



The International Society for Urban Health
New York Academy of Medicine
1216 Fifth Avenue
New York, NY 10029
T: 212.822.7387 ♦ www.isuh.org ♦ F: 212.876.6220

Urban Health Literature Review

September-October 2007

Topic A: Urban Environment Impacts on Health

Topic B: Adolescents and Children

Topic C: Women's Health

Topic D: Men Who Have Sex with Men

Topic E: Homelessness

Topic F: Injection Drug Use

Topic G: Correctional Health

Topic H: Disaster Response and Prevention

Topic A: Urban Environment Impacts on Health

1. **Capon AG. Health impacts of urban development: key considerations. *N S W Public Health Bull.* September 2007;18(9-10):155-6.**

The urban environment is an important determinant of health. Health impact assessment is a tool for systematic analysis of the health consequences of urban development and management. This paper identifies key considerations, including opportunities for physical activity, food access and local economic development. Time use by urban residents has health implications. The schedule for infrastructure development in new release areas (in particular transport, education and health infrastructure) also has health implications. Health impacts should be considered a primary outcome of urban development and management.

2. **Powell LM, Chaloupka FJ, Bao Y. The availability of fast-food and full-service restaurants in the United States: associations with neighborhood characteristics. *Am J Prev Med.* October 2007;33(4 Suppl):S240-S245.**

BACKGROUND: Parallel to the rising obesity epidemic, food consumption patterns and household expenditures show a marked upward trend in total energy intake derived from away-from-home sources. **METHODS:** This study conducted cross-sectional multivariate analyses to examine associations between local-area racial, ethnic, and income characteristics and the availability of full-service and fast-food restaurants. Based on a U.S. national census of 28,050 ZIP codes that cover a population of 280,675,874 people, restaurant outlet data were linked to 2000 Census Bureau data based on ZIP code tabulation areas and analyses were undertaken using negative binomial count models and ordinary least squares regression analyses. **RESULTS:** Study results showed that higher- versus lower-income, predominantly black and racially mixed versus predominantly white and Hispanic versus non-Hispanic neighborhoods had fewer available full-service and fast-food restaurants. Near-low- and middle-income neighborhoods had the highest number of available restaurants with 1.24 and 1.22 times number of full-service restaurants and 1.34 and 1.28 times the number of fast-food restaurants compared to high-income

neighborhoods. Predominantly black neighborhoods were found to have 58.2% and 59.3% of the number of full-service and fast-food restaurants available in predominantly white neighborhoods. No statistically significant differences were found in the relative availability of fast-food versus full-service restaurants by income, race, or ethnicity in the national sample used. However, across urban areas, near-low-, middle-, and near-high- versus high-income neighborhoods and predominantly black versus white neighborhoods were found to have moderately higher proportions of fast-food among total restaurants. CONCLUSIONS: In urban areas, higher proportions of available fast-food restaurants out of total restaurants in predominantly black versus predominantly white neighborhoods may contribute to racial differences in obesity rates.

3. **Lees E, Taylor WC, Hepworth JT, Feliz K, Cassells A, Tobin JN. Environmental changes to increase physical activity: perceptions of older urban ethnic-minority women. *J Aging Phys Act.* October 2007;15(4):425-38.**

Despite the numerous benefits of physical activity, older adults continue to be more sedentary than their younger counterparts, and sedentary behavior is more prevalent among older racial and ethnic minorities than among Whites. This study used the nominal group technique (NGT) to examine participants' perceptions of what neighborhood environmental changes would encourage greater physical activity for older African American and Hispanic women. Participants age 50-75 years were recruited from 2 urban community health clinics. Nine NGT sessions (45 participants) were conducted. The women were asked what changes in their neighborhood environment would encourage them to become more physically active. Responses to the research question were tabulated, and qualitative analysis was used to identify themes and categories. Major categories were physical environment changes, safety, and activities/social support. Although the physical environment received the greatest number of points, concerns for personal safety cut across categories. Participants indicated the need for more facilities in which to be active.

4. **Strach S, Isaacs R, Greenwald MJ. Operationalizing environmental indicators for physical activity in older adults. *J Aging Phys Act.* October 2007;15(4):412-24.**

This qualitative study describes environmental supports and barriers to physical activity in an older adult sample drawn from low- and high-walkable neighborhoods. Thirty-seven individuals age 55 and over were recruited and answered open-ended survey questions, with a subsample invited back to partake in a semistructured interview. Content analysis identified categories and themes linking perceptions of neighborhood-environment characteristics to activity. Emerging categories and themes did not differ across neighborhood walkability, so results are presented for both groups combined. Infrastructure was the most common category identified to encourage activity, specifically, well-maintained sidewalks, bike paths or lanes, and traffic control. Other categories of land use, landscape, and aesthetics were reported. Poorly maintained or missing sidewalks, crosswalks, bike paths or lanes, and traffic safety were categories that discouraged activity. In conclusion, the information obtained is helpful in solidifying which environmental characteristics are important to measure as they relate to activity behavior in an older adult population.

5. **Bennett GG, McNeill LH, Wolin KY, Duncan DT, Puleo E, Emmons KM. Safe to walk? Neighborhood safety and physical activity among public housing residents. *PLoS Med.* October 2007;4(10):1599-606.**

BACKGROUND: Despite its health benefits, physical inactivity is pervasive, particularly among those living in lower-income urban communities. In such settings, neighborhood safety may impact willingness to be regularly physically active. We examined the association of perceived neighborhood safety with pedometer-determined physical activity and physical activity self-efficacy. **METHODS AND FINDINGS:** Participants were 1,180 predominantly racial/ethnic minority adults recruited from 12 urban low-income housing complexes in metropolitan Boston. Participants completed a 5-d pedometer data-collection protocol and self-reported their perceptions of neighborhood safety and self-efficacy (i.e., confidence in the ability to be physically active). Gender-stratified bivariate and multivariable random effects models were estimated to account for within-site clustering. Most participants reported feeling safe during the day, while just over one-third (36%) felt safe at night. We found no association between daytime safety reports and physical activity among both men and women. There was also no association between night-time safety reports and physical activity among men ($p = 0.23$) but women who reported feeling unsafe (versus safe) at night showed significantly fewer steps per day (4,302 versus 5,178, $p = 0.01$). Perceiving one's neighborhood as unsafe during the day was associated with significantly lower odds of having high physical activity self-efficacy among both men (OR 0.40, $p = 0.01$) and women (OR 0.68, $p = 0.02$). **CONCLUSIONS:** Residing in a neighborhood that is perceived to be unsafe at night is a barrier to regular physical activity among individuals, especially women, living in urban low-income housing. Feeling unsafe may also diminish confidence in the ability to be more physically active. Both of these factors may limit the effectiveness of physical activity promotion strategies delivered in similar settings.

