documented completion of 3-dose series or positive qualitative anti-HBs. Descriptive statistics included number (percentage) or mean ± standard deviation.

Results: A total of 3104 patients, aged 65 ± 1.5 years, male (50.2%) or white (72.6%) with Type II diabetes (88.9%) were enrolled. Of these, 171 (5.5%) received one dose of HBV; with 62 (2.0%) completing the immunization series. There were 806 (26%) patients with hepatitis B screening of those 10 (0.3%) and 177 (5.7%) were HBsAg positive or anti-HBs seropositive, respectively. Overall, 221 (7.1%) patients received the 3-dose series or were anti-HBs positive. In comparison, 1719 (55.4%) patients received at least one dose of either pneumococcal vaccine. Comorbid liver disease (x2R) yielded higher rates of HBV immunization (3-dose series completion or anti-HBs positive) at 28.8% (46/160) and 57.8% (52/90) respectively.

Conclusion: We found low HBV rates for adults with diabetes despite ACIP recommendations, indicating that efforts are needed to improve vaccination coverage. Patients were more likely to have received immunization if comorbid conditions were present that conferred a higher risk of hepatitis B acquisition, however rates were still suboptimal.

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40. The Role of Health Literacy in Vaccination Disparities: Do Patients Understand the Health Messages? Katherine Kricorian, n/a; Daniel Lopez, BS; Michelle Sea, BS; Tuyen Pham, BS; Rita Kigoonya, BS; Ozlem Equils, MD; MiOra, Los Angeles, CA, Simi Valley, California; MiOra and Immunize Los Angeles Families Coalition, Los Angeles, CA, Encino, California

Session: P-2. Adult Vaccines

Background: Numerous public health campaigns are organized with the goal of improving immunization rates. However, vaccination uptake remains low among certain demographic and ethnic minority groups including Hispanic patients. The level of health literacy (HL), ability to recognize the words used, may impact patients’ understanding of health-related messages and consequently health behavior and vaccination.

Methods: We conducted a HL survey among adult female attendees of a health fair in an underserved area of Los Angeles. Attendees visiting a youth education booth were surveyed using an electronic tool. Respondents were surveyed on their familiarity with and recognition of specific words including: measles, shingles, pertussis, hepatitis, meningitis, stroke, diabetes, pneumonia, and human papilloma virus (HPV).

Comparisons were analyzed using chi-squared tests.

Results: Forty-three women (n=28 Hispanic; n=15 Non-Hispanic) completed the survey. The mean ages of Hispanic and non-Hispanic (predominantly Caucasian) respondents were 35.4 ±14 years and 29.9 ±12 years, respectively. A significant lower percentage of Hispanic vs. Non-Hispanic women reported recognition of words associated with vaccine-preventable diseases: “meningitis” (15% vs. 60%, p< .01), “hepatitis” (18% vs. 69%, p< .01), and “HPV” (33% vs 67%, p< .05).

Substantially lower recognition was also reported for “pneumonia”, although this did not reach statistical significance (40% vs 77%, p< .06). The percentage reporting recognition of “diabetes” did not differ significantly between groups (68% vs 60%, p=0.43).

Conclusion: Immunization campaigns often use words that patients may not understand, potentially impacting patients’ relationship with the healthcare system and health behavior change. We found a lower level of recognition (health literacy) of words associated with vaccine-preventable diseases among Hispanic vs. Non-Hispanic women attending a community health fair. These findings have implications for developing culturally-tailored communication tools and educational strategies using a language easily recognized by a specific community to help reduce racial disparities in vaccination uptake.

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41. Impact of the Development of a Perioperative Antibiotic Pathway on Antibiotic Duration of Therapy, C. difficile Infection Rates and Surgical Site Infection Rates in the Adult Facial Reconstruction Population

Lindsay McDonnell, PharmD, AAHPPh; Leigh A. Kennedy, DO; 1Pennsylvania Hospital, Sarasota, Florida

Session: P-3. Antimicrobial Stewardship: Outcomes Assessment (clinical and economic)

Background: There is variability in the duration of peri-operative antibiotic prophylaxis for free flap reconstructions (FFRs) of the head and neck. Complications of FFRs such as surgical site infections (SSIs), can be devastating and lead to vessel thrombosis and flap loss. Infection rates for head and neck free flap reconstructions have been reported to be as high as 20–50% of cases. Despite recommendations from ASHP, IDSA and CDC, postoperative antibiotics are often prolonged at the clinicians discretion, with many clinicians administering >24 hours of prophylactic antibiotics in cases of FFRs.

