling. He presented to allergy and immunology clinic one month later for evaluation. Physical exam was unremarkable. Laboratory studies indicated a normal CBC with no eosinophilia. Compensated studies showed decreased C4, C1 esterase inhibitor (C1 INH) quantity, C1 INH function, and C1q. In collaboration with hematology/oncology, further workup revealed that the patient had monoclonal gammopathy of unknown significance. C1 INH autoantibody was elevated. He was diagnosed with Type II AAE and was started on danazol. Ten months later, he has had no further angioedema episodes. His complement studies, including C1 INH quantity and C4, have normalized.

DISCUSSION: AAE manifests as recurrent attacks of intense, massive, localized nonpitting edema without concomitant pruritus. Edema may involve skin and both oral and upper respiratory areas. Facial edema can be associated with ophthalmic and eyelid edema, and tongue. Manifestations typically occur in the fourth decade of life, and unlike hereditary angioedema, there are no familial trends. AAE occurs because either quantitatively or functionally levels of C1 INH are low. C1 INH controls the activity of C1r and C1s, the activated proteases of the first component of the complement. Uninhibited activation of the complement cas-
eyelids, and tongue. There are two types of angioedema, Type I AAE and Type II AAE. Type I AAE is associated with autoimmune disorders, B cell lymphatic disorders, carcinomas, and infection. Type I AAE is caused by increased
catabolism of C1 INH. Type II AAE can also be associated with rheumatologic and lymphoproliferative disorders, but its distinguishing feature is the presence of autoantibodies directed against C1 INH molecule, causing C1 INH to be inactivated, resulting in decreased levels of C1 INH, whereas in Type II AAE, C1 INH quantity may be normal, but the levels of functional C1 INH are low. Our patient’s diagnosis of Type II AAE was confirmed by C1 INH autoanti-
tody. Treatment of AAE involves treating the underlying condition. Acute management may involve airway protection. Long term therapy includes atte-
nuated anagrogens, such as danazol, because they increase the hepatic produc-
tion of C1 INH.

THE MISSED DIAGNOSIS: NATIVE VALVE ENDOCARDITIS DUE TO CANDIDA GLAB-
RA

LEARNING OBJECTIVES: 1) Recognize the at-risk population for fungal infec-
tions. 2) Uncover uncommon complications of treatment with broad spectrum antimicrobials for minor infections prior to admission and importance of an appro-
rate work up of fever that does not resolve with antibiotics. CASE: We present the case of a 74 year-old nursing home resident who was sent to the hospital because of recurrent fevers and an abnormally high potassium level. The fevers were being treated in the nursing home with multiple short

THE MULTIPLE CAUSES OF ERYTHEMA

LEARNING OBJECTIVES: 1. Recognize the clinical presentation of erythema multiforme minor and major. 2. Identify the risk factors for development of erythema multiforme minor and major. 3. Recognize mycoplasma as a complica-
tion of erythema multiforme.

CASE: We present the case of a 74 year-old nursing home resident who was sent to the hospital because of recurrent fevers and an abnormally high potassium level. The fevers were being treated in the nursing home with multiple short
and mortality related to erythema multiforme is in direct relation to the amount of skin surface involved as well as mucosal involvement. Mortality rates are 60-90% when greater than 30% of the skin surface is affected. As was instituted for our patient, conservative management and removal of the inciting stimulus is the treatment for erythema multiforme. Steroid therapy while still widely employed has not been proven to be effective, and IV immunoglobulin therapy has only been shown to be effective in small studies when greater than 30% of the skin surface is involved. Severe cases are best followed in a burn unit.

**THE MEANS OF EXTRAPANCREATIC TUMOR-INDUCED HYPOGLYCEMIA**

**LEARNING OBJECTIVES:** 1. Recognize extrapancreatic tumors can cause hyperglycemia 2. Recognize tumor-induced hyperglycemia may be refractory to therapy and carry a poor prognosis. 3. Recognize a role for insulin-like growth factor II (IGF-II) in the proliferation of tumors.

**CASE:** A 48 year old Thai male with history of myasthenia gravis status-post thymoma resection presented with 2 weeks of fatigue and altered mental status. Patient noted abdominal pain, diarrhea, hematemesis, melena, smoking, alcohol and illicit drug use. The patient took pyridostigmine as prescribed. On presentation, blood glucose was 24. Intravenous dextrose was administered, raising blood glucose to 84, but subsequently dropped to 46 in a few minutes. Physical exam was significant for lethargy, heart rate of 100, and hepatomegaly. CT scan showed carcinoma with metastasis confined to the liver. By ultrasound, the hepatic mass measured 6.3 X 2.2 X 1.8 cm. Biopsy revealed primary hepatic-cell carcinoma. Lab abnormalities included a positive test for hepatitis B and undetectable insulin antibodies. Serum insulin was undetectable (<2 micro IU/mL at 9.9 pmol/L (normal range 19-111)). Insulin-like growth factor I (IGF-I) was <10 ng/mL (normal range 90-360), IGF-II was 831 ng/mL (normal range 414-1230) and IGF-binding protein 3 was 1.4 mg/L (normal range 3.3-6 pg/L). A month later, patient presented with increased abdominal girth and worsened severity of hypoglycemia. His IGF-I decreased to <3 ng/mL and IGF-II increased to 967 ng/mL.

**DISCUSSION:** Primary hepatic-cell carcinoma is the most common hyperglycemia-inducing tumor worldwide but is exceptionally rare in the Western hemisphere where it is generally mesenchymal in origin. These tumors are often located where they can proliferate to a large size. Once these tumors present with symptoms of hypoglycemia, it is usually indica- The pathology of tumor-induced hyperglycemia is unclear but there are three main theories: 1) The predominant thought is the increased production of active IGF-II. Pro-IGF-II produced by the tumor does not undergo the cleaving process as it does when it is produced by normal hepatic tissues. Pro-IGF-II has a decreased affinity for IGF binding protein allowing it to remain active. These active pro-IGF-II hormones competitively bind insulin receptors resulting in suppression of glucose uptake and increased glucose utilization and secretion in counterregulatory hormone secretion. 2) Another theory is that large bulk tumors may be utilizing excessive amounts of glucose. 3) A third theory is decreased gluconeogenesis secondary to extensive cancer invasion of hepatic tissue.

**THE NEXUS OF VULNERABILITY IN HUMAN TRAFFICKING**

**LEARNING OBJECTIVES:** 1. Recognize that herpes zoster, in the absence of known immunodeficiency, should warrant an investigation for HIV. 2. Identify spousal abuse, in a non-US citizen, as a possible indication of human trafficking. 3) Recognize a role for insulin-like growth factor II (IGF-II) in the proliferation of tumors.