6. **Cerin E, Leslie E, du TL, Owen N, Frank LD. Destinations that matter: associations with walking for transport. *Health Place.* September 2007;13(3):713-24.**

Associations between access to destinations and walking for transport were examined. Households ($N=2650$) were selected from 32 urban communities varying in walkability and socio-economic status. Respondents reported perceived proximity of destinations, transport-related walking, reasons for neighbourhood selection, and socio-demographic characteristics. Geographic Information Systems data defined objective measures of access to destinations. Measures of access to destinations were associated with transport-related walking. Associations depended on socio-demographic factors and type of destinations. Workplace proximity was the most significant contributor to transport-related walking, especially among women. Regular walking to work resulted in the accrual of sufficient physical activity for health benefits.

7. **Perez K, Mari-Dell'Olmo M, Tobias A, Borrell C. Reducing road traffic injuries: effectiveness of speed cameras in an urban setting. *Am J Public Health.* September 2007;97(9):1632-7.**

OBJECTIVES: We assessed the effectiveness of speed cameras on Barcelona's beltway in reducing the numbers of road collisions and injuries and the number of vehicles involved in collisions. **METHODS:** We designed a time-series study with a comparison group to assess the effects of the speed cameras. The "intervention group" was the beltway, and the comparison group consisted of arterial roads on which no fixed speed cameras had been installed. The outcome measures were number of road collisions, number of people injured, and number of vehicles involved in collisions. We fit the data to Poisson regression models that were adjusted according to trends and seasonality. **RESULTS:** The relative risk (RR) of a road collision occurring on the beltway after (vs before) installation of speed cameras was 0.73 (95% confidence interval [CI]=0.63, 0.85). This protective effect was greater during weekend periods. No differences were observed for arterial roads (RR=0.99; 95% CI=0.90, 1.10). Attributable fraction estimates for the 2 years of the study intervention showed 364 collisions prevented, 507 fewer people injured, and 789 fewer vehicles involved in collisions. **CONCLUSIONS:** Speed cameras installed in an urban setting are effective in reducing the numbers of road collisions and, consequently, the numbers of injured people and vehicles involved in collisions.

8. **Silverman RA, Galea S, Blaney S et al. The "vertical response time": barriers to ambulance response in an urban area. *Acad Emerg Med.* September 2007;14(9):772-8.**

BACKGROUND: Ambulance response time is typically reported as the time interval from call dispatch to arrival on-scene. However, the often unmeasured "vertical response time" from arrival on-scene to arrival at the patient's side may be substantial, particularly in urban areas with high-rise buildings or other barriers to access. **OBJECTIVES:** To measure the time interval from arrival on-scene to the patient in a large metropolitan area and to identify barriers to emergency medical services arrival. **METHODS:** This was a prospective observational study of response times for high-priority call types in the New York City 9-1-1 emergency medical services system. Research assistants riding with paramedics enrolled a convenience sample of calls between 2001 and 2003. **RESULTS:** A total of 449 paramedic calls were included, with a median time from call dispatch to arrival on-scene of 5.2 minutes. The median on-scene to patient arrival interval was 2.1 minutes, leading to an actual response interval (dispatch to patient) of 7.6 minutes. The median on-scene to patient interval was 2.8 minutes for residential buildings, 2.7 minutes for office complexes, 1.3 minutes for private homes (less than four stories), and 0.5 minutes for outdoor calls. Overall, for all calls, the on-scene to patient interval accounted for 28% of the actual response interval. When an on-scene escort provided assistance in locating and reaching the patient, the on-scene to patient interval decreased from 2.3 to 1.9 minutes. The total dispatch to patient arrival interval was less than 4 minutes in 8.7%, less than 6 minutes in 28.5%, and less than 8 minutes in 55.7% of calls. **CONCLUSIONS:** The time from arrival on-scene to the patient's side is an important component of overall response time in large urban areas, particularly in multistory buildings.

Topic B: Adolescents and Children

9. **Xue Y, Zimmerman MA, Caldwell CH. Neighborhood residence and cigarette smoking among urban youths: the protective role of prosocial activities. *Am J Public Health*. October 2007;97(10):1865-72.**

OBJECTIVES: We examined the association between neighborhood characteristics and cigarette use among adolescents and explored the protective effects of participation in prosocial activities to better understand strengths in adolescents' lives and help identify protective factors for the prevention of adolescent smoking. **METHODS:** We interviewed ninth graders who had grade point averages of 3.0 or lower and who were not developmentally disabled. Participants' addresses were geocoded so that interview data could be linked to 1990 US census data on neighborhood characteristics. **RESULTS:** Neighborhood disadvantage and the percentage of Black residents in a neighborhood had different effects on cigarette smoking among Black and White adolescents. Living in a neighborhood with a high percentage of Black residents had favorable effects for Blacks but not for Whites. For both groups, a low percentage of Black residents was a risk factor for cigarette use, and risk effects were higher in the more disadvantaged neighborhoods. Involvement in prosocial activities moderated neighborhood risks. **CONCLUSIONS:** Neighborhood effects on adolescent cigarette use were contingent upon both contextual and individual characteristics. Participation in prosocial activities had a protective effect among adolescents in high-risk neighborhoods. Engaging adolescents in such activities may help offset the adverse effects of living in a disadvantaged neighborhood.

