03003 The Bedford-Stuyvesant Healthy Homes Initiative: A Comprehensive Approach to Residential Hazard Assessment and Control
Klitzman S, Caravanos J, Rothenberg L, Belanoff C, Deitcher D, and Cohen L

Background: The home environment can be a significant source of childhood hazards, injuries and illnesses, especially among older, urban housing stock situated in low income neighborhoods. Currently, the vast majority of public health and housing programs focus on single issues. This presentation describes a comprehensive, low-cost approach to the assessment and control of home environmental hazards—including safety, lead-based paint, vermin and mold hazards.

Methods: Baseline assessments (observation and environmental sampling) were conducted in 70 dwelling units. Hazard remediation consisted of: integrated pest management, lead hazard control, mold control and installation of safety devices. Remediation supplies averaged $600 per unit. Participants were provided with high-efficiency particulate air (HEPA) vacuums, training and assistance in making repairs. Post-remediation assessments were conducted to verify completion and clean-up.

Results: At least one type of hazard existed in all units, including: safety hazards (97%); lead-based paint hazards (73%); cockroaches (47%) and/or elevated levels of cockroach allergens (26%); and visible mold (26%). Damaged lead-based paint and recent building repairs were significant predictors of elevated dust lead levels. Occupant and observer reports of cockroaches, water damage, cracks/gaps and clutter were significant predictors of cockroach allergens. Fifty-two units (74%) achieved EPA dust lead clearance levels following remediation; the remaining 18 units (26%) were re-cleaned, until clearance was achieved.

Implications: Among this sample of older, urban dwellings, multiple environmental hazards were prevalent (97%). Assessment and remediation were achieved at modest cost. These findings support a more comprehensive approach to the assessment and control of residential hazards.

03025 Material and Social Inequalities in the Montre´al Metropolitan Area: Associations with Mental Health Outcomes
Forster M, Zunzunegui MV, and Gauvin L

Background: Area characteristics have been shown to be associated with mental health outcomes, above and beyond individual characteristics. This study aimed at increasing the understanding of the associations and pathways by which neighborhoods material and social characteristics influenced psychological distress of people 15–75 years living in the Montréal metropolitan area.

Methods: A random sample of 1053 individuals selected from the 1998 Santé Québec cross-sectional survey were nested within 49 different neighborhoods through matching of Census Tracts. Data pertaining to neighborhood material and social characteristics were obtained from the 1996 Statistics Canada Census Data Base and from municipal police records on violence, crime, and quality of life. Psychological distress was measured using a customized version of the Ilfeld Psychiatric Symptom Index (PSI). Multilevel random-intercept models were built in order to investigate individual effects, contextual effects, and cross-level interactions.

Results: A significant PSI intra-class correlation was found with neighborhoods accounting for 4.6% of total variance. At the individual level, psychological distress predictors included sex, age, social support, family type, ethnicity/place of birth, and food insufficiency. Individual predictors were moderated by area characteristics: social participation and rated quality of life potentiated the effects of social support among women.

Implications: Our findings suggest that even if PSI disparities between neighborhoods in the Montréal metropolitan area are small, individual susceptibilities to psychological distress may be influenced by area material and social characteristics.
Background: The presence of social stressors has been shown by Cohen to increase susceptibility to upper respiratory infections (URI). The paper addresses three questions: 1) is exposure to community violence a stressor that is related to URI; 2) does the relationship between experiencing stressful environmental events and URI found in adults also obtain in adolescents; and 3) does psychological distress mediate the impact of social stress on URI symptoms?

Methods: This cross-sectional correlational study of 769 urban minority adolescents, undertaken between 1999–2002, used three multi-item additive scales: exposure to community violence (18 items; \( \alpha = .89 \)); level of psychological distress (25 items; \( \alpha = .95 \)); presence of URI symptoms (10 items; \( \alpha = .83 \)). Data were analyzed by multiple regression procedures.

Results: There are positive correlations between reporting URI and both exposure to community violence (\( r = .19 \)) and psychological distress (\( r = .51 \)), and between exposure to community violence and psychological distress (\( r = .22 \)). When URI is regressed on exposure to violence and distress simultaneously, the beta for violence is not statistically significant. The impact of exposure to community violence on URI is mediated by psychological distress.

Implications: The impact of exposure to community violence on adolescents’ health may be reduced by reducing the amount of exposure, by buffering the impact of exposure, and by treating the mental health symptoms to reduce them and thereby reduce the mediated impact on physical health.

Background: The Yonkers Early Childhood Initiative (ECI), a place-based family strengthening initiative, was born at the nexus of community need and compelling research findings. At ECI’s inception in 1998, the importance of early childhood had just burst into public awareness with new force and vigor, propelled largely by neuroscience research demonstrating that experience during the first years of life actually physically structures and shapes children’s brains. At the same time, social science research documenting the influence of “neighborhood effects” on childhood outcomes had recently burgeoned, providing empirical support for an ecological theory of human development which views the larger networks surrounding children as a key determinant in their developmental trajectory. Data linking poor neighborhoods with lower IQ, and higher rates of delinquency, child abuse and infant mortality, solidly illustrated the influence of urban environments on young children’s short- and long-term health. Yonkers’ own recent battles over school and housing desegregation, and its on-going struggle to differentiate itself from the wealthy county to which it belongs so as to more effectively build on strengths and address needs, created fertile ground for launching ECI.

Methods: The ECI is a collaborative effort that unifies public and private service providers, elected officials and community residents. It is founded on the premise that building a comprehensive community partnership is a sound strategy for improving health and developmental outcomes. Leadership for ECI has been consistently supplied by the Andrus Children’s Center, a community-based organization serving children and families. Start-up funding was secured from the Surdna Foundation, and the initial process of mobilizing community leadership for ECI was facilitated by the simultaneous coalescence of a “Healthy Yonkers Initiative” in the city. ECI’s first task was to develop the following joint vision statement: Children in Yonkers will be born healthy and, be supported by their families and communities so that they maintain good health, enter school ready to learn, and achieve their developmental potential.

Results and Implications: (1) Produced and disseminated an award-winning Yonkers Early Childhood Data Book. (2) Launched Neighborhood Circles that bring community members together through facilitated dialogue to build strong neighborhoods for families. (3) Produced the Welcome to Yonkers, Dear Baby! book, a resource manual for new parents disseminated at birth with infant thermometers. (4) Since 1999, organized an annual, award-winning Family Day, a fun-filled event that connects over 2,000 families to resources and services; 5) Secured more than $1,000,000 in funding for the ECI itself, and was instrumental in obtaining more than $3,000,000 in new service dollars for Yonkers. Aside from these specific results, a recent evaluation of ECI documents success at increasing community pride and improving cross-sector communication. For example, agencies that once competed for funding now work together on grant applications. The results are programs delivering better comprehensive services to a more extensive base of children and families in Yonkers. Furthermore, the ECI has brought community residents to the table to actively engage in all aspects of ECI’s work, successfully bridging a critical gap between policy makers and residents. ECI is a replicable urban health strategy for effectively improving health and developmental outcomes.
03074 THRIVE (Tool for Health and Resilience in Vulnerable Environments): Project Overview and Pilot Site Implementation
Davis R, Cohen L, Baxi S, Cook D, and Hayes R

Low-income communities of color are disproportionately impacted by incidence of disease and injury. Often this is attributed to the prevalence of specific risk factors in those communities. It is just as important, however, to look at ways in which community factors might encourage health. Identifying and building on existing community resilience can temper financial, racial, and ethnic health disparities. Resilience is the ability to thrive despite risk factors, and studies show that resilience factors can counteract the negative impact of risk factors. The building blocks of healthy communities include safe parks, effective education, available healthy foods, community gathering places, health and social services, and locally owned businesses. For instance, social cohesion corresponds with significant increases in physical and mental health, academic achievement, and local economic development, as well as lower rates of homicide, suicide, and alcohol abuse. Through synthesis of existing research that linked socioenvironmental factors to Healthy People 2010 Leading Indicators, Prevention Institute with funding from the Federal Office of Minority Health, US Department of Health and Human Services developed a community resilience assessment tool called THRIVE (Tool for Health and Resilience In Vulnerable Environments). The tool includes twenty factors and four clusters; built environment, social capital, services and institutions, and macro factors. The tool is being piloted in three communities. This presentation will present elements of the tool and how the approach can support community health, as well as how it is being implemented and supporting work of the East Harlem pilot site in New York City.

03092 The Role of Urban-Rural Structure in the Cycle of Diseases and Health Disparities in Sub-Saharan Africa
Oirya JJ

Objective: This paper analyzes the role of social, structural, economical, political, and physical urban-rural design in the recurring cycle of prevalent diseases, their effects, and health disparities in Sub-Saharan Africa (SSA).

Methods: The study examines urban-rural health in 23 countries with leading cases of infectious, congenital, inflammatory, acute, chronic, metabolic, and neoplastic diseases in SSA. It compares the cause, transmission, spread, and subsequent social effects of these diseases in the region, in relation to urban-rural design, by analyzing current research findings in the region.

Results: With all other determinants of health such as education, employment, social environments, and personal health practices taken into consideration, the urban-rural design seems to provide a key opportunity for the spread and prevalence of diseases and their effects in SSA. While urban centers harbor and transmit diseases to the vulnerable rural areas, the social effects of these diseases return to affect urban areas, which results in a recurring cycle of Urban-Disease-Rural-Effects (UDRE). In areas where this cycle is disrupted through urban restructure, improved health is noted.

Implications: Breaking the UDRE cycle requires a balanced redesign of the urban-rural structure through effective public health policies, fair distribution of public infrastructure and resources, delocalization of the employment industry, improved urban-rural social structure, and effective urban planning. While not yet widely recognized and applied, this strategy seems to play a significant role in the reduction of prevalent diseases, their social effects, and health disparities in urban-rural areas of SSA.

03094 Urban Design and Health for an Aging Society
Michael YL, Fisher J, Howe D, Cunningham G, Green M, and Kellogg H

Background: There is increasing evidence that the physical environment of neighborhoods may shape the health of its residents. However, there is little research on the importance of urban built environment for promoting health and healthy behaviors, such as walking, among older residents. Additionally, the constructive involvement of older adults to inform community planners and policy makers about the specific concerns and needs of this population is rare.

Methods: In collaboration with local organizations serving seniors, urban-dwelling adults aged 55 and older were recruited to participate in 10 focus groups to assess aspects of the built environment important to walking and staying active in Portland, Oregon. Priori codes, developed from a thorough review of the research on the environment-behavior relationship among seniors, were used to analyze the transcribed discussions. Focus groups were conducted as part of a larger study designed to develop tools to evaluate the impact of the urban environment on health of seniors.

Results: Analysis confirmed that safety and aesthetics are important to seniors whereas micro-scale
urban design elements (e.g., sidewalks) and convenience to facilities have mixed importance for this population. Additionally, the analysis suggests that seniors have unique perceptions in terms of the importance of specific micro-scale urban design elements for staying active. Finally, while prior research has focused on single elements of the built environment (e.g., transportation, housing), seniors consistently linked built environment to the social environment in their urban settings.

**Implications:** This analysis suggests unique challenges inherent in designing and improving urban communities for an aging society.

**03095 Cellular Automaton Modeling of Tuberculosis Spatial Spread Structured by Neighborhood Characteristics**
Rehkopf D and Furumoto-Dawson A

**Background:** Tuberculosis is a familiar infection plaguing cities. Yet tuberculosis is slow acting, dependent on close contact with active cases, making possible interventions that alter disease spread. However, social factors promoting disease spread and increasing probabilities of exposure to infective cases, and individual factors influencing probabilities of becoming a case and of treatment are not distributed homogeneously. Not only are factors correlated, in urban contexts they are spatially clustered by the housing density structure of neighborhoods. We developed cellular automaton-based simulations of TB spread in spatially segregated neighborhoods.

**Methods:** We modified a epidemic model based on the J Program (from T. Kiszewski) using approximations of mortality rates, susceptibilities, transmission and reactivation probabilities from reviewed literature. We introduced four levels of neighborhood densities using tiers of “neighbors” with steeply declining transmission probabilities. Small numbers of initial active cases and differing probabilities of susceptible individuals were randomly situated within neighborhoods. Outcomes were sequential spatial maps, epidemic curves, and numbers of infected and deaths over ten years.

**Results:** TB spreads explosively in dense neighborhoods, especially with prevalent active cases. But, there remains significant spread within all high density neighborhoods, regardless of starting conditions. Differing susceptibilities by neighborhood and initial location of cases have relatively less impact on outcomes than does differing structures of neighborhoods.

**Implications:** In urban contexts, spatial modeling provided by cellular automaton simulations may provide additional insights as to where resources would be best targeted, guiding resource distribution and policy.

**03102 HomeSick: Three Stories from the History of Urban Environmental Health, 1900–2003**
Warren C

**Background:** The histories of the major urban public health movements such as sanitation, pollution control, and immunizations are well known, and powerfully instructive to current urban health planners. But just as important, though less studied, are the histories of public health efforts to identify and respond to non-infectious diseases of diet and habitation, efforts that are often complicated by dominant social ideas about ethnicity, culture, and personal behavior.

**Methods:** Using the methods of social, environmental and medical history, this paper will compare and contrast the histories of three separate urban health concerns during three periods of the twentieth century: rickets from 1900–1930; lead poisoning from 1960–1980; and type-2 diabetes in the years since 1990.

**Results:** Awareness of rickets arose in a rapidly urbanizing society where immigration was an overwhelming concern. Lead poisoning became a massive public health issue—“the silent epidemic of the slums,”—in an era when the nation had committed unprecedented resources to ameliorating urban poverty; and the current epidemic of type-2 diabetes coincides with deep cultural concerns with lifestyle, fitness, and chronic illness.

**Implications:** It is far easier to see the cultural factors that affected the study of health in the past; close analysis and comparison with current problems can throw into greater relief similar factors at work today, factors that are just as significant in determining how public health professionals study today’s urban populations. This is especially true for health problems arising from the conditions within the home.

**03137 Racial/Ethnic Segregation and Self-Reported Health Status in New York City**
White K, Borrell LN, and Meyer I

**Background:** Studies have found that characteristics of an individual’s neighborhood of residence could affect individual perceived health status. Such characteristics include social capital and socioeconomic conditions. Because racial/ethnic segregation could limit socioeconomic mobility by constraining
educational and employment opportunities for subgroups of the population, it is possible that racial/ethnic segregation could influence individual self-perceived health status. We examined the role of racial/ethnic residential segregation upon self-reported health status of blacks, Hispanics, and Asians in NYC.

**Methods:** Individual’s data from the 2001 Social Indicator Survey (n = 1,501) were appended to neighborhood characteristics from the Year 2000 United States Census at the zip code level. Logistic regression was used to estimate the association between self-rated health status and race/ethnicity by levels of segregation controlling for individual’s clustering within zip codes.

**Results:** Racial/ethnic segregation had a different effect based on race/ethnic group membership. When compared to whites, blacks were less likely to report poor health regardless of the levels of segregation; Hispanics living in low and high segregated areas reported increased odds of reporting poor health, while Hispanics living in medium segregated neighborhoods were less likely to report poor health; and Asians exhibited decreased health status as the levels of segregation increased. Individual- and contextual-level variables had an independent effect on self-rated health regardless of racial/ethnic group membership.

**Conclusions:** These findings call attention to the investigation of neighborhood characteristics using a race/ethnic-specific approach. Future research should incorporate multilevel analyses, more precise definitions of neighborhood, and explore specific hypotheses such as the racial/ethnic density hypothesis.

03138 The Effect of Neighborhood and Network Characteristics on Frequency of Drug Injection
Williams CT and Latkin CA

**Background:** Neighborhoods and networks are important dimensions of the social context of drug users. Characteristics of neighborhoods and personal networks help define the constellation of risks for increased drug use. This paper examines neighborhood and network factors related to frequency of drug injection among inner-city drug users.

**Methods:** Socioeconomic data from the 1990 US Census were linked to individual- and network-level survey data from the SHIELD Study, an experimental network-oriented HIV prevention intervention targeting drug users in Baltimore City. The sample consisted of 1457 street-recruited current and former drug users from 161 census tracts around Baltimore. Two-level ordinal multilevel regression was used to model the effects of neighborhood socioeconomic status (SES) indicators and personal network characteristics on risk of daily injection compared to less than daily or no injection.

**Results:** Adjusting for individual and network factors, higher median household income and greater percentage of high school graduates in one’s neighborhood increased the cumulative probability of injecting daily versus less frequently or not at all. Network factors associated with more frequent injection included having a higher percentage of drug injectors and daily drug users in one’s network.

**Implications:** Lending support to the relative deprivation hypothesis, results suggest that disadvantaged drug users who live in relatively higher SES neighborhoods may be worse off than those who live in neighborhoods with relatively lower SES. Further investigation into the relationships between drug users’ social contexts and their own drug use behaviors is needed.

03155 When Development Proceeds Outside of the Planning Process: The Quality of Life of Urban Low-Income and Informal Settlement Communities in Accra, Ghana
Golembeski C and McSharry McGrath M

**Background:** In Accra, population growth, rapid urbanization, rising poverty rates, and other factors are challenges to maintaining appropriate shelter and health status for the city’s residents. Socioeconomic and spatial disparities exist in the Accra metropolitan region, conspicuously demonstrated in housing, health status, and environmental conditions. As the city develops, poverty concentrates in precarious neighborhoods that lack adequate infrastructure and are also most vulnerable to natural disaster, particularly annual flooding. Governmental agencies, under the guidance of NGOs and multilateral organizations, have created poverty reduction plans that insufficiently address the needs of poor communities. Moreover, globalizing market forces impede local initiatives, government actions, and international agreements seeking to improve living standards.

**Methods:** Site visits in Accra were conducted under the auspices of the 21st Century Cities initiative, a project of the Columbia University Earth Institute’s Center for Globalization and Sustainable Development. Data on housing, health care, education, and other socioeconomic indicators from existing primary and secondary sources were used to analyze the situation from both a public health and urban planning perspective.

**Results:** Actual development patterns in the metropolitan area are not in keeping with the state’s urban planning vision; geography, economics, culture and many other features thus combine to maintain
disparities between rich and poor. Although strong social ties sustain communal life, the quality of life in poor communities is much lower, while productivity and progress are hindered by poor health, inadequate shelter, and lack of resources. The dearth of roads in low-income areas and informal settlements severely limits access by vehicles for transport, maintenance, and emergency response. Little open space exists for agriculture, recreation, or public gathering. Inadequate water supply, lack of toilet facilities, and poor drainage create unhygienic conditions, paving the way for endemic malaria and diarrheal disease, particularly in the rainy season.

Implications: Behavioral change, improved communication, and technical support from NGOs have improved circumstances, but the planning process has not been paid adequate attention. While the urban environment’s profound impact on housing and health status is recognized, health agents, community residents, and urban planners seldom collaborate, which is detrimental to the entire city, especially impacting the most vulnerable populations. Increased governmental responsibility, community-based planning and development strategies, and nongovernmental support will be required to improve health and housing conditions for the most disadvantaged urban residents of Accra.

03161 Children’s Health and the Residential Environment: An Exploratory Study
Mroczek J

The physical environment can impact children’s physical health problems. Children living in high-rise buildings or unsafe neighborhoods may have less access to the outdoors because of safety, inability of parents to monitor, or the lack of safe outdoor play opportunities. Sedentary habits and lifestyles may result from these factors, putting children’s health at risk.

This study examined the relationship between children’s physical health and the physical environment. Thirty-eight urban and suburban parents were interviewed regarding their children’s physical environments and health. A structured questionnaire asked about housing type, transportation, child’s play activities at home and school, walking to school, parental attitudes/knowledge about physical activity, children’s physical health and eating habits, and parental health. A more detailed time/activity budget was also administered. Each activity was rated for physical rigorosity on a 0–10 scale. Children’s heights and weights were obtained, and Body Mass index was calculated according to CDC standards.

Preliminary results indicated that the sample contained few overweight children (per BMI calculations), however nine children who did not officially meet the CDC standard for overweight were nonetheless at high percentiles, meaning they could be at risk. Most children in this sample did have access to outdoor space. Despite this access, less than half engaged in sufficient physical activity (AHA, 2002). While these children’s mean weight did not indicate obesity, their low activity levels could create future health risks. Our research highlights the need for parental and child education. If parents and children understand the importance of regular physical activity, than perhaps children’s physical health will improve.

03162 The Impact of the Social Environment on Child Health in Distressed Cities
Mijanovich T and Weitzman B

Background: Residents of less advantaged communities have worse health than those in more prosperous areas. Many aspects of this association remain unclear, especially determining which area characteristics influence health even when individual characteristics are controlled.

Methods: Using data from the Urban Health Initiative’s Survey of Adults and Youth in five distressed cities, logit models were estimated for parent-rated health of youth.

Results: Measures of neighborhood physical environment (crime, abandoned buildings, poverty, et al.) were significantly associated with parent-rated health of children when considered alone, but not when family-level variables were controlled. However, measures of the social environment (viz., measures of collective efficacy and social cohesion) retained strong associations with parent-rated child health in the presence of family-level controls, in both cities and suburbs.

Implications: Although aspects of the neighborhood physical environment are strongly associated with health, more advantaged families appear to be able to select better physical environments in which to live, leaving open the question of whether physical neighborhood characteristics make an independent contribution to health over and above the influence of family variables. Social characteristics of neighborhoods, however, are less highly correlated with family advantage (perhaps because these characteristics are more difficult to discern by families making residential location decisions), and appear to be independently predictive of health status controlling for a variety of other family and area-level factors. This suggests that strategies that increase neighborhood-level social cohesion and informal social control may have significant independent effects on health.
03165 Neighborhood Disorganization as a Determinant of Drug Injection Behaviors: A Structural Equation Modeling Approach
Williams CT, Wang J, and Latkin CA

Background: Neighborhood environment is increasingly recognized as a contextual determinant of health, behavior and disease; however, the pathways through which neighborhood characteristics impact health behaviors are poorly understood. This paper examines pathways to elucidate how neighborhood disorganization may lead to the transmission of HIV among urban injection drug users.

Methods: Data were from a baseline survey of 701 injection drug users from the SHIELD Study, an experimental HIV prevention intervention targeting behavior change among drug users in Baltimore, MD. Structural equation modeling was used to examine psychological distress as an intervening mechanism between neighborhood disorder and drug injection behaviors.

Results: The relationship between neighborhood disorganization and injection behaviors in all models tested suggest that psychological distress is higher in more disordered neighborhoods, that distress leads to greater injection frequency and equipment sharing, and that injection frequency also predicts equipment sharing.

Implications: These data suggest that neighborhood characteristics may lead to HIV transmission though psychological distress and suggest that HIV prevention interventions ought to consider structural neighborhood factors that may indirectly lead to drug use and HIV transmission.

03174 Income Inequality and Mortality: The Role of Race and Residential Segregation
Nuru-Jeter A

Objective: To examine the role of race and residential segregation in the relationship between income inequality and all-cause-mortality.

Study Sample: This is a cross-sectional ecological study of metropolitan areas in the United States (N = 107). Metropolitan statistical areas were selected using two criteria: (1) a population of at least 100,000, and (2) at least 10% African-American.

Research Methods: Data for this study come from the US Census Bureau for the 1990 and 2000 Decennial Censuses and the National Center for Health Statistics Multiple Cause of Death public use data files for the time period 1990–1999. Ordinary least squares regression was used to conduct race-specific analysis to assess both the direct and indirect effects of race on the income inequality/mortality relationship. Structural equation modeling techniques (i.e., cross-lagged causal modeling, path analysis, and latent variable SEM) were used to examine residential segregation and concentrated poverty as mediators in the pathway through which income inequality affects all-cause mortality.

Results: Study results show that income inequality is protective of mortality rates for both the total sample and for whites (P < .05). Among African-Americans, income inequality is a positive predictor of mortality rates. These effects are not sustained after adjusting for residential segregation, suggesting that residential segregation confounds the income inequality/mortality relationship. Racial concentration moderates the effect of income inequality on mortality such that mortality rates increase with increasing income inequality for metropolitan areas with a high percentage of African-Americans compared to metropolitan areas with a lower percentage of African-Americans (P < .05). Residential segregation also moderates the income inequality/mortality relationship. Mortality rates decrease with increasing income inequality for metropolitan areas with high levels of residential segregation compared to metropolitan areas with lower levels of residential segregation (P < .05). Structural equation modeling results indicate that residential segregation mediates the income inequality/mortality relationship; and that the pathway through which income inequality affects population health varies by racial group.

Conclusions: The experience of income inequality and residential segregation is not the same across racial groups. Race and racial residential segregation confound the income inequality/mortality relationship. Future studies seeking to explore the effects of income inequality on population health should specifically account for the confounding role of race and residential segregation; and should consider that income inequality may be an indicator for other social processes such as racial residential segregation.

03181 Clinical and Environmental Interventions Improved Asthma Outcomes in Minority Children from Community/Migrant Health Centers (C/MHCs)
Catz DS and Tobin JN

Background: The goal of this project was to evaluate clinical-based and environmental/home-based interventions in a population of minority asthmatic children aged 12 to 19 with mild persistent to severe persistent asthma treated in C/MHIC.
Methods: Patients were randomized to either the experimental group (home visits with asthma education and products) or a control group. Clinical-based interventions included provider education and medication review. Analyses included: (1) cross-sectional (N = 759), (2) intent-to-treat (N = 220) and (3) overall effects of the intervention.

Results: (1) Medical records reviews showed regional differences in asthma medication use and health care utilization. (2) The interventions increased significantly the use of mattress and pillow covers, changed significantly some cleaning habits, such as dusting in the presence of an asthmatic child, and reduced significantly the problem of cockroaches in the Experimental group. Peak flow meter use and patients with a written asthma management plan were significantly increased in both groups. (3) No overall differences were found in ER visits, urgent visits or adverse events between the Experimental and Control groups. We observed significant improvements over time in all children. Pests and bedroom problems at baseline were associated with increased ER visits and adverse events at follow-up. Children receiving dust mites control products at baseline increased symptom-free days at follow up. Children receiving pest control products at baseline decrease ER visits at follow-up.

Implications: Assessing and mitigating environmental problems in the homes effectively improved asthma outcomes in minority children treated in Community/Migrant Health Centers, and should be added to routine asthma care.

03188 Perceptions of Neighborhood and Health in Hamilton, Ontario, Canada
Wilson K, Elliott S, Eyles J, Jerrett M, Law M, and Olaman S

Background: There is growing recognition in both research and policy spheres that neighborhoods play a prominent role in shaping health. To date, much of the research on neighborhood and health measures neighborhood effects vis-à-vis area-based indicators of deprivation. In this paper, we seek to extend current knowledge by examining the links between perceptions of physical and social neighborhood environments and health.

Methods: Data for the analysis are taken from a cross-sectional telephone survey, designed to assess determinants of health at the local level, conducted between November 2001 and April 2002. The survey (n = 1504) was administered to randomly selected households within four distinct neighborhoods in Hamilton, Ontario. Logistic regression analysis is used to examine relationships between three health outcomes (i.e., self-assessed health status, GHQ, and chronic conditions) and perceptions of physical and social neighborhood environments.

Results: The findings show significant differences in health status and neighborhood perceptions among the four neighborhoods. Almost 20% of respondents in the Downtown Core are dissatisfied with their neighborhood and 16% report that they do not like anything about their neighborhood compared to less than 5% in the suburban neighborhood. Results also show that perceptions of neighborhood environments are significant determinants of health status.

Implications: The research demonstrates the importance of neighborhood aspects for health beyond socioeconomic status. In fact, social and physical neighborhood environments appear to have both health promoting and health inhibiting effects on health status. This research therefore enhances our understanding of the links between neighborhoods and health but also emphasizes the need for local level health policies and planning.

03215 Housing and Health in the Five Boroughs: An Assessment of the Health Effects of Housing Relative to Neighborhood and Individual Socioeconomic Status Conditions in New York City
Carpiano RM

Background: Numerous social epidemiologic studies have explored how neighborhood factors influence health, but few (particularly in the US) have examined the role of housing conditions in relation to neighborhood and other socioeconomic status factors. This study seeks to better understand pathways through which individual socioeconomic status influences health by assessing the relative effects of housing, perceived neighborhood, and socioeconomic status conditions, testing direct mediating, and moderating effects.

Methods: This study used a cross-sectional sample of 827 adult residents of the 5 boroughs of New York City who were interviewed for the 1999 New York Social Indicators Survey.

Results: Logistic regression analyses indicate that among 3 indicators of housing conditions (ownership, perceived housing quality, and residency length), only housing quality was significantly associated with perceived health, net of perceived neighborhood conditions, family income, and other sociodemographics. With respect to neighborhood physical and social characteristics, respondents reporting neighborhood index scores the highest tertile were significantly more likely to report better health compared
with those having scores in the lowest tertile. Hosing and neighborhood quality were significantly associated with family income and partially mediated the association between family income and health. No significant interactions were found for hosing and neighborhood conditions moderating the association of family income and health.

**Implications:** Further research is needed to explore housing conditions (physical, social, and psychological) that may influence the health of residents independently and in tandem with socioeconomic status and neighborhood conditions.

**03216 Mapping Asthma Hot Spots: The Geography of Asthma and Air Pollution in the Bronx**  
Maantay J and Strelnick H

**Background:** This study examines the spatial correspondence between the incidence of asthma hospitalization and the locations of environmentally-hazardous land uses and traffic. We propose that there is a spatial correspondence between areas having high rates of asthma hospitalization and high levels of air pollution, controlling for race/ethnicity and income. Reduced air quality and asthma have been associated with toxic air emissions from industrial processes, particulate matter, and increased levels of NOx and SO2 from diesel exhaust.