**CASE:** A 45 yo woman came to the emergency room with progressive swelling of lips and face. She had developed a small blister on the left side of her upper lip which progressed to a vesicular rash that continued up her face, and now causes blurry vision and crusty drainage in her left eye. She also complained of general malaise, fevers, chills, weight loss, and anorexia. On exam, she had a vesicular eruption on her left upper lip, cheek, nose and into left eye, with an inflamed conjunctiva and tearing. She had erythema of her cheek on the same side with crusty drainage. Other findings included right arm weakness and vertigo/regression of hepatocellular carcinoma (HCC). 2. Review the role of immune mechanisms involved in control of tumor progression.

**LEARNING OBJECTIVES:** 1. To highlight the phenomenon of spontaneous regression of hepatocellular carcinoma (HCC). 2. Review the role of immune mechanisms involved in control of tumor progression.

**CASE:** A 56 year old white male with hepatitis C, diabetes mellitus type II and alcohol use disorder presented to the emergency room with a two week history of new onset right upper and back pain. Physical exam showed a well-developed male in no distress with a normal physical examination. Laboratory studies revealed hyperglycemia, elevated transaminases and hyperbilirubinemia. Abdominal ultrasound...
revealed changes consistent with cirrhosis and three hypoechoic lesions in the right lobe of the liver, sizes ranging from 1.7 to 3.2 cm. MRI to further evaluate the liver lesions showed three lesions in the right lobe of the liver approximately 2 cm each and a 3 cm mass in the left lobe. Biopsy of the left lobe was consistent with HCC grade II and chronic hepatitis with possible cirrhosis. Further investigations revealed a hepatitis C viral load of 540,000 IU/ml and alpha-fetoprotein (AFP) level of 6705 ng/ml. Patient was evaluated by an oncologist and gastroenterologist and heard on auscultation for heart murmur. History and examination was normal. He had mild diffuse abdominal tenderness, but no rebound tenderness or guarding. His skin exam included a few scattered telangiectasias and significant sclerodactyly of his hands. His laboratory examination was normal with the exception of a partial pressure of oxygen of 68 mmHg and elevated CO2 in his blood analysis. A chest X-ray was indicative of interstitial pulmonary fibrosis.

**DISCUSSION:** Although he met the criteria for irritable bowel syndrome, our patient’s age, acute onset of diarrhea, and significant weight loss were all “red flags” that an additional disease was the underlying cause of his symptoms. The history, physical examination and laboratory findings argued against malignancy, vasculitis and a chronic infection. However, his hand complaints, evidence of malabsorption by stool studies and the skin findings were suggestive of scleroderma. An ANA was positive for scleroderma and treatment qualified our patient for therapeutic trials, and substantially improved his quality of life.

**THE TRIPLE THREAT: MULTI ORGAN ESOPHAGITIS IN AN IMMUNOCOMPRO- MISED HOST.** S. Amil1, D. Victor1; C. Miller1. 1Tulane University, New Orleans, LA. (Tracking ID: #153535)

**LEARNING OBJECTIVES:** Discuss the work up, diagnosis and management of dysphagia and oesophagitis. Recognize the concomitant existence of multiple organisms in unresponsive dysphagia and oesophagitis in immunocompro- mised patients.

**CASE:** A 59 year old white male with known history of recurrent B-cell non Hodgkin’s lymphoma was admitted for severe oesophagitis and dysphagia which had progressively worsened over 2 months. Dysphagia was equal for solids and liquids. He had associated low grade fever with chills and a 20 lb weight loss. Treatment with a proton pump inhibitor for 1 month provided only partial relief. He was 3 weeks post chemotherapy with fludarabine and deca- dron. His absolute neutrophil count was 1.3 TH/MUM. On exam he was found to be hypotensive and tachycardic but not orthostatic. His oral cavity showed mild dryness to mucosal membranes but no ulcerations or white plaques. His lungs had some coarse sounds and scattered rales bilaterally. An EGD was done which revealed, multiple whitish plaques in the hypo pharynx, a large, 6–7 cm ulceration in the distal esophagus, pyloric channel ulcer and an erythematous lesion which revealed multiple red plaques in the hypo pharynx. His white cell count had some coarse sounds and scattered rales bilaterally. An EGD was done which revealed, multiple whitish plaques in the hypo pharynx, a large, 6–7 cm ulceration in the distal esophagus, pyloric channel ulcer and an erythematous lesion which revealed multiple red plaques in the hypo pharynx.

**THE CONTRIBUTION OF AN IMMUNORESPECTIVE RESPONSE TO TUMOR PROGRESSION AND SPONTANEOUS REGRESSION OF HEPATOCELLULAR CARCINOMA (HCC).** C. Miller1; T. Bui1; S. Bochar2; A. S. Alte1; J. C. N. D. Victor1. 1Tulane University, New Orleans, LA. (Tracking ID: #157004)

**LEARNING OBJECTIVES:** 1. Recognize the clinical presentation of a coiled ICD lead displacement (Twiddler’s Syndrome). 2. Interpret EKG findings that do not correlate with the normal cardiac axis.

**CASE:** A 58-year-old man with ischemic heart disease presented with multiple, frequent episodes of chest pain that occurred fifteen minutes after smoking cigarettes. He noted a history of a recent cardiac defibrillator implant but, stated that on this occasion the pain was like, “being shocked from the inside”. He attributed the pain to firings of his recently implanted cardiac defibrillator (ICD). On imaging of his chest, ICD demonstrated the absence of 4 of his leads around the pulse generator with dislodgement of the ventricular lead. Interruption of the device revealed no significant cardiac events. The defibrillator function was demonstrated by TWIDDLER’S SYNDROME: A NEW COMPLICATION OF IMPLANTED TRANSCUTANEOUS PACEMAKERS. Can Med Assoc J 1968;99:371–3.

**LEARNING OBJECTIVES:** 1. Recognize the clinical presentation of a coiled ICD lead displacement (Twiddler’s Syndrome). 2. Interpret EKG findings that do not correlate with the normal cardiac axis.