10. **Frank R, Cerda M, Rendon M. Barrios and burbs: residential context and health-risk behaviors among Angeleno adolescents. *J Health Soc Behav*. September 2007;48(3):283-300.**

The increasing size of the Latino immigrant population in the United States underscores the need for a more complete understanding of the role that social context plays in influencing the health of immigrants and their children. This analysis explores the possibility that residential location influences the health-risk behaviors of Latino youth in Los Angeles County, California. The data come from the Los Angeles Family and Neighborhood Survey. We apply multivariate, multilevel Rasch models to two scales of adolescent health-risk behaviors (substance use and delinquency). The findings suggest that residence in Census tracts characterized by above-county-average levels of Latinos and above-county-average levels of poverty is associated with increased odds of health-risk behaviors for Latino adolescents, particularly for those born in the United States. The findings lend support to the contention, put forth in the segmented assimilation literature, that disadvantaged urban contexts increase the risk that U.S.-born children of immigrants will experience downward assimilation.

11. **Melzer-Lange MD, Van Thatcher CD, Liu J, Zhu S. Urban community characteristics and adolescent assault victims. *WMJ*. October 2007;106(7):394-6.**

PURPOSE: To examine the relationship between neighborhood factors and adolescent victimization for low- and high-risk areas of Milwaukee, Wis. **METHODS:** In this cross-sectional study, we compared neighborhood characteristics based on the US Census

Database by rates of adolescent victim rates as measured through victim client enrollment in an adolescent violence intervention program. Multiple regression procedures were used to analyze the data. RESULTS: The mean adolescent assault victim rate was 34.31 per 10,000 population (Standard deviation [SD] = 29.71) with range from 0.00 to 105.09 per 10,000 population in 35 ZIP-code areas in Milwaukee County. Neighborhood ZIP codes with low median household income and high rates of grandparents serving as heads of household were associated with high rates of adolescent assault victims ($R^2 = 0.75$). CONCLUSIONS: Urban areas with higher rates of grandparent head of household and low median household income are associated with higher rates of adolescent assault victims.

12. Molnar BE, Cerda M, Roberts AL, Buka SL. Effects of Neighborhood Resources on Aggressive and Delinquent Behaviors Among Urban Youths. *Am J Public Health*. September 2007 27; Epub ahead of print.

Objectives. We sought to identify neighborhood-level resources associated with lower levels of aggression and delinquency among youths aged 9-15 years at baseline after accounting for risk factors and other types of resources. Methods. Data were derived from the Project on Human Development in Chicago Neighborhoods, which focused on 2226 ethnically diverse, urban youths, their caregivers, and the 80 neighborhoods in which they resided at baseline. Results. Living in a neighborhood with a higher concentration of organizations or services serving young people and adults was associated with lower levels of aggression (odds ratio [OR]=0.9; 95% confidence interval [CI]=0.8, 1.0); living in such a neighborhood also moderated family, peer, and mentor resources. For example, the presence of well-behaved peers was associated with lower levels of aggression among youths living in neighborhoods where the concentration of organizations and services was at least 1 standard deviation above the mean; the association was less strong among youths living in neighborhoods with organizations and services 1 standard deviation below the mean or less. Conclusions. Certain family, peer, and mentoring resources may confer benefits only in the presence of neighborhood resources. Increasing neighborhood resources should be considered in interventions designed to reduce urban youths' involvement in violence.

13. Shibr D, Zahnd E, Becker M, Bekaert N, Calhoun D, Victorino GP. Benefits of a hospital-based peer intervention program for violently injured youth. *J Am Coll Surg*. November 2007;205(5):684-9.

BACKGROUND: Exposure to violence predisposes youths to future violent behavior. Breaking the cycle of violence in inner cities is the primary objective of hospital-based violence intervention and prevention programs. An evaluation was undertaken to determine if a hospital-based, peer intervention program, "Caught in the Crossfire," reduces the risk of criminal justice involvement, decreases hospitalizations from traumatic reinjury, diminishes death from intentional violent trauma, and is cost effective. STUDY DESIGN: We designed a retrospective cohort study conducted between January 1998 and June 2003 at a university-based urban trauma center. The duration of followup was 18 months. Patients were 12 to 20 years of age and were hospitalized for intentional violent trauma. The "enrolled" group had a minimum of five interactions with an intervention specialist. The control group was selected from the hospital database by matching age, gender, race or

ethnicity, type of injury, and year of admission. All patients came from socioeconomically disadvantaged areas. **RESULTS:** The total sample size was 154 patients. Participation in the hospital-based peer intervention program lowered the risk of criminal justice involvement (relative risk=0.67; 95% CI, 0.45, 0.99; p=0.04). There was no effect on risks of reinjury and death. Subsequent violent criminal behavior was reduced by 7% (p=0.15). Logistic regression analysis showed age had a confounding effect on the association between program participation and criminal justice involvement (relative risk=0.71; p=0.043). When compared with juvenile detention center costs, the total cost reduction derived from the intervention program annually was \$750,000 to \$1.5 million. **CONCLUSIONS:** This hospital-based peer intervention program reduces the risk of criminal justice system involvement, is more effective with younger patients, and is cost effective. Any effect on reinjury and death will require a larger sample size and longer followup.

14. Wang Y, Liang H, Tussing L, Braunschweig C, Caballero B, Flay B. Obesity and related risk factors among low socio-economic status minority students in Chicago. *Public Health Nutr.* September 2007;10(9):927-38.