**Methods:** We are using Geographic Information Systems (GIS) to map and model the major mobile and stationary sources of air pollutants in the Bronx. Asthma hospitalizations for 1995–1999 from New York State’s SPARCs database are geo-coded, mapped, and analyzed using ArcView spatial analysis and geostatistical software.

**Results:** Preliminary analyses suggest that there is a spatial correspondence between the rates for asthma hospitalization by census block groups and the locations of environmentally hazardous land uses and traffic in the Bronx. Our analyses suggest that hazardous land uses disproportionately located in minority and low-income communities.

**Implications:** The Bronx is an epicenter of the urban asthma epidemic, with an excessive environmental burden from solid waste transfer stations, Toxic Release Inventory facilities, traffic, and poverty. This is the first study in New York City. These analyses can be applied to other geographic locations, and the findings can be used to inform policy and planning decisions, especially regarding land use, zoning, environmental regulations and enforcement, and health care access.

**03236 Spatial Distribution of the Human T-Lymphotropic Virus Types I and II (HTLV-I/II) Infection Among Blood Donors from a Large Urban Area in Brazil**  
Assuncao RM and Proietti FA

**Background:** Due to its large population, Brazil may have the highest absolute number of HTLV-I/II seropositive individuals, mainly in large urban areas. Screening blood donors for HTLV-I/II is mandatory in Brazil and the national public blood center network reflects about 80% of total blood collected in the country.

**Methods:** We conducted a cross-sectional study of the spatial distribution of HTLV-I/II infection among blood donors of Belo Horizonte branch of the public blood center network. The study population (1,022) was composed by 533 cases (positive Western Blot (WB), indeterminate WB and ELISA positive without WB result) and a random sample of 489 non-cases (HTLV-I/II serum negative). Cases and non-cases were georeferenced using the exact or an approximation of the household address reported at the blood donation interview.

**Results and Implications:** Using the difference between univariate K functions, we found no evidence that cases and non-cases differ in their spatial distribution. Also, we found no evidence that cases with and without WB result differ in the distance between their residence and the blood center. No donors without WB result were georeferenced by the exact address. These donors could not have received the letter inviting them to return to collect the second blood sample.

**03237 Geographical Heterogeneous Distribution of Human T Cell Lymphotropic Virus I and II (HTLV-I/II) Serologic Screening Prevalence Rates in Blood Donors from Large Urban Areas in Brazil**  
Catalan B, Proietti ABF, and Proietti FA

**Background:** Brazil may have the highest absolute number of HTLV-I/II seropositive individuals mainly in large urban areas. Screening blood donors for HTLV-I/II is mandatory in Brazil and public blood center network reflects about 80% of blood collected in the country.

**Methods:** An ecological study was conducted to assess the geographical distribution of HTLV-I/II
serologic screening prevalence rates in blood donors from the 27 large urban areas in each state, from 1995 to 2000. Enzyme immunoassays (EIA) were used to test for HTLV-I/II.

**Results:** The mean prevalence rates were heterogeneous, ranging from 0.4/1000 in a city in the South to a rate 25 times higher, 10.0/1000 in the Northeast. Prevalence rates are lower in the main cities in the South increasing towards North/Northeast.

**Implications:** Three possibilities could be advanced to explain HTLV-I/II geographical variability in Brazil: population migration in ancient times, from Asia through North America, reaching first the North and Northeast area of Brazil; African slave trade during Portuguese colonization, for the most to the Southeast and Northeast and finally the significant Japanese immigration in the last century. Studies are needed to better understand the spatial heterogeneity of HTLV-I/II seroprevalence.

03240 Spatial Distribution of Human and Canine Visceral Leishmaniasis in Belo Horizonte, Minas Gerais State, Brazil

Proietti FA, Olivera CDL, Assuncao RM, and Reis IA

**Background:** Visceral Leishmaniasis (VL) has a worldwide distribution. In Belo Horizonte (2,229,697 inhabitants), main city and capital of Minas Gerais State, only one human case was confirmed until 1993. In 1994, 35 human cases were confirmed. Since then, many cases are confirmed yearly. We analyzed the spatial association between VL in dogs and people, the space-time correlation of human cases, and suggest specific smaller areas to focus intervention.

**Methods:** We geocoded 93.5% of 158 human cases and 11,048 (80.3%) of all seropositive dogs. We used linear regression to model the relationship between human incidence rates in a neighborhood and dogs’ prevalence rates. We used Knox’s test for human cases space-time interaction. The linear regression model for a given year is: \[ Y_i = a + aX_i - 1 + e_i \] where \( Y_i \) is the logarithm of Bayesian incidence rates of the neighborhood in year I for human, and \( X_i - 1 \) is the logarithm of dogs prevalence rates during the previous period (minus 3 months).

**Results and Implications:** Human and dog rates are ecologically correlated at the neighborhood level. VL spread quickly, but apart from the rates’ magnitude, kept the same spatial pattern through time. It is possible to use this technique to pinpoint areas to implement control measures in a more efficient way.

03241 Dengue Seroprevalence in Belo Horizonte City

Proietti FA, Caiaffa WT, Costa M, Morais MHF, Cunha MCM, DiLorenzo C, Kroon EG, Pessanha JEM, and Bessa AMS

**Background:** In Belo Horizonte (2,229,697) inhabitants, main city and capital of Minas Gerais State, the first dengue case ever was confirmed in 1996. Since then, more than 80,000 cases were confirmed. We conducted a population-based study to determine the magnitude of the epidemic in the city.

**Methods:** We obtained a two stage cluster random sample (house followed by house inhabitants), from 3 of the 9 BH City Health Department Districts, 322 in the East and 245 in the North District. Testing for Dengue 1 and 2 virus antibodies were conducted using neutralization reaction.

**Results:** 76.98% (495 individuals) were seronegative for both viruses, 0.78% (n = 5) were positive for Den-2 and 4.67% (n = 30) were positive for Den-1 only. The South District, the richest district of the city, had just 4 (5.26%) individuals positive for both viruses, compared to 66 (20.5%) and 43 (17.5%) in the less wealthy East and North Districts.

**Implications:** It is possible that environmental determinants increasing the risk of exposure to dengue virus are not homogenous throughout the city, indicating important inequality in the risk for Dengue infection.

03243 Effects of Neighborhood-Level Factors on Infant Health

Reichman N and Teitler J

**Background:** Racial, ethnic and economic inequalities in infant health persist despite widespread efforts to eliminate them. Research has identified many factors contributing to these disparities, but many gaps remain. Most studies have included medical, psychological or sociodemographic factors, but few studies have combined measures from all domains and even fewer have incorporated neighborhood effects.

**Methods:** We use linked birth and hospital discharge records for all births in New Jersey from 1089 to 1992 to estimate sequential multilevel models of the effects of individual characteristics, medical risk factors, lifestyle factors, health insurance status, and neighborhood characteristics on low birth
weight (a strong correlate of neonatal health and infant mortality). The records have been geocoded and appended with tract-level measures of population, income, and housing from the 1990 census. Urban residence is an important risk factor and there are 6 large in New Jersey and comparison statewide rural sample. Race, Ethnicity, and immigration status are also important risk factors and New Jersey is extremely diverse in all of these respects.

**Results:** We assess the extent to which specific neighborhood factors contribute to disparities in low birth weight.

**Implications:** Our comprehensive models will reveal the relative importance of neighborhood factors including concentrated poverty and housing quality, and of specific medical and behavioral risks. The results will inform policies aimed at reducing adverse birth outcomes among disadvantaged populations.

03259 Neighborhood Context as a Determinant of Child Health in Cairo, Egypt: The Application of GIS and Remote Sensing to a Study of Intra-Urban Variability in Health.

**Weeks JR and Fugate D**

**Background:** It is well known that levels of health vary by overall levels of urbanization, but the literature is more limited on the issue of intra-urban variability in health levels. That variability is partly a function of the spatial clustering of people with characteristics that put them at a lower or higher risk of disease and disability, and is partly a function of neighborhood context—the characteristics of the built and social environment in which they live.

**Methods:** We illustrate a spatial approach to the study of urban health using data from Cairo, Egypt. Anthropometric measures of child health and its individual-level covariates are drawn from the Egypt Demographic and Health Surveys of 1995 and 2000. Neighborhood context data are derived by (1) classification of satellite data into land cover classes from which is a set of landscape metrics are calculated that summarize the built environment; and (2) development of measures of the social environment at the neighborhood level from the 1996 census. Spatial analytic and multi-level analytical statistical methods are then used to quantify and decompose the variability in child health into that which is accounted for by individual characteristics and that which is accounted for by the characteristics of the place in which those individuals are living.

**Results:** Preliminary results suggest that a significant fraction of the variability in child health levels is accounted for by neighborhood context factors, net of the individual-level covariates.

**Implications:** Health levels within cities are influenced in part by local environmental factors that may be identifiable through the measurement of neighborhood context from satellite data, in combination with census data.

03269 A Proposal: Inclusion of Medical Geology and Related Topics under Geomedicine

**Savage EL**

Medical geology deals with natural and technological environmental health effects of humans and animals including fossil diseases, health issues, and first occurrences of these in the fossil record. In addition, medical geography, environmental health, environmental medicine, environmental geochemistry, and related disciplines include geographical medicine, ecotoxicology (Butler 1978), environmental toxicology, environmental epidemiology, environmental engineering, etc. These disciplines merge environmental sciences with medical and environmental distribution of disease and health patterns.

Geomedicine was defined by Dr. Jul Lag in his book *Geomedicine* as “the science dealing with the influence of ordinary environmental factors” (Lag 1990). He suggested that geomedicine be divided into subgroups. (Lag 1990). The term “geomedicine,” first used by Zeiss in 1931 as synonymous with geographical medicine, is included in geographical and mapping techniques used to illustrate medical research conclusions. He placed medical geography within the discipline of geography. Zeiss encouraged collaboration between medical field researches including physicians, veterinarians, plant pathologists, entomologist with geographers, meteorologists, soil scientists, and geologists (Zeiss 1931). For twenty years following Zeiss’s paper, geomedical research limited to human medical health, was conducted only at the Heidelberg Scientific Academy (Lag 1990). Today, health problems have burgeoned with increased pollution from: pharmaceuticals, air conditioning, and fossil fuels, etc. Research now includes environmental and medical effects from dental materials, radiation from cell phones, military weapons, electrical power lines, household wiring, microwave ovens, radioactive waste, etc. and engineers, dentists, veterinarians, geohydrologists, meteorologists, and so on. Dual study terms, e.g. geochemistry, geophysics, geostatistics, geochronology, geoeengineering, etc. have long been accepted in the field of geology. I therefore propose, in recognition of revived interest in this topic, that geomedicine become
the main “umbrella” which will include all subdivisions of environmental/health disciplines including medical geology, medical geography, environmental medicine, and others.

03277 The Association Between Neighborhood Factors and Substance Use and Abuse: A Hierarchical Analysis in Four Low-Income New York City Neighborhoods
Stuber J, Sisco S, Fuller C, and Galea S

*Objective:* The purpose of this study is to examine the association between neighborhood-level factors and current individual substance use and abuse, controlling for levels of psychological distress, social stress, fatalism and social support. We are also interested in assessing if the relation between neighborhood characteristics and use of cigarettes, alcohol, and marijuana, are different.

*Methods:* The primary neighborhood factors of interest include: collective efficacy, signs of physical and social disorder, and deprivation. Neighborhood factors will be measured from two sources. In June 2003, we will administer a random digit dial telephone survey to approximately 1000 residents of four low-income New York City neighborhoods: the South Bronx, East Harlem, Central Harlem and Bedford-Stuyvesant. Through this method, we will collect information about neighborhood characteristics, substance use behavior and other individual level covariates of interest. These data will be complemented by data from archival sources that measure neighborhood characteristics, such as the New York City Department of City Planning, Department of Health and Mental Hygiene, the Police Department, and the 2000 US Census. Hierarchical models will be used to assess the association between neighborhood factors and substance use and abuse, and to take into account the potential correlated nature of nested data.

*Results:* Will be available for the International Urban Health Conference.

*Conclusion:* Data from this study and others like it can inform both structural and individual interventions to minimize substance use and related negative health outcomes.

03280 Recreational Trails and Community Livability: An investigation of Three Urban Trails
Greer DL and Sharma M

*Background:* Physical inactivity and sedentary lifestyles remain a major challenge to the health of urban populations. Some public health researchers and practitioners have indicated the potential role that recreational trails may play in promoting physical activity in this subgroup. A limited body of previous empirical research has suggested that residents living along recreational trails generally perceive the presence of trails as beneficial to the value of their property. However the public health or safety issues directly linked to the trails have not been systematically studied. Past findings contrast somewhat with occasional anecdotal reports of concerned citizens who voice opposition to future trail development. Since the existing body of evidence is becoming dated, we sought to develop a more expansive body of evidence documenting the experiences of residents who actually live adjacent to urban and suburban trails.

*Methods:* A telephone survey (n = 149) was used to contact residents living adjacent to three separate trail segments in the Omaha, Nebraska area. The trails were selected to highlight both differing trail conditions and demographic characteristics of the surrounding neighborhoods.

*Results:* In a high percentage of cases (85.2%) we found that a member of the responding household used their local trail at least occasionally. But trail usage varied considerably from one trail to another. Walking (90.6%) and bicycling (54.3%) were by far the most frequent types of trail use. Deterrents to trail use had more to do with the interests and orientations of the respondents themselves (i.e., time availability and interest), and rarely included trail-related issues such as safety, accessibility, or attractiveness. By-and-large, the trails seem to be viewed as desirable enhancements that, despite their occasional problems, make homes and property more desirable and improve the quality of neighborhood life. Even so, there were signs in our data that the use and acceptance of recreational trails may differ depending on the demographic characteristics of the surrounding neighborhood.

*Implications:* The results of our investigation provide clear support for the continued development of recreational trails as a means of enhancing the livability of urban and suburban communities, and suggest that trails may play an important role in developing a community ecology that encourages healthy physical activity. The trail differences we discovered may also have implications for those responsible for future trail development in urban and suburban areas.

03285 Monitoring Particulate Pollution in Urban Areas: Limits of the Current System, Policy Implications and Recommendations
Shemitz L

*Background:* In cities across the United States, air monitors measure concentrations of coarse and fine particulate matter. These monitoring systems assume that air pollutants levels are consistent across
urban areas. However, recent studies reveal significant spatial differences in particulate levels on a block-by-block basis. This paper explores the variability of airborne urban air pollutants and examines to what extent current regulatory practices capture the actual range of particulate matter concentrations in urban areas.

**Methods:** This paper examines data from federally mandated particulate monitors in one urban center (New Haven, CT) to determine how accurately such monitors capture concentration levels. Data is analyzed for temporal and spatial variability.

**Results:** Significant variability exists. There are marked, weekly patterns related to human activities. Daily levels can vary up to three-fold within one day and over five-fold between days within a single month-long period. Spatial variation ranges from 45 to 95 $\mu$g/m$^3$ between the two site-based city monitors.

**Implications:** The current monitoring system provides useful data on long term trends. However, critical, smaller-scale variability, across time and space, is not captured by the single site monitors. The monitors provide a sense of assurance that air quality is being measured but much critical detail is lost in the averaging, both temporal and spatial. The current monitoring system should be supplemented with data on a smaller-scale, using continuous monitors in many locations across a city. Given the prohibitive cost of such a system on a broad scale, a traffic count system can potentially be used as a proxy for continuous sampling, dependent upon further research into the correlation between traffic levels and particulate matter concentrations.

03297 Effect of Chelation Therapy on the Neuropsychological and Behavioral Development of Lead-Exposed Children Following School Entry
Dietrich KN

**Background:** It is unclear whether chelation therapy can help prevent or reverse the neurodevelopmental sequelae of lead toxicity. Our objective was to determine whether chelation therapy with succimer (dimercaptosuccinic acid) in urban children with blood lead levels between 20 and 44 $\mu$g/dL at age 12 to 33 months has neurodevelopmental benefits at age seven years.

**Methods:** The Treatment of Lead Exposed Children (TLC) study is a randomized, double-blind, placebo-controlled clinical trial conducted in four northeastern urban communities. After the screening of 1854 children, 780 were randomized to the active drug and placebo groups stratified by clinical center, body-surface area, blood lead level and language spoken at home. At seven years of age, 646 subjects remained in the study. Up to three courses of drug therapy were administered depending upon response to treatment. All participants received residential lead hazard control measures prior to and during treatment. Multivitamin supplements prior to and following treatment(s) were also provided. Main outcome measures were scores on standardized neuropsychological measures tapping cognition and behavior.

**Results:** Chelation therapy with succimer lowered average blood lead levels for about six months but resulted in no benefit in cognitive and behavioral endpoints.

**Implications:** Our previous finding that chelation therapy is not associated with neurodevelopmental benefits in urban children with blood lead levels below 45 $\mu$g/dL is confirmed. These results emphasize the importance of early screening and taking environmental measures to prevent exposure to lead. Chelation therapy cannot be recommended for children with blood lead levels in the range studied by TLC.

03298 The Geographic Search Engine: One Way Urban Epidemics Find Susceptible Populations and Evade Public Health Intervention
Wallace R and Wallace R

**Background:** The HIV/AIDS epidemic in the United States has been recently marked by a demographic transition. What was a disease that primarily affected communities of gay whites now appears largely entrenched in minority communities. There are already several explanations for the transition. Introduced here is an additional hypothesis that details a spatial mechanism by which HIV and other urban epidemics search for susceptible populations.

**Methods:** A model by Wallace and Wallace (1995) for the characteristic area of the HIV/AIDS epidemic is modified to include a group selection algorithm by which the epidemic explores the epidemiological suitability of multiple populations.

**Results:** By expanding its characteristic area HIV encompasses a greater number of communities into the epidemic. The more groups affected, the more likely the epidemic will find populations that provide a good epidemiological fit. In such populations HIV appears to find refuge from subsequent
contractions in the epidemic. The group selection process alleviates a central problem epidemics face: Successful epidemics must range farther to cover susceptible populations large enough to maintain infection rates. But the more intense the group selection, the more likely the epidemic will find suitable populations, and the less pressure on the epidemic to maintain its geographic momentum.

Implications: The spatial dynamics of urban epidemics may reflect more than just changes in epidemiological pattern. Such dynamics appear also to embody mechanisms by which epidemics search for susceptible populations. By shuffling through sociogeographic refugia epidemics can evade intervention. Public policies for short-circuiting the spatial mechanism will be discussed.

03305 Growing up Healthy in East Harlem: Exposure Assessment of Environmental Factors in the Urban Built Environment of East Harlem, New York
Galvez M, Brenner B, Teitelbaum S, Britton J, Morland K, Moskowitz H, Forman J, Romero H, and Trilla M

Childhood obesity has become epidemic in the United States, especially among African-American and Latino children. East Harlem, a predominantly minority community, has the highest prevalence of obesity of any neighborhood in New York City. East Harlem community leaders, who advise the Mount Sinai Children’s Environmental Health Center, including members of the East Harlem Community Health Committee, Boriken Neighborhood Health Center and Settlement Health, have recommended that childhood obesity in East Harlem become a major Center priority. Environmental factors are increasingly acknowledged to influence development of overweight and obesity. Leaders in East Harlem have identified a series of environmental factors unique to the urban built environment that appear to be barriers to healthy lifestyles and promoters of childhood obesity. These include: paucity of play-spaces, concerns about safety, lack of fresh foods and limited opportunities for youth activities. To assess and characterize these factors, this proposed Community-Based Participatory Research (CBPR) project will study structural features of the urban built environment of East Harlem with particular attention to: (1) accessibility of parks and recreational areas (2) opportunities and spaces for physical activity (3) safety (4) neighborhood aesthetics and (5) accessibility to healthy foods. We plan additionally in East Harlem to examine children’s exposures to contemporary-use synthetic endocrine disruptors (EDs), chemicals that may alter endocrine function, in the built environment—phthalates and bisphenol A—as well as phytoestrogens. Recent national surveys conducted by the Centers for Disease Control and Prevention (CDC) found that residues of EDs are present almost universally in Americans, but that there exist significant disparities in body burdens by age, sex, race and ethnicity with highest levels found in children and in minorities. Sources of ED exposure appear to include diet, personal care products and plastics. We plan to assess children’s biological levels and environmental sources of ED exposure in the urban built environment of East Harlem, New York. This project will continue a tradition in our Center of strong partnership with the East Harlem community.

03325 An Overview of Nepal's Urban Health Scenario
Karki TK

Although urbanization is a recent phenomenon in Nepal, its growth rate is high. Today, the average annual urban growth rate is 6.65% and 3.28 million people or 14% of the national population lives in cities and towns. However, the growth and expansion of cities and towns in Nepal does not ensure a better environment for better health and well being of its urban citizens. The available but limited literatures on urban health reveal that sanitation has emerged as a severe problem in Nepal. Only about 50% of the urban population use toilets. Existing storm water drainage systems are inadequate and the towns located in the flat terrain face water logging problems due to less gradient. In Kathmandu Valley about 32 tons of waste goes uncollected every day. The municipal piped water supply exceeds 4800 coliform cell counts in 100 ml in all the towns of the Kathmandu Valley. The gasoline contributes 63% of the total emission of all pollutants. The health and quality of life of urban citizen has declined due to the lack of open spaces.

The prevalence of diarrhea, gastroenteritis, infectious hepatitis, typhoid, paratyphoid, cholera, bacillary dysentery, Amoebic dysentery, giardiasis, malaria and encephalitis in the towns of Nepal confirms the poor sanitation, drainage, waste management and the pathogen contamination of drinking water. Air pollution has started to affect urban citizens: a hospital-based study has shown that 37.8% of admissions were due to ARI and 32.1% of morbidity in infants, less than one year of age, is due to Acute Respiratory Infections (ARI) in Kathmandu Valley. On average, 36 cases of asthma cases per month were registered in a Kathmandu teaching hospital in 1994. The quality of basic urban services such as water, drainage, sanitation, sewage health awareness, provision of community open spaces, traffic
management, greenery and a planned city framework are the crucial elements of urban health enhancement plan for Nepal. Thus, integration of urban health and urban development policy is a must.

COMMUNITY-BASED PUBLIC HEALTH

06021 Delivering Children’s Services in an Urban Center: The Promise of Partnerships
Rogers G, Este D, and Lawson A

Background: During the past decade executive directors of children’s service organizations in many cities have formed several partnerships (“strategic alliances, consortiums or networks”) based on mostly good will and enthusiasm but with limited attention to the responsibilities, accountabilities and liabilities of each relationship. Nonprofit agencies are collaborating with each other as well with business and government. Sometimes they are encouraged but more recently they are demanded or artificially forced into existence. Funding is increasingly contingent on coming to the table with your “partners.” As a result, countless complicated relationships are created. Much time and potential are lost because of the lack of a firm conceptual foundation upon which to negotiate and build these partnership arrangements. Along with this trend toward partnering is the underlying assumption that partnering will contribute to providing seamless service delivery and operational efficiency, will ease fund development and demonstrate fiscal responsibility and lead to a reduction of program duplication. Do we really know what we are doing? Do partnerships really improve service delivery and lead to more efficient operation and better outcomes of children and family in urban centers? As part of a two-year federally funded study of partnership-making activity in children’s services in Calgary Canada, this paper presents the findings to date that contribute to making sense of partnerships in the delivery of children’s services in an urban setting. Calgary is a large metropolitan center in western Canada of close to one miling people.

Methods: Using a case study approach, the research is investigating partnership-making activities—how selected partnerships are created, maintained, and perceived by participants to better understand the practical experience of interorganizational collaboration by child serving organizations and to conceptualize the partnership process. A case study approach is preferred because researchers, service providers, and funders are only just beginning to understand what is involved in the creation of partnerships and to determine if they actually result in improved service delivery to children in urban settings. A purposeful sampling method is used to identify the organizations to ensure a number and range of partnerships could be accessed across three levels of intervention in children’s services. Lincoln and Guba’s (1985) case study format outlining the problem, context, issues and lessons learned for each partnership-making activity is being applied. The qualitative software tool AtlasTI is being used to aid data analysis. The analysis is both aggregated and particular, searching for the common patterns within and across cases, as well as noting any unusual factors that affect practice.

Results: Even though working together is second nature, the creation of partnerships is difficult, sometimes unsuccessful and painful, and always complex. When it works, it is a wonder. The results reveal the struggles and challenges of making partnerships within the children’s services in an urban setting as well as the reasons for success and sustainability. The results offer assistance to those who enter into partnerships by outlining the procedures best followed, the challenges that need to be negotiated carefully, and the pitfalls that should be avoided.

Implications: The study contributes to the limited existing empirical literature that analyzes the value and impact of partnerships in children’s services.

06033 Community Hospital Mentoring Collaboration for Internationally Trained Professionals
Silkowska-Masior B and Yardy G

Background: The international labor market has undergone enormous change over the last decade as technology and globalization have redefined the world of work. Today, in many countries, immigration is a key source of skilled labor and a vital tool for economic development. As such there is a recognized urgency to improve labor market entry of immigrants so that their skills can be fully utilized in the workplace.

Methods: Methods included the following: (1) Development and testing of the first of its kind mentoring program for internationally trained professionals in partnership with community service pro-
viders, (2) Engagement of the hospital in addressing of broad determinants of health (unemployment or underemployment of internationally trained professionals), (3) Formation of hospital and community advisory committees, and (4) Design and testing of training materials, matching, and evaluation.

Results: Participation of 8 community organizations and 12 hospital senior managers and directors occurred in roles as advisory teams. In addition, there was (1) Involvement of 22 hospital departments, (2) Creation of 60 mentoring partnerships with senior hospital management staff and internationally trained professionals, (3) Production of 2000 copies “How to” manual for implementation in a wide range of settings, and (4) Significant interest in adopting a model in other workplace settings including government, educational institutions and others.

Implications: (1) Skills of internationally trained professionals are being fully utilized through employment in their trained profession. (2) Transferability of the model through the manual beyond the health sector. (3) Increased awareness of participating staff regarding employment of internationally trained professionals.

06037 The Commonwealth in Hard Times: A Community-University Partnership to Improve the Life, Health and Social Functioning of Seven Edge-Communities in Baltimore City
Leach ML

The Baltimore City campus of the University of Maryland (UMB) includes the professional schools of medicine, dentistry, pharmacy, nursing, social work and law. Together with its affiliated hospitals and clinics UMB, which has been located in downtown Baltimore for nearly 200 years, is the second largest employer in Baltimore City. Nine years ago the university partnered with the city in Empower Baltimore, a $100 million project funded by HUD to improve social and economic conditions in seven edge neighborhoods around the City, four of which border the UMB campus, and all of which suffer from high rates of poverty, crime, disease, illiteracy, substandard and/or abandoned housing and unemployment. The university’s role in this partnership has been coordinated via the Community-University Partnership Council, (COPC) separately funded by HUD and based in the Office of the President of UMB. Through COPC’s auspices, and in response to jointly identified needs and opportunities, UMB is currently providing extensive health-related, legal, social and community organizational assistance in a wide variety of areas, including, for example, training community health workers to meet basic needs of residents suffering from diabetes and cardiovascular disease, identifying housing exploitation issues and training and supporting residents in dealing with these, and setting up and running a charter high school. Empower Baltimore funding will end in about 18 months, and budget challenges facing federal, state and local government, the university system and NGOs are raising questions about the medium- and long-term sustainability of COPC. With outside assistance, COPC has embarked on an extensive formative and summative evaluation of its achievements. This evaluation is in process. We would provide an interim report on progress, on what we have learned to date, and on how we anticipate going forward in the changed fiscal and political environment.

06061 Community Health Workers and Community Voices: Promoting Good Health
Ro M, Treadwell H, and Kularatne P

Background: Health promotion and the delivery of health services is evolving as urban populations have become more diverse. Although minority populations have historically been overrepresented in urban areas, there remains a dearth of successful strategies used to address the high burden of disease and lack of access to health care among these groups. Engaging community health workers (CHWs) in health promotion and health service delivery is increasingly being shown to be successful in reaching communities of color. This paper examines how CHWs can address the problem of health disparities and poor access to care in urban communities of color as demonstrated through the W.K. Kellogg Community Voices: Health Care for the Underserved Initiative.

Methods: This paper relates the work of the Community Voices learning laboratories, initially funded in 1998. Models of CHW programs and results of the CHW work are provided. The findings of this paper have been reviewed by the Community Voices project directors and CHWs whose work is represented.

Results: CHWs have been instrumental in linking individuals from underserved communities to health providers. Over the course of this five-year initiative, CHW programs were developed or tailored to provide outreach, health education, and limited health services to communities of color. Models and key elements of CHW programs will be presented in detail. Preliminary measures of impact (e.g. enrollment data) and changes to existing health care infrastructure (e.g. hiring policies) will also be presented.
Implications: CHWs provide direct links to underserved communities. They offer a unique, economically sound service. Policy recommendations will be provided.

06072 Developing a Communication Framework in Informal Sectors through Which to Send Health Messages
Cole BL and Shackert K

Background: This proposal seeks to engage historically disenfranchised communities, especially culturally and linguistically isolated populations in the Bronx, in available HIV/AIDS services. Due to isolation and non-acculturation, available services are often underutilized or not accessed.