**CASE:** A 40 year-old carpenter with a year-long history of diarrhea, weight loss, and anorexia presented with a two-week history of progressive dyspnea on exertion. He noted associated fatigue, lethargy, and a painful throbbing in his hands. If he had lost 30 pounds in the last three months. Chest X-ray revealed an elevated serum sodium, potassium, and creatinine, with a normal liver function test. Hypertension was documented. His laboratory evaluation, including colon biopsies, elicited a diagnosis of irritable bowel syndrome. His vital signs were normal except for a pulse oximetry of 89%. He was thin and his face was “mouse-like,” including a small mouth. Dry basal catarrhal cough and rhinorrhea were noted. His cardiac examination was normal. He had mild diffuse abdominal tenderness, but no rebound tenderness or guarding. His skin exam included a few scattered telangiectasias and significant sclerodactyly of his hands. His laboratory examination was normal with the exception of a partial pressure of oxygen of 68 mmHg and elevated CO2 in his blood analysis. A chest X-ray was indicative of interstitial pulmonary fibrosis.

**DISCUSSION:** Although he met the criteria for irritable bowel syndrome, our patient’s age, acute onset of diarrhea, and significant weight loss were all “red flags” that an additional disease was the underlying cause of his symptoms. The history, physical examination and laboratory findings argued against malignancy, vasculitis and a chronic infection. However, his hand complaints, evidence of malabsorption by stool studies and the skin findings were suggestive of scleroderma. An ANA was positive for scleroderma and treatment qualified our patient for therapeutic trials, and substantially improved his quality of life.

**THIS YOUNG PATIENT’S HYPERTENSION WAS CAUSED BY A GENE.** K. Moon1; P. RadhaKrishnan2; T. Bui1; S. Bochar2; A. S. Alte1; J. C. N. D. Victor1. 1Tulane University, New Orleans, LA. (Tracking ID: #154154)

**LEARNING OBJECTIVES:** 1. Obtain family history in all patients with hypertension. 2. Consider the presence of systemic signs or symptoms with hypertension. 3. Be aware of the presence of hypertension associated with other diseases or medications. 4. Be aware of the presence of hypertension associated with other diseases or medications. 5. Be aware of the presence of hypertension associated with other diseases or medications.

**CASE:** An 18 year old female presented to the ER with dyspnea on exertion, and was found hypertensive. Her BP was 210/120 mm Hg. She was started on 10 mg of lisinopril and 12.5 mg of hydrochlorothiazide, and discharged home. She returned to the ER about 3 days later with generalized weakness. Examination revealed fever, muscle weakness with hyporeflexia. Her serum sodium was 2.0 mg/dL. The potassium during the first visit was 3.7 mg/dL. She was briefly hypotensive and tachycardic but not orthostatic. His oral cavity showed mild dryness to mucosal membranes but no ulcerations or white plaques. His lungs had some coarse sounds and scattered rales bilaterally. An EGD was done which revealed, multiple whitish plaques in the hypo pharynx, a large, 6–7 cm ulceration in the distal esophagus, pyloric channel ulcer and an erythematous lesion which revealed multiple red plaques in the hypo pharynx.
TO ERR IS HUMAN, TO LEMIERE IS NOT: H.K. Ghali1, R. Boothroyd2, A. Anoa2, S. Keitch1, V.C. Maddukuri1, H. Friedman1, S. Francis Hospital, Evanston, IL. (Tracking ID #: 154754)

LEARNING OBJECTIVES: 1. Recognize that Lemierre’s disease is a rare complication of pharyngitis. 2. Management of Lemierre’s disease with appropriate antibiotics. 3. Assess the need for anticoagulation in Lemierre’s disease.

CASE: An 18 year-old male presented with complaints of fever with chills, sore throat, nausea, vomiting and diffuse abdominal pain for the past 5 days. Patient had visited the emergency department 1 week ago with complaints of sore throat and was treated with penicillin and prednisone, with temporary improvement in symptoms. He had no prior history of alcohol, cigarette or illegal drug use. Physical examination showed bilateral tonsillar enlargement with exudates and tender left anterior cervical lymphadenopathy. Chest was clear to auscultation with no murmurs or rub. Abdomen was mildly tender with no rebound tenderness and normal bowel sounds. Labs revealed WBC count of 14,300 with 10 percent bands. Antibodies for Eosinophilic virus (EBV) and Cytomegalovirus (CMV) were negative. CT scan of chest and abdomen showed multiple widespread cavitary nodules in both lungs. Anti-Neutrophil Cytoplasmic Antibodies (ANCA) were negative. Transesophageal echocardiogram (TEE) did not show any vegetations. Hepatitis panel for A, B, C, D, E was negative. HIV ELISA was negative. Based on the above findings a CT scan of the neck was done to look for septic thrombophlebitis of the jugular veins, which confirmed the diagnosis of Lemierre’s disease. Patient was started on etrapenam and enoxaparin. Final blood cultures showed no growth. The patient had a rapid response to therapy and had completely recovered by 4 weeks. DISCUSSION: Lemierre’s disease is a rare complication of pharyngitis in this era of broad spectrum antibiotics. It is a suppurative infection of the lateral pharyngeal space complicating a parapharyngeal abscess with subsequent distant metastasis. It is usually caused by Fusobacterium necrophorum, though a number of other bacteria have been implicated, which may not be susceptible to penicillin. Blood cultures are negative in 33 percent of the cases. Our patient’s blood culture was negative but responded well to etrapenam, which also has anerobic coverage. The role of anticoagulation has been controversial in Lemierre’s disease. Although resolution of thrombophlebitis has been reported to be faster with anticoagulation, it still carries the risk of hemorrhage into the lungs. Our patient did well on anticoagulation with no bleeding complications. A repeat duplex ultrasonography at 4 weeks showed complete resolution of the thrombus and all medications were discontinued. This has also generated recent interest in the possibility of underlying thrombophilia predisposing one to Lemierre’s disease.
CASE: A 52-year-old male with a history of alcohol abuse and recent heavy alcohol use was transferred from an outside hospital with confusion and jaundice. He was alert and oriented with no neuromuscular deficits. Laboratory data on admission revealed the following: serum sodium of 126 mEq/L and his liver enzymes were elevated. He was treated with prednisone and pentoxyfylline for alcoholic hepatitis. 5 days later the patient’s mental status deteriorated. He was awake but non-verbal, only gaiting to painful stimuli. Pupillary responses were sluggish but reactive to ocular stimuli. Right hand grip was 3/5 but he did not move other extremities. His reflexes were +2 and his plantar response was upgging bilaterally. Lumbar puncture was normal except for a protein level of 83 mg/dl (12-60 mg/dl). Though initial sodium was normal, a repeat study 4 weeks later showed abnormal T2 prolongation of the central pons with lack of enhancement consistent with central pontine myelinolysis. Patient’s anion gap was corrected rapidly and the rate of correction never exceeded 12 mEq/L/day. Patient underwent extensive neuro-rehabilitation with supportive care and physical therapy. He had marked improvement in his mental status and neurological function.