OBJECTIVES: To assess overweight and related risk factors among urban low socio-economic status (SES) African-American adolescents in an attempt to study the underlying causes of ethnicity and gender disparities in overweight. **METHODS:** Cross-sectional data collected on anthropometric measures, diet, physical activity and family characteristics from 498 students in grades 5-7 in four Chicago public schools were analysed to study the risk factors for overweight using stepwise regression analysis. **RESULTS:** Only 37.2% of the students lived with two parents. Nearly 90% had a television (TV) in their bedroom, and had cable TV and a video game system at home. Overall, 21.8% (17.7% boys versus 25.1% girls) were overweight (body mass index (BMI) \geq 95th percentile); and 39.8% had a BMI \geq 85th percentile. Compared with national recommendations, they had inadequate physical activity and less than desirable eating patterns. Only 66.1% reported having at least 20 min vigorous exercise or 30 min of light exercise in \geq 5 days over the past 7 days; 62.1% spent >3 h days-1 watching TV/playing video games/computer, while 33.1% spent \geq 5 h days-1. Their vegetable and fruit consumption was low, and they consumed too many fried foods and soft drinks: 55.1% consumed fried food twice or more daily and 19.5% four times or more daily; 70.3% consumed soft drinks twice or more daily and 22.0% four times or more daily on average. Gender, physical activity and pocket money were significant predictors of overweight ($P < 0.05$). **CONCLUSIONS:** Several factors in the students' behaviours, school and family environments may increase overweight risk among this population. There is a great need for health promotion programmes with a focus on healthy weight and lifestyle, and targeting urban low-SES minority communities.

15. Powell LM, Auld MC, Chaloupka FJ, O'Malley PM, Johnston LD. Associations between access to food stores and adolescent body mass index. *Am J Prev Med.* October 2007;33(4 Suppl):S301-S307.

BACKGROUND: Environmental factors such as the availability of local-area food stores may be important contributors to the increasing rate of obesity among U.S. adolescents. **METHODS:** Repeated cross-sections of individual-level data on adolescents drawn from

the Monitoring the Future surveys linked by geocode identifiers to data on food store availability were used to examine associations between adolescent weight and the availability of four types of grocery food stores that include chain supermarkets, nonchain supermarkets, convenience stores, and other grocery stores, holding constant a variety of other individual- and neighborhood-level influences. **RESULTS:** Increased availability of chain supermarkets was statistically significantly associated with lower adolescent Body Mass Index (BMI) and overweight and that greater availability of convenience stores was statistically significantly associated with higher BMI and overweight. The association between supermarket availability and weight was larger for African-American students compared to white or Hispanic students and larger for students in households in which the mother worked full time. **CONCLUSIONS:** Economic and urban planning land use policies which increase the availability of chain supermarkets may have beneficial effects on youths' weight outcomes.

16. Tolou-Shams M, Payne N, Houck C, Pugatch D, Beausoleil N, Brown LK. HIV testing among at-risk adolescents and young adults: a prospective analysis of a community sample. *J Adolesc Health*. December 2007;41(6):586-93.

PURPOSE: Little is known about predictors of human immunodeficiency virus (HIV) testing among sexually active adolescents, who account for a large proportion of new HIV infections. This study sought to determine predictors of HIV testing among a large community-based sample of adolescents in three cities who had recent unprotected sexual intercourse. **METHODS:** Sexually active adolescents (N = 1222) completed baseline and 3-month assessments of sexual behavior, substance use and HIV testing behaviors as part of a larger, multi-site, brief HIV prevention program. **RESULTS:** Approximately half of the adolescents reported having previously been tested for HIV, and of those one third were tested in the next 3 months without a specific intervention. Adolescents who received HIV testing were more likely at baseline to have ever been tested, to have a STI diagnosis, to have not used substances during sex and to have been assertive about condom use with a partner. **CONCLUSIONS:** Health care models encouraging more widespread, universal testing may be an important public health initiative to curb the spread of HIV. Regular HIV screenings provide an opportunity to enhance awareness of behavioral risk and HIV status, as well as provide opportunities for early detection and care.

17. De Genna NM, Cornelius MD, Cook RL. Marijuana use and sexually transmitted infections in young women who were teenage mothers. *Womens Health Issues*. September 2007;17(5):300-9.

PURPOSE: Teenage pregnancy and marijuana use are associated with higher risk of contracting sexually transmitted infections (STIs). In this study, we examined the role of early and current marijuana use as it related to STI risk in a sample of young women who were pregnant teenagers, using a variety of statistical models. **METHODS:** We recruited 279 pregnant adolescents, ages 12-18, from an urban prenatal clinic as part of a study that was developed to evaluate the long-term effects of prenatal substance exposure. Six years later, they were asked about their substance use and sexual history. The association of early and late marijuana use to lifetime sexual partners and STIs was examined, and then

structural equation modeling (SEM) was used to illustrate the associations among marijuana use, number of sexual partners, and STIs. RESULTS: Bivariate analyses revealed a dose-response effect of early and current marijuana use on STIs in young adulthood. Early and current marijuana use also predicted a higher number of lifetime sexual partners. However, the effect of early marijuana use on STIs was mediated by lifetime number of sexual partners in the SEM, whereas African-American race, more externalizing problems, and a greater number of sexual partners were directly related to more STIs. CONCLUSIONS: Adolescent pregnancy, early marijuana use, mental health problems, and African-American race were significant risk factors for STIs in young adult women who had become mothers during adolescence. Pregnant teenage girls should be screened for early drug use and mental health problems, because they may benefit the most from the implementation of STI screening and skill-based prevention programs.

18. Tebes JK, Feinn R, Vanderploeg JJ et al. Impact of a positive youth development program in urban after-school settings on the prevention of adolescent substance use. *J Adolesc Health*. September 2007;41(3):239-47.

PURPOSE: Positive youth development (PYD) emphasizes a strengths-based approach to the promotion of positive outcomes for adolescents. After-school programs provide a unique opportunity to implement PYD approaches and to address adolescent risk factors for negative outcomes, such as unsupervised out-of-school time. This study examines the effectiveness of an after-school program delivered in urban settings on the prevention of adolescent substance use. METHODS: A total of 304 adolescents participated in the study: 149 in the intervention group and 155 in a control group. A comprehensive PYD intervention that included delivery of an 18-session curriculum previously found to be effective in preventing substance use in school settings was adapted for use in urban after-school settings. The intervention emphasizes adolescents' use of effective decision-making skills to prevent drug use. Assessments of substance use attitudes and behaviors were conducted at program entry, program completion, and at the 1-year follow-up to program entry. Propensity scores were computed and entered in the analyses to control for any pretest differences between intervention and control groups. Hierarchical linear modeling (HLM) analyses were conducted to assess program effectiveness. RESULTS: The results demonstrate that adolescents receiving the intervention were significantly more likely to view drugs as harmful at program exit, and exhibited significantly lower increases in alcohol, marijuana, other drug use, and any drug use 1 year after beginning the program. CONCLUSIONS: A PYD intervention developed for use in an urban after-school setting is effective in preventing adolescent substance use.