Methods: The primary method for this program utilizes outreach workers who engage these specific target populations in Spanish, French, and several languages indigenous to West Africa spoken by many immigrants in the Bronx. This outreach will engage immigrant communities in their daily behaviors including their commerce, social and religious activities. Informal media, street outreach in parks, churches, mosques, ESL classes, sweatshops and businesses will be targeted. This project is a bottom up approach to reach potential clients in need.

Results: This program will engage immigrant populations in established and underutilized HIV/AIDS services and will result in increased enrollment in the services of the agencies in the Bronx community. Process evaluation will be used to determine which methods of outreach are most effective.

Implications: This program seeks to facilitate in the acculturation process by helping isolated immigrant populations who are especially at risk for contracting the HIV virus and does so in a manner culturally sensitive to the various stakeholder groups. New enrollments would be surveyed and logged for a real time quality control loop—methods that reach clients will be increased in number while methods that do not will be abandoned or modified. There are broad reaching implications for streamlining health messages into hard to reach marginalized populations. This program investigates the informal communication flows that exist in isolated communities in order that formal institutions can more readily access these channels for effective and quick response and collaboration for communicating important health messages. From this information about communication flows, a model can be made for future interventions.

06077 Working Together, Working for Health
Tomeldan D

The Asian Society for the Intervention of AIDS (ASIA) has developed an HIV/AIDS education and prevention program using cultural, indigenous, and religious forms, for Asian migrant, prostituted, and trafficked women. Our goal is to do participatory-action research with this community in order to include the voices of marginalized women in the development of an outreach program. ASIA is also working with a nongovernmental organization based in Manila, Philippines, the Women’s Education, Development, Productivity, and Research Organization (WEDPRO, Inc.). We are developing an understanding of the landscape and range of experiences of Asian women engaged in the sex trade. Vancouver is a destination location for many women who are trafficked from Asia. In return we will support WEDPRO to integrate HIV/AIDS prevention and education into their preexisting programs, which support women targeted for trafficking. We will develop a best practices model to decrease the spread of HIV and gain understanding of the conditions of vulnerability that include poverty reduction, issues of gender exploitation, and other relevant concerns. This paper will provide information about the project in its current stage. It will include information about recruitment and training of peer educators/researchers, outreach to massage parlors, interviews with women who board ships to provide sex, outreach to the Asian transgender community, and other activities the peer educators/researchers are doing. We will also discuss challenges and strategies to address the needs of women engaged in sex work, the forces that drive women into sex work, and the factors that heighten sex workers’ vulnerability to HIV infection.

06091 Asthma Center on Community, Environment and Social Stress (ACCESS): Community-Based Participatory Research in Boston’s Urban Communities
Thomas DM and Pilitch C

Increased asthma prevalence in both children and adults in urban areas is alarming and has been the focus of clinicians, public health officials and researchers during recent years. Asthma trends disproportionately affect nonwhite children living in urban areas and children living poverty. The overlap between social determinants and environmental factors (e.g., life stress, maternal smoking, indoor aller-
 gens, and air pollutants) possibly in combination with genetic factors are important to understanding the rising asthma burden in urban communities. This paper will report on the unique partnership between a “minority” serving institution, the Center for Community Health Education Research and Service, Inc. (CCHERS) “and a research” institution, Channing Laboratory at Brigham and Women’s Hospital & Harvard School of Public Health to conduct community-based participatory research on pediatric asthma. The partnership resulted in the creation and formation of the Center on Community, Environment, and Social Stress (ACCESS), which is one of five centers funded by National Heart, Lung, and Blood Institute to eliminate pediatric asthma disparities. ACCESS includes four research and two training aims implemented through Boston’ community health centers. A series of focus groups and surveys with health center providers and families will assess their perceptions about asthma etiology, disparities, and effective treatment strategies. Pregnant women will be recruited to help understand the interaction between the social, physical, environment, and genetic factors considered to influence immune development in early life. We will discuss the development of: the partnership, community relationships, preliminary findings, culturally competent research and training models, and an infrastructure for future research.

06101 Community-Based Research: Understanding a Multidisciplinary Approach to Addressing Urban Health Issues
Travers R and Narciso L

Background: Community-based research (CBR) has become a recognized tool for addressing urban health issues. CBR is premised on the principles of capacity building for community and academic partners, empowerment of communities through all stages of the research process and action outcomes and social change. Another central principle of CBR is the development of multidisciplinary, collaborative partnerships between community members, service providers and academic researchers to ensure that research is not only relevant but ethical and methodologically sound.

Methods: To identify barriers to and facilitating factors for CBR, we sought input from multiple stakeholders in Toronto, Canada, one of the world’s most culturally complex cities. The results of two environmental scans with representatives from the community, community-based health organizations and the academy constitute the basis of our findings.

Results: Our environmental scans found that challenges to conducting CBR include power differentials between academics, community researchers and community-based organizations, a lack of acknowledgement of diverse skill sets, inequitable access to research funding, communication barriers and mismatched priorities. Strategies for facilitating successful CBR partnerships identified by participants included building an understanding of the value of community-based research, active sharing of research priorities, effective transfer and uptake of research findings and equitable participation and sharing of respective knowledge, expertise and resources.

Implications: Addressing urban health problems has increasingly required multidisciplinary approaches. Our findings suggest that community-based processes can greatly assist urban health research teams in attaining their goals.

06104 Reducing Diabetes Risk Factors in Detroit: The Community-Level Intervention of the REACH Detroit Partnership
Kieffer E, Trice R, Guzman G, Spencer M, Palmisano G, Urban J, and Burkett M

Background: Numerous barriers to healthy lifestyles exist in low-resource urban environments. The REACH Detroit Partnership is a multilevel intervention that addresses diabetes and its risk factors in African American and Latino Detroit communities. REACH community and social support interventions (CLI) are designed to reduce barriers by engaging community members in planning, implementing and sustaining resources that support healthy eating, regular exercise and diabetes self-management.

Methods: Community meetings, interest surveys, host site guidelines and asset mapping guide activity design. The CLI is evaluated with case studies that include interviews with REACH staff, host organizations, activity leaders and participants to document roles, planning steps, barriers and strategies for ensuring success and sustainability. Maps, planning and attendance forms complement the qualitative data.

Results: Salsa, hustle and armchair aerobics classes, walking groups, community gardens, healthy Latino and Soul food demonstrations, produce minimarkets and diabetes support groups are being conducted in both communities, with good attendance. Case studies reveal that participation and sustainability increase when host organizations implement community interest surveys, and participate actively in planning and promoting activities, and identifying future leaders.
Implications: Community residents will participate in group activities that increase opportunities for healthy eating, regular exercise and diabetes self management if they are held in accessible and welcoming locations, and are affordable, enjoyable and provide social support. REACH staff are developing a train-the-trainers model for working with host agencies and activity leaders so that current and future activities can be sustained when external support is reduced.

06107 Planning for the Future of Mental Health: Challenges faced by Community Services Board Banks C and Houseman C

Background: Mental health is an important urban health issue. Approximately, one in five Americans experience a mental condition in the course of a year, and approximately 15 percent of all adults who have a mental condition also experience a co-occurring substance use disorder. Community Services Boards (CSB) are established in cities to oversee mental health services to vulnerable urban populations. With budget cuts continuing into the foreseeable future, accurate assessment, planning and evaluation of services are paramount to the quality of life in urban areas.

Methods: An assessment process was designed and utilized by an urban CSB to develop a strategic plan for the upcoming three years of service to their community. Data was gathered to determine if the CSB was fulfilling its mission to provide a system of mental health, mental retardation and substance abuse prevention, treatment, and rehabilitation services for the citizens of that city. The program was evaluated to determine if the services provided were meeting the needs of consumers, providers, CSB employees and the community. Qualitative and quantitative analysis was performed on data from surveys, face-to-face interviews and group forums.

Results: Information regarding gaps in services, barriers to services, and satisfaction levels were identified to inform the strategic plan.

Implications: The CSB is enabled to prioritize and reorganize areas for services to meet the needs of the community. Data is also available to support requests for increased CSB funding through both traditional and nontraditional approaches. Lessons learned can be applied to other urban CSBs.

06110 The REACH Detroit Project: Six-Month Findings from the Family Intervention Two Feathers J, James S, Sinco B, Anderson M, and Kieffer E

Background: The Family Intervention component of the REACH Detroit Project aims to improve blood glucose control of 175 individuals (100 Black, 75 Hispanic) with Type II diabetes by improving eating habits, daily physical activity, and diabetes self-management skills and behaviors.

Methods: Eight Family Health Advocates were recruited and trained to assist the 175 individuals, and their families, to integrate positive health habits into their daily lifestyles. Baseline questionnaire data were obtained on the following “client” variables: eating habits, physical activity, diabetes self-management, satisfaction with health care providers, etc. Clinical measures of hemoglobin A1C, body weight, blood pressure, cholesterol were also obtained. Follow-up questionnaires are administered at 6, 12, 18, and 24 months. Participants attended five healthy lifestyle curriculum meetings delivered by the Family Health Advocates. Qualitative data was collected to assess participant satisfaction and learning.

Results: The retention rate for the curriculum meetings was 80%. Participant feedback reflected high satisfaction with curriculum content, format and delivery of the meetings. At 6 months, there were statistically significant improvements in physical activity ($P = .0002$), vegetable consumption ($P = .0003$) and consumption of fruit flavored drinks ($P < .0001$). Daily self-monitoring of blood sugar increased significantly ($P = .0003$). No changes were observed in consumption of fried foods or whole grains/fiber.

Implications: A culturally tailored healthy lifestyle curriculum developed with community input may be important factors in participant satisfaction, behavioral change, and retention in diabetes lifestyle education programs.

06115 Developing the Role of Community Support Worker for the Urban Emergency Department Gaunt K, O’Neill J, Cass D, and Spence JM

Objective: To define user satisfaction with a Community Support Worker (CSW) role in the Emergency Department (ED). Background: Conservatively 15% of ED patients at St. Michael’s Hospital (SMH) are homeless or at high risk for homelessness. In response to our Hospital Community Advisory Panel (CAP) of the Homeless and Underhoused, the CSW role was created in March 2002. In collaboration with community partners (CPs) and the ED, the CSW mentors vulnerable populations through the Emergency Medical System, providing nondirective listening, food, community linkage, and advocacy.
The CSW sees 3500 clients annually. The current CSW was homeless. He brings a unique perspective to the role and develops an excellent rapport with clients who traditionally mistrust the system.

**Methods:** The CSW role was evaluated using a qualitative telephone survey. Five key CPs who refer the majority of homeless clients to SMH ED for care were contacted to determine the level of satisfaction with care with and without the CSW. Patient and ED staff surveys are underway.

**Preliminary Results:** All CPs described the level of satisfaction as “somewhat satisfied” with quality of care and communication without CSW involvement, and were “very satisfied” with CSW involvement. Increased compliance with the emergency discharge plans and a decrease in “left without being seen” rate was also noted. The CAP has also endorsed the role.

**Implications:** The CSW role has strong support from the community and improved quality of care and communication with CPs. Further evaluation is ongoing.

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**06120 The Development of an Inner-City Based Community Art and Economic Initiative for High Risk and Vulnerable Populations: The Creative Works Studio**

Fryszberg I and Grondin, M

**Background:** Creative Works Studio is a community art program developed by St Michael’s Hospital. Program clients have complex psychosocial and health needs such as: mental illnesses, homelessness, chronic diseases, social isolation and addictions. As a bridge to community integration it provides emotional support, counseling, and work opportunities. The Studio program uses art as a tool to develop a caring community, fostering economic development projects such as art exhibits that generate public awareness for mental health, social justice. Program goals include utilization of art to reduce stress, increase wellness, decrease hospitalizations and reduce isolation.

**Method:** Client intake assessment determines level of functioning and client centered goals. Program design is an open ended group for approximately 12–15 participants. The sessions include visual and breathing meditation techniques, as well as regular focused art instruction. Various artistic “mixed” modalities are utilized and adapted to each individual’s needs.

**Results:** Anecdotal feedback from clients as well as referring agencies indicate that program participants have increased self esteem, decreased chronic pain, have returned to meaningful employment and educational programs, and exhibited an overall decrease in hospital psychiatric readmissions. A formal program evaluation will provide outcome data promoting additional funding opportunities to secure and further expand programming.

**Implications:** Mental Health Reform and deinstitutionalization created an unrecognized need for innovative services and supports related to mental health and chronic health issues. The Creative Works Studio is an excellent example of an innovative program that supports and promotes wellness to this population.

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**06121 Health Professional Students Launch “I Speak” Campaign with Local Community**

Tam A, Shahid-Salles S, Laborico A, and Van Ischot I

**Background:** Title VI of the Civil Rights Act of 1964 requires medical providers who receive Federal funds to provide language assistance to limited English proficient (LEP) individuals in order to ensure equal access to services. This law affects an estimated 38,000 LEP residents in the District of Columbia. LEP individuals, especially recent immigrants, are unlikely to be familiar with Title VI and an assessment of local providers suggested low understanding and compliance. A team of health professional students collaborated with a Latino community clinic and a regional interpreters association to develop and implement the “ISpeak” campaign.

**Methods:** Strategies to educate both patients and providers about Title VI were formulated. A bilingual Spanish/English “I Speak” card was developed as a tool for LEP persons to 1) know their rights and 2) communicate their language needs. Presentation and resource materials were developed for providers.

**Results:** 170 of the 5000 “I Speak” cards produced were distributed at a community clinic and health fair. 45 community members were given education about Title VI. Community feedback indicates that the card is informative and useful. Provider feedback is pending.

**Implications:** Inadequate interpretation services can have serious health care consequences—delayed care, misunderstandings, and decreased patient satisfaction and compliance. The provision of language assistance in accordance with Title VI can minimize these consequences and diminish the disadvantages that LEP persons encounter. Provider presentations, assessments of patient utilization, and expansion of the campaign to include other languages are planned for the future.
06135 Identifying the Community Problem Solving Capacity for Addressing Youth Violence
Yonas MA, Burke JG, O’Campo P, Thomas A, Gielen AC, and McDonnell KA

**Introduction:** Youth violence in America has been called a public health epidemic—more destructive than motor vehicle crashes, polio, and AIDS. Despite widespread prevention efforts youth violence persists, particularly in urban settings. This analysis used qualitative research methods to explore how community leaders and young people characterize and collectively address youth violence.

**Methods:** Principle components analysis was used to identify high and low violence, low wealth neighborhoods and target neighborhood clusters that varied substantially in their experiences of violence. Qualitative interview techniques were used with community leaders to elicit meaningful and insightful information regarding community capacity and the influence of neighborhood level factors. Open-ended questions focused on exploring risk and protective neighborhood level and social dynamics. Focus group sessions with neighborhood youth further explored the problem solving capacity and the role of structural level factors.

**Results:** These results support the premise that neighborhoods with increased presence of community capacity productively addressed neighborhood violence through direct and indirect efforts. Additionally, community leaders and young people provided key insight into the dynamics and impact of neighborhood level factors such as vacant housing, illicit drug use and distribution, municipal services and religious centers.

**Conclusion:** The results of this investigation further highlight the significance of working closely and respectfully with neighborhood residents in identifying, understanding, and addressing collectively community public health issues such as youth violence.

06217 “Get Out Here and See What’s Going On”: Participator Research Bridges the Gap Between Program Design and Implementation
Kaufman L

**Background:** Health promotion program developers design interventions intended to improve health in our urban communities. But, when programs they design come to life—when nurses, caseworkers, and outreach staff implement them—a gap emerges. Even the best plans struggle when faced with community realities. Social, political, and cultural complexities hinder smooth project implementation. This paper argues that participatory research can address that gap between program design and implementation by representing programs against the backdrop of local realities, and developing collaborative solutions to improve them. Healthy Start Brooklyn (HSB), a federally funded program to improve perinatal and family health, has successfully employed participatory research to promote program sustainability.

**Methods:** The HSB research employs conventional methodologies of quantitative data collection and analysis. Researchers also use participatory and ethnographic methods to understand how the program actually unfolds. These methods attend to issues regarding work practices, client experiences, and community participation—issues that account for the disjuncture between program planning and implementation.

**Results:** HSB staff are at the front line of the program. Staff mediate program design and implementation, define the program to the community, and recruit and work with clients. Research reveals that staff also creatively interpret program guidelines: they provide services to participants for whom they do not collect data; they unilaterally expand the range of services offered to participants; and they make outreach and ongoing recruitment process. Initially, management perceived their actions as contrary to program goals. Yet, researchers found that staff use those strategies to help navigate a vulnerable population in underserved urban neighborhoods. Research also shows that many staff consider men outside the program’s purview, because they perceive that men neither understand nor fully participate in pregnancy, childbirth, and child rearing. Those perceptions represent commonly held notions in the community, but they also prevent the program from reaching its entire audience and goals.

**Implications:** Participatory research with HSB staff has led to innovative understandings that help bridge program design and implementation, and ensure program sustainability. It involves activities that are more demanding—and more politicized—than conventional evaluation methods. But, staff involvement in the HSB research and evaluation has encouraged a greater stake in program goals and expanded expertise and understanding among management, staff, and researchers alike.

06218 Gestational Diabetes Participatory Research Project
Walsh E and Graham H

**Background:** According to the WHO, women of Southeast Asian ancestry have a high incidence of GD and it increases when persons move from their developing country to a developed country. In
2001, 34% of The Scarborough Hospital’s (TSH) GD patients were from Sri Lanka. Almost 50% of women who have GD go on to develop diabetes within 5 to 10 years.

**Objectives:** To create opportunities for Tamil speaking women to identify and explore issues related to gestational diabetes (GD) and preventive postpartum care, and to support the development of an action plan to address these issues.

**Methods:** Using a participatory research process, Community Researchers, all Tamil women, carried out the project with TSH proving research coordination, facilitation and structural supports.

**Results:** There is a high degree of anxiety related to the lack of GD information. Women reported that the best information they received was the Tamil pamphlets developed for the Project (Gestational Diabetes Questions and Answers Part 1 and Part 2). They also prefer to receive information through informal peer supporting groups. The Tamil Eelam Society in partnership with some of the research participants, the Self-Help Resource Centre, the Diabetes Education Community Network of East Toronto and the Canadian Diabetes Association have agreed to develop peer support groups for Tamil speaking women who have / had gestational diabetes.

**Implications:** Current information networks (e.g. family physicians and diabetes education centers) do not work for this community. Tamil women prefer informal community led support networks. Hospital’s role includes community building as well as direct service.

06221 Realizing Community-Based Public Health Through Committed Partnership: The Harlem Children’s Zone Asthma Initiative

Ortiz B, Northridge M, Vaughan RD, Shoemaker K, Jean-Louis B, Hutchinson VE, and Nicholas SW

**Background:** Central Harlem has one of the highest burdens of pediatric asthma in the United States, and has the third highest pediatric hospitalization rate in New York City. In response to this crisis, The Harlem Children’s Zone, Inc. (HCZ, Inc.), the Department of Pediatrics at Harlem Hospital Center, and their partners, received core funding from the Robin Hood Foundation to implement the Harlem Children’s Zone Asthma Initiative (HCZAI), a population based intervention designed to improve the health of children with asthma enhanced primary care.

**Methods:** With the foundation laid by the Harlem Children’s Zone Project, a multiyear, comprehensive community building strategy of HCZ, Inc., a more comprehensive approach to asthma care is possible. A host of educational, social, and environmental programs were bolstered through additional partnership with Columbia University, the New York City Department of Health and Mental Hygiene, and the Brazelton Touchpoints Center.

**Results:** To date, 1304 children ages 0–12 years have been screened via a written questionnaire, 26% of which have asthma. Of the 328 children with asthma, 31% have a family member who smokes in their homes, 56% have been to an emergency room in the past year, and 25% have missed school in the last 14 days due to their asthma.

**Implications:** To ensure quality health care services to poor children with asthma, the HCZAI is dedicated to long-term interventions that supplement the private and public resources now available in Central Harlem to improve the health and lives of enrolled children and their families.

06231 Outreach: Targeting High Risk Women Through Community Partnerships

Barry K and Britt DW

**Background:** The problem of involving the most impoverished layer of minority women in the participation and maintenance of their own health has frustrated the medical community. Screening of cervical and breast cancer has been “underused” for more than ten years by those women at greatest risk. Despite efforts by community outreach professionals to create viable access to medical care, approximately 4,800 women die needlessly each year in the United States of cervical cancer.

**Methods:** To effectively involve impoverished minority women in their own health care, an essential first step is isolating those areas within a community at highest risk and mapping the structural characteristics that may impede health maintenance. Mapping creates essential data for the purpose of analyzing institutions and resources in order to build a portfolio of strategies. Risk mapping provides compelling graphic distributions of problems that must analyzed to create viable mechanisms for outreach.

**Results:** Methodological model for the purpose of community health planning.

**Implications:** The article presents a financial profile for seven patients diagnosed with invasive cervical cancer. The total hospital cost for these seven patients exceeded $ 1,000,000. The average cost per patient was $152,630. Using methodologies of mapping, institutional/structural analysis, and developing highly personalized trust building interaction within communities, the problem of involving
high risk women in their own health maintenance is more likely to occur saving health care resources and lives.

06250 A Model for Partnership in Health Promotion
Groves SL, Maguire MC, and Kusho-Reese K

Communities, health parishioners and universities working partnership hold promise for improving health and well being of urban populations. A goal of the Johns Hopkins University School of Nursing is to prepare nurses ready to meet the challenge of the twenty-first century. The program requires partnerships where students can learn and practice primary prevention and health promotion. A board member for the faith-based services was appointed for the newly opened school. However, they were unable to supply care as they had extremely limited funds. Since the university wanted clinical sites and the church-school needed health care, they formed a partnership to meet both needs in an inexpensive way. Together, they developed goals to provide a healthful school environment, identify and solve health problems, monitor immunization status, provide comprehensive age-appropriate health education, and improve access to primary care, particularly for children with chronic health problems and frequent absences. Nursing students and faculty from several different courses give care at the school, making progress in meeting the initial goals. Prevention strategies that target the entire community to meet new public health challenges like violence, substance abuse, and chronic disease have been implemented. The partnership utilizing shared resources has been highly successful and other communities might benefit from this type of partnership.

06268 Benefits of a Church-Sponsored Community Health Fair in an Urban Setting
Goodman J, Parker D, Hilton K, Beard H, Plichta SB, and Jones JE

Purpose: Minority populations often lack trust in traditional information sources and may have difficulty communicating with healthcare providers. Many minority community churches have assumed a primary role in promoting healthy behaviors. Community Health Fairs that provide free health screenings can identify preexisting conditions and make referrals for follow-up care. This study examined the health care needs of participants in a church-sponsored health fair, and the extent to which a community health fair can address those needs.

Method: A church-sponsored health fair consisting of booths providing information on a variety of topics and screening stations for blood pressure, glucose, cholesterol, sickle cell anemia, prostate cancer, and dental examinations was conducted at a rural church in Southern Virginia.

Results: 67 people attended the health fair with 59 completing the survey. Participants were predominately female (57%) and African-American (88%). Ages ranged from 18–84, and most possessed greater than a high school education. Of those screened, 64% had high blood pressure, 11% high blood glucose, 18% high cholesterol, and more than half were in need of urgent dental care. Over 20% of participants had a screening result that made them aware of a possible chronic health condition and were advised to seek follow-up care. A third of the participants witnessed that the fair provided health information they did not previously possess.

Conclusions: Findings support church-sponsored health fairs as a viable strategy to reach the medically underserved, especially communities that depend on the church to provide guidance in, among other things, their health information.

06291 Learning from Our Mistakes: Challenges to Community Based Environment and Health Intervention
Estrella-Luna N and Luna M

In Winter 2002, the authors were invited to participate in a collaborative environment and health outreach initiative in Wilmington, Delaware. The collaborators were a local social service agency, a federally qualified health center, and a research center at a nearby university. The goals reflected the interests of the collaborators and included determining the health status of residents in two low-income neighborhoods, increasing utilization of the health center, and increasing the awareness of health and environmental issues among the residents in these neighborhoods. The collaboration exhibited problematic qualities from the very beginning, which carried through the life of the project. These problems included lack of trust among the partners, lack of clear direction in goals and objectives, and absence of leadership. Personnel problems, insufficient institutional capacity, and an incomplete understanding
of the communities complicated the implementation of the initiative. Based on an informal process evaluation, previous experience, and a review of literature, we find that there are a number of lessons to be learned. These lessons include: know the target communities, determine the community budget, perform a capacity assessment on all collaborators, have clearly defined and delegated roles, and do not misrepresent or oversell the initiative to the community. While far from a failure, this initiative was not as effective as it could have been in its initial implementation. The experience of this project underscores the need for planning, capacity building, trust building, and a time allowance for a learning curve in community-based outreach initiatives.

06302 Implementing Health Strategies at the Community Level Using a Partnership Approach
Agarwal S

Background: The paper focuses on developing partnership models for improving key child health indicators in the slums of a mid-sized Indian city, the consultative learning process; and lessons learned. The program is presented with a multiplicity of stakeholders working independently, with little coordination, sometimes duplicating services and in most cases not serving the neediest. Slum visits and a series of 6 workshops with primary and secondary stakeholders were held over 2 months.

Results: The vulnerable populations were identified and geographically mapped. It was noted that increased utilization of existing health service delivery channels could be achieved by using grassroots organizations, who emerged as important stakeholders. A complement of skills, knowledge, experience, and reach between various service providers was also noted. The idea of partnering and alliances emerged. Possible models include, e.g., NGO-CBO partnerships, a Ward level core group model, and a city-level alliance of partners.

Implications: The process helped in understanding the capabilities and potential of organizations, as well as identifying champions for the program. The process facilitated: evolution of partnering arrangement; building ownership of program objectives; filtering out of opportunistic organizations more interested in funding that program objectives; a collective ownership among public and NGO sectors about the importance of targeting vulnerable slums and thus helped target resources optimally; both the program team and stakeholders to understand the issues from several viewpoints, and develop feasible and effective plans; capacity-building of primary and secondary stakeholders; establishment of a city-wide Urban Health Forum.

ASSESSMENT AND MEASUREMENT

07004 Reliability and Validity of Self-Reported Measures of Neighborhood Characteristics
Echeverria S, Diez-Roux A, and Link B

The majority of studies examining the relation between neighborhood environments and health have generally used census-based indicators to characterize neighborhoods. These studies have shown that neighborhood attributes are associated with a range of health outcomes. More recently, self-reported measures of neighborhood characteristics have also been found to predict health. However, these studies have not systematically reviewed the reliability and validity of self-reported measures and few have explicitly linked these to theoretically meaningful constructs that relate neighborhood characteristics to health. The purpose of this study was to estimate the reliability and validity of a questionnaire measuring various self-reported neighborhood characteristics. The study consisted of a face-to-face and telephone interview, administered twice to 48 participants over a two-week period. Interviews lasted less than 15 minutes. Subjects were recruited from a large public hospital setting in New York City serving a largely Latino and African-American population. The questionnaire tested five domains tapping into an underlying construct (aesthetic quality, walking/exercise environment, safety from crime, access to healthy foods, and social cohesion). Cronbach’s alpha ranged from .77 to .88 for scales representing these domains, with test-retest correlations ranging from .89 to .93. Additionally, neighborhood indices of recreational facilities, problems, and social participation were examined, with test-retest measures ranging from .62 to .94. The results from this study suggest that self-reported measures of neighborhood characteristics can be reliably measured. Moreover, this study provides researchers with a validated questionnaire that can aid in developing and testing hypotheses regarding the effect of neighborhood characteristics on the health of urban communities.
07034 Neighborhood Disorder and Depression: Multilevel Relationships at Three Levels of Aggregation
Curry AD and Latkin CA

Links between neighborhood disorder and depression have been demonstrated by several investigators. However, valid and reliable measurement of various aspects of neighborhood disorder, and the appropriate level of aggregation, e.g., census tracts or block groups, need to be studied in further detail. The present study aggregated individual-level responses to the Perception of Neighborhood Disorder Scale (Perkins, Meeks, & Taylor, 1992) at the census tract, census block group, and geographic cluster levels and used Generalizability Theory to assess reliability at each level of aggregation. Data were from 1,609 participants enrolled in the SHIELD study (Self-Help in Eliminating Life-Threatening Disease), a network-oriented HIV prevention study. Hierarchical linear models were used to assess the relationship between the clusters' mean and median perceptions of neighborhood disorder and individual depression, controlling for a range of social and demographic variables at the individual level. A geographic clustering procedure produced the highest aggregate reliability coefficient for neighborhood disorder, followed by block groups and census tracts. Neighborhood disorder was strongly related to depression using a hierarchical linear model at the geographic cluster and block group level of analysis, but not at the census tract level. With relatively large samples within a city, geographic clustering may provide neighborhood researchers with an alternative method of data aggregation for assessing "contextual" effects. This study provides further support for the notion that neighborhood disorder may impact mental health.

07067 The Effects of Urban Migration Patterns on Accuracy of Administrative Health Data: A Case Study of Toronto, Canada
Creatore MI, Glazier RH, and Agha MM

Background: Urban centers experience high population mobility. If mobility occurs differentially according to risk factors associated with outcomes of interest, and if health-related databases are not regularly updated, this may result in biased risk estimates. We investigated whether mobility in Toronto, Canada resulted in differential denominator misclassification by age, sex and income.

Methods: We calculated the difference between 1996 population derived from the Canada Census and the Ontario health care registry, containing all Toronto residents eligible for universal health insurance coverage and compared these differences by age, sex and income quintile based on Canada Census mean household income.