TRICK QUESTION: HYPOSTHENURIA IS A COMMON EXCEPTION TO THE RULE OF THERMAL NEUTRALITY. 

TREATING HYPOTENSION: ARE CURRENT GUIDELINES REALLY SAFE? MORE QUESTIONS THAN ANSWERS E.H. Okozari1; S.H. Okozari2; P. Hasley1. University of Pittsburgh, Pittsburgh, PA.

LEARNING OBJECTIVES: 1. Describe the appropriate management of hypotension. 2. Recognize that central pontine myelinolysis can develop even with “appropriate” correction of hyponatremia.
Learning Objectives: 1. Consider tuberculosis in the differential diagnosis of unexplained purpura fulminans. 2. Look for tissue sampling of a psos abscess was performed, and the material obtained was positive for AFBI. The patient improved and was discharged after two weeks on four anti-TB medications and Prednisone 40 mg to be tapered over 1–2 months. The two samples of spinal fluid were positive for Mycobacterium tuberculosis complex by genetic probe 17 days after they were received.

DisCUssion: Typically, tuberculosis meningitis develops subacutely. It is seen most often in young children and immunocompromised adults, especially those infected with HIV. If unrecognized, tuberculosis meningitis is uniformly fatal. Therefore, a high degree of suspicion is necessary to start early treatment. The diagnosis is made by demonstrating Mycobacterium tuberculosis in the spinal fluid by AFBI smear or by culture. The diagnostic yield for AFBI in the spinal fluid may be initially low, but can be increased by repeating lumbar punctures. The role of rapid detection of M. tuberculosis by polymerase chain reaction (PCR) is still controversial. We present an HIV-negative adult female, recent immigrant from an endemic TB area, with classical symptoms of bacterial meningitis developing over a 5-day period. Her condition was finally diagnosed as tuberculosis meningitis based on CSF analysis, imaging, and positive AFBI smear from an extra-CNS tuberculous focus. These findings are a sound alternative for diagnosis if rapid detection tests are unavailable or unreliable, and repeated lumbar punctures are AFBI negative.

Unexpected bleeding diathesis secondary to deep vein thrombosis prophylaxis. A. Bhat1; J. Junaid2. 1. Creighton University, Omaha, NE. 2. Alameda County Medical Center, Oakland, CA. (Tracking ID: #155520)

Learning Objectives: 1. Consider tuberculosis in the differential diagnosis of unexplained purpura fulminans. 2. Look for tissue sampling of a psos abscess was performed, and the material obtained was positive for AFBI. The patient improved and was discharged after two weeks on four anti-TB medications and Prednisone 40 mg to be tapered over 1–2 months. The two samples of spinal fluid were positive for Mycobacterium tuberculosis complex by genetic probe 17 days after they were received.

Discussion: Typically, tuberculosis meningitis develops subacutely. It is seen most often in young children and immunocompromised adults, especially those infected with HIV. If unrecognized, tuberculosis meningitis is uniformly fatal. Therefore, a high degree of suspicion is necessary to start early treatment. The diagnosis is made by demonstrating Mycobacterium tuberculosis in the spinal fluid by AFBI smear or by culture. The diagnostic yield for AFBI in the spinal fluid may be initially low, but can be increased by repeating lumbar punctures. The role of rapid detection of M. tuberculosis by polymerase chain reaction (PCR) is still controversial. We present an HIV-negative adult female, recent immigrant from an endemic TB area, with classical symptoms of bacterial meningitis developing over a 5-day period. Her condition was finally diagnosed as tuberculosis meningitis based on CSF analysis, imaging, and positive AFBI smear from an extra-CNS tuberculous focus. These findings are a sound alternative for diagnosis if rapid detection tests are unavailable or unreliable, and repeated lumbar punctures are AFBI negative.

Varicella pneumonia in an adult: a rare case: a classic presentation. D. Bshaim1; R. Warner2; B.L. Houghton1; L. Morrow3. 1. Creighton University, Omaha, NE. 2. Washington University, St. Louis, MO. 3. University of Nebraska Medical Center, Omaha, NE. (Tracking ID: #156379)

Learning Objectives: 1. Recognize that varicella is a disease of children, with an increasing incidence in adults. 2. Identify pneumonia as the most common and life threatening complication of varicella in adults. 3. Recognize that a recent rash in an adult should raise suspicion for varicella. 4. Recognize that varicella pneumonia can be a catastrophic presentation with high mortality.
WEGENER'S GRANULOMATOSIS: A DIAGNOSTIC CHALLENGE
M. Velagapalli1, A. Kalyanasundaram2,1Geisinger Medical Center, Danville, PA. (Tracking ID # 17/474)
LEARNING OBJECTIVES: 1) To recognize that pyoderma gangrenosum can be the initial manifestation of Wegener's Granulomatosis
2) To recognize that Wegener's Granulomatosis can mimic bacterial endocarditis.

CASE: A 51-year-old white male was evaluated for severe bilateral pyoderma gangrenosum (PG) that failed to respond to prednisone, colchicine and dapsone. When cyclosporine was added, he had a significant clinical response. After 6 months, his dose was reduced from 4 mg/kg to 2 mg/kg. Three weeks later, he was admitted to our institution with tenosynovitis, fevers, chills, and purpuric lesions of the extremities. TEE revealed a 7 mm x 5 mm vegetation on the aortic annulus with valvular regurgitation. He was started on a 2-week course of oral antibiotics and underwent successful valve-sparing surgery. He has remained clinically stable since surgery.

DISCUSSION: Wegener's Granulomatosis (WG) is classically described as a triad of respiratory tract granulomatous inflammation, systemic small-vessel vasculitis, and necrotizing glomerulonephritis. We have reported a case of WG initially presenting as pyoderma gangrenosum (PG) and later confirmed clinically by a multi-system illness that had to be differentiated from bacterial endocarditis (SESE) due to the presence of a mitral valve vegetation. We emphasize the following points: First, the initial presentation of WG was most likely the manifestation of PG that was smoldering all along. Secondly, ANCA status may change over time. ANA negative patients upon presentation may turn positive with generalized disease. Thirdly, isolated cutaneous WG may present with endocarditis with echocardiographic vegetations have been reported, as was the case with our patient. Finally, the clinical utility of ANCA testing is exemplified in our patient, who was too stable to safely perform lung or renal biopsy. While histopathology confirms the diagnosis of lupus erythematosus, the absence of mixed connective tissue disease prevented diagnosis. A positive PR3 antibody supported our clinical diagnosis of WG and permitted aggressive treatment with steroids and cyclophosphamide, the treatment of choice for this critically ill patient.
ocurrence of Wernicke’s Encephalopathy/Korsakoff Syndrome in nonalcoholic patients.