19. Galea S, Ahern J, Tracy M, Rudenstine S, Vlahov D. Education inequality and use of cigarettes, alcohol, and marijuana. *Drug Alcohol Depend*. September 2007;90 Suppl 1:S4-15. Epub@2006 Nov 28.:S4-15.

Education inequality at the neighborhood-level may influence population health and health behavior. We assessed the relations between education inequality and substance use in 59 New York City (NYC) neighborhoods. We used Gini coefficients of education to describe neighborhood education inequality and data from a random-digit-dial phone survey of adult

residents of NYC to assess use of substances. Among 1355 respondents (female=56.2%; white=35.7%; mean age=40.4), 23.9% (95% confidence interval [CI]=20.3-27.5) reported smoking, 39.4% (95% CI=35.3-43.4) drinking, and 5.4% (95% CI=3.6-7.3) using marijuana in the previous 30 days. In multilevel models controlling for neighborhood education, neighborhood income inequality, and individual covariates, living in a neighborhood with high education inequality was associated with a greater prevalence of drinking (p=0.02) and of smoking marijuana (p=0.004) but among current drinkers it was associated (p=0.03) with having fewer drinks. The odds of alcohol use (OR=1.70) and marijuana use (OR=3.49) were greater in neighborhoods in the 75th percentile of education Gini compared to neighborhoods in the 25th percentile of education Gini. Statistical interactions suggest that there may be a stronger relation between education inequality and marijuana use in neighborhoods with low mean education than in neighborhoods with higher mean levels of education. These findings, taken together, suggest a complex relation between education inequality and substance use; likelihood of the use of alcohol and marijuana was higher in areas with higher education inequality suggesting potential roles for substance use norms and availability, whereas quantity used among drinkers was higher in areas with low education inequality, suggesting potential roles for both disadvantage and norms.

20. Shah S, Sinclair SA, Smith GA, Xiang H. Pediatric hospitalizations for bicycle-related injuries. *Inj Prev.* October 2007;13(5):316-21.

OBJECTIVES: To determine the incidence of bicycle-related injury hospitalizations among children and adolescents 20 years of age and younger and to examine the associated use of healthcare resources. **DESIGN:** Nationally representative data from the 2003 Healthcare Cost and Utilization Project's Kids' Inpatient Database (KID). **OUTCOME MEASURES:** National estimates of hospitalization for bicycle-related injuries according to patient demographics, type of injury, total hospital charges, and length of hospital stay. **RESULTS:** In 2003, an estimated 10,700 children were hospitalized for a bicycle-related injury in the USA. Inpatient charges totaled nearly \$200 million with a mean charge of \$18,654 per hospitalization. The national rate was 12.7 hospitalizations per 100,000 children. Young adolescents aged 10-13 years accounted for the highest percentage of cases (36.6%) followed by children aged 6-9 years (25.1%). Most patients were male (76.7%) and resided in an urban area (94.4%). A head injury was diagnosed in one out of three hospitalized bicyclists; 30% were due to a motor vehicle collision. **CONCLUSIONS:** Pediatric bicycle-related hospitalizations are a significant public health problem. The morbidity and mortality among children and the economic costs to society are large. The patient characteristics and injury types identified by this study should be used to develop targeted prevention strategies.

21. Quinlan KP, Holden J, Kresnow MJ. Providing car seat checks with well-child visits at an urban health center: a pilot study. *Inj Prev.* October 2007;13(5):352-4.

OBJECTIVE: To evaluate a pilot program of providing child restraint system (CRS) checks by certified technicians with well-child care in an urban health center serving a low-income community. **METHODS:** During well-child care, nationally certified child passenger safety technicians assessed CRS use, educated care givers, corrected misuse, and provided a new

CRS if necessary. The program's effect was assessed at a subsequent medical visit. RESULTS: A total of 3650 CRS checks were performed. CRS non-use was found for 307 (17%) infants, 604 (50%) toddlers, and 593 (88%) booster seat-sized children. Exposure to the program was associated with a significant positive effect on CRS use ($p < 0.001$) and significant improvements in the major components of misuse ($p < 0.05$) months later. CONCLUSIONS: This urban health center has high rates of CRS non-use and near-universal misuse. Providing CRS checks by certified technicians during well-child care is a promising means of promoting sustained and improved CRS use.

22. Manongdo JA, Ramirez Garcia JI. Mothers' parenting dimensions and adolescent externalizing and internalizing behaviors in a low-income, urban Mexican American sample. *J Clin Child Adolesc Psychol.* October 2007;36(4):593-604.

The relation between adolescent-reported parenting behaviors and mother-reported youth externalizing and internalizing behaviors was examined among 91 Mexican American mother-adolescent (ages 13-17) dyads recruited from an immigrant enclave in a large midwestern metropolitan area. Two major dimensions of mothers' parenting emerged: supportive parenting and harsh parental control. Gender moderation analyses revealed that lower levels of externalizing behaviors were linked with mothers' higher levels of supportive parenting among girls but not among boys. Higher levels of youth-reported depression were linked with mothers' higher levels of harsh parental control among boys but not among girls. The findings highlight the importance of supportive parenting and of gender in the study of Mexican American families and youth mental health.

23. Wilbur MB, Marani JE, Appugliese D et al. Socioemotional effects of fathers' incarceration on low-income, urban, school-aged children. *Pediatrics.* September 2007;120(3):e678-e685.