Results: 19% of residents had moved within a year, and 51% within 5 years of the census. Mobility increased as neighborhood income decreased. Relative to the Census, the health care registry overestimated the population differentially by neighborhood income (52% in the lowest, and 32% in the highest income quintile). The largest discrepancy existed for low income males (57%), compared to low income females (46%) or high income males (38%). Those aged 0–19 were the most overestimated population in all income quintiles, although particularly striking in the lowest income group (113%).

Implications: Given high levels of urban mobility, population health databases should be updated regularly. When using census denominators, there is a risk of significantly inflating utilization rates, particularly in low income areas and among young males. This may hinder recognition of a population with relatively low health services utilization and may be a missed opportunity for outreach and targeted service provision.

07075 Spatial Approaches Aiding Analysis in Urban Health
Gozdyra P, Boyle E, Creatore MI, Matheson FI, Steele LS, and Glazier RH

Background: Geographical methods are increasingly being applied in health research. For example, many characteristics of urban residents' health demonstrate strong geographic patterns in both outcomes and sociodemographic characteristics. Geographic Information Systems (GIS) tools are well suited for investigating such problems. Their functionality includes gathering, storing, manipulating, analyzing and display of spatially delineated data.

Methods: Spatial methods enable (1) data operations (transfers between geographic objects, spatial queries, weighting, smoothing, interpolation, overlays, modeling), (2) statistical analysis (spatial autocorrelations, spatial regressions) and (3) data display (thematic maps).

Results: Examples of applications of spatial methods to urban health research include the diffusion of infectious diseases such as tuberculosis or SARS, time-distance performance of emergency medical response services, the spatial distribution of exposure to harmful environmental factors such as air pollu-
tion and spatial patterns in physician visits and use of preventive services among urban minority groups. Spatial analyses can be used to examine different levels of aggregation (such as census geographical areas) and to calculate distances between locations (such as patients and clinics). Clustering effects in exposures and/or outcomes are often ignored in urban health research but can result in biased estimates of association if not recognized and controlled for. Mapping can help to identify areas of greatest need.

**Implications:** Application of spatial approaches to urban health research can lead to a better understanding of geographic determinants of disease exposures, availability of health services, and health outcomes. These methods can also strengthen statistical models, increase interpretability of results, and improve planning and delivery of health services.

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**07167 Zip Code-Level Characteristics Related to Individuals’ Testing for HIV**
Taylor SL, Leibowitz A, and Simon P

**Background:** Geographic variations in health service utilization among persons with HIV are common. However, only two US-based analyses have examined geographic variations in utilization of HIV tests, and neither explored regional characteristics to address that variation.

**Methods:** This paper examines whether persons’ residential ZIP codes are related to their HIV testing and, if so, what ZIP code characteristics explain that variation. It uses a 1999 random sample of adults in LA County—a widely diverse area having the second largest number of AIDS cases nationally. A multilevel analysis was conducted using MLwiN on the full sample and the subset of ZIP codes containing higher proportions of persons with risky sexual behaviors.

**Results:** Individuals’ probabilities of testing for HIV varied across ZIP codes. Controlling for individuals’ characteristics, a ZIP code’s number of AIDS cases, number of testing sites, and four other ZIP code characteristics explained that variation when examined separately. However, examining ZIP-level factors simultaneously, only ZIP codes’ racial/ethnic composition and percent of married persons explained the geographic variation in testing, in both the entire sample and the risky subsample. Regardless of a person’s characteristics, if that person lived in a ZIP code containing predominately African Americans or single persons, they were less likely to test for HIV.

**Implications:** Determining regional variations in HIV testing and any related community characteristics is important for prevention planners because it allows their efforts to be targeted at communities that reduce an individual’s probability of testing.

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**07187 Challenges of Combining Multiple Data Sources and Analytic Techniques to Investigate Integration of HIV and Mental Health Care in a Statewide Methadone Maintenance Treatment System**
Erkal G, Walkup J, Wade E, Pomerantz R, Moore K, Davis T, and Watras L

**Background:** Prior work using New Jersey Medicaid claims has found that 5.7 percent of those with HIV/AIDS are diagnosed with schizophrenia, with cases concentrated in the Newark and Trenton areas. Surprisingly, patients with schizophrenia appear to achieve comparatively high rates of antiretroviral persistence. They may benefit from care provision by several service systems, although the prevailing model predicts they should receive fragmented care. Since injection drug use implicated in the infection of 77.4 percent of those with schizophrenia, it is important to explore the methadone maintenance treatment (MMT) sector’s contribution to the care of patients with HIV/AIDS and severe mental illness.

**Methods:** Data gathering includes: a policy history based on documents and interviews, site visits to approximately two fifths of the agencies in the state, a focus group of agency directors, profiles of site ecology using census data, and a statewide survey of all treatment sites. Analytic techniques include: coding and development of a rating scale for qualitative data, qualitative comparative analysis, a nonstatistical technique base on set theory (Ragin, 1987, 2001), and planned multivariate modeling of survey results.

**Results:** Integration of findings must combine (1) assessment of a given characteristic using more than one technique or source to assure findings are robust; (2) use of one technique or source to generate hypotheses testable only with another; (3) use of one technique or source to investigate areas not accessible to others.

**Implications:** Combination of multiple methods and sources is a viable, if challenging, option for the study of MMT response.
07213 Urban Public Housing Quality and Health Symptom Index Scores
Welker-Hood LK and Hynes HP

Asthma prevalence is increasing dramatically in low income, urban populations. This has spurred research exploring the relationship between health and environmental housing conditions common in deteriorating housing. Little of this research has been directed towards public housing residents who are among the most at risk for residing in unhealthy housing. Exposures that have been implicated in contributing to asthma exacerbation are cockroach and mouse infestation, dampness and mold, decreased ventilation and environmental tobacco smoke. This study employed a cross-sectional survey to assess the self-reported prevalence of respiratory and allergic diseases and symptoms and environmental conditions in two Boston public housing developments. Factor analysis identified exposures and symptoms that could be reduced into new composite indices. Symptom index scores for groups reporting presence or absence of pest infestation, poor ventilation and moisture and mold exposures were compared. Separate allergy and asthma symptom index scores were elevated for those reporting exposures to tobacco smoke, poor apartment ventilation and mice, \( P = 0.05 \). Asthma symptom index scores were elevated among those exposed to mold and moisture in their apartment (\( P = 0.05 \) and \( P < 0.001 \)). Sick building symptom index scores were higher for those exposed to poor ventilation, mold and cockroaches in their apartment and mice in the building, \( P = 0.05 \). This study is one of the few that documents the prevalence of asthma and housing exposures for public housing residents in the United States. Summarizing symptoms into indices, instead of looking at individual symptoms, improved the ability to detect physical determinants that can negatively impact health.

07242 Dengue Seroprevalence in Belo Horizonte City: Detecting Participation Bias Through Spatial Analysis Methods for Small-Area Studies
Pessanha JEM, DiLorenzo C, Costa M, Morais MHF, Leite APN, Santos FJR, Paiva EG, Torta JR, Pena AAC, Soares MG, Bessa AMS, Cunha MCM, Veloso IF, Brandão ST, Kroon EG, Caiaffa WT, and Proietti FA,

Background: Nonparticipation is a common problem in surveys. Epidemiologists usually compare participants and nonparticipants in demographic and other characteristics available, without considering neighborhood or small-area features. We analyzed participants and nonparticipants in a population based study to determine the magnitude of the dengue epidemic in Belo Horizonte City.

Methods: We obtained a two stage cluster random sample (house (\( n = 1017 \)) followed by house inhabitants), from 3 of the 9 BH City Health Department District. We geocoded all houses and compared the spatial distribution using K function. We also compared the age of participants and no participants.

Results: The refuses percentages were differential among the 3 districts. Younger people under 19 were less likely to participate. We did not find significant difference comparing the participants and nonparticipants houses spatial distribution.

Implications: We believe that population based surveys when conducted in spatially diverse urban areas, should consider to compare the spatial distribution of the study population in order to detect clusters of nonparticipants, that may introduce bias otherwise not detected.

07303 Health Vulnerability Assessment: A Method for Identifying Vulnerable Populations and Targeting Interventions
Agarwal S and Taneja S

The paper describes a suggested approach to assessing health vulnerability among the urban poor in an Indian City.

Between 40%–60% of the Indian population is currently living in slums where they often lack even the most basic health and infrastructure services. Information on maternal and child health indicators among slum dwellers reveals that their health is 2–3 times worse than “average” urban statistics indicate. It is estimates that agencies are only reaching about 30% of the urban poor, and those reached belong to the comparatively “better off” slums. All slums were identified and mapped; criteria were developed for assessing vulnerability; a mechanism for ranking vulnerable slums on a scale of increasing deprivation emerged.

Results: Illness is one of the most powerful forces pushing low income households into poverty. Key factors which intensify health vulnerability include: economic conditions; social conditions; living environment; access and usage of public health services; health status and disease incidence; collective organized community effort. Of a total of 539 slum locations, 156 were assessed as vulnerable. These
were often further categorized into three groups: extremely vulnerable, moderately vulnerable, and marginally vulnerable.

**Implications:** The assessment technique has emerged as a valuable tool for targeting efforts and resources. The extremely and moderately vulnerable slums will be the focus of EHP’s interventions. The assessment process involved capacity-building of primary and secondary stakeholders; helped to identify champions; and built ownership of program objectives, which should impact positively on project sustainability.

### INFECTIOUS DISEASES

**08006 Developing Curriculum for HIV Interventions in Jail-Based Settings**
Daniels J, Casado J, Aledort N, and Melly J

**Background:** Jails present an important opportunity to reach populations not reached through other public health programs. Health concerns in jail are public health concerns because most of those incarcerated return to their communities within a few weeks of arrest. Between 1993 and 1998, the number of adolescents being held in jail as adults doubled. Young men in jail have higher rates of STIs than comparable nonjailed populations and between adolescence and the early adult years both HIV infection and drug use increase significantly among the incarcerated, demonstrating the need for preventive intervention. Recent serosurveys show that an increasing number of men of color who report sex with other men have high rates of HIV infection and a significant number of the men who have HIV infection (42% of African-Americans and more than 30% of Hispanics) report a history of incarceration.

**Methods:** Men’s Jail Health Awareness Project (MJHA) and Short-Term Adolescent Intervention (STAI) address the HIV epidemic in jail-based settings; they target specific populations within Rikers Island. MJHA focuses on men who have sex with men (MSM) and STAI on adolescents; both serve primarily African-American and Latino clients.

**Results:** HIV prevention intervention curriculum for use in jail-based settings.

**Implications:** (1) the institutional barriers and benefits to interventions in jail settings; (2) the fluid process of piloting and revision, and (3) the implications for research design.

**08008 The Canadian Community-Based Response to HIV in Urban Settings**
Chapman A and Alexandrova A

**Background:** The Canadian AIDS Society (CAS) is a national coalition of more than 100 community-based AIDS organizations across Canada. Since 1986, CAS has served as the national voice for the community-based AIDS movement. CAS advocates on behalf of communities affected by HIV/AIDS, develops programs, services and resources for its member organizations, and provides a national framework for community-based participation in Canada’s response to AIDS.

**Methods/Results:** The paper presents and discusses an evaluated and successful community-based model for HIV prevention, care and management in urban settings. The CAS model has conducted a variety of successful activities targeting affected populations in urban areas of Canada, including: putting housing issues on the public agenda as a health issue for people living with HIV; building a harm reduction approach to respond to barebacking and gay men’s sexual health; building a Harm Reduction approach to substance use and exploring the feasibility of safe injection sites in Canadian cities. This model has also been successfully replicated in Minsk, Belarus.

**Implications:** By promoting a multisectoral approach, this model has facilitated networking, communication and collaboration between public and private sectors. The community and affected populations have had a strong voice in the issues affecting them. The model also ensures that successful models of urban health practices are shared and promoted between different urban centers across Canada and internationally.

**08013 The New Epidemic: The Misconception of AIDS in Harlem**
Harris AC

In the year 2000 blacks made up almost half of all reported AIDS cases in the US, and Hispanics made up almost one-fifth of all reported AIDS cases in the US. Although AIDS has taken its toll on
communities of color, it is not the community’s only health concern. Black men have the highest rates of cancer than any other group and blacks, both men and women, are more likely to die from cancer than any other racial/ethnic group. Thirteen percent of all blacks and 10% of all Hispanics in the US have diabetes. Blacks also have the highest rates of infant mortality than any other racial/ethnic group in the country. However, it was hypothesized that due to the stigma surrounding AIDS, people who live in communities of color will believe that AIDS is just as serious, if not more so, than cancer, diabetes, and infant mortality. In addition, race, education, age, religiosity, and political views will influence this view.

This paper uses a survey administered in 2002 around Harlem, a predominately black and Hispanic section of New York City. It was found that people did feel that AIDS was just as serious if not more so than cancer, diabetes, and infant mortality, however, race, education, age, religiosity, and political views did not play a statically significant role. The results show that more research needs to be conducted as to why respondents perceive AIDS to be just as serious if not more so than other serious diseases/incidents in their community.

08080 Elevated Rates of Antiretroviral Treatment Discontinuation Among HIV-Infected Injection Drug Users: Implications for Urban Health
Wood E, Montaner JSG, Braitstein P, Yip B, Schecter MT, O'Shaughnessy MV, and Hogg RS

Background: The benefits of highly active antiretroviral therapy (HAART) for the treatment of HIV disease are well documented, although concerns regarding access to and adherence to HAART among injection drug users are of growing concern.

Methods: We evaluated all antiretroviral naive HIV-infected men and women who initiated HAART between August 1, 1996 and July 31, 2000, and who were followed until March 31, 2002 in a province-wide HIV treatment program that delivers antiretroviral therapy and AIDS care free of charge. We evaluated time to the first HAART discontinuation greater than 3 months using Kaplan-Meier methods and Cox proportional hazards regression.

Results: Overall, 1422 patients initiated HAART among whom 359 (25.3%) were injection drug users (IDU). At 12 months after the initiation of HAART, 30.3% of non-IDU versus 42.5% of IDU had discontinued HAART (P < 0.001). In Cox analyses, history of injection drug use was associated with more rapid discontinuation of therapy in univariate (Relative Hazard [RH]: 1.5 [95% CI: 1.3–1.8]) and adjusted (RH: 1.4 [95% CI: 1.2–1.7]) analyses.

Implications: Unless substantial changes are made to the HIV/AIDS care delivery systems, including a substantial increase in the provision of drug treatment programs and revision of drug policies that create barriers to healthcare, in urban areas of high HIV prevalence among IDU, healthcare services for persons with HIV may soon be overwhelmed by high levels of morbidity and mortality among patients infected with HIV through injection drug use.

08122 Tuberculosis (TB) Exposure in a High-Risk Inner-City Family Practice Setting: The Development of Policy and Guidelines to Address Risk Management and Quality Improvement
Cornelson B, Grondin M, and Chow K

Background: With relatively large HIV, homeless, and immigrant populations, the Family Practice teaching clinics of St. Michael’s Hospital see many clients who are at greater risk of acquiring TB or of activating latent TB infection. A client with undiagnosed active TB may inadvertently infect many other clients. We developed and implemented a Tuberculosis Management Policy, Procedure, and Guideline specific to Family Practice post assessment of an active tuberculosis index case.

Methods: Two hundred and two charts were reviewed of clients exposed to a TB index case. Seventy seven clients were identified to be higher risk based on risk stratification criteria utilizing the Canadian Tuberculosis Standards.

Results: All 77 clients were contacted and 66 were available for assessment. A large percentage did not have a baseline Tuberculin skin test documented. In response to further follow up a Department wide quality improvement project was initiated and will take place over 3 months to reevaluate tuberculosis management and follow-up.

Implications: Policies, procedures, and guidelines developed for Family Practice can enable ambulatory clinics to minimize the risk to their clients of TB infection at their work place and reduce the workload of contact tracing should such exposure occur.
08191 Early Warning System for West Nile Virus Activity
Hartman JJ, Mostashari F, and Kulldorff M

Background: An early warning system for West Nile (WN) virus outbreaks could provide a basis for targeted public education and surveillance activities, and timelier larval and/or adult mosquito control. We will present an adaptation of the spatial scan statistic (SaTScan) for prospective infectious disease outbreak detection using dead bird reports in real space and evaluate its effectiveness in detecting areas of human risk.

Methods: As part of an unparalleled arboviral surveillance program, the New York City Department of Health and Mental Hygiene (NYCDOHMH) has been collecting dead bird reports since 2000. We have utilized the SaTScan software program to detect small area clustering of dead bird reports in real space above expected levels, accounting for spatial variability in reporting attributable to the heterogeneous urban landscape (i.e. background bird population, human population density, and community propensity to report dead birds). Positive mosquitoes, positive dead birds, and prospective dead bird cluster analyses for three years are evaluated and their sensitivity, specificity, and timeliness in detecting areas of high human risk for WN virus compared using Receiver Operating Characteristic (ROC) and Activity Monitor Operating Characteristic (AMOC) curves.

Implications: Prospective geographical cluster analysis of dead bird reports may provide early warning of increasing viral activity among birds and mosquitoes, allowing jurisdictions to triage scarce bird and mosquito collection and laboratory resources and more effectively prevent human disease caused by the WN virus. This adaptation of the scan statistic could also have utility in other infectious disease surveillance systems, including bioterrorism.

08211 Measuring Baseline Tuberculosis Knowledge in an At-Risk Population
Ilongo I

It is important for urban health professionals to be able to measure baseline tuberculosis (TB) knowledge of an at-risk population, both for TB infection and disease screening, in addition to investigating TB cases. However, baseline measurements cannot be conducted when TB researchers and clinicians do not have comprehensive, reliable and valid instruments for such endeavors, regardless of their settings. It is important to have a sound understanding regarding the general population, the at-risk population, and suspected TB cases, as well as full-blown TB cases’ knowledge about Mycobacterium Tuberculosis infection and disease. This is necessary to effectively target health promotion efforts, health education, control measures, and prevention and treatment efforts throughout the community at large.

The focus of this presentation is to describe a comprehensive survey instrument developed and piloted tested to measure TB knowledge in at least six domains, namely: TB transmission, characteristics of the person, signs and symptoms, causes, prevention, treatment, medical diagnosis, adherence, multidrug resistance, and treatment. The aforementioned constructs’ domains capture all key areas of tuberculosis infection and disease. The benefits of using this instrument will be explained as well as reliability coefficients obtain from the six constructs areas. Suggestions for refining the instrument will also be discussed. Finally, suggestions for using this research tool to promote urban health will be explored.

08230 Tearoom Trade Revisited: Ethical Problems of Research into HIV Prevention Outreached Among Men in the United States.
Johnson MD

Despite thirty years of a political movement championing the greater public visibility and acceptance of queer people, the ethical practice of social research into homosexual behavior in the United States, particularly with regard to HIV/AIDS, is characterized by a degree of confidentiality which many who are the subjects of that research might themselves regard as a relic from an earlier historical period. While it is indeed better to err on the side of caution in disclosing information about “sensitive populations,” a social science research, as well as rendering the aims and practices of that research inscrutable to its subjects, seems counterproductive. How do we build sufficient protections for “sensitive populations” into our research apparatus without forsaking research on those populations as an enterprise? This paper examines the ethics of research among gay- and bisexual- identified male HIV prevention outreach workers in metropolitan New York. Assuming the reticence of these men to speak to issues of the behavioral sciences frequently does, has the paradoxical effect of highlighting their relatively marginal social position as well as unduly dramatizing the invasive quality of the research being undertaken. To compel our informants to undue discretion when that is not what they choose for themselves seems tone to contribute to a continued stigmatization of homosexual behavior and identity as well as HIV-seropositive status by social science research institutions.
Background: The HIV/AIDS epidemic started approximately between 1987 and 1994 in Russia and the Ukraine, at a time when Western Europe had more than 15 times the number of cases and sub-Saharan Africa over 400 times. This marked the nascent period of the epidemic. Since 1995, urban areas of the Ukraine and Russia have become the epicenter of the HIV infection. The rate of increase in HIV incidence in these cities has become among the highest in the world. Between 1995 and 2001, the prevalence of HIV among IDU increased from approximately 1.5% to 50% in Odessa and other cities, and increased an additional 30% more six months later. Ukraine and Russia have the greatest prevalence of HIV, with the male–female ratio increasing from 4:1 in the mid-1990s to 2:1 in 2001.

Objectives: This study examines the following: (1) the social and economic risk factors of urban areas in the Ukraine and Russia that have precipitated the increase of HIV; (2) the relationship of these risk factors to changes in the mode of transmission from adolescent and young adult IDUs to heterosexual contact in the general population; and (3) compares the crisis of Russian and Ukrainian cities in meeting the political, economic, and cultural demands placed on the health care delivery system by the HIV pandemic.

Methods: Russian cities of Kaliningrad and Moscow are compared to the Ukrainian cities of Odessa and Kiev by social, economic, and epidemiologic indicators. In each city, prevalence rates of HIV/AIDS are related to these risk factors through the application of sentinel surveys to both adolescents and adults. Sentinel surveillance was conducted once annually in 2000 and 2001, in addition to laboratory testing. HIV/AIDS status was detected by the HIV-AB in standard ELISA and Rapid-DOT ELISA tests, and confirmed with final Western Blot.

Results: HIV positive respondents were between 19 and 39 years of age, jobless (77%), and either single or divorced (61%). About one-fifth reported multiple sex partners in the past 3 months, frequently with unknown partners (37%). One third had extramarital contacts with group sex among 5% of the men and 7% of the women. Use of condoms was reported by 55% of men and 76% of women, as a measure for HIV/STDs prevention. Early age (14–16 years) of first sexual experience was marked among two-thirds of both genders. About one-half of men and one quarter of women reported drug abuse, including Intravenous Drugs Use (IDU). Nearly 1% of pregnant women were HIV positive. Results obtained with the use of the Sentinel Survey were at least twice as high than those obtained by official government methods. Social factors among pregnant respondents differed: 70% were married, 30% were “free” in their sexual contacts. Unprotected sex within marriages was present in one-third of sexually active women, including extramarital sex and multiple partners.

Implications: The general social risk factors for HIV infection were similar in Russian and Ukrainian cities. These included unemployment and sexual trafficking, homelessness, alcohol and drug abuse, changing sexual mores among the urban young, migration from rural to urban areas, international migration for jobs, and growing regional and urban economic inequalities following social disorganization during the transition period. Adolescents and women in the general population are the possible “bridge” for the HIV transmission from HIV/AIDS risk groups (TB, IDU, prostitution, NSM) into wider society (heterosexual contact). The major tasks for addressing the HIV/AIDS pandemic in the Ukraine and Russia include: (1) a more accurate nonpunitive surveillance system, insuring confidentiality of testing results, (2) developing and educational strategy directed at adolescents, and (3) increasing GNP allocations to provide pharmaceutical antiretroviral treatment and to develop HIV/AIDS health clinics.

Background: It is well known that individuals with HIV are living longer, healthier lives due to advances in medical care and treatment. As a result, lives are being reevaluated and a return to the workforce is being emphasized. Meeting this demand, especially for poor urban HIV positive individuals, requires a comprehensive approach to Adult Basic Education (ABE) as a vehicle to improve skills, enhance communication, reduce risk and strengthen self confidence.

Method: Adult Basic Education classes are offered in the clinic one day per week for four hours to a group of six committed HIV positive patients. Participants complete a standardized educational assessment that evaluates reading, math and language levels. Participants are tested on course work every three weeks and are reassessed using the standardized test biannually.

Results: The group comprises 3 men and 3 women, Hispanic, African American, average age 46
with unemployment and public housing as common denominators. Ninth grade is the average highest
grade completed. The initial assessment scores indicate an average seventh grade reading level (7.3),
third grade math level (3.9), and third grade language level (3.8). The first test revealed a mean score
of 87.5% (B) for Math, English and Writing combined while the second test score average dropped by
23% to 65% (D). Qualitatively, students demonstrate an understanding of concepts and are able to
apply them in class.

Implications: Despite the many physical and social barriers facing people with HIV, Adult Basic
Education has instilled hope and empowered patients to better their lives.

Implications: Despite the many physical and social barriers facing people with HIV, Adult Basic
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08289 Falling Through the Cracks of the Big Cities: Who is Meeting the Needs of Young
People with HIV?
Flicker S, Goldberg E, Skinner H, McClelland A, Read S, and Veinot T

Background: Half of all new HIV infections occur among young people. As of June 30, 2002,
more than 13,000 youth and young adults were documented to be living with HIV in Canada. Most of
these cases are concentrated in urban areas. Despite this alarming growth, there is a profound lack of
resources for HIV-positive youth in Canadian urban centers.

Methods: The Positive Youth Project uses a community-based participatory research model to ad-
dress the needs of positive youth in Canada. A stakeholder group of HIV+ youth and supporting profes-
sionals collaboratively developed the research design, instruments and protocol. Forty key informant
interviews were conducted with a broad spectrum of HIV+ youth in Ontario. Interviews were taped and
transcribed. A grounded theory interpretive approach guided analyses. Data were coded using Nudist
qualitative software. The stakeholder group met regularly to go over themes emerging from the data
and discuss their meaning, relevance and implications.

Results: Youth identified feelings of isolation, loneliness and hopelessness. They described social
and structural barriers to their full participation in society and had difficulty accessing appropriate
support services. Young people interviewed had very mixed feelings about both youth- and AIDS-serving
organizations.

Implications: New models of collaboration between youth and AIDS serving organizations in ur-
ban areas are desperately needed. Better supporting the needs of HIV-positive young people may prove
to be an effective model for preventing the further spread of HIV in the long run.

POLICY AND URBAN HEALTH FRAMEWORKS

10060 Local Level Data Informs Public Health Policies and Interventions
Shah AM, Williams CL, Silva A, and Whitman S

Background: The lack of local community level data hinders the development of effective strategies
to enhance the health of vulnerable populations, particularly in racially/ethnically diverse urban settings.
Current public health practices and planning are made based on existing data from vital statistics and
birth and death certificates. Such data does not accurately reflect a community’s health profile, nor does
it provide information on risk factors and health behaviors that a locally designed health survey could.

Methods: We collaborated with several local agencies to develop a culturally sensitive and relevant
community survey. This face-to-face health survey was conducted in 1700 randomly selected households
of six racially/ ethnically diverse communities in Chicago. The primary purpose was to inform and guide
local efforts at improving health in some of Chicago’s most marginalized communities.

Results: Results for the six highly segregated community areas demonstrate sharp disparities among
Blacks, Whites, Mexicans, and Puerto Ricans on almost every indicator of health and well-being. Find-
ings show large disparities exist within racial/ethnic groups. There are also substantial differences with
national and even Chicago-specific data. For example, smoking rates in some of these six communities
are almost twice Chicago values as are estimates of self-rated health, pediatric asthma, obesity, depres-
sion, etc.

Implications: Local level data suggest that national or even citywide figures may underestimate
prevalence rates and disguise the health needs of some urban communities. When shared with communi-
ties and local agencies, such data will begin to foster community development; effective health planning;
and resource allocations for overall improved health outcomes.
10078 Political Will: Implementing a Policy Advocacy Strategy to Remove Barriers to Re-Entry for People Returning to Harlem from Jail and Prison.
Ritas C, and members of the Harlem Urban Research Center’s Policy Work Group

Each year more than 80,000 people return from jail or prison to New York City communities, with Harlem receiving a disproportionately high share. Individuals returning to NYC after incarceration face numerous policy and institutional barriers to successful re-entry, including a lack of access to healthcare coupled with high rates of disease and substance abuse. In addition, due to the sheer volume of NYC residents involved in the criminal justice system, only a policy level intervention can create change on a scale that will significantly impact a whole community. Criminal justice policies are highly politicized and morally charged, requiring sophisticated change strategies.

We propose to: (1) Outline the impact of involvement in the criminal justice system on the health and well-being of Harlem. (2) Lay out several policy recommendations to improve success in re-entry. (3) Describe the policy change strategies implemented by the Harlem Urban Research Center. By engaging in a community-institutional partnership, we were able to develop strong scientific- and constituent-based arguments for change that are sensitive to the current political climate (i.e., increasing security, a weak economy, a strong executive branch, and an emerging criminal justice reform movement). While the effects of policy change strategies are often difficult to ascertain, we have seen a significant increase in interest and action on the part of city government on the issue of re-entry.

10123 The Development and Implementation of an Infection Control Policy during a Severe Acute Respiratory Syndrome (SARS) Outbreak in an Inner-City Health Family Practice Setting
Chow K, Grondin M, and Malone L

**Background:** Cases of Severe Acute Respiratory Syndrome (SARS) have been reported by the World Health Organization. In response we have developed a SARS Infection Control Management Guideline that is specific to our Inner-city family practice teaching clinics. During the initial outbreak, many hospitals were closed to new admissions. Our Family Practice sites remained open due to their community locations. All other Family Practice teaching units were closed in the inner city.

**Methods:** Utilization of the Ontario SARS Provincial Operations Center (POC) Directives for Acute Care Hospitals and Community Health Centers was reviewed and modified specifically to the Family Practice environment. Telephone and ambulatory SARS screening algorithms and guidelines were developed and implemented with clinical and nonclinical staff through ongoing communication and education. As the SARS outbreak evolved, changes regarding Infection Control practices were communicated and documented on a daily basis.

**Results:** The development of a SARS Infection Control Policy/Guideline that is specific to the Family Practice environment gave staff a sense of clarity and control with respect to SARS infectious disease management. To date no staff within the Department of Family and Community Medicine has been quarantined.