Methods: The departments of infectious disease, otolaryngology and antimicrobial stewardship, developed a pathway for perioperative antibiotics for adult patients undergoing FFRs. Patients with criteria that put them at high risk for SSIs post-operatively, were given up to 72 hours of antibiotics. Patients without these risk factors, were allowed a maximum of 24 hours of antibiotics post-operatively.

Next, dissemination and education of the pathway occurred. Our group then collected post-intervention data on antibiotic duration of therapy, C. difficile infections and SSIs in these patients. We collected data over a 6 month period (10/2018 to 3/31/2019) for patients undergoing FFRs who received ampicillin/sublactam (n=33) and compared it to our baseline/pre-intervention data.

Results: The mean duration of ampicillin-sublactam usage decreased from 6.82 days to 4.24 days (p=0.0039). The hospital acquired C. difficile rate decreased from 6.06% to 0% (p=0.4923). The rate of SSIs increased from 3.13% pre-intervention to 6.09%, but this did not reach statistical significance (p=0.6132). One patient in the pre-intervention group and one patient in the post intervention group required a return to the operating room due to SSIs.

Conclusion: In conclusion, through the development of a pathway for perioperative antibiotics for adult patients undergoing FFRs, the duration of postoperative antibiotic therapy decreased significantly. The rates of SSIs increased after the pathway was introduced, but this was not statistically significant. The rates of C. difficile infections decreased, but this did not reach statistical significance.

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42. A Pharmacist-Led Intervention to Decrease Anaerobic Coverage for Hospitalized Patients with Community-Acquired Pneumonia

Maxx O. Enzmann, PharmD; Courtney M. Pagsel, PharmD, BCIDP; Emily J. Perry, Pharm D; Justin Jones, PharmD, BCCCP, BCPS; Paul Carson, MD, FACF; Sanford Health, Fargo, North Dakota; Advocate Aurora Health, Lisle, Illinois; Sanford Medical Center-Fargo, Barnesville, Minnesota

Session: P-3. Antimicrobial Stewardship: Outcomes Assessment (clinical and economic)

Background: Community-acquired pneumonia (CAP) is frequently mis-categorized as aspiration pneumonia, prompting the addition of anaerobic coverage to the antibiotic regimen. In our institution, this usually takes the form of adding metronidazole to ceftriaxone. The 2019 American Thoracic Society and Infectious Diseases Society of America CAP guidelines recommend anaerobic coverage only for hospitalized patients with a suspected lung abscess or empyema. The objective of this study was to determine if a pharmacist-led workflow could increase adherence to the 2019 CAP guideline recommendations by limiting anaerobic coverage to those rare occasions.

Methods: The hospital antimicrobial stewardship committee approved a pharmacist workflow and guidance document which outlines criteria to evaluate appropriateness of anaerobic coverage for hospitalized patients with CAP and no other indications for antibiotic. If anaerobic coverage is not indicated, the pharmacist submits a standardized message to the treating provider via the electronic medical record, recommending discontinuation of metronidazole. This workflow was implemented on October 3, 2019. Metronidazole days of therapy (DOT) per 1000 patient days in quarters 1 through 4 of 2019 and quarter 1 of 2020 were collected as well as percent acceptance of documented pharmacist interventions from October 3, 2019 until March 31, 2020.
Results: Between October 3, 2019 and March 31, 2020, a total of 221 interventions were made by pharmacists to discontinue metronidazole in hospitalized CAP patients where anaerobic coverage was not indicated. Out of these 221 interventions, 164 (74%) were accepted by providers and only 57 (26%) were rejected.