OBJECTIVE: The goal was to evaluate whether children of incarcerated fathers are more likely to report or exhibit behavioral symptoms than their equally disadvantaged peers without an incarcerated father. METHODS: During an ongoing longitudinal study of intrauterine cocaine exposure involving 102 children (50% male and 89% black) from urban, low-income homes, questions regarding incarceration of the child's father were asked of the child's primary caregiver at each visit during school age. Children were administered the Children's Depression Inventory between the ages of 6 and 11 years, and their primary caregivers completed the Child Behavior Checklist. In addition, the children's teachers completed the Teacher Report Form. Children's Depression Inventory, Child Behavior Checklist, and Teacher Report Form data obtained at the oldest available age after the first report of paternal incarceration were analyzed. RESULTS: In bivariate analyses, children whose fathers were in jail had higher Children's Depression Inventory total scores compared with children without incarcerated fathers, indicating more depressive symptoms. This finding was robust in multivariate analyses after adjustment for children's age, gender, prenatal cocaine and alcohol exposure, and school-age violence exposure. Teachers reported higher Teacher Report Form externalizing scores for children whose fathers were in jail, after adjustment for age, gender, prenatal cocaine and marijuana exposure, and school-age violence exposure. CONCLUSIONS: Children of incarcerated fathers reported more depressive symptoms and their teachers noted more externalizing behaviors, after

controlling for other biopsychosocial risks. Interventions targeted to ameliorate the distress of children with incarcerated fathers should be considered.

24. Hornberg C, Pauli A. Child poverty and environmental justice. *Int J Hyg Environ Health*. October 2007;210(5):571-80.

BACKGROUND: Child poverty and social inequality in Western countries are growing both in scope and in complexity. The clustering of income poverty in urban settings reflects the complex process of residential segregation. Living in segregated neighbourhoods with much poverty and predominantly substandard housing is usually associated with poor physical, chemical and social environmental living conditions at the individual and community level which influence and shape children's health both directly and indirectly. **OBJECTIVE:** This paper shows research data on the link between child poverty and income-related health inequalities according to the unequal exposure to environmental hazards as well as the unequal distribution of environmental resources in the domestic environment and within the local context as an increasing public health issue in Germany. The links between these factors are drawn from the conceptual framework of environmental justice. Examples are shown of integrated approaches to alleviate social and environmental disparities at the community level. **CONCLUSION:** The implications of environmental justice for public health include the need to uncover the link between socioeconomic factors and environmental health disparities related to the man-made environment. Developing relevant indicators for environmental inequalities in the context of housing and health is an important task for public health research. More emphasis should be placed on a comprehensive holistic approach to understand the mechanisms by which socioeconomic factors modify children's susceptibility and exposure to environmental hazards, particularly in low-income areas.

Topic C: Women's Health

25. Clark C, Ryan L, Kawachi I, Canner MJ, Berkman L, Wright RJ. Witnessing community violence in residential neighborhoods: a mental health hazard for urban women. *J Urban Health*. January 2008;85(1):22-38.

We examined the prevalence and psychological correlates of witnessing community violence among women of low socioeconomic status living in urban neighborhoods in the northeastern United States. Three hundred eighty-six women receiving their health care at an urban community health center were sampled to assess their violence exposures. Women were asked to report the location and timing of their exposure to witnessing violent neighborhood events in which they were not participants. The Brief Symptoms Inventory was used to assess anxiety and depressive symptoms. Controlling for marital status, educational attainment, age, and intimate partner violence victimization, women who witnessed violent acts in their neighborhoods were twice as likely to experience depressive and anxiety symptoms compared to women who did not witness community violence. Central American-born women had particularly high exposures. We conclude that witnessing neighborhood violence is a pervasive experience in this urban cohort, and is associated with anxiety and depressive symptoms, even among women who are not direct participants in violence to which they are exposed. Community violence interventions must

incorporate efforts to protect the mental health of adult women who witness events in their neighborhoods.

26. Edge D. Ethnicity, psychosocial risk, and perinatal depression--a comparative study among inner-city women in the United Kingdom. *J Psychosom Res.* September 2007;63(3):291-5.

OBJECTIVE: The objective of this study was to explore the relationships between psychosocial risk, ethnicity, and prevalence of depressive symptoms in the perinatal period. A comparative study among a cohort of Black Caribbean and White British women was undertaken. **METHODS:** A predominantly inner-city sample (N=301) was recruited at a large teaching hospital and at community antenatal clinics in the north of England. Women were screened for depressive symptoms in the last trimester of their pregnancy and 6 weeks after their delivery with the Edinburgh Postnatal Depression Scale (EPDS). **RESULTS:** Black Caribbean women reported higher levels of psychosocial risk for perinatal depression compared with their White British counterparts. They were more socially and socioeconomically deprived. To elaborate, the Black Caribbean women were more likely to live in the most deprived areas of the city (P=.002), to live on benefits (P=.014), and to be lone parents (P<.0001). However, despite higher levels of deprivation and other known risks for perinatal depression, Black Caribbeans were not more likely than White British women to score above the threshold on the EPDS (cutoff point, 12/13). **CONCLUSIONS:** During and after pregnancy, approximately a quarter of the Black Caribbean women in this study recorded symptom scores suggestive of clinically significant morbidity. These findings are not reflected in clinical practice, suggesting that there may be substantial levels of undetected and untreated perinatal depression among this ethnic group. This has potentially serious implications not only for the mental health and well-being of individual women but also for their families.

27. Sauvageau C, Duval B, Gilca V, Lavoie F, Ouakki M. Human papilloma virus vaccine and cervical cancer screening acceptability among adults in Quebec, Canada. *BMC Public Health.* October 2007 25;7:304.:304.

BACKGROUND: The Pap test has been used for cervical cancer screening for more than four decades. A human papillomavirus (HPV) vaccine has been approved for use in Canada and is commercially available now. These two preventive interventions should be considered simultaneously. General population support is an important factor for the successful combination of these interventions. The study had two objectives: 1) To assess practices, beliefs, and attitudes regarding Pap test screening and HPV immunization; 2) To identify socio-demographic factors for Pap screening and vaccine acceptability. **METHODS:** In 2006, 500 adults were invited to participate in a telephone survey in the region of Quebec City (urban and rural population, 600 000), Canada. Some neutral and standardized information on Pap test and HPV was provided before soliciting opinions. **RESULTS:** 471 adults (18-69 year-olds) answered the questionnaire, the mean age was 45 years, 67% were female, and 65% had college or university degree. Eighty-six percent of women had undergone at least one Pap-test in their life, 55% in the last year, and 15% from 1 to 3 years ago. Among screened women, the test had been performed in the last three years in 100% of 18-30 year-olds, but only in 67% of 60-69 year-olds (P < 0.0001). Only

15% of respondents had heard of HPV. Eighty-seven percent agreed that HPV vaccines could prevent cervical cancer, 73% that the vaccine has to be administered before the onset of sexual activity, 89% would recommend vaccination to their daughters and nieces. Among respondents < 25 years, 91% would agree to receive the vaccine if it is publicly funded, but only 72% would agree to pay \$100/dose. CONCLUSION: There is an important heterogeneity in cervical cancer screening frequency and coverage. Despite low awareness of HPV infection, the majority of respondents would recommend or are ready to receive the HPV vaccine, but the cost could prevent its acceptability.