**Implications:** Infectious Disease Guidelines must be adaptive and dynamic depending on the environment and the course of the disease. The development of specific guidelines in a Family Practice setting can minimize the risk of contact, exposure, and transmission of SARS.

10131 Creating a Trans-Urban Learning Community: The US/UK Dialogue on Eliminating Health Inequities in Post De-Industrial Regions
Thompson KS

**Background:** Health inequities have long been a major concern in the UK and have become so, more recently, in the US. These inequities are particularly marked in post-de-industrialized cities. Despite their differences, these cities are linked by a common history, by similarities in ecology and social organization and by an uncertain future. Assuming that there was something to share of value, a “US/UK Dialogue on Eliminating Health Inequities in Post De-Industrial Regions” has been initiated. The goal is to create a trans-urban “learning community” linking local communities of practice to examine these inequities, translate social and public health policy and health service and community responses and develop joint actions. The role of university/community partnerships is a critical focus. The dialogue builds on trans-urban business, university and government networks already connecting Pittsburgh and post-de-industrial cities in the UK.

**Methods:** Using University funds intended to foster international collaboration we were able to bring together local networks focused on health inequities from communities and universities in Pittsburgh, Glasgow, Edinburgh, and Newcastle-upon-Tyne. Utilizing “high engagement” facilitation tech-
niques we fostered active exchange, learning and on going connection. A website and an email list have facilitated continued interaction.

**Results:** Active dialogue has begun and principles to guide further action have been defined. Future exchanges are planned and joint writing, research and action projects are underway.

**Implications:** Post de-industrial cities around the world share the problem of health inequities. Building a trans-urban learning community to address the issue is both possible and worthwhile.

10183 Transposing Urban Health Knowledge into Decision-Making: Conceptualizing, Measuring and Diagnosing for Policy
Levesque JF, Chomière R, and Lessard R

**Background:** Urban health depends on various factors related to environments, populations and services infrastructures. Some of these respond to interventions aimed at achieving urban health. Transposing in a synthetic manner a vast amount of scientific knowledge to populations and decision-makers to influence urban planning can be a challenge.

**Methods:** Building on the creation of the new City of Montréal, the Public Health Department Annual Report 2002 aimed to guide policy directions in urban sectors and provide information and support to decision-makers. A profile of the health in Montréal was compiled using administrative data indicators, existing population surveys and research results.

The analytical strategy consisted in: (1) comparing Montréal to five other Canadian urban areas; (2) comparing six subregions and 29 Local Community Health Centre territories; (3) analyzing available information in light of income, temporal trends and relevant social and demographic characteristics. Indicators were selected by adopting as criteria the scope and severity of the problem, the possibility of intervening and its avoidable nature, the availability of comparative information, and relevance for urban environments.

**Results:** Montréal shows unfavorable results for most indicators compared to other cities. Adverse outcomes and indicators concentrate in 2 areas in Montréal, suggesting a cumulative burden on health. Lower income quintiles populations show worse results for most indicators. The report has been well received at many levels of decision-making and as received widespread media attention.

**Implications:** Taking excerpts from the reports results, this presentation will suggest ways to translate probing knowledge into an understandable format for urban decision-makers.

10193 Long-term Care in the Urban Environment: The Continuum of Care in Four World Cities
Montero G, Gusmano MK, and Rodwin VG

**Background:** As the result of population aging and urbanization, cities will need to develop strategies for providing long-term care for their older residents. We examine how four world cities, New York, London, Tokyo and Paris, are meeting this challenge. They have similar socioeconomic disparities, but divergent social policies, so they provide a compelling natural experiment.

**Methods:** Using census, housing and other data, we compare the characteristics of older persons in each of these cities and the continuum of long-term care, from institutional care to home care.

**Results:** We find divergence with respect to nursing home capacity across these cities but we find a convergence among the four cities with respect to home care use. We also find some similarities with respect to assisted living options. Three of the cities rely on social services attached to apartments in existing housing more than congregate housing. Yet New York and Paris have greater public investment in assisted living that London and Tokyo.

**Implications:** City characteristics can be harnessed to provide long-term care. These cities tend to use existing housing stock and home care as opposed to institutional or congregate housing. Yet, there are some differences with regard to the role of the family that are reflected in long-term care policy. Differences in publicly funded assisted living are due to the fact that informal care is funded in London and the family plays a stronger role in Tokyo, while a larger percentage of older people live alone in New York and Paris.

10198 Forging the Martial and Martyr Health Security City
Bale A

**Background:** The US urban health narrative, most prominently NYC’s, is undergoing a rapid shift in which national security (as local security), in the context of the new globalization of health, is becoming the central organizing principle. This paper locates the current transformative process in relation to
urban health’s central precursor experience with militarization and wartime, the 40-year Cold War militarization.

**Methods:** A sociologist of public health for 30 years, I draw upon the advanced new conceptualization of the urban health narrative, related work on urban health regimes of suffering and their transformation, and a burgeoning literature on Cold War militarization.

**Results:** Important direct and indirect influences, continuities and discontinuities, make the Cold War an essential context for today’s urban health. Results of this inquiry include a merging of public health and policing forms of surveillance, the view of the city as a health battlefield, integration of health and national security concerns in ideological and organizational forms, the centrality of urban fear, the important mediating role of the urban drug war, chemical and biological warfare as common constituents of both periods’ modern toxic city, and a propaganda apparatus to massage information on domestic health threats posed by our side in the war of the moment.

**Implications:** Urban health lacks a robust view of how its social sphere is related to contemporary major social transformative forces. This paper adds to our sense of what we in urban health are in the bewildering period of transformation, and where we might go.

**10286 Health and Road Transport in Pakistan: Current Linkage Analysis and Policy Recommendations**

**Sugerman D, Ghaffar A, and Hyder A**

**Background:** The 1998 Global Burden of Disease Study estimated that road traffic injuries (RTI) will become the third overall leading cause of DALYs lost, with two-thirds of the deaths occurring in least developed nations. Moreover, automobile based transport systems cause air pollution (with lead toxicity and asthma), noise disturbances, as well as physical inactivity and obesity. Pakistan, a developing country in South Asia, currently exhibits limited government regulations and research on transportation or its ill effects.

**Methods:** A methodological review of the literature on direct and indirect effects of transportation in Pakistan. This review includes government documents, memos, statements, and draft policies.

**Results:** A systematic review revealed no approved transport policy in Pakistan, despite three national health policy documents. The Health Chapter of the 9th Five Year Plan appreciates the grave threat of unchecked RTI, but fails to offer specific policy interventions. Despite ambitious plans by the Pakistan Environmental Protection Agency (Pak-EPA), actual projects and their implementation remain scarce, resulting in ever increasing air pollution (lead, ozone, SO2, NO, CO2). Lead toxicity and noise pollution remain high and obesity is on the rise.

**Implications:** The increasing health impact of transport on 140 million people is a call for immediate policy action. Government agencies must intervene effectively to establish monitoring and decentralized enforcement nationwide.

**MATERNAL AND CHILD HEALTH**

**11141 Nutritional Status of Reproductive-Aged Women of Low Socioeconomic Status in Ahmedabad, India: Analysis and Public Health Strategies**

**Trivedi K and Kiernan M**

Poor prenatal health and nutrition is reflected in the high prevalence of maternal mortality. Little is known about the nutritional health of reproductive-aged women of low socioeconomic status in urban Indian centers. In collaboration with a community organization in Ahmedabad, India, we wanted to compare the nutritional status of women during different stages of the reproductive cycle and then develop public health strategies to target nutritional needs during these stages of reproductive life. We recruited 150 reproductive-aged community members who fell into one of three groups (n = 50): pregnant; lactating; and nonpregnant, nonlactating. Nutritional status was assessed via hemoglobin and anthropometric measurements in addition to oral questionnaires. All three groups did not meet international standards for nutritional health. In addition, there were substantial differences among the groups. The pregnant participants had the lowest hemoglobin (9.3 ± 1.5 g/dL) compared to the lactating (10.4 ± 1.8 g/dL) and nonpregnant, nonlactating (10.8 ± 1.6 g/dL) groups (F(2,147) = 10.86; P < 0.0001). Ninety-two percent of the pregnant participants did not reach first trimester criteria for BMI during the course of their pregnancy (BMI >20). In addition, the majority of nonpregnant, nonlactating (68%) and lactating (52%) participants were underweight (BMI < 18.5). Urban Indian women exhibit a poor nutri-
tional status even prior to marriage, pregnancy and lactation, and therefore are at risk of even poorer nutritional health during the childbearing years. We developed nutrition guidelines for women to be encouraged by the community organization, emphasizing nutritional needs prior to periods of increased nutritional demand.

11169 The Burden of Prenatal Exposure to Alcohol: Measurement of Health-Related Quality of Life
Stade B, Stevens B, Ungar W, Beyene J, and Koren G

Background: In Canada, the incidence of Fetal Alcohol Spectrum Disorder (FASD) has been estimated to be 1 to 6 in 1000 live births. Caused by prenatal exposure to alcohol, the syndrome is the leading cause of neurodevelopmental disabilities among Canadian children.

Purpose: To measure the health-related quality of life (HRQL) of Canadian children diagnosed with FASD.

Methods: Design: Cross-sectional study design was used. Sample and Setting: One hundred twenty-six children diagnosed with FASD, ages 8 to 21 years, living in urban communities throughout Canada participated in the study. Procedure: Participants completed the Health Utilities Index Mark 3 (HUI3). HUI3 measures eight health attributes: vision, hearing, speech, ambulation, dexterity, emotion, cognition, and pain. Data Analysis: Utilities were used to measure a single cardinal value between 0 and 1.0 (0 = dead; 1 = perfect health) to reflect the global health-related quality of life (HRQL) for that child. Mean HRQL scores and range of scores of children with FASD were calculated. A one sample t-test was used to compare mean HRQL scores of children with FASD to those of children from the Canadian population.

Results: HRQL scores of children with FASD ranged from 0.22 to 0.96 with a mean score of 0.47, and compared to a range of 0.91 to 0.95 with a mean score of 0.93 in children from the general Canadian population (P < 0.001).

Implications: Implications for practice, policy development, and research are discussed.

11190 The Eclipsing of Mothers within the Discourse of Fetal Alcohol Syndrome.
Northey TA

Background: Many of the recommendations regarding the prevention and treatment of alcohol use during pregnancy have been written by and for professionals. Absent from these recommendations are the perspectives of those most closely impacted by them: biological mothers of children with FAS. Furthermore, the efficacy of treatment and prevention are often measured in terms of fetal outcome without consideration for the woman’s health and well being.

Methods: In-depth interviews/life histories were conducted with eight women residing in the Greater Vancouver Area who have given birth to an alcohol affected baby. The mothers were asked what formal and informal supports and services were helpful and not helpful throughout their trajectories.

Results: In theorizing why mothers have been eclipsed from what is said and done about maternal alcohol consumption, it appears that doctors, teachers, social workers, and other professionals value science and medicine over what the mothers tell them. The mothers themselves buy into this, in the sense that they feel that their own knowledge needs to be validated by those in a position of authority. Mothers are further excluded due to their subordinate status as women within Canadian society, their shunned status as one of “those women,” and their lack of power vis-à-vis their position as nonprofessionals/nonexperts. Other influential texts and discourses, such as cultural mores tied to motherhood and to prenatal care continue to drive these processes.

Implications: The taboo against maternal alcohol consumption is taken as a scientifically verified truth, rather than something that has been constructed at a certain time and in a particular place in response to intersecting social and political agendas.

11194 Perinatal Depression: The Untreated Disease
Combs H

Background: In the United States, elevated infant mortality rates among certain ethnic groups have provoked an analysis of maternal and infant health care. Researchers have investigated mental health as a major factor of the well-being of mothers and their infants. The impact of stress and depression on the pregnant and postpartum mother is now widely acknowledged as deleterious to both the mother and her child. For the disadvantaged urban population, the perinatal period is an opportune time for examining mental health needs and prevention of long-term problems.
**Methods:** In March 2002, a Perinatal Depression Treatment Program was developed in partnership with Health Start Brooklyn, a federally funded program, at Kings County Hospital Center in Brooklyn, NY. This is one of eight such programs developed nationwide. Patients are referred from clinics within the hospital and from community-based organizations. Women are screened using a demographic questionnaire and a self-administered rating scale, the Edinburgh Postpartum Depression Scale (EPDS). Treatment, individual therapy, and/or medication management, are offered to women who score significantly on the EPDS. The program is evaluated by patient report questionnaires, which focus on specific aspects of treatment.

**Results:** 465 women have been screened with 29% indicating they are experiencing depression. Of those who are depressed, 46% have enrolled in treatment. Women report increased sense of well-being due to factors such as; improvement in interpersonal relations, increased ability to express themselves, and feeling heard by their therapist.

**Implications:** In the United States, mental health care is not integrated into the primary health care system. This results in a significant number of at-risk patients who over-utilize the health care system with chronic problems. Mental health prevention and treatment can have a great impact on pregnant and postpartum women as they routinely visit their physicians, and interventions impact not only themselves, but also their infants and children.

11200 Charting a Course for Perinatal Health in Central Harlem
Matseoane S

**Introduction:** Despite improvements in statewide perinatal health, Central Harlem continues to fall behind when compared to other New York City health districts. The charting of a course for perinatal health in Central Harlem aims to broaden awareness of the need for a multidisciplinary framework, specifically, how to identify, plan and improve perinatal health in Central Harlem. Premature birth is defined as the birth of the baby before the 37 completed weeks of gestation, and it is a significant health problem in Central Harlem. A parallel trend has been seen in the increasing rates of low birth weight. The burden of both premature birth and low birth weight falls disproportionately on inhabitants of Central Harlem and are a major cause of black–white disparities in perinatal health. The etiology of premature births is not completely understood. The proposed pathophysiological pathways include: (1) Fetal-maternal distress, (2) Intra-amniotic infection, (3) Decidual hemorrhage, and (4) Uterine distension. Prenatal care is one of the most frequently used primary and prenatal care health services with demonstrated health benefits, yet 11% of women in Central Harlem receive either late or no prenatal care. A number of studies have shown that prenatal care yields beneficial results, including reductions in low birth weight and premature birth rates. In Central Harlem, infants are twice as likely to die before the first birth date as infants in other health districts of Manhattan. The Health People’s National objective is to reduce the infant mortality to 4/5 per 1,000 live births among all racial groups. Infant mortality in Central Harlem is 13 per 1,000 live births. The majority of these deaths occur in the first 28 days of life, and about one third occur between 29 days and one year. Prevention strategies must focus on reducing premature births and low birth weight rates in Central Harlem, and elimination of black–white disparities by: (1) Reducing maternal distress—by encouraging greater participation of males in a broader maternal support system, including breast feeding; (2) Elimination of alcohol, smoking and drug use during pregnancy; (3) Improving nutrition/folic acid ingestion; (4) Improving access to comprehensive, culturally competent prenatal care and reproductive health services, and increasing the percentage of women who receive prenatal care in the first trimester; (5) Reducing teenage pregnancy rates; and (6) Establishing linkages with Comprehensive Prenatal-Perinatal Service networks in Central Harlem. Charting a course to improve perinatal health in Central Harlem requires an ongoing multidisciplinary collaboration of Central Harlem-based health workers.

**Methods:** Demographic, socioeconomic trends from the year 2000 census and the Bureau of Maternal-Infant and Reproductive Health Division of Disease Prevention data were analyzed. Assessments of perinatal and maternal indicators were carried out under guidelines from the American College of Obstetrics and Gynecology. Maternal and infant health indicators show a premature birth, low birth weight, late or no prenatal care and infant mortality rates for Central Harlem higher than those for the Borough of Manhattan.

**Recommendations:** (1) an expansion of Medicaid availability that includes and increasing immigrant population, (2) an investment in collaborative community based perinatal health teams with models that expand primary preventive care and emphasis on wellness and disease prevention, and (3) implementing patient empowerment through health education.
11203 Testing of Material and Child Health Strategies in Two Urban Medical Centers in Egypt
Hassanein N and Elshimi T

Background: Greater Cairo is a sprawling city of over 12 million people. Elevated fertility rates (3.23) and a constant influx of migrants from rural Egypt have generated extensive areas of underdeveloped urban settlement currently inhabited by 1.3 million people. Higher rates of poverty, illiteracy and disease thrive in these unplanned areas. Healthy Mother/Healthy Child (HM/HC) is a maternal and child health (MCH) services project implemented in Upper (southern) Egypt with great success. A miniature replica of HM/HC is now being extended as a pilot into 2 urban medical centers. If successful, it will be expanded into more of Egypt's approximately 832 underdeveloped urban areas. HM/HC is funded by the United States Agency for International Development (USAID) and the Egyptian Ministry of Health and Population (MOHP). John Snow, Inc., is contracted by USAID as the main provider of technical assistance to the project.

Results: HM/HC employs a strategy founded on the integration, customization and sustainability. Integration is achieved by delivering related MCH activities as a unified comprehensive package. Thus HM/HC defines clear standards of MCH service, and then pursues them through a coordinated combination of physical renovations, clinical training, management enhancements, quality assurance, information technology upgrades, community mobilization, health education, field research and the financial support of relevant nongovernment organizations. Customization of activities to meet local needs facilitates the adoption of changes introduced by the project. Finally, the HM/HC pilot strives to deliver its components through fundamental long-term MOHP programs, such as MCH, Family Medicine and the Integrated Management of Childhood Diseases, to promote sustainability.

11207 Urban Bangladesh: A Tough Challenge for Immunization Coverage
Adhikari JM and Haque M

Background: The Expanded Program on Immunization (EPI) in Bangladesh was launched in 1979 and intensified after 1985. EPI provides one of the most cost-effective means available to prevent morbidity and mortality among women and children. The objective of the EPI is to prevent disease and death among infants and children from 6 common fatal childhood diseases. This is achieved by providing three doses of DPT, OPV and one dose of measles, BCG vaccines. Every child should be fully immunized by his/her first birthday. Four City Corporation and 91 municipalities are designated as 'urban areas' in Bangladesh. The health structure in urban areas is run by the Local Government Department (LGD), and not by the Ministry of Health, because LGD is not able to cover the entire area. As such, a large part of health care services in urban areas are provided by NGOs.

Methods: We drew examples from an analysis of different surveys conducted jointly with the government of Bangladesh, IOCH, WHO and UNICEF.

Results: Accessibility to routine immunization services in Bangladesh remains high at the national level (98%) but this high access dropped to 54% for fully immunized children, largely due to high dropout rates of different antigens. When comparing, DPT1/OPV1 coverage in urban was lower than rural 89% vs. 93–94% (national 93%), whereas DPT3/OPV3 coverage was the same (70%). Measles coverage, however, was lower in urban areas than in rural areas (59% vs. 64%). The number of fully immunized children was lower in urban areas than in rural areas (52% vs. 54%, with the national rate at 54%). Only 39% of children in urban slums are fully immunized by their first birthday. In urban areas, DPT1–3 drop out ranged from 10.6% to 6.9%, however, the drop out rates are about 21.8%–30.3% from DPT1 to measles vaccine. A large number of invalid doses were provided before the minimum required age or before required interval between the doses. Missed opportunities for different antigens were also high. The high rates of dropouts, invalid doses and missed opportunities reflect the poor quality of services rendered. In addition, male children have more access to immunization than female children. Boys' access to DPT1 was 6% higher than that of the girls. The dropout rate for DPT1 to measles in the boys was higher, however, than that of the girls (29% for boys vs. 20% for girls), revealing lower full immunization coverage for boys for girls. Another finding showed that the mothers' knowledge levels of full immunization were poor. Most of the mothers did not know the number of times their children were required to be fully immunized. Also, mothers' education was found to be related to the immunization status of their children. Uneducated mothers were less likely to get their children fully immunized than those who were educated. It also revealed that certain level of education, such as SSC or higher, increased the mother's role in the decision making process for her child's immunization. Finally, lack of faith in immunization and lack of awareness of the need and importance of immunization were the main reasons for nonimmunization (6% of the total children), which indicate...
that wrong perceptions about immunization persist in the community. There is also lack of proper information regarding the subsequent dosage. Fear of adverse reaction, sickness of the child, and mother’s preoccupation with other work resulted in high dropout rates, which consequently contributed to low full immunization coverage.

**Implications:** High dropout rates imply that the EPI program is unable to follow-up and protect the cohort of children to whom they initially provided outreach. High rates of invalid dosage and missed immunization opportunities reflect service provider’s inability to screen effectively.

**Challenges:** The challenges for sustainable coverage of achievement in urban areas are: (1) High density population with many slums, (2) Poor sanitation, (3) Large number of mobile/ floating population, (4) The Ministry of Health is not responsible for provision of basic health care services, and (5) Multiple service providers exist, composed of both government organizations (GOs) and nongovernmental organizations (NGOs), yet there exists little coordination among them.

**Conclusions:** To protect all children from the six killer diseases, the following areas need to be strengthened: Proper counseling should be provided at every contact, reminding clients of the EPI schedule, and scheduling time to return for subsequent doses in order to decrease dropout rates and to improve compliance for full immunizations. Emphasis should be on screening clients for immunization to avoid or reduce invalid doses and missed opportunities. BCC activities should be initiated to inform the community of the importance of immunization in general, and to motivate mothers to bring their children for full immunization. Special attention should be paid to “floating” and slum dwellers in urban areas. Providing a broader range of education, economic, and job opportunities for women of urban slum areas should also be undertaken by improving coordination among GOs and NGOs.

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11212A Impoverished Children and Healthcare in Karachi, Pakistan: A Medical Student’s Observations
Pirani Y, Cannon W, Verchere C, and Boyle J

**Background:** Pediatric burn injuries world-wide share common etiologies such as house fires or scalding liquids, or may be the result of child abuse or terrorism. Children innovations in global health care. For many poverty-stricken children, health care resources are simply inaccessible due to financial and geographic limitations. Some children never receive any medical treatment for their injuries. International efforts have increased to provide adequate health care for impoverished children living in urban communities with burn injuries. Improvements in health care can also help prevent common dismal outcomes in these children such as suicide, abandonment by shamed families, or a life on the street of begging or prostitution. Our purpose is to describe healthcare available to children sustaining burn injuries in Karachi, Pakistan and new international collaborative efforts to improve treatment and outcomes.

**Result:** Three children with severe burn injuries, functional limitations and complications are described and illustrate inadequate burn care in Karachi. Annually, a few children are selected to receive treatment in the USA, funded by The Healthcare and Social Welfare Association (HASWA).

**Implications:** Impoverished children living in Karachi, Pakistan are not presently offered adequate health care treatment for burn injuries. Conditions are slowly changing due to the efforts of collaborative international health care organizations. Medical students studying in developing countries will discover healthcare beyond the artificial borders of their country and appreciate the importance of international collaborative care for the future.

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11261 Experience of Mothers and Health Care Providers with Preventative Child Health Care Services in an Urban Environment
Amen MM

Despite the fact that we have made great strides in improving health of the nation’s children, there are still many children who suffer from devastating preventable health problems. Research indicates that access to quality health care is related to income level, possession of health insurance, and whether or not one has a regular primary care provider or other source of health care. This study used a qualitative approach to describe more fully the experiences of low-income mothers and health care providers with preventive child health care services in an urban environment. The major findings revealed two major themes. The first is organizational structure that acts as barriers that impede the mother’s ability too effectively use preventive child health care services. The second is the differential value orientation of mothers and health care providers that lead to conflicts between the two different value systems. These findings are associated with poor patient compliance. The results point to the need for comprehensive, collaborative and accessible health care services in urban communities that will promote accessibility.
which encourages the mother’s use of preventive child health care services in urban communities. Moreover, the value orientations of the mothers should be recognized and ideally incorporated into the health care that is provided.

11282 Prenatal Lead Exposure and Schizophrenia Spectrum Disorder
Opler M, Brown AS, Graziano J, Zheng W, Desai M, Factor-Litvak P, and Susser ES

**Background:** Schizophrenia is a severe mental disorder of unknown etiology. Risk factors such as urban residence and socioeconomic status have been implicated. Recent studies suggest that environmental disruptions in prenatal development may be involved, including nutritional deprivation and infection. No studies of chemical exposure have been reported.

**Methods:** A cohort established in Oakland, CA enrolled 19,044 live births from 1959–1966. Maternal serum samples collected during pregnancy were stored at –20°C. Potential cases of schizophrenia spectrum disorder (SSD) were identified from computerized databases. Records were reviewed, abstracted, and rated for the presence or absence of psychosis. Potential cases that were not interviewed were diagnosed by chart review, according to DSM-IV criteria. 71 SSD cases were identified. Matched controls were selected on the basis of gender, number of sera samples, date of birth, and timing of blood draw. A biological marker of lead exposure, δ-aminolevulinic acid, was measured in 2nd trimester samples of 44 cases and 75 controls using High Pressure Liquid Chromatography with Fluorescence Detection. Data was converted into categories for exposed (>15 µg/dL) and unexposed (< 15 µg/dL), yielding 66 exposed and 53 unexposed subjects.

**Results:** Unadjusted conditional logistic regression yields an OR = 1.83 (95% CI: 0.87–3.87, P = 0.1.) A model adjusted for gravida’s age at termination of pregnancy gives an OR = 2.43 (95% CI: 0.99–5.96, P = 0.5).

**Implications:** This finding implicates an early life chemical exposure to a neurodevelopmental disruptor as a risk factor for adult psychotic disorders. Further studies are underway.

11293 High Pregnancy Rates and Reproductive Health Indicators Among Female Injection Drug Users in Vancouver, Canada
Weber AE, Tyndall W, Spittal PM, Li K, Coulter S, O’Shaughnessy MV, and Schecter MT

**Objective:** To determine the incidence of pregnancy among active injection drug users and to identify factors associated with becoming pregnant.

**Methods:** The Vancouver Injection Drug User Study (VIDUS) is a prospective cohort study that began in 1996. Women who had completed a baseline and at least one follow-up questionnaire between June 1996 and January 2002 were included. Parametric and nonparametric methods were used to compare characteristics of women who reported pregnancy over the study period with those who did not report pregnancy over the same time period.

**Results:** One hundred four women reported a primary pregnancy over the study period. The incidence of pregnancy over the follow-up period was 6.46, 95% CI (5.24–7.87) per 100 person-years. The average age of women who reported pregnancy was younger than women who did not report pregnancy (27 years vs. 32 years P < 0.001). Women of Aboriginal ethnicity were more likely to report pregnancy (Odds Ratio (OR): 1.6; 95% Confidence Interval (CI): 1.2–3.1). Comparison of drug use showed no significant differences with respect to the use of heroin, cocaine, or crack (P < 0.05). In examining sexual behaviors, women who reported having had a regular partner in the previous 6 months were three-fold more likely to have reported pregnancy. Despite the fact that 73% of women in this study reported using some form of contraception, the use of reliable birth control was low. Only five percent of women in our study reported the use of hormonal contraceptives.

**Conclusion:** There were a high number of pregnancies among women in this cohort. This corresponded with very low uptake of reliable contraception. Innovative strategies to provide reproductive health services to vulnerable women who are injecting drugs is a public health priority.

FOOD, NUTRITION, AND PHYSICAL ACTIVITY

13069 Assessing Programs and Policies That Promote Nutrition and Physical Activity at Urban Churches
Mayer JP

**Background:** Church policies and environments can contribute to healthy community norms and provide important cues-to-action for healthy behavior among congregants. Although studies describing
policies and environments at worksites, medical practices, and other urban settings that influence health are common, similar information on churches is limited.

**Methods:** For 24 zip codes in the City of St. Louis, internet-based Yellow Pages were used to enumerate the population of churches. After three mailings, a phone follow-up, and a $10 donation/incentive, surveys were gathered from 225 churches.

**Results:** Average congregation size was 400 with 23% of members less than 35 years of age and 11% with incomes below poverty. Seventeen percent of the churches offered nutrition education classes, 21% exercise classes, and 43% sponsored sports teams. Sixty-five percent included nutrition or physical activity messages in sermons, and 69% in bulletins. Ten percent reported church policies requiring serving healthy foods at church social functions. Nineteen percent of vending machines on church property included low-fat snack options. Multivariate analyses indicated that the healthfulness of the church environments varied with church size and age, and with congregation member characteristics. For example, larger churches were more likely to sponsor physical activity programs and organize sports teams.

**Implications:** Although many urban churches possess environments supportive of healthy behavior, opportunities to strengthen these environments are still apparent.

13158 Promoting Healthy Food and Activity Environments in Urban Areas
Cohen L, Samuels SE, and Mikkelsen L

Chronic diseases including diabetes, heart disease, and some cancers are disproportionately high among low-income people and people of color. Many cases of these diseases can be prevented with attention to improving eating and activity habits. Efforts to improve these habits through education alone are rarely successful. In addition, it is critical to address community factors such as access to fresh nutritious foods and physical activity opportunities. Shifting community norms toward healthier behaviors requires a comprehensive approach that addresses not only individual knowledge, motivation, and skills, but also ensures the surrounding environment supports healthy behaviors. The Strategic Alliance for Healthy Food and Activity Environments was founded to promote environmental and policy changes to improve eating and activity patterns in California. The goal of the Alliance is to reframe the debate on nutrition and physical activity, from a matter of individual choice and lifestyle to an issue of environment and corporate and government responsibility. The Alliance currently consists of over 250 members. It has identified five arenas for action: Children’s Environments, Government, Industry Practices, the Health Care System, and the Media. Early successes include establishing nutrition standards for competitive school foods and eliminating soda and junk food sales from some school districts.