The DOT per 1000 patient days of metronidazole was assessed for the three quarters prior to our intervention and the two quarters after the intervention. Compared to the three quarters prior, metronidazole DOT per 1000 patient days decreased by 26.6% for the two quarters following implementation of the pharmacist-led intervention (Figure 1).

Figure 1: Metronidazole DOT per 1000 patient days from January 1, 2019 through March 31, 2020. Vertical line indicates when pharmacist workflow was implemented.

Conclusion: A pharmacist antimicrobial stewardship intervention at our institution increased adherence to CAP guidelines and decreased unnecessary antibiotic exposure in hospitalized CAP patients when anaerobic coverage was not indicated.

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43. A Pharmacoenpidemiologic Evaluation of Echinocandin Use
Jinhee Jo, PharmD; Joshua Hendrickson, PharmD; Anne J. Gonzales-Luna, PharmD; Nicholas D. Beyda, PharmD, BCPS; Kevin W. Garey, PharmMD, MS, FASHIP; University of Houston, Houston, Texas; University of Houston College of Pharmacy, Houston, Texas

Session: P-3. Antimicrobial Stewardship: Outcomes Assessment (clinical and economic)

Background: Invasive candidiasis (IC) is a common healthcare-associated infection. Rates of IC caused by drug-resistant Candida spp., designated by the CDC as a serious threat, are increasing, and Candida auris alone was recently added as an urgent threat. Echinocandins are guideline-preferred for the treatment of invasive candidiasis due to in vitro potency, a favorable toxicity profile, and convenient dosing. The purpose of this study was to perform a pharmacoeconomic analysis on patterns of echinocandin use at a large, quaternary care medical center.

Methods: Data reporting echinocandin use, pharmacy data, and clinical microbiologic data obtained from 2017–18 were pooled. Monthly days of therapy (DOT) per 1,000 patient days were calculated during the study period along with number of unique orders. Investigators evaluated the proportion of echinocandin-treated patients with or without positive Candida cultures; the relationship between echinocandin use and hospital admission and discharge dates was also evaluated.

Results: Echinocandin monthly DOT/1,000 patient days present averaged 26 (± 5) DOT and did not change appreciably during the study period. Of the patients with microbiologic evidence of Candida, 842 (51%) received echinocandin courses. Length of echinocandin therapy was significantly longer for patients with positive Candida cultures (5.5 ± 5.9 days) compared to those without positive cultures (3.9 ± 5.0 days; p < 0.001). Of 1,659 echinocandin courses evaluated, 549 courses (33%) were initiated within 2 days of hospital admission and the average time from hospital admission to echinocandin start was 9 (± 13) days. A total of 505 (24%) echinocandin courses were continued until the day of discharge.

Conclusion: The rate of echinocandin use did not change appreciably during the study period. A significant proportion of echinocandin courses were either started upon hospital admission or were continued until the day of discharge. Further studies to evaluate antifungal stewardship opportunities for the echinocandin pharmacologic class are warranted.

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44. Antibiotic Class-Based Distribution and Analysis of Reported Beta-Lactam Allergies amongst Hospitalized Patients
Joseph Patrik Hornak, MD; David Reynoso, MD, PhD; University of Texas Medical Branch, Galveston, Texas

Session: P-3. Antimicrobial Stewardship: Outcomes Assessment (clinical and economic)

Background: Reported β-lactam allergy (BLA) is very common, yet less than 10% of these patients exhibit true hypersensitivity. When faced with reported BLAs, physicians often choose alternative antibiotics which can be associated with C. difficile infection, drug-resistance development, poorer outcomes, & increased costs. Effective identification of these patients is necessary for subsequent, appropriate BLA ’de-labelling’. Here, we conducted a single-center analysis of alternative antibiotic utilization amongst patients reporting BLA and compare the frequency of drug-resistant infections and C. difficile infection in allergic & non-allergic patients.

Methods: This is a retrospective review of adult patients hospitalized at The University of Texas Medical Branch from 1/1/2015 to 12/31/2019. Pooled electronic medical records were filtered by antibiotic orders and reported allergies to penicillins or cephalosporins. Patients with drug-resistant and/or C. difficile infection (CDI) were identified by ICD-10 codes. Microsoft Excel & MedCalc were used for statistical calculations.