28. Vinikoor LC, Kaufman JS, MacLehose RF, Laraia BA. Effects of racial density and income incongruity on pregnancy outcomes in less segregated communities. *Soc Sci Med.* January 2008;66(2):255-9.

A previous publication in this journal documented a decreased risk of adverse birth outcomes when African-American women have a positive income incongruity (defined as mothers living in a census tract with a higher household income than would be expected based on their individual education and marital status) and live in a census tract with "predominantly African-American" residents [Pickett, K. E., Collins, J. W. Jr., Masi, C. M., & Wilkinson, R. G. (2005). The effects of racial density and income incongruity on pregnancy outcomes. *Social Science & Medicine*, 60(10), 2229-2238.]. The communities included in that study were from Chicago and were highly segregated by race. Our objective was to repeat this analysis in a less severely segregated environment: two urban counties (Wake and Durham) in central North Carolina. Rather than assuming an absence of knowledge about the effects of interest, we used the previously published results to inform our prior distributions in a Bayesian logistic regression analysis. This approach, which is analogous to a meta-analysis of the two studies, revealed a protective effect of positive income incongruity for African-American women living in census tracts with high relative African-American density across a much wider range of residential segregation patterns. Positive income incongruity was not associated with a decreased risk of low birth weight or preterm delivery for women living in tracts with a low relative density of African-Americans. These estimates are comparable to those that might have been observed had the original authors included a much more diverse set of communities with respect to degree of segregation, and so these new results provide important information about the generality of this intriguing finding.

Topic D: Men Who Have Sex with Men

29. Gunn RA, Lee MA, Murray PJ, Gilchick RA, Margolis HS. Hepatitis B vaccination of men who have sex with men attending an urban STD clinic: impact of an ongoing vaccination program, 1998-2003. *Sex Transm Dis.* September 2007;34(9):663-8.

OBJECTIVE: To evaluate the impact of an ongoing hepatitis B vaccination service offered in an urban sexually transmitted disease (STD) clinic. STUDY DESIGN: During the period 1998-2003, hepatitis B vaccine acceptance, series completion, and vaccine coverage rates were evaluated among men who have sex with men (MSM) and other clients attending the main STD clinic in San Diego County, California. RESULTS: Among 21,631 STD clinic

attendees, 81% were eligible to start and 69% accepted hepatitis B vaccination. Among a cohort of MSM starting vaccination in 1998, 76% and 55% received 2 doses and 3 doses, respectively, after 1 year follow-up and coverage then increased 1-2 percentage points annually to a final 2-dose and 3-dose coverage of 80% and 62%, respectively. Vaccine coverage (≥ 1 prior vaccine dose) among STD clinic attendees in 2003 was 45% compared to only 11% in 1998, the first year of the program. CONCLUSIONS: Hepatitis B vaccination can be integrated into STD clinic services with reasonable levels of vaccine acceptance and series completion. The increase in vaccination coverage over time indicates that a sustained hepatitis B immunization program can achieve acceptable vaccine coverage in high-risk populations.

30. Marshall BD, Wood E, Li K, Kerr T. Elevated syringe borrowing among men who have sex with men: a prospective study. *J Acquir Immune Defic Syndr*. October 2007 1;46(2):248-52.

OBJECTIVE: Despite efforts to scale up HIV prevention services for drug users, high rates of HIV risk behavior persist among some subpopulations. Given that few prospective studies have considered the relationship between sexual activity and syringe sharing, we sought to evaluate syringe sharing among male injection drug users (IDUs) who have sex with men (MSM) in Vancouver. METHODS: We performed a longitudinal analysis of factors associated with syringe borrowing among male participants enrolled in the Vancouver Injection Drug Users Study during the years 1996 to 2005 using generalized estimating equations (GEE). RESULTS: Among the 1019 male participants included in this analysis, 553 (54.3%) reported borrowing syringes during the study period. In multivariate GEE analysis, MSM were at an elevated risk for syringe borrowing (adjusted odds ratio [AOR] = 1.50, 95% confidence interval [CI]: 1.10 to 2.04) after extensive adjustment for other known risk factors. CONCLUSIONS: Among male participants, having sex with men was found to be strongly and independently associated with syringe borrowing. Our findings may aid policy makers in their efforts to identify IDUs who should be targeted with education and prevention efforts, and indicate the need for ongoing development of prevention interventions that address sexual orientation.

31. Vaudrey J, Raymond HF, Chen S, Hecht J, Ahrens K, McFarland W. Indicators of use of methamphetamine and other substances among men who have sex with men, San Francisco, 2003-2006. *Drug Alcohol Depend*. September 2007 6;90(1):97-100.

BACKGROUND: Substance use has been associated with high-risk sexual behavior among men who have sex with men (MSM) both in the U.S. and around the world. Recent efforts by local organizations in San Francisco have specifically targeted methamphetamine use in this population. METHODS: We tracked methamphetamine and other substance use among men who have sex with men (MSM) in San Francisco from 2003 to 2006 using an indicator available in community outreach surveys of a prevention education program targeting MSM (n=4602). RESULTS: Overall, use of diverse substances tended to decrease from 2003 to 2006, many significantly so. Reported use of methamphetamine significantly decreased among HIV-negative MSM. However, methamphetamine and alcohol use during

sex was associated with unprotected potentially HIV serodiscordant sex. CONCLUSION: Intensified prevention efforts to reduce methamphetamine use in San Francisco may be having some impact; however, strong associations of substance use and high-risk sex persist.