This presentation will delineate the Strategic Alliance platform and strategy. It will describe key local, state, and institutional policy goals focused on improving the eating and activity environment in inner-city neighborhoods. Further it will describe the Alliance’s efforts to build a statewide network and share lessons learned.

13170 Analyzing Factors Affecting Physical Activity and the Impact on Diabetes in an Urban Latino Community
Amesty S, Juniu S, and Boccher-Lattimore D

Decreased levels of physical activity, together with poor diet are leading causes of death in the US. Ample evidence shows that physical activity is important for maintaining good health, improving psychological well-being, and preventing premature death. The Latino community is disproportionately affected by diabetes, a disease that is closely related to diet and exercise habits. Studies show that Latinos in general, are more likely to be physically inactive than their white counterparts. The purpose of this study was to examine the relationship between barriers to physical activity and diabetes in the Latino immigrant community in Washington Heights in New York City. The Health and Physical Activity Questionnaire (HPAQ) is a 49-item questionnaire designed to assess levels of physical activity and the barriers to physical activity participation in the Latino community in a primary care recruited patient. We hypothesize that individual-level social factors (e.g., social support, leisure time, acculturation, literacy, poverty) and neighborhood-level factors (e.g., adequate housing, safe neighborhoods) may be particularly important in the Latino community in Washington Heights and are primary determinants of the burden of diabetes faced by Latinos in NYC. Correlational procedures were employed to investigate the relationship between individual-level social factors, neighborhood level factors, and diabetes/health in general in a group of Latino immigrants. The findings of this study will help understand the impact of urban social and physical environments upon health. Public health recommendations will be made in order to reduce identified barriers and improve health.
13205 A Model for Integrating Natural Resources, Community Lifestyle, and Health Promotion  
Bruning N

Americans are becoming less physically active even as our knowledge of health risks related to sedentary behavior is increasing. Of these, obesity is of urgent concern because its multiple associations with other illnesses have a detrimental impact on the quality and length of life of different populations, bringing about economic consequences to our society as a whole. A disturbing increase in obesity and "adult-type" diabetes is occurring in people of all ages but particularly among young people. In addition, Hispanics, African-Americans, low income individuals and women are disproportionately inactive and at higher-than-average risk for obesity and diabetes. In this paper, a model for integrating natural resources, community lifestyle and health promotion is developed through a phased, multilevel approach including outreach and education, and the formation of women’s walking groups in public parks. Our primary goal is to reduce the incidence and complications due to sedentary lifestyle and obesity. Walking in public parkland is available to everyone, it is free, it is “natural” and thus may be more appealing and accessible to the aforementioned population groups than gyms and health clubs, which are costly, have limited hours, and seem “artificial.” Following principles of the diffusion of innovation theory, walking becomes normative by making it a recreation, a social event, and a transportation means among community members. Walking is both an end in itself, and a gateway to a more active life that engages community members with their physical and social environment. This intervention model establishes a method for engaging populations at risk for obesity and related health problems in physical activity that is both free and fun. By putting physical activity within the reach or a larger population, the pain and suffering, the lost productivity, and the direct and indirect financial costs of obesity-related diseases could be dramatically reduced. In dire economic times, parks' funding is often the first to go because parks are not a life-and-death service. On the contrary, parks could make the difference between life and death for many people and this approach could suggest positive strategies for a broad range of policy and legislative decisions.

13249 Health Beliefs, Lifestyle and Prevalence of Hypertension among Older Korean-Americans in Community  
Lee M and Fleury J

**Background:** Hypertension is a serious health problem being one of the most important risk factors for cardiovascular disease, and extremely common in older minority populations. Asian American and Pacific Islanders with hypertension were less likely to be aware of their hypertension, to be under treatment, and to control their blood pressure. The purposes of this study were: 1. To describe the prevalence, awareness and control rate of hypertension, 2. To describe lifestyles, health habits and health beliefs, and 3. To examine the correlations among health beliefs, lifestyles and hypertension among Korean-American older adults. The Health Belief Model was the theoretical base of study.

**Methods:** This study used a descriptive correlational approach. Target population was Korean-American older adults. The sample consisted of 156 subjects form 5 Korean organizations from Korean community directory of New York City. Data were obtained on health history, health practices and habits, and health beliefs regarding hypertension and lifestyle modification as well as related physiological measures. There were 60 males and 96 females with the mean age of 66 and 66% were married, 41% had no health insurance and mean years in USA were 16.2.

**Results:** Data analyses were done using Chi Square and ANOVA. Results revealed that 77% of participants were hypertensive, 46% overweight (BMI >25), and 35% had cholesterol level about 200. Hypertension awareness rate was 52% and 32.7% had their BP under control. Significant relationships were found among their beliefs, attitudes, awareness and actual hypertensive status, especially in susceptibility and benefit ($P < 0.01$), and seriousness and intention ($P < 0.05$) subscales and hypertensive status. Many hypertension and CVD risk factors were present among these older Korean-Americans. Some factors were more socioeconomic situations of immigrant and ethnocultural issues such as high salt content foods; and some are universal ones such as overweight, low physical activity, old age, family history of hypertension.

**Implications:** Given the high risks with potentially modifiable risk factors, community-based culturally relevant and appropriate research and effective educational and intervention strategies for Korean-American older adults are urgently needed for case findings, early diagnosis, and further prevention and control of blood pressure with the least intrusive means possible as much as than that of treating with established disease.
13301 Access to Healthy Foods in Urban Areas
Vachon ME

**Background:** The influence of environmental factors on individual health behaviors is necessary to access in planning public health interventions in urban areas. Increased risk of morbidity and mortality due to chronic diseases may be linked to environmental conditions such as availability of fresh fruits and vegetables.

**Methods:** The locations of supermarkets and neighborhood grocery stores in a 40-block radius of Central Harlem were mapped. Supermarkets, defined as stores selling fresh produce and meat with at least two checkout stands were surveyed for the presence of health education materials and healthy foods including low fat meat, wheat bread, and lean meat.

**Results:** Preliminary results indicate that within a 40-block radius of Central Harlem four stores meeting the criteria for supermarkets were located. Neighborhood grocery stores may be more accessible to Central Harlem residents. Further research will assess the conditions of Central Harlem supermarkets.

**Implications:** To reach the goals of Healthy People 2010, we must begin to create environments where people are able to make healthy choices. Urban areas, particularly where there is interest in reinvestment, offer opportunities to implement community level interventions that will increase access to healthy food options for residents.

**VARIOUS TOPICS**

05011 Training Elementary School Personnel to Detect and Prevent Child Sexual Abuse: What do They Want to Know?
Plichta S, Houseman C, Goodman J, and Zhang Y

**Background:** School teachers play a critical role in the prevention and detection of child sexual abuse (CSA). ‘Knock...Knock...Who’s There?’ a school-based CSA prevention program utilizing puppet theatre and teacher training, sought to elicit types of CSA training materials desired by elementary school personnel.

**Method:** Group interviews were held with 13 personnel from three elementary schools in the metropolitan Hampton Roads area. Through a semi-structured group interview, participants were guided in discussion of types of training materials they desired. The three interviews were audio-taped and transcribed. Content analysis was performed on the transcriptions to elicit common themes.

**Results:** The data yielded four major categories of training needs: how to intervene when CSA is suspected, prevention strategies, interacting with law enforcement, and interacting with parents. The most wanted resource was guidance on handling CSA when the teacher suspected it, but when there were no obvious signs or symptoms. The need for developing cooperation between schools and law enforcement was also expressed. Finally, personnel wanted guidance on how to communicate with students about family life, sexuality, and sexual abuse. Personnel also commented on the need for training to be brief and focused.

**Implications:** Training needs to focus on issues of concern to school personnel. It also needs to be targeted to the specific information needs of the teachers. The next step is to design a training video and manual for teachers to accompany the puppet show. Future research will evaluate this manual and video for its effectiveness in training school personnel.

05014 Counterfeit Drugs in the City: A Private Physician’s Experience
Alabi W, Okonkwo K, and Labode O

Nigeria has lost approximately 2 billion dollars to counterfeit and substandard drugs in the last ten years. Despite the promulgation of laws intended to effectively combat this scourge, it has remained a major problem that has threatened the confidence of the health care system. Our study was carried out in Ibadan, Oyo state, one of the largest cities in West Africa. The study was done to ascertain the public health implications of counterfeit and substandard drugs. There are 912 physicians currently practicing in the private sector of Ibadan, Oyo state, each of whom responded to a questionnaire intended to ascertain their experiences with counterfeit drugs. Most confirmed that counterfeit drugs were commonly encountered in their practices. Antibiotics were most commonly encountered counterfeit drugs. Two thirds of the drugs were counterfeit and subsequently, substandard drugs had been manufactured in Asia. Indian-made drugs contributed to about half of the counterfeit drugs from Asia. One fifth
of the drugs were manufactured in Nigeria and the rest from other parts of the world in negligible quantities. 48% of the respondents had encountered serious health consequences of counterfeit and substandard drugs. 13.4% of encounters were reported to have had fatal outcomes. Strategies adopted to curtail the purchase of counterfeit and substandard drugs resulted in increased cost of medicines. The physicians who responded to our questionnaire perceived that businessmen who dealt in drugs were responsible for drug counterfeiting. In addition, an overwhelming majority felt that the government’s response to the problem was inadequate and preferred the solution of greater regulatory control as well as the enforcement of existing laws. The situation in which businessmen and non-professionals have been licensed to deal in pharmaceutical has resulted in massive importation and manufacturing of counterfeiting drugs in Nigeria. Based on results of our survey, it is recommended that strong regulatory control is reinforced, ceasing the import of fake drugs to Nigeria at the source (essentially, within countries of production), increasing public enlightenment campaigns, and beefing up surveillance at all ports of entry, including empowerment of the regulatory bodies (i.e. the National Agency for Food and Drug Administration and Control). In addition, more financial and logistic support would help in reducing negative health impact of counterfeit drugs in Nigeria.

05016 Filling the Tool Box: What Probation/Parole Personnel Require to Properly Manage and Treat Convicted Sex Offenders
Goodman J, Parker D, and Plichta S

Background: Since the 1996 passing of Megan’s Law requiring convicted sex offenders to register in the community where they live, the public’s awareness has been heightened. 60% of all convicted sex offenders are receiving some form of community supervision in the US, thus an increasing interest in not only where these 140,000 offenders live and work, but are they receiving effective treatment. This study examined responses of probation / parole agency personnel to determine their perception of challenges in effective management and treatment of convicted sex offenders.

Methods: Data from the National Institute of Justice’s 1994 study of the Management of Sex Offenders by Probation and Parole Agencies in the United States were analyzed. 732 respondents were administered a 38-item questionnaire by telephone. Factors that impact management and treatment of sex offenders were identified.

Results: The top three management problems cited were nature of the offender (26%), lack of adequate resources (23%), and lack of community treatment options (14%). Factors named as important for effective management included additional therapy (27%), well trained/educated staff (17%), and manageable caseloads (12%). The top three behaviors causing revocation of parole or probation were reported as violation of terms/conditions of parole (41%), committing new offense (37%), and non-participation in treatment (10%).

Conclusion: Probation and parole officers need adequate resources and effective treatment options to successfully prevent future violations of convicted sex offenders due to their inherent narcissistic nature. To lessen the vulnerability of our children, research into effective clinical treatment and management is necessary.

05019 Workplace Health Concerns of Inner City Workers
Holness DL, Gadeski J, and Sinclair GM

Background: There is little known about occupational health and safety in inner city workplaces. Previous pilot work we have done in hospital and church workers in the inner city of Toronto demonstrated that infectious diseases and safety concerns related to violence were common issues. Workers felt that inner city workplaces were more hazardous than suburban sites.

Methods: A self administered questionnaire containing the same perception of hazard questions as used in our original survey of hospital and church workers was completed by individuals attending an educational workshop for workers involved with helping street people.

Results: The attendees included both paid and volunteer staff. 86% of the attendees completed the questionnaire. In response to the open ended question on key hazards, 68% identified violence and 46% infectious disease. On direct questions related to each type of hazard, 91% identified safety, 81% indoor air quality and 76% infectious diseases. Less than half reported receiving any occupational health and safety training in both current and previous jobs.

Implications: Infectious disease and violence are key perceived risks in workers, both paid and volunteer, in inner city agencies. We lack knowledge on the nature and significance of occupational health and safety in workplaces characterized by nonprofit organizational status, voluntary labor, human service work, and charitable orientation, often features of inner city workplaces. Additional re-
search to address occupational health and safety issues in inner city workplaces is needed. Further, training programs to address risks of violence and infectious disease may be necessary.

05023 Training Communities in Public Health Preparedness Through Religious Organizations
Villanti A

Background: Since the September 11, 2001 terrorist attack in New York City, the public has been called to a state of alert, lacking the skills to prepare itself for current threats of war, terrorism, disease and natural disaster. Research indicates that many Americans turned to religion to cope with September 11, 2001; since clergy are considered “gatekeepers” who serve as a first line of assistance to communities especially during times of crisis, I propose a project on public health preparedness education through religious organizations to prepare for future disasters.

Methods: In-depth interviews, surveys, and a focus group were conducted to identify community concerns about threats to personal safety, community perception of need, individuals’ readiness to prepare for such threats, and preferred methods of learning and teaching.

Results: This paper presents the results of 12 in-depth interviews with religious and faith community leaders, 33 surveys in a seminary community, and a focus group meeting on the proposed content of such a preparedness curriculum. Participant comments suggest that individuals remain unprepared for future disasters and would attend training to become better prepared for the emergencies they fear; among study participants, terrorism/violence was the top concern. These results also reveal resistance to university involvement in New York City faith communities.

Implications: Following a discussion of the challenges in working with religious organizations for health promotion and ways to reduce resistance to university involvement, suggestions are made for partnerships which could strengthen the urban public health infrastructure and improve health delivery through religious organizations.

05029 Relationships Between Health and Mental Health in New York City: Data from the 2002 New York City Community Health Survey
McVeigh KH, Mostashari F, Wunsch-Hitzig RA, Kuppin SA, King CG, Plapinger JD, and Sederer LI

Background: Clinical studies have documented relationships between physical and mental health, but until now, these relationships have not been quantified in a representative sample of New York City residents. This study presents findings that document the prevalence of significant emotional distress and its relationship to physical health.

Methods: We examined data from the New York City Community Health Survey (NYCCHS), a random sample telephone survey of 9,674 non-institutionalized adults conducted from May-July 2002. Respondents were asked standardized, cognitively tested questions about their health status and risk factors. Respondents were classified as having experienced “significant emotional distress” during the prior 30 days if they scored above 12 on the K6 scale (Kessler, 2002). Multi-way frequency analyses were conducted in SUDAAN producing weighted, age-standardized estimates.

Results: More than 6% of respondents met criteria for significant emotional distress. New Yorkers who reported significant emotional distress also reported poorer overall health (54% vs. 17%), higher rates of chronic disease (asthma 22% vs. 11%), and more unhealthy behavior (no exercise 53% vs. 30%) compared with other New Yorkers. Higher levels of significant emotional distress were reported among women, Hispanics, people ages 45 and older, and those who live in poor neighborhoods.

Implications: Approximately 371,000 New Yorkers experience emotional distress of sufficient magnitude to warrant a mental health assessment. The strong correlation between emotional distress and physical health suggests that both mental health and physical health providers should be alert to recognize, and treat or make referrals for co-occurring conditions.

05048 Fostering Collective Recovery: Exploring the Role of Organizations in Post Disaster Trauma Recovery
Hernández-Cordero LJ, Boutros MN, and Fullilove MT

The World Trade Center was a crossroads for New York City: a global financial center, a transportation hub, a retail area, a city landmark and public space. Thus the human, economic, and social losses and the impacts to the physical and mental wellbeing of those affected by the WTC tragedy on 9/11/01 extended far beyond the 16 acres of land and 2,819 people who perished. In responding to the disaster, policymakers focused their efforts on restoring a sense of “normalcy,” honoring those perished and compensating heroes and victims. Policymakers did not actively foster collective recovery. However
NYC RECOVERS, a network of organizations formed in the wake of the disaster, proposed that organizations in NYC had a role in the process of collective recovery, and encouraged organizations to incorporate trauma recovery into their ongoing agendas. This qualitative study utilized participant observation and archival data to document the process of engagement of local organizations in recovery related activities, and the outreach and dissemination efforts of NYC RECOVERS. Findings suggest that organizations: make choices about how to respond to trauma in the face of disaster; can learn from each other how to foster recovery; and that even modest organizations have some capacity to integrate healing into their ongoing work. None of the work carried out in this study focused on individuals’ PTSD symptoms, rather focused on the process of collective recovery. This study will contribute to the literature on disaster as it pertains to the role of organizations in the recovery process.

05049 Preparing for the Anniversary of 9/11 with Kids in Mind
Stevens Madoff J, Fullilove MT, and Hernández-Cordero LJ

NYC RECOVERS and Columbia Center for Youth Violence Prevention utilized methods of community mobilization to alert youth-oriented providers to the importance of the 9/11 anniversary. These included: convening a meeting of leaders of youth organizations; circulating alerts through various media; preparing tip-sheets that were widely distributed; and participating in 9/11 planning meetings of small and large groups. Outreach strategies to city government and community-based organizations had the goal of disseminating sensitive and informative messages to a broad audience. The leaders of this effort believe that organizations, such as schools, places of worship, neighborhood and parent associations, have a role in promoting trauma recovery. Many individuals suffering from stress, anxiety and fear related to the attacks on the World Trade Center, have not sought individual counseling, but would be reached with a dose of therapy if organizations held events geared towards wellness and recovery. Surveys of youth in particular have indicated that many have been experiencing symptoms of post-traumatic stress over this past year. The activities developed by this project were simple to integrate into youth programs, school curricula and family time around the anniversary. After-school programs, community-based youth groups and family-strengthening programs were early adopters of the proposed wellness activities during the month of September 2002. Projects were tailored to the needs and populations of each organization. They created supportive environments for youth to express feelings and reflect creatively on this stressful year. The organizers of this initiative were featured on a local cable network as “New Yorkers of the Week.”

05051 The Experiences of Community Outreach Workers in the Bronx after September 11th
Moynihan P, Levine J, and McCormick G

Background: Recent evidence shows that the mental health of New York City residents has improved since the terrorist attacks of September 11, 2001. However, mental health recovery has not been evenly distributed across city neighborhoods. This suggests, for instance, that the events of 9/11 may have had quite different psychological effects on residents of the Bronx who live with generally higher rates of background distress but who were, generally, more indirectly affected by the terrorist acts. To address this concern, this project seeks to gain qualitative information from Bronx-based mental health outreach workers about their experience of providing mental health services to local community residents. The aim of this study is to learn about the psychological and emotional concerns of outreach workers serving Bronx communities after 9/11, the stress on these care providers, their perceptions of the influence of cultural factors on psychological response and use of services, and their sense of the efficacy of present outreach strategies in addressing community needs.

Methods: The study is a qualitative research project using the focus group interview as the means of data collection. Participants will be outreach workers from four Project Liberty programs located within the Bronx (Urban Health Plan, University Consultation Center, Morris Heights Mental Health, and Bronx Lebanon Hospital). For comparative data on outreach within the local communities, we will interview members of an outreach unit independent of Project Liberty but working within the Bronx (Bronx Lebanon Hospital Mobile Crisis Unit). Transcripts from these five focus groups will be subject to a qualitative analysis of content themes.

Results: Preliminary analyses from the first Project Liberty focus group (Bronx Lebanon Hospital) are currently underway. The remaining focus group interviews will be conducted over the course of the summer with substantive conclusions prepared by the fall.

Implications: This project will enable us to generate impressions of programs and services provided by outreach workers in the Bronx and construct hypotheses that can be submitted for further research.
and testing within local communities. In light of our research, we intend to address some of the methodological and practical issues confronting mental health service delivery within inner-city communities.

05053 Establishing a Liaison with Health Care
Manuel A, Politinski L, Smith K, and Mendonca K

Background: Seaton House Men’s Shelter is a 670-bed facility for single homeless men located in the downtown core of Toronto, Canada. Operated directly by the municipal government, Seaton House provides service to over 4000 single homeless men a year. Less than 10% of this group has been in the shelter system for more than 365 days, a point where social decompensation becomes a prevalent characteristic. This target population has difficulty managing in health care settings, particularly as inpatients in the hospital. Discharges against medical advice (AMA) are common and have significant negative impacts on the mortality of the target group.

Methods: A work group was established that involved representatives from Seaton House Men’s Shelter and St. Michael’s Hospital. A new position was created for a shelter staff member to be at the hospital and involved with the in-patient care of the target group. This position was integrated into the hospital as a member of the in-patient care of the client. The position was created with no financial as the result of the reduced impact that AMA discharges would have on the shelter staffing model.

Results: There has been a significant reduction in AMA discharges from the partner hospital. In-patient care has been qualitatively assessed as being improved for single homeless men and

Implications: Transporting shelter staff into community settings alters the relationship between the shelter and other components of the social welfare system in ways that have a positive impact on the case plan outcomes of the target client group.

05063 OSHA-Investigated Fatalities among Immigrant Workers
Rinehart R, Kenny L, and Adams D

Background: The number of immigrant workers killed by work-related incidents is increasing faster than their growth in the US workforce. These workers are more likely employed in low skill high-risk occupations than non-immigrant workers, and many have limited English language ability. They also tend to live and work primarily in urban areas.

Methods: OSHA initiated a new immigrant/language data collection procedure called IMMLANG in April 2002. The procedure, used by Federal OSHA field staff during fatality investigations, involves two steps. Step one answers the question: Did the fatality involve an immigrant worker and/or Hispanic worker and/or a possible language barrier? If yes, then step two involves completing an IMMLANG questionnaire during the investigation.

Results: Preliminary results indicate that approximately 25% of all OSHA-investigated fatalities meet the IMMLANG criteria. To date, more than 80% of these victims were born outside the United States. More than 60% spoke English not well or not at all, while the primary language of most supervisors was English. More than 15% were day laborers.

Implications: With the recent influx of immigrant workers to urban areas, and their increasing share of employment in the high-risk occupations, better data is needed to track trends and identify risk factors associated with work-related fatalities. The IMMLANG procedure was created to help the Agency better target resources to prevent future incidents. The information will also be made available to the public in the future to complement data collected by BLS, NIOSH, and others.

05068 Geographic Methods for Understanding and Responding to Disparities in Mammography Use by Urban, Vulnerable Populations in Toronto, Canada
Glazier RH, Creatore MI, Gozdyra P, Matheson FI, Moineddin R, Steele LS, and Boyle E

Background: Even in the absence of financial barriers, access to health services can be problematic for disadvantaged populations. The purpose of this study was to examine disparities in mammography use among recent immigrants and those with low income in a concentrated urban setting and to use this information to formulate interventions aimed at increasing uptake of mammography among these groups.

Methods: Using spatial and epidemiological approaches, we compared mammography rates in four income-immigration groups representing relative “advantage” constructed using 1996 Canada Census data. Mammography data were obtained from 2000 physician billing claims. Risk ratios, linear regression, multilayer maps, and spatial analysis were used to examine utilization by area for women age 45–64 years.
**Results:** Among 113,762 women age 45–64, 27,435 (24%) had received a mammogram during 2000 and 91,542 (80%) had seen a physician. Only 21% of women had a mammogram in the least advantaged group (low income-high immigration), compared with 27% in the most advantaged group (high income-low immigration), risk ratio 0.79 (95% CI 0.75, 0.84). Multilayer maps demonstrated a low income-high immigration band running through Toronto’s inner city and low mammography rates within that band.

**Implications:** We found marked variation in mammography rates by area in the inner city, with the lowest rates associated with low income and high immigration. Spatial patterns identified areas with low mammography and low physician visit rates appropriate for outreach and public education interventions. We also identified areas with low mammography and high physician visit rates appropriate for interventions targeted at physicians.

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**05075 Building on History and Existing Social Capital to Create Change in Two Urban Communities**
Michael YL and SA Farquhar

**Background:** The role of social capital—more specifically, the role of community as change agent capable of identifying health concerns and creating solutions—has become increasingly prominent as a way to create healthier urban communities. Prior research suggests that inner-city communities of color may lack social capital, as well as access to political and social decision-making that affect their health. This study will discuss the preliminary results of a community-based participatory research project designed to increase social capital using the techniques of popular education and Community Health Workers (CHWs) in Portland, Oregon. Poder es Salud/Power for Health is a collaborative effort between the local health department, universities, and several community-based organizations and is funded by the Centers for Disease Control and Prevention.

**Methods:** Baseline measures of study variables are collected from 200 adults randomly selected from the African American and Latino communities. In addition, analysis of in-depth interviews and historical documents will contribute to a deeper understanding of the role of social capital in creating change at individual, community, and policy levels.

**Results:** The analyzed surveys and interviews highlight the unique strengths of each community and demonstrate how their social and historical context is related to social capital. Study results will evaluate the extent to which CHWs using popular education are able to build on existing social capital and how this process differs between racial/ethnic groups.

**Implications:** Enhanced understanding about how to involve community members in identifying and addressing social determinants of health will produce better interventions to create healthy urban communities.

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**05076 Improving Functioning of Older Psychosis Patients: Results of a Pilot Intervention of the Functional Adaptation Skills Training (FAST) Program**
Patterson TL, McKibbin CL, Goldman S, Davila W, Bucardo J, and Jeste DV

**Background:** Developing behavioral interventions to improve functioning of older patients with chronic psychoses has the potential to significantly increase their independence and quality of life. While a number of studies of younger patients suggest that some therapies (e.g., cognitive-behavioral therapy) are effective in improving the quality of life of younger adults with schizophrenia, these treatments have shown no consistent effects on a variety of other outcomes such as positive and negative symptoms, overall social functioning, and overall social functioning. To our knowledge, no randomized controlled study has examined the efficacy of rehabilitation programs focused on improving everyday functioning in older outpatients with schizophrenia and other chronic psychotic disorders.

**Purpose:** To evaluate a psychosocial intervention designed to increase everyday living skills of middle-aged and elderly outpatients with chronic psychotic disorders.

**Methods:** Patients recruited from Board and Care facilities were randomly assigned to: (1) a 24-session FAST group therapy targeting six functional domains (e.g., using public transportation), (n = 16); or (2) attention control (n = 16). Assessments were conducted at baseline, at the end of the 12-week intervention, and at 3-month follow-up. The primary outcome was change in functional skills assessed using the UCSD Performance-based Skills Assessment (UPSA). We also assessed symptoms with the Positive and Negative Syndromes Scale (PANSS) and the Hamilton Rating Scale for Depression (HAM-D), as well as health-related quality of life with the Quality of Well-Being Scale (QWB).

**Results:** Ninety percent of patients in the intervention condition attended all sessions; 100% participated in class discussion and exercise; 90% of patients found the material to be helpful; and 60% reported practicing newly learned skills outside of session. The overall mean UPSA scores improved
significantly. A 3 x 2 (TRIALS x GROUP) repeated measures analysis of variance yielded a significant interaction ($F[2,60]=7.05, P = .002$). UPSA scores of the patients in the fast group improved from 31.7 ($SD = 11.8$) at baseline to 41.5 ($SD = 9.5$), and 42.7 ($SD = 9.7$) in assessments conducted immediately postintervention and 3 months later, respectively. In contrast, mean UPSA scores for patients in the control condition remained relatively flat: 1) 40.2 ($SD = 8.3$); 2) 42.8 ($SD = 7.1$); 3) 41.6 ($SD = 9.7$). However, no significant changes in symptoms, and overall quality of life were detected.

**Conclusions:** Results suggest that older patients with longstanding psychotic disorders may benefit from participation in this skills training program.

05081 Patients with Diabetes are at Risk of Hypothermia: An Analysis of New York City Hospital Data
Lu X, Hajat A, Thorpe L, Karpati A, and Mostashari F

**Background:** Clinical evidence shows that persons with diabetes are at higher risk for hypothermia mainly because of impaired thermoregulation; however, large population level manifestations of this phenomenon have not been well defined.

**Methods:** We examined hospitalization data from New York City to investigate whether hypothermia is more common in patients with diabetes compared to patients without diabetes. Data were combined from 1993 to 2001 for a total sample size of more than 10 million patients; 2,134 were admitted with hypothermia.

**Results:** Three out of four hypothermia admissions occurred between December and March. Four percent of hypothermia patients were also diagnosed with diabetes, significantly higher ($P < 0.0002$) than the 1.6% of patients diagnosed with diabetes among nonhypothermia patients. Of all the 34 leading causes of death classified by the National Center of Health Statistics, based on the International Classification of Diseases 9th Revision, diabetes is the only significant risk factor for hypothermia based on logistic regression ($OR = 2.4; P < 0.01$).

**Implication:** Given that diabetes has doubled among adults in New York City in the past 8 years, educational materials and health alerts around prevention of hypothermia special during the winter months should be incorporated into any health messages targeting the city’s estimated 450,000 diabetics.

05085 6000 Bites in the Big Apple: The Characteristics of Dog and Cat Bites in New York City, 2002
Selenic D, Edward B, Li A, Crawford M, Mostashari F, and Gibson J

**Background:** In New York City all animal bites are reportable by health care providers. Information collected includes: date bite occurred, gender and age of victim, both geographic and anatomic location of bite, rabies prophylaxis, and breed of animal.

**Methods:** To examine the characteristics of reported dog and cat bites we reviewed all reported dog and cat bites for 2002, using existing animal control surveillance data.