CASE: A 28 year old Hispanic woman with a significant history of insulin dependent diabetes and two recent admissions for gastroperosis and gallstone pancreatitis resulting laparoscopic cholecystectomy, was brought in by her family for confusion and progressive gait difficulty. Since the last hospitalization, she has had progressive gait instability, bowel and bladder incontinence, and progressive confusional state. Despite treatment with gastroperosis, the patient continued to have decreased appetite and lost 80 lbs over the past year. The patient has no history of alcohol or drug use. Her physical exam was remarkable for wide-based gait, mid-epigastric tenderness, decreased anal tone and reflex, decreased bilateral lower extremity sensation, and 0-1 bilateral knee reflexes. Her Mini-Mental Status Exam was found to be 19/30 and she was alert but unable to follow simple commands. When standing her HR rose to 116 with a BP drop to 74/45. She reported dizziness and confusion. Her hands and left shin were hyperpigmented. The rest of her exam was normal. Laboratory testing revealed adequate replacement of her thyroid and adrenal function. ACTH stimulation test confirmed a suspicion of adrenal insufficiency. Her hypothyroidism was uncontrolled with a TSH of 8.2, free T4 of 0.2, and free T3 of 3.0. Her hypoglycemia was uncontrolled with a fasting glucose of 80. Her anemia, insulin-requiring diabetes, vitiligo and alopecia. This patient most likely had type 2 diabetes mellitus. While her insulin sensitivity was decreased, her celiac disease, insulin-requiring diabetes, vitiligo and alopecia. This patient most likely had type 2 diabetes mellitus. While her insulin sensitivity was decreased, her insulin resistance was elevated. At 62 and 4.2. The patient was continued on IV Thiamine for two weeks and switched to oral thiamine replacement with folate supplementation. After eight weeks of therapy, the patient’s gait and mental status showed marked improvement.

DISCUSSION: Wernicke’s encephalopathy is a life-threatening disorder due to thiamine deficiency often overlooked in nonalcoholics. The most common presenting symptom is confusion followed by ataxia and oculomotor findings, though only one-third exhibit all three symptoms. It is a clinical diagnosis made when two of the following four criteria are met: dietary deficiency, oculomotor ab- normalities, cerebellar dysfunction, and demyelinating disease. Our patient had all four. MRI findings of increased T2 signal and decreased T1 signal surrounding the aqueduct and third ventricle and within the medical thalamus and mammillary bodies are also helpful in the diagnosis, though half of patients do not have any. She also had autonomic dysfunction with intravenous cold pressors often immediately resolve the ophthalmoplegia, with ataxia and confusion resolving within days to weeks. However, the majority of patients are still left with symptomatic improvement. In Wernicke’s encephalopathy, thiamine plays a vital role in the function of the nervous system. Thiamine deficiency results in a decrease in the levels of thiamine pyrophosphate, a cofactor required for the deamination of the neurotransmitter, norepinephrine. The role of thiamine in the nervous system is crucial in the maintenance of normal neurological function. Therefore, patients with Wernicke’s encephalopathy must be treated with thiamine to prevent further neurological damage.

WHAT ELSE COULD GO WRONG? POLYGLANDULAR AUTOIMMUNE FAILURE-AN UNEXPECTED CAUSE OF DIZZINESS S. Singh1; A. Cooperman1 University of California, Los Angeles, Sylmar, CA. (Tracking ID 01539)

LEARNING OBJECTIVES: 1) Recognize adrenal insufficiency as a possible cause of dizziness 2) Recognize adrenal insufficiency as part of a polyglandular autoimmune syndrome

CASE: A 32 year old woman with type 1 Diabetes for 10 years and hypothyroidism for 3 years presented to the emergency department on two separate occasions with dizziness, weakness, and nausea. Her supine systolic blood pressure was 79/49 and 76/45. Both times she was treated with fludrocortisone 5 mg orally overnight due to uncontrolled diabetes and inadequate fluid intake. Each time, she improved with hydration and was discharged home. On follow up in primary care, she reported continued dizziness, weakness, nausea, loss of appetite and irregular menstrual cycles. She denied fevers, abdominal pain, diarrhea, bleeding, polyuria or symptoms of infection. Physical exam revealed orthostatic changes; supine heart rate (HR) and BP were 76 and 96/50 respectively, while standing her HR rose to 116 with a BP drop to 74/45. She reported dizziness when standing. Her hands and left shin were hyperpigmented. The rest of her exam was normal. Laboratory testing revealed adequate replacement of her thyroid and adrenal function. ACTH stimulation test confirmed a suspicion of adrenal insufficiency. Her symptoms improved with prednisone 5 mg and Florinef 0.1 mg a day.

DISCUSSION: While autonomic insufficiency and volume loss are frequently encountered in longstanding diabetes, we must consider other causes of dizziness and orthostasis. Three types of polyglandular autoimmune syndromes (PAS) have been described in the literature. Type 1 is associated with candidiasis, hypogonadism, adrenal and pituitary gland dysfunction. Type 1 does not involve the adrenal cortex, but does include two of the following: thyroid dysfunction, pernicious anemia, insulin requiring diabetes, vitiligo and alopecia. This patient most likely had type 1 polyglandular autoimmune syndrome. Type 2 involves all three: adrenal, thyroid, and parathyroid gland dysfunction. Type 2 is also associated with diabetes mellitus. Adrenocortical insufficiency with autoimmune thyroiditis and/or type 1 diabetes mellitus. Other conditions commonly associated with PAS type 2 are gonadal failure, vitiligo, celiac disease, autoimmune hepatitis, alopecia, pernicious anemia and myasthenia gravis. The prevalence of PAS type 2 in the United States is 14-20 people per million with a ratio of female to male of 3:4:1. Patients present in the second to fourth decade of life. Approximately 50% of cases have a family history. GPI is a pattern of inheritance in which each child has a 25% chance of inheriting the incomplete penetration. Treatment consists of lifelong replacement of deficient hormones and regular medical follow up with continued vigilance and appropriate screening for other autoimmune hormonal deficiencies.
secrations. Phencyclidine inhalation injury is characterized by nonspecific interstitial pneumonitis, acute pulmonary infiltrates, and acute respiratory symptoms such as productive cough, wheeze, and shortness of breath. Hypoglycemia can be prevented by two to twenty percent dextrose. The inhalation injury is treated like cocaine inhalation. Few studies have focused on the effects of PCP because PCP is often impure and mixed with other drugs, herbs, or chemicals. Treatment includes stabilizing the airway and providing supplemental oxygen. If patients intubate at commissare, airway patency is often started. Methyln prednisolone or prednisone often provides rapid symptomatic improvement however there are no studies recommending their use at this point. Patient should be referred to a drug and alcohol counseling program upon discharge.