Results: Data were available for 118,326 patients and 9.3% (11,982) reported a BLA, with the highest rates seen in those receiving aztreonam (85.9%, 530,617) & clindamycin (33.7%, 3949/11718). Amongst patients reporting BLA, high ratios of consumption (relative to all patients receiving antibiotics) were seen with aztreonam (7.0), clindamycin (2.7), cephalosporins/β-lactamase inhibitors (2.4), & daptoycin (2.1). Compared to the non-BLA population, BLA patients more frequently experienced MRSA infection (3.0% vs 1.5%, OR 1.99, 95% CI 1.79–2.23, p < 0.0001), β-lactam resistance (1.2% vs 0.6%, OR 2.07, 95% CI 1.72–2.49, p < 0.0001), and CDI (1.2% vs 0.7%, OR 1.85, 95% CI 1.54–2.23, p < 0.0001).

Conclusion: Our measured BLA rate matches approximate expectations near 10%. Moreover, these patients experienced significantly higher frequencies of drug-resistant bacterial infections and CDI. Targeted inpatient penicillin allergy testing stands to be particularly effective in those patients receiving disproportionately utilized alternate agents (e.g. aztreonam, clindamycin, daptoycin). β-lactam allergy ’de-labelling’ in these patients is likely a valuable antimicrobial stewardship target.

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45. Antimicrobial Stewardship for Urinary Tract Infection in Three Emergency Departments Across a Health System
Christopher Shoff, MD; Jason Funaro, PharmD, BCPS; Kristen M. Fischer, PharmD; John Boreyko, PharmD, BCIDP; Jenny Shroba, PharmD; Jennifer Mando-Vandrick, PharmD; Beiyu Liu, PhD; Hui-Jie Lee, PhD; Steven S. Spires, MD; Nicholas A. Turner, MD, MHSc; Rebecca Theophanous, MD; CatherineStaton, MD; Rebekah W. Moehring, MD; MPPh; Rebekah Wrenn, PharmD, BCPS; Duke University School of Medicine, DURHAM, North Carolina; Duke University Hospital, Durham, NC; Duke Regional Hospital, Chapel Hill, North Carolina; Duke Raleigh Hospital, Raleigh, North Carolina; Duke University, Durham, NC; Duke Center for Antimicrobial Stewardship and Infection Prevention, Durham, NC

Session: P-3. Antimicrobial Stewardship: Outcomes Assessment (clinical and economic)

Background: Broad spectrum antibiotics are often prescribed to patients presenting to the emergency department (ED) for evaluation of urinary tract infection and pyelonephritis (UTI). We evaluated the effect of a target-specific antibiotic, education, and feedback on UTI diagnosis and antibiotic prescribing in this setting.

Methods: We created a urine-specific antibiotic form from patients seen and treated without admission at three ED locations (one academic and two community hospitals). We then provided a treatment algorithm and supplemental educational content to ED providers in November 2019. Educational content highlighted appropriate diagnosis, antibiotic selection, and treatment duration for UTI. Adult encounters with appropriate ICD-9/10 codes within twelve months prior to content delivery comprised the preintervention cohort. The postintervention cohort consisted of all adult visitors following educational intervention until April 17, 2020. During the postintervention period (November 2019 to April 2020), summary data regarding UTI diagnoses and guideline-concordant prescriptions were fed back routinely to ED providers through email. Guideline-concordant prescriptions were defined as those adhering to first or second-line therapy in the treatment algorithm. The proportion of prescriptions meeting this definition fulfilled the primary outcome. An interrupted time series analysis measured changes in guideline concordance.

Results: Data from 6,713 distinct encounters were analyzed across the three sites. While guideline concordant prescribing increased following intervention at all locations (30.9% to 38.8%, 48.1% to 49.1%, and 48.2% to 59.6%), these increases were not statistically significant (Figures 1, 2, and 3).

The proportion of all ED encounters