**Results:** Of 6434 reported bites, 5176 (80.4%) were by dogs and 1258 (19.6%) were by cats. The median age for persons bitten by dogs was 28 years, and 35 years for persons bitten by cats. The overall rate per 100,000 population of dog bites was 64.6, and 15.7 of cat bites. The dog bite rate was higher in males than females (73.1 vs. 52.5), and in boys aged 5–9 years (138.0; RR = 3.9) compared to lowest age specific rate of 35.3 for male aged >65 years). In contrast, the cat bite rate was higher in women than men (18.1 vs. 11.9). Dog bite rates varied greatly among neighborhoods within the city, ranging from 26.1 to 176.6. The most common anatomic location of dog bites for adults aged 18–64 years was the arms/hands (48.1%), and for children < 5 years of age head/face/neck (47%).

**Implications:** Dog bites are reported more frequently than cat bites and occur in patterns that may allow targeting interventions to specific neighborhoods and age groups.

Further investigation of risk and protective factors are needed, in addition to the implementation of the standard breed classification.

05116 Health Promotion in Middle School Students: Obesity and Type II Diabetes Mellitus
Patchett K, McGraw AL, and LaBrec ML

Research has demonstrated that 14 percent of adolescents are overweight (Rubin, 2002). As a consequence of being overweight, more children are developing type II diabetes mellitus (Rubin, 2002; Amschler, 2002; Epstein & Myers, 1998). Health promotion and education can help address this problem. Middle school nurses recognize this is a vulnerable population and realize they can make a positive impression, yet an ill-defined role and time restraints may prevent them from implementing certain programs to benefit the middle school population. Based on our literature review, a health education
program was implemented targeting middle school students at risk for obesity and type II diabetes mellitus. A pre- and posttest were given to students measuring knowledge of health consequences associated with type II diabetes mellitus and obesity, proper portion sizes, healthy food choices, and the importance of exercise. The sample included 13 female students from an urban public middle school. Data analysis was conducted comparing pre and posttest results. Results showed an 11 percent increase in knowledge. Continued contact with these students to reinforce information would be beneficial. Ongoing research with middle school students is needed due to the overwhelming number of overweight adolescents, and to combat the associated health consequences. (Key Words: Minority population, middle schools, obesity, diabetes, middle school nursing).

05117 The Girls’ Sports and Well Being Initiative at the Brooklyn Muslim Youth Center
Ahmad S

**Background:** Immigrant female adolescents are at the same health risks as are their nonimmigrant counterparts. HIV, STDs, sexual abuse, pregnancy, eating disorders, depression and suicide are nondiscriminating phenomena. Islamic ideals have often been misconstrued as stifling to the Muslim female youth, making it an ideal religiosocial entity to study. While a thorough investigation into the origins of such misunderstandings is beyond the scope of this paper, we examine a pragmatic method for addressing the public health concerned created by it.

**Methods:** This study will follow the “Girls’ Sports and Well-Being Initiative” program at the Muslim Youth Center in Brooklyn, NY. Participants will be Muslim females ages 13–18, attending public school in the Bay Ridge Brooklyn community. The main program objective is to teach mental and physical health with emphasis on preventive care for the adolescent female. Fund of knowledge will be assessed at the start of the program through administration of a questionnaire, and after six months by redistribution of the same questions. Data will be stratified for variations in age and length of stay in America. With continuing success of the program, the study will expand to follow Muslim female youth of a more diverse ethnic background.

**Results:** The program proposal has recently been accepted by the Muslim Youth Center, and is currently in its preliminary organizational phase.

**Implications:** The project carries much potential by way of speaking to a public health concern among Muslim urban youth. The success of this program will not only encourage good health measures and an increased knowledge base for the individual participants, but will pave the road for a healthier and psychosocially sound next generation of Muslim urban youth.

05119 Minimizing Excessive Quarantine in a Hypothetical Outbreak of SARS in New York City During Influenza Season: An Economic Analysis
Khan K, Muennig P, Gardam M, Creatore MI, Gozdyra P, and Zivin JG

**Background:** As a result of globalization, large urban centers are becoming beacons for emerging infectious diseases like the Severe Acute Respiratory Syndrome (SARS). Given the inability to reliably discriminate early SARS symptoms from those of other influenza-like illnesses (ILI) and the current absence of a widely available diagnostic test for SARS, misclassification of ILIs during influenza season could result in the quarantining of a sizable segment of a city’s population.

**Methods:** We constructed a decision analysis model aimed at minimizing avoidable quarantine days for persons with ILIs of undetermined etiology in a hypothetical scenario in which nontraceable transmission of SARS occurs in New York City during the 2003–4 influenza season. We evaluated the economic implications of four competing strategies: quarantining all ILIs; testing all ILIs for influenza; testing all ILIs for SARS; mass vaccinating the city’s population against influenza prior to flu season.

**Results:** If 10% of New York City’s population were to develop an ILI, quarantining would result in $0.5 billion in lost wages and medical costs. Mass influenza vaccination would aver approximately 750,000 avoidable quarantine days, while an accurate SARS test could aver 2.6 million quarantined days. Mass vaccination coupled with SARS testing was most effective, averting 3.4 million avoidable quarantine days at an incremental cost of $170 per quarantine day averted.

**Implications:** A scenario of nontraceable SARS transmission during influenza season could have devastating economic consequences to a metropolitan center like New York City. If an accurate SARS test were available, SARS testing with or without mass influenza vaccination would be preferred strategies.
05126 A Multilevel Investigation of Forms of Social Capital and Self-Rated Health in 40 US Communities
Kim DJ, Subramanian SV, and Kawachi I

Background: Although social capital indicators such as social trust have been shown to predict individual health, the simultaneous and combined health effects of these indicators, capturing bonding, bridging, and linking forms of social capital, have yet to be investigated.

Methods: We performed a multilevel logistic regression analysis of self-rated health among 24,835 individuals nested within 40 US communities, using data from the 2000 Social Capital Community Benchmark Survey. Sociodemographic and socioeconomic variables were included in models as predictors, along with combinations of six individual-aggregated social capital indicators. Correlational and factor analysis were applied to identify social capital indicator groupings. Each indicator was dichotomized using the cross-community median value. Indicator values were then summed to produce grouping scores.

Results: We determined two social capital indicator groupings, that were weakly correlated with one another: SC1 (“bonding”)—social trust, formal group involvement, informal social interactions, giving/volunteering (Cronbach’s alpha = 0.78); and SC2 (“bridging/linking”)—friendship diversity, political participation (Cronbach’s alpha = 0.82). Adjusting for compositional factors, the odds of reporting poor/fair health were significantly higher in communities low in SC1 (OR = 1.20; 95% CI = 1.08–1.32), and in SC2 (OR = 1.14; 95% CI = 1.01–1.27). With both groupings included, SC2 lost its significance, while SC1’s effect remained relatively unchanged. No interaction between the effects of SC1 and SC2 was observed.

Implications: This study’s results support contextual effects of social capital on health, over and above community composition. Social capital of the bonding form accounted for most of these favorable effects. Future studies should explore mechanisms by which social capital forms may act to improve one’s health.

05127 The Great Pestilence: Yellow Fever in Portsmouth, Virginia, 1855
Lundgren BS

Background: In the summer of 1855, the town of Portsmouth, Virginia (as well as the city of Norfolk, its larger neighbor across the Elizabeth River) was devastated by a yellow fever epidemic. Although the town had coped with contained outbreaks of the disease before, the ferocity of this visitation destroyed the institutional fabric of the town. The government ceased to exist and was replaced by an extraordinary volunteer organization. The epidemic is examined in terms of the organization’s activities. Additional areas of inquiry include differential treatment of ethnic, racial and gender groups.

Methods: The history of the area and the epidemic was culled from both secondary and primary sources. Among the latter were contemporary newspapers, government documents and personal memoirs. Works on organization theory were consulted to illuminate the work of the volunteer organization.

Results: The organization acted as a de facto government. All needs of the town during the epidemic period were supplied by the organization. Following the epidemic, the organization seamlessly ceded civil authority (as well as substantial monetary donations) to the Portsmouth Common Council. Blame and praise were apportioned to immigrants, African-Americans and women according to societal beliefs of the time.

Significance: Epidemics, which now threaten us again, are lived out in terms of contemporary beliefs. Cities that have survived can teach us about our own beliefs and offer instruction in coping behaviors.

05132 Assessing the Impact of Research on Disaster Survivors
Smailes E, Durrah T, Gershon R, Murphy B, Hogan E, and Matzner F

Background: Survivors of disasters, including World Trade Center disaster survivors, are often recruited to participate in research related to the disaster. However, little is known about the impact of participation in such research on disaster survivors. We developed a study-specific protocol to minimize the potential adverse effects of study participation on survivors’ mental health and well-being, as well as access the extent of this occurrence.

Methods: After consultation with psychologists, psychiatrists, disaster researchers, researchers in PTSD, ethicists, and other specialists, a detailed protocol was developed for use when conducting in-depth interviews with 130 participants in the World Trade Center Evacuation Study. As part of this protocol, participants were asked to complete the Posttraumatic Stress Check List two weeks prior to
participating in the in-depth interview, directly following the interview, and then two weeks after the interview.

**Outcome:** In this presentation the protocol that was developed to minimize the negative impact on participants from participation in disaster-related research studies will be reviewed. Results of the impact of an in-depth interview on post traumatic stress disorder symptoms of respondents will be presented.

**Implications:** Information on the impact of participation in research on the health and well-being of disaster event survivors is sparse. This presentation addresses this issue by discussing the utility of a protocol developed to minimize the negative impact of the research process in these situations, presenting study findings of the impact of the research process on the urban workers who survived the WTC terrorist attacks.

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**05136 Multidisciplinary Approach to Affecting Teenage Risky Behavior**
Berger E and Minguez M

**Background:** According to a recent CDC report, 900,000 teenagers become pregnant each year nationally. Inner-city youth comprise the majority of this statistic. As with many disparities in healthcare, access is believed to be a major contributing factor. For the most part, the New York City school system does not offer health education curricula until high school. We propose bringing comprehensive health education curricula into the middle school system of New York City so as to proactively affect risky teenage behavior before it begins.

**Method:** Existing community and school-based health programs for adolescents were researched. A multidisciplinary eight-week curriculum was then devised. The curriculum included some essential didactics but focused mainly on workshops for increasing healthy lifestyle attributes such as self-esteem, decision making and assertiveness. The participants were regularly removed from their native environment and exposed to alternative healthy lifestyles including educational field trips and potential careers. The participants were finally expected to complete a group community service project. This provided the teenagers with a sense of ownership, accomplishment and confidence in their ability to attain healthy and fruitful futures.

**Results:** The project was evaluated short term with pre- and post-test surveys, which assessed knowledge and perceptions of risky behaviors. The surveys were issued to both participants and controls. In addition, cohort studies are planned in order to assess the long term affect of such an intervention on the participants themselves, culture of the school and adolescent population of this New York City community.

**Implications:** Teen pregnancy is just one major issue affecting inner-city youth. Physicians can have an impact on this trend with regular anticipatory guidance as well as outreach programs in their communities. This eight-week program serves as a comprehensive model for such an intervention.

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**05139 Shifting Evacuation Styles of Survivors of the World Trade Center Terrorist Attacks**
Smailes E, Gershon R, Durrah T, Murphy B, Hogan E, and Matzner F

**Background:** The World Trade Center (WTC) terrorist attacks highlighted the importance of evacuation training for urban workers in high rise buildings. Improvements in evacuation training can be achieved through understanding evacuation behavior. Early reports indicated that during the evacuation of WTC, evacuees were calm and cooperative. However, preliminary findings from in-depth interviews with WTC evacuees suggest that a wider range of evacuation responses and behaviors occurred.

**Method:** 150 in-depth interviews with WTC evacuees will be completed as part of “The World Trade Center Evacuation Study.” This study was designed to assess the factors that facilitated and hindered timely and effective evacuation of the WTC.

**Results:** Initial findings suggest that evacuation behaviors fell into two dimensions: (1) autonomic flight response or rational, cognitive response, and (2) evacuating alone or with a group. Many evacuees reported shifting between two of the four categories: flight/alone, flight/in a group, rational/alone, and rational/in a group. For instance, some survivors remained mentally alert and were alone for a portion of their evacuation. A number of these evacuees reported that their own health limitations separated them from a group. Other evacuees experienced a flight response that was intense enough that they were unaware of others around them. Some of these evacuees, however, reported a shift toward rational thought when faced with someone who needed assistance.

**Implications:** Study findings suggest that a typology of evacuation behaviors may exist and the formation of social attachments may help to regulate flight responses during evacuation.
05144 The World Trade Center Worker and Volunteer Medical Screening Program
Herbert R, Levin S, Moline J, Todd A, Fang S, Skloot G, Katz C, and Landsbergis P

Background: Because of early clinical evidence of occupational illness among workers and volunteers who responded to the 9/11 WTC disaster, NIOSH funded the WTC Worker and Volunteer Medical Screening Program to rapidly develop and implement a clinical program to provide 9,000 free standardized exams to WTC responders.

Methods: The program was established. Retrospective review of records from a random sample of 250 of the first 500 participants was conducted.

Results: 88% reported at least one WTC-related ENT symptom and 78% reported having had at least one WTC-related pulmonary symptom while at the site. Ten months or more after September 11, 2001, 73% had either persistent ENT symptoms or an abnormal ENT examination or both, and 57% had either persistent pulmonary symptoms or abnormal spirometry or both. 52% reported mental health symptoms requiring further evaluation; 21% of the sample reported symptoms consistent with PTSD.

Conclusions: Persistent respiratory and mental health symptoms were common among WTC responders. Challenges in program implementation included: quickly establishing a large program and developing the infrastructure to handle program volume, developing a governance structure responsive to multiple “stakeholders”; establishing fair and uniform criteria for exam eligibility; conducting staged outreach to reach a maximum number of people without overwhelming examination capacity, assuring access to follow up medical and mental health care, the importance of patient satisfaction in ensuring high participation rates, and meeting the needs of a multilingual, diverse population.

05147 Evaluation of the Rotary Club of Toronto Infirmary: Client Characteristics and Clinic Process Indicators
Jones KE, Chow K, Smith K, Kelly M, Svoboda T, Anstice S, and Smith R

Background: Seaton House operates Canada’s largest hostel for homeless men. In recognition of the impact of homelessness on client health, the Rotary Club of Toronto, Seaton House, St Michael’s Hospital and the University of Toronto have developed a partnership that provides healthcare within the shelter. The Rotary Club of Toronto Infirmary unit opened in November 2001 and provides multidisciplinary care. Clients admitted to the Infirmary are recently discharged from hospital, or have increased health care needs related to acute and chronic illness. This project represents the first step in evaluating the Infirmary process of care. The objective of this study is to collect data from the Infirmary regarding specific and selected aspects of client needs, characteristics, and overall process of care.

Methods: A cross-section of approximately 68 Infirmary clients’ charts and associated clinic information has been reviewed between April 2002 and April 2003. Specific information regarding client characteristics and Infirmary process of care has been obtained. These variables were examined based on criteria of feasibility of accurate collection, and usefulness for future Infirmary planning.

Results: Data collection includes information on demographics, admission/discharge, client referral needs, and types of care interventions.

Implications: Baseline information collected within the Infirmary unit on homelessness and health care provisioning will contribute significantly in the area of health and homelessness. The overall evaluation and substantiation of service may provide greater opportunity for multilevel funding for this disenfranchised population.

05150 The Role of EMS in the Public Health Response to Diseases of Bioterrorism
Qureshi K, Giordano L, Morse SS, Hogan E, Soto J, and Contreras G

Background: The NYC metropolitan region, with its concentrated population and status as the financial capital of the nation, is deemed by most to be particularly vulnerable to a weapon of mass destruction (WMD) event. In the event of a bioterrorist (BT) incident, it is likely that many victims will be transported to a hospital by ambulance, thus pre-hospital providers will be among the first to encounter the victims.

Methods: The Columbia University Center for Public Health Preparedness, in concert with the NYS DOH, Bureau of EMS, HHC, and the NYC DOHMH, developed an educational program for pre-hospital care providers which focused class A agents and the role of EMS in the public health response to BT.

Results: This paper will present an overview of the program including a discussion of the important role that EMS plays in the public health response to BT, results of the program pre/post test and results from a survey of EMS providers’ willingness to report to work during a WMD disaster. We found that
the program served to improve attendees' knowledge about class-A agents and the survey results indicate that the vast majority of EMS workers are willing to respond to any type of disaster.

**Implications:** Assuring that pre-hospital care providers are well-informed regarding class A agents, enhances early suspicion or recognition of an event and can lead to rapid initiation of protective precautions, reporting, and treatment. Thus, the preparedness of the pre-hospital care providers will serve to protect not only the health of the provider, but the general public as well.

### 05151 A System of Academic Centers for Public Health Preparedness in the United States of America
Morse SS and Qureshi K

**Background:** In the fall of 2000, the United States Centers for Disease Control and Prevention initiated the Academic Centers for Public Health Preparedness (the Centers) through a cooperative agreement with the Association of Schools of Public Health. The purpose of the Centers is to link public health practice with academe to develop the public health workforce and support the development of a public health emergency / disaster preparedness and response infrastructure in the United States for overall preparedness and EMD events.

**Methods:** The Centers collaborate with local, regional and state departments of health to develop and implement emergency preparedness plans, competency based training curricula, and conduct relevant preparedness research. In addition, bridging the gap between the hospital, pre-hospital and public health sectors are a concern which the Centers are helping to address.

**Results:** The presentation will describe this national network of Centers in detail, and illustrate how the partnering of the academic and practice sectors of public health can serve to build and strengthen the emergency response infrastructure of a nation. Activities by the Columbia University Center at the Mailman School of Public Health in response to 9/11 and the anthrax events of autumn 2001 will be discussed. Lessons learned and challenges to achieving efficient, productive partnering will also be discussed.

**Implications:** The partnership between academe and public health improves the overall preparedness of the health care system.

### 05152 Hospital Employee Ability and Willingness to Report to Duty During Catastrophic Disaster
Qureshi K, Straub T, Gershon R, and Gebbie, E

**Background:** One of the key components to effective disaster response for any agency is a well trained, competent workforce that is available and willing to report to duty when needed for response operations. During several meetings of the Greater New York Hospital Association (GNYHA) Emergency Preparedness Coordinating Council (EPCC) numerous hospital executives voiced concern that some essential employees might not respond during a major weapons of mass destruction (WMD) emergency. While there were no reported hospital staff shortages after the September 11 and anthrax events, these were not considered to be WMD events. Were a true WMD event to occur (i.e. large scale smallpox outbreak or chemical attack with 100,000 victims), it is anticipated that hospitals may experience staffing problems. Similarly, this same concern was also raised by the New York City Department of Health. During an emergency preparedness pilot training program for School Health Nurses, 50 participants were queried, and 45 reported that they perceived some sort of barrier to reporting to work during a disaster situation. To date, little research has been done in this area.

**Methods:** This paper will present the results of a large scale survey of hospital employees employed in facilities that are members of the GNYHA. The survey was designed to identify facilitators and barriers to employees' ability and willingness to report to duty during six different types of catastrophic disaster scenarios.

**Results:** The most frequent barriers cited were: personal obligations for childcare, pet care, and elder care; fear for safety of self or family and transportation issues.

**Implications:** Identification of facilitators and barriers for employees reporting to duty during a disaster provides information that can be used to address the issue.

### 05156 New York City Restaurant Inspections
Rosenthal M

**Background:** With a population of approximately 23,000 eating establishments in New York City, developing and maintaining a food service establishment inspection program that promotes and maintains sound public health practices in restaurants is an ongoing challenge.

**Methods:** Data from New York City’s restaurant inspection program from July 1, 2000 to June
30 2002 was used for the study. The data contained 19,728 mandatory first-time inspections and 36,035 necessary follow-up inspections. Government and nonprofit affiliated eating establishments were not included in the analysis. Each inspection included information on such key areas as: name and location of the restaurant, type and length of each inspection conducted, and a breakdown of all violations issued during inspection.

**Results:** Restaurants with staff on site that have attended the New York City Bureau of Food Safety and Community Sanitation mandated food handling instruction class have a greater chance of passing inspection and receiving a few violations. Public complaints resulting in ensuing restaurant inspections yield a low percentage of restaurant inspection failures. While the majority of restaurants are located in the borough of Manhattan, the Bronx, Brooklyn, and Queens have a higher rate of inspection failures.

**Implications:** Insight into restaurants that fail health inspections will lead to improved program efficiency and performance. In addition, these enhancements will lessen the impact that mandatory inspections have on limited New York City government resources and those of restaurant owners and operators.

**05159 Challenges to Conducting Occupational Health Intervention Research in Construction**

Goldberg M, Clark N, Klitzman S, Wanzer K, and Zuckerman N

Federal occupational health and safety research priorities for the construction industry favor investigations which assess interventions, although such research faces serious obstacles. An intervention project conducted by the Construction Hygiene and Ergonomics Program is described which developed guides to aid construction managers in planning and implementing control programs for lead and silica during urban infrastructure rehabilitation. Both quantitative (exposure assessment, biological monitoring) and qualitative (focus groups, site audits) methods were employed. The role of different groups in enhancing or retarding project completion is analyzed in terms of the viability of intervention research in the construction environment. The groups discussed include the owners, contractors, unions, workers, government agencies and the community. The particular relationship of these groups in an urban environment, where construction projects are often carried out in close proximity to living and public spaces, creates a dynamic interplay of social forces that often has unpredictable consequences for the outcome of research endeavors. In order to test an intervention research hypothesis, the researcher must not only understand the interests which the different groups represent, but become skilled in advocating for the project to different audiences. This lesson is exemplified by comparing and contrasting the results obtained with lead to those of silica. Although both are very toxic to adults, the outcomes for interventions are different, since only lead is a well-documented hazard to children. The project is outlined from the beginning, when researchers attempt to gain site access, to the point when the intervention is field-tested.

**05172 An assessment of clinicians’ knowledge, attitudes and behavioral intentions regarding bioterrorism**

Gershon R, Qureshi K, Gurtman A, Sepkowitz K, Morse S

**Background:** The anthrax attacks in 2001 underscored the importance of having a prepared clinical workforce. However, anecdotal reports indicated that many clinicians felt unprepared to recognize, diagnose and treat patients with suspected anthrax and other diseases of bioterrorism (BT). In order to address this issue, members of the Columbia Center for Public Health preparedness, along with their infectious disease colleagues from other medical institutions, developed and implemented a bioterrorism diseases training program designed specifically for community based clinicians.

**Methods:** The 3 ½ hour program focused on the Category-A diseases and emphasized reporting mechanisms of suspected cases, as well as the clinical signs and symptoms. A pre/post test was administered to voluntary participants.

**Results:** A total of 270 matched pre/post tests were analyzed. The mean age of 48.7yrs, and the most common specialty was internal medicine. The mean score for a set of knowledge questions was 6.4 (pre) and 7.2 (post) \((P < .05)\). Younger clinicians had higher knowledge scores. Confidence in ability to recognize and treat BT infected patients significantly improved after the training. Post training, fewer clinicians were willing to be vaccinated with the smallpox vaccine, although still willing to recommend it to their patients.

**Implications:** Gains in knowledge and confidence were observed after a targeted training program designed for clinicians. Training programs can be an effective mechanism to educate clinicians on diseases of BT, and are important in preparing the clinical workforce for diseases of BT.
Ethical Concerns Related to Disaster Research
Gershon R, Qureshi K, Gurtman A, Sepkowitz K, and Morse S

There is a small but important body of literature examining the impact of research involving survivors of disasters, underscoring the potential harm to study participants through revisiting the disaster events. Yet, in order to make important policy and procedural changes that may help both current and future disasters victims, such research is vital. The difficulty is how to balance the research with those of the survivors. There is a concern that disaster survivors may need special protections because they may be especially vulnerable to harm related to the research process itself. This issue is of immediate concern to us as one of several teams of investigators exploring various aspects of the New York City World Trade Center (WTC) disaster. In our case, we are examining the individual and organizational factors that may have served as barriers or facilitators to timely and effective evacuation of the WTC evacuation on 9/11/01. The difficulty of ensuring that survivors are not overburdened by multiple requests for participation in numerous studies is an important consideration, as is the logistics of contacting survivors in order to recruit them into the various studies. This is especially difficult with the WTC example since the businesses formerly located in the towers have since relocated throughout the tri-state area, and many employees have moved on to other jobs and are no longer employed by the same firms. These and other ethical and logistical considerations of conducting disaster research will be addressed with practical solutions identified that may serve to help other researchers.

Comparing Consumer and Service Provider Perspectives on Critical Ingredients in Community Support Programs for People with Severe Mental Illness (SMI) in Urban Settings
Rush B, Tate E, Norman R, Kirsh B, Prosser M, Wild C, and Lurie S

Background: While considerable research has focused on the effectiveness of different “models” of community support services for people with severe and persistent mental illness (SMI), there is increasing interest in identifying the service delivery processes, structures and content that are important predictors of program success, namely, “critical ingredients.” In Toronto, Canada we are in the last year of a 5-year process of developing a package of “model-free” instruments for the assessment of program characteristics, which may ultimately be linked to consumer outcomes. We report findings about the most important elements of community support programs for people with an SMI for reducing hospitalization and improving quality of life, focusing on a subset of respondents living in urban settings.

Methods: Qualitative analysis of 14 interviews with consumers, service providers and family members and 200 selected articles resulted in the identification of domains and questionnaire items. Data from the pilot testing of the questionnaires (with 75 consumers and 30 staff from 3 urban programs) were analyzed to further compare perspectives.

Results: General patterns of domains and themes identified in analysis of the literature and interviews were found to converge in some instances and diverge in others. While service providers responding to the questionnaire reported frequently providing most services in the domains, consumers tended to report that they were rarely or never received.

Implications: Our findings suggest the need for researchers and program evaluators in this area to include measures from multiple perspectives, including both self-report and more objective measures of services received. The domains of service delivery derived from multiple perspectives also provide a template for assessing the comprehensiveness of services provided by individual programs and service delivery networks.

Potential Uptake and Coverage of a Safe Injection Site in Vancouver’s Downtown Eastside
Kerr T, Wood E, Small D, Palepu A, and Tyndall MW

Background: A safe injection site (SIS) project will likely be initiated in Vancouver within the current year. The purpose of this study was to estimate the potential uptake of SISs in Vancouver’s Downtown Eastside (DTES), as well as to evaluate the impact of newly established federal guidelines on uptake and coverage.

Methods: Four hundred sixty-four active injection drug users (IDUs) were recruited using street-based recruitment and snowballing methods. Participants completed an interviewer-administered survey assessing demographic and drug use characteristics, as well as attitudes and expectations concerning the proposed SIS.

Results: Ninety-one percent of the respondents indicated a willingness to use SISs. However, willingness to use SISs decreased to 11% when federal guidelines (e.g., no sharing of drugs or assisted injection) were incorporated into the design. Considering local IDU population estimates, drug use char-
acteristics, and the proposed SIS model, it is estimated that Vancouver’s pilot SUS will cover only 4.5% of injections occurring in the DTES.

**Implications:** Safe injection sites have the potential to address public order and health problems associated with injection drug use. However, while a majority of IDU in Vancouver expressed a willingness to use a SIS, uptake by this population may be compromised significantly by the implementation of restrictive policies. In order to maximize benefit it is essential that an appropriate number of SIS be implemented simultaneously, and that they are designed with few restrictions on access and activities. As with other jurisdictions, it may be that several SIS are needed in Vancouver to provide adequate coverage.

05206 The Art of Alchemy: Translating Scientific Data into Practical Messages
Gibbons MC and RJ Freeman

**Background:** There has been considerable discussion recently about translating science into practice, and promoting evidence-based medicine, but with less emphasis or primary prevention or population-based health promotion. Also, clinical research findings are most commonly communicated via scientific venues. Thus they rarely make it back in an easily understood format, to the individuals from disadvantaged inner-city communities who are often the study subjects. In response, a joint project was implemented between Johns Hopkins Urban Health Institute College of Art and the community of East Baltimore.

**Methods:** Scientific messages from published research, addressing specific health issues were identified. Graphic arts students at the Maryland Institute College of Art were enlisted to develop and portray this data in a manner suitable for low-literacy populations. Community input and feedback were obtained via focus groups during all planning and developmental stages.

**Results:** The scientific data was translated into colorful and vivid; culturally appropriate messages that were eagerly accepted by the target population. Messages contrasted sharply with those previously developed by scientists without community involvement or artistic backgrounds.

**Implications:** This Preliminary pilot study demonstrates that scientific data can be communicated in a manner considered appealing and culturally appropriate to individuals from low literacy and culturally diverse backgrounds. The nonlinear creativity of artists and community participants is complementary to the formal methodology of researchers, who are trained to present data in a technical format. Our collaboration is presented as a model pilot study that can be further developed and evaluated in diverse community settings.

05208 The Amazing Grandmother’s Project
Edwards LA and Groves SL

The Amazing Grandmothers’ Project is a comprehensive community-based urban initiative to partner with grandmothers in their efforts to keep families intact. The project supports grandmothers as they raise their grandchildren whose parents are absent due to substance abuse. Multidisciplinary services are provided to a cohort of 15 grandmothers and 40 children. Components of the interventions include home visits by community health nurses, an eight-week nurturing program, a reading program, monthly dinners focused on family building and health education, parish nursing, spiritual support, and a grandmothers’ urban gardening project. Families are identified by a family services worker at a partnership school, Tench Tilghman Elementary School, in collaboration with the Julie Community Center. Programs are run in a local church, Amazing Grace Lutheran Church, in partnership with the minister, parish nurse, and parishioners. The project is a model program for community-academic partnerships. The need was identified by the community partners who then sought the academic assistance of the Johns Hopkins University School of Nursing to develop, implement, and evaluate the program. The project is funded by the Johns Hopkins Urban Health Institute, focused on neighborhoods of urban East Baltimore. Census 2000 data show that more than 4.5 million grandchildren are living in 2.4 million grandparent-headed households in the US. These amazing grandmothers are addressing this significant public health issue by their efforts to keep families intact.