WHEN MEDICINE IS BETTER THAN SURGERY: SECONDARY HYPERTENSION AND A RED HERRING
L. Mazotti1; C. Lai1; S.H. Orakzai1; R.H. Orakzai1; R. Granieri1.

CA.

LEARNING OBJECTIVES: 1. Define “refractory” hypertension and review secondary causes of hypertension. 2. Recognize when and how to initiate a workup for Cushing’s Syndrome. 3. Distinguish bilateral adrenal hyperplasia from a primary aldosteronoma.

CASE: A 63 yo healthy woman presented to clinic for follow-up for hypertension. Blood pressure (BP) at three prior visits ranged from 160/90 to 110/110 despite maximum doses of hydrochlorothiazide, atenolol, benazepril, hydralazine and a clonidine patch. She denied tobacco, alcohol or drug use. She denied smoking, height/weight changes, headaches and kidney stones. BP was 160/90 in both arms. Except for an elevated BMI, exam was otherwise normal. Labs revealed borderline low K 3.5 and normal Na, BUN, Cr, Ca, TSH, and urinalysis. Given her borderline hypokalemia, plasma aldosterone and renin were checked. Aldosterone was 23.7 (low) for a 1200 cal diet and aldosterone-to-renin ratio of 115, suggestive of primary aldosteronism. A CT scan revealed a 1.5 cm left adrenal adenoma. Adrenal vein sampling was performed confirming the presence of hyperaldosteronism; surprisingly, aldosterone was found to be 304 on both sides. The levels were elevated in both left and right adrenal veins, despite the presence of the adenoma. The results of the adrenal vein sampling confirmed that the source of the hyperaldosteronism was not the adenoma, but rather bilateral adrenal hyperplasia.

DISCUSSION: Secondary causes of hypertension (HTN) include chronic kidney disease, renovascular stenosis, thyroid disease, parathyroid hyperplasia, coarcta- tion of the aorta, Conn’s syndrome, and primary aldosteronism. Secondary causes account for 5-10% of all cases of HTN and should be considered when a patient’s BP is “refractory,” defined by the Joint National Committee on Prevention, 7 as “problems that will not respond to full doses of an appropriate three drug regimen including a diuretic.” When exam and review of systems do not identify a cause, labs tests should include CBC, electrolytes, BUN, Cr and a urinalysis. Primary aldosteronism should be suspected in setting of hypokalemia and/or hyperkalemia. Primary aldosteronism may be caused by either bilateral adrenal hyperplasia or, less frequently, an aldosterone secreting adenoma (an aldosteronoma). After a high aldosterone-to-renin ratio is discounted serologically, a CT scan should be performed to detect an aldoster- onoma. In one study, however, approximately 25% of adrenal adenomas did not secrete aldosterone and thus were “red herrings”; in fact, co-existing bilateral adrenal hyperplasia was the source of the hyperaldosteronism. Therefore, instead of pursuing surgical removal of a possible aldosteronoma, all CT scans should be followed up with the gold standard test, adrenal venipuncture, which compares aldosterone levels in each adrenal vein, and confirms the source of aldosterone hypersecretion. A 4-fold elevation of aldosterone on the side of the adenoma confirms an aldosteronoma. This case underscores the importance of considering secondary causes of hypertension and pursuing the gold standard test for hyperaldosteronism, adrenal venipuncture, even if the CT scan reveals unilateral levels. A high aldosterone secreting adenoma, since it may actually be a “red herring.” Our patient continued on medical management of HTN, rather than inappropriately under- going surgery. With the addition of a mineralocorticoid antagonist, spironolac- tone, to her five drug regimen, the patient’s BP was controlled effectively without surgical intervention.

WHEN PHYSICAL THERAPY MAKES THINGS WORSE: A CASE OF HEREDITARY NEUROPATHY SECONDARY TO PRESSURE PALSY
S.L. Shaffer1; S.H. Dave2; R.L. Congar1.

1University of Pittsburgh, Pittsburgh, PA; 2University of Kentucky, Lexington, KY.

LEARNING OBJECTIVES: 1. To recognize the clinical picture of hereditary neuropathy secondary to pressure palsy (HNPP). 2. To recognize the range of presentations of HNPP—typical and atypical. 3. To outline a diagnostic strategy for HNPP.

CASE: SD is a 29 yo male, s/p acute coronary event and RCA stent placement one year prior, presenting with two month history of left shoulder weakness. He has difficulty lifting his left arm above his head, and he cannot lift his arm while sleeping on his left side. He reports that this current episode may have started one year prior, presenting with two month history of left shoulder weakness. He reports a similar problem at age 12; he developed weakness in his left shoulder one year prior, presenting with two month history of left shoulder weakness. He

DISCUSSION: Hereditary neuropathy with liability to pressure palsies (HNPP) is an autosomal dominant neuropathy characterized by recurrent, painless, monolateral, transient nerve palsies. Symptoms may be triggered by minor compressions at corners of elbows or arterial pulse points. Symptoms of typical sporadic cases may occur, most cases are associated with deletion of the chromosome 17p11.2 region, containing the gene for peripheral myelin protein 22. Mean age at onset is in the third decade (range 10–33 years old). Males are more commonly affected. About a quarter of patients can identify a family history of similar nerve palsies. The most common presentations (in descending order) are palsies of the peroneal, brachial plexus, and radial nerves. Less common involvement includes median nerve (often confused with Carpal Tunnel Syndrome), facial nerve, and sensorimotor mononeuropathy. Other presentations reported in the literature include hypoglycossial neuropathy, vocal cord paralysis, respiratory insufficiency, myoclonus, well and termed exercise, weight loss, and chemotherapy. Approximately one third of patients with the gene deletion are asymptomatic; thus, the syndrome is believed to be underdiagnosed. EMG, which may show mild slowing of motor conduction velocity, prolonged distal latency, or diffuse sensory conduction velocity abnormalities. In the appropriate clinical setting, this is diagnostic and precludes the need for nerve biopsy, which is neither sensitive nor specific. The classic biopsy finding for HNPP is the tomacula, a focal thickening of myelin sheaths. Genetic testing may be performed in difficult cases or for screening family members. Treatment is supportive, with rest and elimination of metrics or positions or pressure.
CASE: A 62 year old male with no prior medical history was referred to oncology clinic because of a CAT scan that revealed multiple bilateral pulmonary nodules and a liver mass. He reported a one year history of weight loss, right upper quadrant discomfort and a non-productive cough. He also complained of a long course of intermittent fevers, night-sweats and chills. The patient was employed as a supervisor at a boys home in Philadelphia, described a remote history of smoking and denied heavy alcohol use or illicit drug use. He had not traveled outside the Pennsylvania area, and was a non-smoker. He was at high risk for tuberculosis. On physical exam the patient was found to be having rigors with a temperature of 104.5°F. He was noted to have poor oral dentition, clear lungs and a tender right upper quadrant to deep palpation. Laboratory studies were significant for leukocytosis with polymorphonuclear leukocyte predominance. Review of radiographic imaging confirmed multiple pulmonary nodules and a hepatic mass. CT-guided aspiration of the hepatic mass revealed purulent drainage. Pathologist review of the hepatic aspirate demonstrated filamentous rods consistent with Actinomyces. The patient clinically improved on ampicillin and was discharged. Unfortunately, he was lost to follow up.

DISCUSSION: Originally misclassified as fungi, Actinomyces are prokaryotic bacteria belonging to the family Actinomycetaceae that colonize the mouth, colon and vagina. Mucosal disruption as a result of dental infections, appendicitis, diverticulitis, or surgery is thought to allow invasion of the oral flora and subsequent infection. Pelvic infections have been associated with placement of intrauterine or intravaginal devices. Pulmonary actinomycosis is believed to be a result of aspiration of oropharyngeal or gastrointestinal secretions. Hepatic disease, which is likely glycolytic and thought to be a homogeneous dissemination through the portal vein is rare and less than sixty cases have been reported in the English literature. Known as “the great masquerader”, actinomycosis is frequently misdiagnosed as a neutropenic infection. Thus, diagnosing actinomycosis requires high clinical suspicion, as typical microbiologic features such as actinomyces filaments, sulfur granules or positive culture are negative in a substantial proportion of actinomycosis cases, including positive culture, gender, poor oral dentition, prior abdominal surgery, or placement of intrauterine or intravaginal devices. Despite a frequently prolonged course prior to diagnosis, prognosis with treatment is excellent. Penicillins, tetracyclines, clindamycin and erythromycin have been successfully used in treatment. The optimal duration of treatment is not known, thus historically, an extended duration of treatment (3 months) has been recommended.

WINE MAKETH MERRY: BUT THE GAP ANSWERETH ALL THINGS

K. Nashar1; S. Tsai1; R. Stiller1; E. Anish1. 1University of Pittsburgh, Pittsburgh, PA. (Tracking ID: # 153936)

LEARNING OBJECTIVES: 1. To recognize ethylene glycol as a cause of neurotoxicity and acidosis in a young, otherwise healthy patient. 2. To list the metabolic abnormalities associated with ethylene glycol intoxication. 3. To outline the therapeutic interventions for ethylene glycol toxicity.

CASE: A 50-year-old male was transferred to our institution from an outlying hospital for further management of profound acidosis and renal failure. He had been intubated for airway protection prior to transfer, thus no other history was available from the outlying hospital. He had traveled outside the Philadelphia area, and had no traditional risk factors for EG intoxication. He had no history of smoking and denied heavy alcohol use or illicit drug use. He had not consumed liquid from an unlabeled bottle that he had stored in his garage that he thought contained wine. The patient received fomepizole for a total of 3 days and was subsequently discharged to home with no residual neurological dysfunction and with normal renal function.

DISCUSSION: Ethylene glycol (EG) is widely available as a component of antifreeze and solvents, and its sweet taste makes it easy to ingest. EG is metabolized by alcohol dehydrogenase into toxic metabolites that account for the symptoms of EG intoxication. Neurotoxic symptoms range from altered speech and altered sensorium, developing within 1 hour of ingestion, to coma or death. Renal failure, heart failure, and pulmonary edema may occur. Specific metabolic derangements include a high anion gap metabolic acidosis, a high osmolal gap, and unexplained hyperkalemia. Treatment of EG intoxication is dependent on the laboratory. A MRI with FLAIR images can be sufficient for diagnosis especially with classic findings of unilateral inflammation or edema transcending to collateral venous drainage within the pelvis and a medium chain triglyceride diet was unavailable). The patient’s pleural effusions revealed decreased breath sounds 2/3 of the way up bilateral lung fields with pitting edema that extended above his waistline. He had presented twice in the past two years and each time was thoracentesed and found to have a chyloous pleural effusion. In addition, he was extensively evaluated for infectious as well as malignant causes which were negative. Thoracentesis during this admission again revealed chyloous effusion with a lymphocyte predominance, and was negative for infection, including TB, and malignancy. Total body pet scan was negative for adenopathy and abdominal/pelvic CT was only positive for massive anasarca and negative for masses. A lymphangiogram was performed which showed bilateral lymphedema in the lower extremities and deep fibrosis encasement of lymphatics with circumferential and dermal back flow within the lymphatics transcending to collateral venous drainage within the pelvis and a leaking left thoracic duct which was consistent with the lymphatic dysplasia of yellow nail syndrome. The patient underwent left chest tube placement, followed by right sided video-assisted thorascopic surgery (VATS) and thoracic duct ligation with tale pleurodesis, which was then followed by left sided VATS and tale pleurodesis. The patient was also started on a high protein, low fat diet (a medium chain triglyceride diet was unavailable). The patient’s pleural effusions did not respond to treatment with symptomatic management and a remarkable decrease of the patient’s lower extremity edema.

DISCUSSION: Yellow nail syndrome (YNS) is a clinical diagnosis and is based on the presence of the following three features: yellow disfiguring nails, chyloous effusions, and lymphedema similar to the presentation of our patient. Rhinosinusitis and bronchiectasis have also been associated with YNS. The complete triad is only seen in a minority of patients. The incidence is estimated...
at 0.1 per 100,000 persons under the age of 20 and median age at presentation is between 40–50 years. Prior trauma, surgical or otherwise, and malignancy should be ruled out as they are the commonest causes for chylous effusions. The pathogenesis is believed to be a structural lymphatic hypoplasia. However, there have been some studies to suggest that YNS may be due to a functional lymphatic impairment. The natural history of this disease is variable. Lymphangiography and lymphoscintigraphy can be used to confirm the diagnosis by allowing a functional and anatomical assessment of lymphatics. Treatment is multi-factorial and includes initial therapeutic thoracenteses to eliminate effusions, dietary modification that includes a high protein, medium chain triglycerides with fat-soluble vitamin supplements in an effort to reduce the flow of chyle from the intestinal tract, and surgical options to manage recurrent pleural effusions.