05219 GIRL TALK—Girls in Real Life Tackling a Lived Killer: Minority Girls Talk Back to HIV/AIDS
Osyieke JN and Amnesty S

**Background:** Americans between ages of 13 and 25 acquire HIV infection at a rate of approximately two persons per hour. Nearly 50% of all new HIV infections are believed to occur in people
under the age of 25. Young women of color are disproportionately affected by this epidemic. The Office of National AIDS Policy reports that of the 25,000+ cases of AIDS reported in people between the ages of 20 and 24, racial and ethnic minorities represent 65%. In addition, young women of color represent 78% of the AIDS cases among young women.

**Methods:** GIRLTALK utilizes physicians to train minority adolescent females to become Peer Leaders in HIV/AIDS prevention, through a six-session education and training course. At the beginning of the course, the students complete and anonymous survey, the M-GAHRAP (Minority Girls Assessment of HIV Risk And Prevention), to assess their pre-GIRLTALK HIV knowledge, attitudes, perceptions and behaviors. The survey will also be administered at the end of the course and six months after the course to determine the effectiveness of the GIRLTALK program as an intervention for individual and community change.

**Results:** The initial group of students completed their training in January 2003 as a part of the pilot study. We will analyze data from subsequent groups after obtaining IRB approval.

**Implications:** GIRLTALK takes AIDS prevention and awareness to the “grassroots” of the epidemic by involving its victims. The findings of this project will determine the nature of interventions that are effective in encouraging healthy sexual behaviors in this population.
River (28%), Patapsco River (23%) and Middle River (18%). Among the participants, it was found that the anglers reported fishing an average of 11 times per month at several urban waterways.

**Fish Consumption Behaviors:** Approximately 47% of the participants reported that they or someone in their household consumed the fish. It was also reported that nearly 50% reported they always cooked as a form of preparation.

**Advisory Awareness:** Only 60% reported awareness of any Maryland fish advisories. Results of logistic regression analysis found that Blacks were 74% (OR = .26, P = 0.13) less likely to be aware of advisories in comparison to Whites, although this finding was not statistically significant.

**Implications:** These findings have enormous environmental justice implications, such as a gap in the risk communication to this population of urban anglers. This population of Baltimore urban anglers typifies the behaviors of subsistence fishing. However, the Maryland fish consumption advisories are based on recreational anglers and they do not consider the consumption behaviors or cooking practices in diverse populations. This lack of awareness of fish consumption advisories places this population and other small populations at a greater risk of exposure to environmental hazards due to consuming fish over the allowable size and number of meals as recommended by the state advisories.

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**05227 The Reintegration of the Severely Mentally Ill from the Inpatient Unit to the Urban Community**

Reyes A and Naval A

**Background:** The inpatient mental health unit of the Saint Michael's Hospital faces an increasing readmission rate and length of hospital stay of the homeless, multicultural, and severely mentally ill urban population. In 2002, the unit developed two positions of the Patient Transition Facilitator (PTF) role to address the unique and diverse needs of its clients.

**Method:** The PTF is a unique nursing role which innovatively utilizes a comprehensive and outcome-based plan for the patient’s continuing care in the community. The PTFs also facilitate appropriate admissions form the medical floors and crisis and outpatient departments to the inpatient mental health unit. They participate in quality and research initiatives that address social and multicultural needs to improve patient and program outcomes. They also actively partner with community service providers to improve pathways to continuing care. This role uses King’s (1981) Systems Framework as its operational approach, which allows the client to exercise his right to participate in decisions that influence his life, health, and community services. The framework also provides constructs that facilitate the maintenance and change of the client’s social system.

**Results:** After on year of the development of the PTF role, the unit has already received commendable community feedback, increased its community linkages, and improved its patient and program outcomes.

**Implications:** The complex reintegration process of the severely mentally ill from the inpatient unit to the urban community requires the integral roles of the PTF as a competent clinician of the interdisciplinary team and as an active community partner.

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**05235 Knowledge, Attitude and Practices Regarding Hazard Awareness and Risk Reduction among Workers at Garment Factory and Electronics Factory in Montego Bay, Jamaica**

Kambon M, Jolly P, and Forrester S

**Purpose:** To assess knowledge, attitudes and practices regarding hazard awareness and risk reduction among workers at a garment/apparel factory and electronics factory in Montego Bay, Jamaica.

**Methods:** Qualitative data were collected in two phases for this study. Phase I included two focus groups for garment factory and electronics factory population. The focus groups were conducted with 12 individuals at each company, a total of 24 employed workers on both worksites. The discussion questions covered the following content areas: knowledge of occupational health and safety issues, use of personal protective equipment during working hours, history for respiratory problems, and company responsibility of occupational health and safety risks in the workplace. Audiotapes and notes from the sessions were transcribed to identify major themes. Phase II involved administration of questionnaire to the employees. There were a total of 76 employees at the electronics factory and approximately 200 employees at the garment factory. The questionnaire focused on the use of personal protective equipment in the workplace and the prevalence of respiratory problems. Content analysis and Fisher’s Exact Test were utilized in the data analysis.

**Results:** Major themes that emerged from the focus group sessions were: personal protective equipment is somewhat important; personal protective equipment is worn because it is mandatory; the tropical climate and heat may contribute to recognized respiratory problems; and company management is
primarily responsible for health and safety of employees at the workplace. The questionnaire analysis found that the association to be significant with difference in the use of protective wear between workers in both Free Zone factories (OR = 0.085, CL = 0.031, 0.229). No significant association was found between the use of personal protective equipment and respiratory problems amongst the employees.

**Conclusion:** Content analysis from the group sessions showcased that occupational safety and health procedures can be properly followed with the proper training, education, and enforcement by facility management to the employees. The questionnaire results were not significant in confirming the use of personal protective equipment may influence the prevalence of respiratory problems. In general, with proper training and education implemented by facility management and with involvement from employees, the factory worksites can increase workplace safety and health initiatives. Further investigation may be needed to determine the association in the use of personal protective equipment and the prevalence of respiratory problems.

05255 Prevalence of Allergies in Asthmatics Attending a Family Health Clinic in East Harlem, New York
Rubin M

**Background:** Asthma is a leading cause of morbidity and mortality in the United States affecting over 15 million Americans yearly. New York City has a high prevalence of asthma and East Harlem, a medically vulnerable region, in particular, has on of the highest prevalence rates of asthma in the nation. Asthma is considered, along with allergic rhinitis and atopic dermatitis a disease of the atopic diathesis; our project was directed at correlating these three medical conditions. We conducted this study at La Clinica del Barrio, a community primary health care clinic in East Harlem serving approximately 4900 patients (over 16,000 patients visit annually), predominantly Hispanic (Dominical, Puerto Rican and Mexican) residing in the immediate vicinity of the facility. Of the patients there 687 (14.0%) have been diagnosed with asthma, 515 (10.5%) allergic rhinitis and 124 (2.5%) atopic dermatitis.

**Objective:** The objective of this study was to document the prevalence of allergic rhinitis and atopic dermatitis in the subset of asthmatic patients attending a community based health care clinic in East Harlem.

**Methods:** All children and adults diagnosed with asthma who obtain healthcare at La Clinica del Barrio were eligible for the study. Data was collected, using chart review and patient interviews on 100 such patients to ascertain if allergic rhinitis and atopic dermatitis were diagnosed as comorbid condition(s).

**Results:** Of the 100 patients studied, 89 (89%) with 95% CI [78%–92%] had allergic rhinitis, and 25 (25%) with 95% CI [12.5%–33.5%] had atopic dermatitis.

**Discussion:** Our results indicate a high prevalence of concomitant allergic conditions in our asthmatic populations. Issues such as possible causative effects of these comorbid conditions as well as the impact of allergic states in asthmatics deserve further study.

05258 The Impact of the World Trade Center Collapse on the Asthma of Medicaid Managed Care Enrollees Residing in New York City: Results from a Post-Disaster Survey
Wagner V, Radigan M, Lannon P, Anarella J, Roohan P, and Gesten F

**Background:** The collapse of the World Trade Center following the terrorist attacks of September 11, 2001 created a plume of smoke and dust that covered much of Lower Manhattan. Analysis of smoke and settled dust samples collected in and around Lower Manhattan indicated the presence of several respiratory irritants. This research examines the impact of the World Trade Center collapse on the asthma of Medicaid managed care (MMC) enrollees residing in New York City (NYC).

**Methods:** All MMC enrollees residing in NYC who met the HEDIS definition of asthma prior to 9/11/01 were surveyed by mail. Survey data were linked to service utilization data to validate survey responses.

**Results:** The survey response rate was 25%. Forty-six percent of respondents reported their asthma become worse post 9/1. Residents of Lower Manhattan were significantly more likely to report their asthma become worse and to report difficulty accessing care post 9/11 ($P < 0.001$) Respondents most commonly cited dust and emotional stress as the reasons why their asthma became worse. Service utilization data validated respondents’ assertions, as those who reported their asthma became worse were significantly more likely to have had professional service encounters ($P < 0.0001$), emergency department visits ($P < 0.0001$), and inpatient hospitalizations ($P = 0.0003$) with a diagnosis is of asthma.

**Implications:** The World Trade Center collapse had a significant effect on the asthma of MMC enrollees residing in NYC. Should a similar unfortunate event occur, public health officials and health-
care providers should be prepared to work in concert to minimize asthma exacerbations and maximize access to care.

05263 Providing Acupuncture in a Public Health Setting
Sommers E and Porter K

**Background:** The AIDS Care Project (ACP) Acupuncture Clinic opened in 1989 in response to community demand for access to care for people living with HIV/AIDS. A clinical network evolved that provides free treatment to over 3000 clients throughout Massachusetts and southern New Hampshire in hospitals, neighborhood clinics, and residential shelters. This presentation will focus on acupuncture as a public health strategy and community-based practice.

**Methods:** The presentation will describe the population the clinic serves, acupuncture utilization, public health alliances formed, participation of a Client Advisory Board, allocation of public funding and research on outcomes and studies conducted.

**Results:** Services are utilized by a diverse community of urban residents. Forty-four percent lie at or below the poverty level and an additional 29% earn 101% to 200% of poverty standards. Twenty-two percent of our clients do not have permanent housing and 5% live in institutions. Only 2% have private insurance. The agency currently provides services to approximately 300 individuals, over half of whom are African American, Latino, Native American, African, Brazilian, and Cape Verdean. Outcomes research has indicated that treatment may be useful in managing pain and improving clients' energy and quality of life. Preliminary results of a cross-over clinical trial suggest that acupuncture may be effective in controlling digestive side-effects of antiretroviral therapy and may even improve adherence to medication protocols.

**Implications:** The use of complementary therapies such as acupuncture should be evaluated in the context of public health standards. In particular, the need for data on utilization, access, and efficacy is crucial.

05265 “Bloodology”: An Innovative, Interactive, Educational Program about Blood
Johnson C, Dudkewic K, Bertman M, Murphy R, Ratner R, Merritt B, Reid M, Smith R, and Baxter M

**Background:** The New York metropolitan area has a need for greater awareness of the importance of blood donations. For that purpose we devised an interactive program about blood, blood transfusion and blood donation in a fun and innovative format that was stimulating to children and encouraged blood donations from adults accompanying them.

**Method:** New York Blood Center representatives presented three different sessions at the Brooklyn Children’s Museum to children ranging in age from 3 to 12 and their parents or guardians. Each independent session focused on: Circulation and what blood is; what blood does; and why we should donate. Activities included squeezing rubber hearts to sense how hard the heart works; listening to the heart beat; pulling red yarn from a box and wrapping it around a globe more than twice to demonstrate the length of the circulatory system; enacting body parts, lungs and heart to learn how red cells exchange CO2 and oxygen; using tubing to represent veins, arteries, and capillaries to show how red cells squeeze, platelets plug a cut, and white cells attack invaders, and finally, using songs, jigsaw puzzles of blood cells, donation requirements, and distributing “Bloodology” booklets.

**Results:** Over 800 attended the sessions. Their answers to true/false questions revealed comprehension.

**Implications:** The program employed low cost materials, and is an easy way to raise awareness of blood and blood donation. It was enthusiastically received and can be adapted to any age group.

05268 Benefits of a Church-Sponsored Community Health Fair in an Urban Setting
Goodman J, Parker D, Hilton K, Beard H, Plichta SB, and Jones JE

**Purpose:** Minority populations often lack trust in traditional information sources and may have difficulty communicating with healthcare providers. Many minority community churches have assumed a primary role in promoting healthy behaviors. Community Health Fairs that provide free health screenings can identify preexisting conditions and make referrals for follow-up care. This study examined the health care needs of participants in a church-sponsored health fair, and the extent to which a community health fair can address those needs.

**Method:** A church-sponsored health fair consisting of booths providing information on a variety
of topics and screening stations for blood pressure, glucose, cholesterol, sickle cell anemia, prostate cancer, and dental examinations was conducted at a rural church in Southern Virginia.

**Results:** 67 people attended the health fair with 59 completing the survey. Participants were predominately female (57%) and African-American (88%). Ages ranged from 18 to 84, and most possessed greater than a high school education. Of those screened, 64% had high blood pressure, 11% high blood glucose, 18% high cholesterol, and more than half were in need of urgent dental care. Over 20% of participants had a screening result that made them aware of a possible chronic health condition and were advised to seek follow-up care. A third of the participants witnessed that the fair provided health information they did not previously possess.

**Conclusions:** Findings support church-sponsored health fairs as a viable strategy to reach the medically underserved, especially communities that depend on the church to provide guidance in, among other things, their health information.

05281 Disordered Eating and Gender Socialization Practices in Adolescent Females Attending Single Sex and Coeducational Independent School Environments
Mensinger J

This study addresses an adolescent population not generally considered in research on urban health issues. While they are at-risk individuals, many of the study’s participants come from privileged, well-educated, urban families. They have the means to be sent to New York City’s most academically prestigious independent preparatory schools, and accordingly, nearly 100% of them are college bound. Despite abundant opportunities to thrive, eating pathologies plague these young women. In efforts to understand the social processes occurring within independent schools that might be contributing to the rising incidences of eating disorders, the present research quantitatively assessed the perceived gender socialization practices of female students attending eleven different single sex and coeducational schools. Through the use of multilevel modeling, results indicated that individual schools embody a distinct and measurable culture regarding female gender role socialization. Numerous significant findings are discussed, among the most interesting being that after controlling for the negative impact (i.e., with respect to eating problems) of dating and appearance concerns among peers—which were reported to a greater degree in coeducational contexts, and the positive impact of peers engaging in nontraditional gender role behaviors—which were reported to a greater degree in all-female contexts, girls attending the single sex schools still tended to report more eating disturbances than their coeducational peers. These counterintuitive results warrant further qualitative investigation of the social dynamics particularly occurring within all-female school environments. The research suggests the need for participatory school-based intervention and prevention programs targeting the adolescent daughters of residents living in upwardly mobile urban communities.

05288 Youth Voices: Urban Health Promotion Using Interactive Technologies
Skinner H, Lombardo C, and Poland B

**Background:** The rapid growth of technology creates innovative opportunities for health promotion and collective action. Since 1995, TeenNet based at the University of Toronto has been studying processes for engaging youth in health promotion using interactive technologies. TeenNet’s Youth Voices project aims to create youth-driven processes for social action and community health promotion. A special focus is on inner city youth.

**Methods:** Using low-end technologies (art, video, photography) and high-end Internet-based technologies, youth document the strengths and weaknesses of their communities and take action on selected issues of importance. In particular, we have used a documentary photography technique called Photovoice, which allows young people to explore and define the broad determinants of health in their own communities. Youth Voices is guided by a five-phase model, EIPAS: (1) Engagement (2) Issue Identification (3) Planning (4) Action and (5) Sustainability.

**Results:** The EIPAS model is being implemented and tested with inner city youth in Toronto through collaboration with three community organizations. Project findings indicate that low and high-end technologies are powerful tools for promoting dialogue, critical reflection, and community connection, thereby creating a strong foundation for capacity building and collective action.

**Implications:** When youth use technology to record and reflect their lives and experiences, they identify significant personal and community health issues and are motivated to take action. This approach has also been successful on a global scale, in our study linking street-involved youth in Nairobi (Kenya) with youth in Toronto (Canada): http://www.globalyouthvoices.org.
05308 Improving Communication Between Public Health and Emergency Responder Practitioners
Fiedelholtz G and Gursky E

Threats of bioterrorism and mass casualty events have become an acknowledged concern of public health practitioners. As a result of the 2001 anthrax attacks, public health has improved its capabilities to understand and respond to threats of deliberately deployed pathogens against populations. Bioterrorism will remain a focus of concern for the next decades of the twenty-first century for both public health and traditional emergency responders. Although their role in the identification and containment of deliberately engendered epidemics is crucial, public health’s ability to protect populations will depend on successful efforts to coordinate with the traditional responder community. Conversely, it is important for emergency responders to be educated in the principles of public health practice and epidemiology to reduce and contain disease spread. The community infrastructure supporting an urban environment faces specific challenges of threat mitigation and population protection. High population densities, diversities of languages and cultures, and finite social services would place extreme demands on the responder communities to disseminate risk communication; meter the flow of the truly ill and the worried well to available health services; house, shelter and canteen displaced persons; and so forth. The successful interface of capabilities and skills across the responder sectors (especially public health and traditional emergency management personnel) will have ramifications on the numbers of persons who are exposed and, quite possibly, have direct impact on mortality levels. This session will provide a crosswalk of capabilities, jargon and basic precepts to improve the foundation through which public health and traditional emergency responders can plan and operationalize coordinated response activities.

05310 Epidemiology of Human Visceral Leishmaniasis in Brazil with Emphasis in its Urbanization
Oliveira DLC, Assunção RM and Proietti, FA

**Background:** Human Visceral Leishmaniasis (HVL) has a worldwide distribution in 2000, 4,492 new cases were confirmed in Brazil. In Belo Horizonte (2,229,697 inhabitants), main city and capital of Minas Gerais State, only one human case was confirmed until 1993. In 1994, 35 human cases were reported. Since then, many cases are confirmed yearly.

**Methods:** In this paper we review the epidemiology of HVL, with emphasis on the urbanization of the disease in Brazil. Our review is based on the scenarios proposed by Mottin 1996. We consider the 1970’s as a turning point in the urbanization of the disease in the country. Cases reported from the northeast coast were followed by outbreaks occurring in several major cities in the northeast region represents a landmark in the disease urbanization.

**Results and Implications:** Until the middle 70’s, HVL was typically rural. We believe that the expansion of HVL from rural areas to large urban centers was the result of a complex interdependence of new causes/determinants possible distal (including changes in climate and the environment, the adaptation of the vector to new areas, inequalities, migration and an increase in population density in urban areas), of the incidence in the urban environment and the proximal and necessary causes/determinants of cases.

THE FOLLOWING ABSTRACTS WERE PRESENTED AT THE 1ST INTERNATIONAL CONFERENCE ON INNER CITY HEALTH, TORONTO, ONTARIO, OCTOBER 3–6, 2002

05312 Non-Financial Factors Associated with Decreased Viral Load Testing in Ontario, Canada
Raboud JM, Abdurrahman ZB, Major C, and Bayoumi AM

**Objective:** Viral load (VL) testing is an essential component of the care of people living with HIV. In Ontario, VL testing is available without charge to all individuals who qualify for the universal public health insurance program. We examined whether individual characteristics were associated with differential use of VL testing.

**Methods:** We studied individuals enrolled in the HIV Ontario Observational Database, a voluntary longitudinal cohort, for whom we had complete medication records and health insurance numbers for linkage. We obtained demographic data from self-report at the time of enrolment into the cohort, clinical and medication data from semiannual medical chart review, and viral load data from both the medical chart and Ontario’s Central Public Health Laboratory, the sole public provider for viral load testing. We classified individuals as having suboptimal viral load testing if they had a gap of 6 months or greater between subsequent tests. Results were examined with the method of Generalized Estimating Equations. We accounted for time-varying covariates including plasma viral load levels, CD4 counts, and antiret-
ro viral regimen characteristics. In a supplementary analysis, we classified suboptimal outcome as an interval of 9 months or greater between tests. In another supplementary analysis, we examined the length of time between tests as the dependent variable.

**Results:** A total of 1691 individuals were included in the analysis with a median follow-up time of 3.5 years (interquartile range [IQR] 2.0 to 4.5 years) and a median of 14 VL tests (IQR 7 to 19). The median rate of testing was 4.2 VL tests per year (IQR 3.3 to 5.3). In multivariate analyses, those more likely to have a clinically important gap in viral load measurement included women and heterosexual men (compared with gay men), odds ratio (OR) = 1.3, \( P = 0.02 \), injection drug users (OR = 1.9, \( P < 0.01 \)), and residents of Toronto (OR = 1.6, \( P < 0.01 \)). Tests were also done less frequently in more recent years (\( P < 0.01 \)) and for individuals not using antiretrovirals (OR = 1.6, \( P < 0.01 \)), while tests were done more frequently for individuals using 4 or more antiretrovirals (OR = 0.57, \( P < 0.01 \)). Analyzing the results using different cut-offs for an important gap in measurement or defining the delay between tests as a continuous variable did not change our results.

**Conclusions:** Injection drug users, women and heterosexual men, and residents of Toronto used fewer viral load tests than other individuals, even when financial barriers to testing were removed. Our results indicate the importance of appropriate care models for all HIV-infected persons.

05313 The UNI-SOL Project: Universities in Solitary for the Health of the Disadvantaged
Turnbull J

**Background:** In 1999 UNESCO, WHO and the University of Arizona cosponsored a global conference on “Universities and the Health of the Disadvantaged.” This conference arose from the concern that Universities were not directly connected to their local communities and in fact; the concept of service to these communities was foreign. Arising from this conference, the Arizona Charter was developed and the UNI-SOL (Universities for Solidarity) project emerged with support from the WHO and UNESCO.

**Objectives:**
1. A network of collaborating universities committed to the principles of addressing the health of the underserved through community partnerships.
2. A collaboration between WHO and UNESCO to advance the role of universities in promoting the health of this population.
3. A mode of disseminating information and best practice approaches to engage universities and academic institutions in addressing the health of the disadvantaged through education, research, service and policy development.
4. A method of investigating benefits to the health of the disadvantaged through university projects that are both multidisciplinary and self-sustaining.

**Methods:** The disadvantaged were defined as persons or groups who lack reasonable access to opportunities for development, or who fail to benefit from support generally meant for everyone, or who are victims of unfavorable societal actions. Projects were selected using preset criteria which included; a university partnership addressing the specific needs of the disadvantaged population, multidisciplinary teams that would address: research, education and/or service, active university participation with the sustainable development of infrastructure and ongoing university support. Twelve demonstration projects were selected that represented different university partnerships to address the health of the disadvantaged. Projects were varied in terms of approach and geography however, all had the unifying partnership theme. An evaluation structure was set in place to evaluate the effectiveness of the different projects.

**Results:** We report on the results of all 12 pilot projects, which are underway and will be completed in 1 year. Interim progress reports will be utilized to describe the lessons learned to date and the challenges inherent in serving the health needs of the underserved through community-university partnerships.

**Conclusions:** There are few examples of effective community-university partnerships in addressing the health needs of underserved populations. The lessons learned from the UNI-SOL project will guide further initiatives.

05314 The Inner City Health Project: A Model of Shelter-Based Health Care Delivery
Podymow T, Muckle W, Tadic V, and Turnbull J

**Objectives:** Arising from a regional initiative to address the problem of homelessness, The Inner City Health Project is a two-year shelter based pilot project designed to improve health care delivery to homeless underserved persons living in Ottawa. This project is a unique partnership between those who provide services to the homeless, the city of Ottawa and the University of Ottawa. This is a descriptive study.

**Methods:** The Ottawa Inner City Health Project is comprised of 3 programs: (1) Managed alcohol, a 16 bed shelter based program at the Shepherds of Good Hope, designed as a harm reduction measure
to provide alcohol to chronic street alcoholics, and to provide personal care by Client Care Workers (CCW) nursing and physician care. (2) Palliative Care Hospice, a 15 bed home based unit at the Union Mission created for terminally ill homeless persons to provide 24 hour nursing and CCW support care and (3) The Special Care convalescence unit, a 24 bed unit based at the Salvation Army Center includes nursing and CCW support care for homeless persons with complicated health needs, such as post operative care, metabolic abnormalities, diabetes and infections. In addition, approximately 20 homeless clients are served in the community if they are not within one of the existing shelter programs, yet are in need of services from the program. The ongoing coordination of client services is through an internet-secure medical record created for the Inner City Health Project and linked to the Ottawa Hospital.

**Results:** The organization of the Inner City Health Project, the methods of health care delivery for each program and some preliminary outcomes will be described. Effectiveness and cost-effectiveness studies are ongoing. In the first of this two-year pilot project, the Ottawa Inner City Health Project has served a total of 192 people, and currently a total of 50 are enrolled in the three programs. Preliminary data suggest decreased substance abuse, stabilization of medical and mental illness, successful housing of clients and improved compliance to medication and treatment regimes.

**Conclusions:** Innovative shelter-based health care delivery and internet-based record keeping of homeless persons can provide ongoing effective health care.

05315 Tuberculosis, Adherence Behavior and the Inner City
de Vos P, Cave A, and Gibson N

Although tuberculosis is no longer considered to be a major threat to public health in Canada, it remains a problem for Aboriginal, immigrant and inner city populations. Nonadherence to TB treatment is a major obstacle to the control of TB. Treatment behavior is a complicated phenomenon, and successful strategies to enhance patient adherence must address the barriers to treatment encountered by patients. The association between homelessness and TB is widely acknowledged, but few studies have examined how sociocultural factors impact adherence to TB treatment in homeless populations. Also conspicuously absent is any mention of the social conditions that localize TB to the poorest in society. The literature has consistently overlooked that those least likely to adhere to TB treatments are those least able to adhere. This study uses qualitative methods (including participant observation and ethnographic interviewing) to address this knowledge gap. Sixteen (16) homeless individuals in Edmonton were tracked over a period of 18 months. Working from a social ecological framework, the study shows how sociopolitical realities play out in the lives of homeless people—shaping not only their attitudes towards personal health but also their notions of individual agency.

05316 Analysis of Emergency Department Visits in a Cohort of Sheltered Homeless Adults
Vitale G, Podmynow T, and Turnbull J

**Objectives:** Homeless persons have higher rates of alcohol and substance use, infectious disease and psychiatric illness, are known to be frequent users of the Emergency Department (ED) and may use the ED as a substitute for primary care. We undertook a retrospective chart review of ED visits and admissions to the Ottawa Hospital in a cohort of homeless adults to determine patterns of illness or injury in this population.

**Methods:** A retrospective chart review of the Emergency Department visits to the Ottawa Hospital General and Civic campuses was performed by data analyst enquiry for ED visits during the year 2000 from the postal codes corresponding to three Ottawa shelters: The Salvation Army, Shepherds of Good Hope, Union Mission and a code for “No Fixed Address.” Analysis was performed for frequency of presenting diagnoses and admission rates for the year 2000.

**Results:** There were 436 visits by 147 patients to the ED in the year 2000. Admission rate to hospital was 13%. The most common diagnoses were alcohol intoxication/withdrawal (25% of visits), lacerations and contusions (22%), infections (17%), psychiatric (10%). Half of the visits occurred during the fall season; 46% of the visits occurred during regular office hours; 25% of the patients had 3 or more visits in the year studied.

**Conclusions:** The majority of ED visits by homeless persons did not require admission. Alcohol intoxication/withdrawal and laceration/contusions accounted for almost half of the visits. Existing social services could be integrated into ED visits to help reduce the unnecessary high frequency of these visits.

05317 An Interactive Web-Based Curriculum on Health Care Delivery to the Homeless
Maser E, Petit L, McLaughlin C, and Turnbull J

A web-based interactive curriculum was developed in response to a need for improved delivery of health care to the homeless. The program highlights health problems common to the homeless. It also emphasizes unique “adverse determinants of health” which require consideration to plan successful
Examples of adverse determinants of health include difficulty securing basic needs, unstable parenting, addictions and mental illness. The “Health and Poverty Curriculum” (HPC) is a web-based resource designed to help medical students understand the diverse needs of the homeless. In this curriculum, first and second year medical students are presented with interactive problem based case studies. Hypertext links provide access to questions, videos and fact sheets that cover the following topics: alcoholism, drug abuse, trauma, infectious disease, cardiology, respirology, gastroenterology, mental health, women’s health, youth and international comparisons. The learning objectives are: (1) To identify health problems common to the homeless; (2) To recognize the unique factors in the lives of the homeless that complicate their access to the current health care system; (3) To adapt our health care practices to meet these unique needs; (4) To develop clinical decision-making skills and choose appropriate interventions relevant to the homeless; and (5) To participate in hypothetical hospital discharge planning and long-term management of homeless patients. Students receive audio and visual feedback as they answer questions in the case studies. Recently, HPC has been incorporated into the University of Ottawa’s medical school curriculum. In the future, the curriculum will be available globally to other health care professionals through the worldwide web.