YOU CAN'T GO HOME AGAIN. S.N. Khan, W. Hadid. Stricker Hospital of Cook county, Chicago, IL; John Stricker Hospital of Cook County, Chicago, IL. (Tracking ID: 152583)

LEARNING OBJECTIVES: 1) Recognize features of dengue fever and dengue hemorrhagic fever and dengue shock syndrome.

CASE: A 20-year-old male presented to the emergency department with four days of fever, myalgias, fatigue, retro-orbital eye pain, and crush low back pain. His symptoms began following a three-month visit to his hometown in the Philippines. He denied headache, neck pain, photophobia, sore throat, rash, or cough. He was not taking malaria prophylaxis and was bitten by mosquitoes.

Physical exam revealed temperature 41.0, blood pressure 99/50, pulse 111, respirations 16, mild epigastric and right upper quadrant tenderness and a positive tourniquet test (320 petechiae in one square inch on the forearm after blood pressure cuff deflation). Laboratories included WBC 1.9, hemoglobin 15.9, platelets 76,000, AST 59, ALT 40, Ipase 469 and sodium 134. The patient was aggressively hydrated and was given Tylenol for pain and fevers. Thick and thin smears were negative. By hospital day 3, WBC and platelets reached 1.1 and 12,000, respectively; 3 units of platelets were transfused. Patient was afebrile on hospital day 4, but had increasing transaminases. On hospital day 5 the patient developed severe epigastric and right upper quadrant pain with a transaminase spike (AST 800, ALT 468). CT revealed bilateral pleural effusions, perihilar fluid, and free pelvic fluid. Hemoglobin remained stable; the fluid on CT was attributed to plasma leakage from dengue hemorrhagic fever. The patient was discharged after final laboratories revealed platelets 168,000, WBC 4.4, AST 512 and ALT 411. Dengue serologies revealed IgM 1.32, IgG 4.15 (both positive).

DISCUSSION: As one of the major emerging infectious diseases, dengue fever should be in the differential diagnosis in febrile patients with recent tropical travel and mosquito exposure. There are four viral serotypes; infection with one confers long-term immunity only to that serotype. Dengue hemorrhagic fever and dengue shock syndrome are thought to be due to repeat infection with a second serotype. Dengue fever is characterized by sudden onset of fever, retro-orbital eye pain, fatigue, myalgias, arthralgias, thrombocytopenia, leukopenia, elevated hepatic aminotransferases, and hyponatremia. Plasma leakage occurs in hemorrhagic fever, develops four to seven days after fever onset, and is associated with abdominal pain, increasing hepatic aminotransferases, and worsening thrombocytopenia. Dengue shock syndrome can cause death within 12–24 hours. This case illustrates disease course and demonstrates the importance of monitoring patients with dengue fever and thrombocytopenia, as well as the increased risk of shock or hemorrhagic fever in travelers returning to an endemic area in which they previously lived.

YOUNG MAN WITH PROGRESSIVE BACK PAIN. S.H. Khan, W. Hadid. Stricker Hospital of Cook county, Chicago, IL. (Tracking ID: 152583)

LEARNING OBJECTIVES: 1) Recognize spinal tuberculous as an uncommon but important cause of back pain in young immunocompetent patient

2) Recognize the radiological manifestations of spinal tuberculosis and the differences between infectious vs. non-infectious lesions.

3) Recognize the complications, medical treatment, and the indications for surgery of spinal tuberculosis.

CASE: 24-year-old male was admitted with progressive focal mid-lumbar and right paraspinal pain with increasing severity and frequency over 6 months, associated with fever, night sweats, and a 20-pound weight loss over 3 months. The pain was not responsive to non-steroidal anti-inflammatory drugs. The patient had a history of positive Purified Protein Derivative (PPD) with a normal chest X-ray 2 years back. On physical examination, the temperature was 101.4 Fahrenheit and he had right paraspinal tenderness lateral to thoracic vertebra T11 to lumbar vertebra L4 without focal neurological deficit. Chest X-ray was unremarkable, and plain films of thoracolumbar spine showed T11 vertebral body wedge-shaped lucency. Computed Tomography Scan (CT Scan) of the chest and abdomen showed multiple lytic lesions involving T7, T9, T11, T12 and L2 vertebral bodies and multiloculated illoposas fluid collection. CT-guided drainage of right psoas abscess showed purulent fluid which was positive for acid-fast bacilli, and the culture grew sensitive mycobacterium tuberculosis complex. Anti-tuberculous regimen with 4 drugs was started: isoniazid, rifampin, ethambutol, and pyrazinamide. He responded well to therapy with no residual sequelae.

DISCUSSION: The incidence of tuberculosis infection in the United States was 5.2 per 100,000 in 2002; approximately 20% have extrapulmonary disease, and 1% have spinal tuberculosis. Patients present with localized back pain which varies from mild and constant to severe and activity-related, fever, weight loss, and night sweats. Radiographical findings on plain X-rays generally occur late, and over 50% of trabecular bone must be destroyed before it becomes evident on radiographs. It is difficult to distinguish tuberculous spondylitis from pyogenic spondylitis radiologically. Computed tomography can show bony sclerosis and destruction within the vertebral bodies, epidural abscesses, bony fragmentation and spinal canal compression. MRI is very sensitive and can detect changes in the bone marrow and intervertebral disc involvement early in the disease process. Patients with lumbar disease may develop an anterior abscess in the psoas muscle. These patients have a “psoas sign” where they tend to lie with the leg drawn up in a flexed position, and they experience exquisite pain when the hip is extended to a neutral position. An abscess within the spinal canal may compress the cord or cauda equina, and cause rapidly progressive neurologic symptoms, or the abscess may compress a nerve root and cause symptoms mimicking a herniated disc. In rare cases, meningitis develops in association with spinal disease. The treatment is the usual treatment for tuberculosis which includes the combination of isoniazid, rifampin, ethambutol, and pyrazinamide. Other changes can be done depending on the sensitivity of the bacteria.