32. Parsons JT, Kelly BC, Bimbi DS, Dimaria L, Wainberg ML, Morgenstern J. Explanations for the Origins of Sexual Compulsivity Among Gay and Bisexual Men. *Arch Sex Behav.* September 2007; Epub ahead of print.

Sexual compulsivity (SC) is a condition characterized by sexual fantasies and behaviors that interfere with personal, interpersonal, or vocational pursuits. This article describes the ways in which gay and bisexual men with symptoms of SC understand and explain the origins of their condition. The data for this article were drawn from Project SPIN, a mixed-methods study of SC among 183 gay and bisexual men in New York City. The article provides an evaluation of how urban gay and bisexual men experience SC and describes how they think about it in their own words. These men articulated both intrinsic and extrinsic sources for the development of SC. Some participants endorsed a belief in a predisposition toward sexually compulsive behavior, whereas others identified factors such as emotional neglect, sexual abuse, or the availability and accessibility of sexual partners. These understandings may influence the ways in which SC can be treated, while also highlighting issues that may be critical in the identification and/or measurement of SC. Insights into the origins of SC may yield new therapeutic models that reduce not only the distress of contending with this condition but its negative health effects and impact on quality of life.

33. Bianchi FT, Reisen CA, Zea MC, Poppen PJ, Shedlin MG, Penha MM. The sexual experiences of Latino men who have sex with men who migrated to a gay epicentre in the USA. *Cult Health Sex.* September 2007;9(5):505-18.

Key informant interviews, in-depth interviews and focus groups were conducted to examine ways in which social context influenced the behavior of Brazilian, Colombian and Dominican men who have sex with men. First, we investigated how the social context in the home country affected motivation for migration. Findings suggest that Latino men who have sex with men frequently reported coming to the USA to escape homo-negativity and to achieve greater sexual freedom. The study also examined how the social context encountered in the early years after migration shaped sexual behavior and risk. A majority of the participants reported easy access to sex partners and frequent sexual encounters. The anonymity of living in a gay epicentre such as New York City, often without social connections from the past, was experienced as liberating and conducive to sexual exploration. Moreover, sex in public venues, such as parks and sex cabins, was readily available to those who do not speak English. The tendency to engage in high levels of sexual activity during the early period after arrival in New York City was particularly evident among younger men. Implications for future programme development are discussed alongside prevention efforts targeting migrants during this critical period.

Topic E: Homelessness

34. Rew L, Fouladi RT, Land L, Wong YJ. Outcomes of a brief sexual health intervention for homeless youth. *J Health Psychol.* September 2007;12(5):818-32.

Homeless youth face various health challenges. The effectiveness of a short intervention to promote sexual health in 572 homeless 16-23-year-olds ($M = 19.467 + 1.89$) was conducted using a quasi-experimental repeated measures design. Data collected at three time points (pre-intervention, immediately post-intervention and follow-up) via laptop computers were analyzed using multivariate general linear mixed models. A significant condition by time interaction was found for self-reported AIDS/STD knowledge; intervention participants had higher scores at first post-test. Females scored significantly higher on cognitive and behavioral outcomes while males reported significantly more sexual risk-taking behaviors. Findings support gender-specific interventions.

35. O'Toole TP, Conde-Martel A, Gibbon JL, Hanusa BH, Freyder PJ, Fine MJ. Where do people go when they first become homeless? A survey of homeless adults in the USA. *Health Soc Care Community.* September 2007;15(5):446-53.

The longer a person is homeless, the more likely he or she is to experience poor health and be placed at higher risk for premature death. This makes interventions early in one's homelessness an important prevention strategy. However, little is known about where someone goes for help when they first become homeless and how well those sites are prepared to address the multitude of issues facing a homeless person. In order to address this question, we conducted a cross-sectional community-based survey in two US cities in 1997 using population proportionate sampling of homeless persons identified at 91 sites to identify 'first-stop' access sites and reasons for seeking help at those sites. A total of 230 persons participated in the face-to-face interview (93% response rate). From a list of 20 possible 'first-stop' sites, 105 (45.7%) reported going to a soup kitchen, 71 (30.9%) went to a welfare office, 64 (27.8%) sought admission to a detoxification centre, 60 (26.1%) met with a homeless outreach team, 57 (24.8%) went to a family member, and 54 (23.5%) went to an emergency room. Individuals with a chronic medical or mental health condition were significantly more likely to access a healthcare site (medical: 62.6% vs. 47.6%, $P = 0.02$; mental health: 62.4% vs. 38.8%, $P < 0.01$) or social service agency (medical: 64.0% vs. 43.3%, $P = 0.02$; mental health: 59.1% vs. 40.7%, $P < 0.01$). Those persons reporting a need for alcohol treatment were significantly more likely to first go to a healthcare site (46.4% vs. 29.1%, $P < 0.01$) and those with alcohol abuse/dependence were less likely to seek help from family or friends (66.7% vs. 81.9%, $P < 0.01$). Most respondents sought assistance for concerns directly associated with an immediate need as opposed to seeking care for issues causing their actual homelessness. These findings suggest the need to expand and integrate the availability of services at 'first-stop' access sites that facilitate early exits from homelessness.

36. Fitzpatrick KM, Irwin J, Lagory M, Ritchey F. Just thinking about it: social capital and suicide ideation among homeless persons. *J Health Psychol.* September 2007;12(5):750-60.

Suicide ideation is a sensitive indicator of personal well-being. While ideation occurs in roughly 3 percent of the US population annually, in this study rates are 10 times higher.

This article explores the role of social capital in mediating negative life circumstances on ideation for a sample of 161 homeless adults in a mid-sized Southern US metropolitan area. Our results imply that social capital does not function the same way for homeless persons as it does for the general population. This finding supports growing evidence that social capital's much touted benefits for personal well-being may not apply to disadvantaged populations.

37. **Shinn M, Gottlieb J, Wett JL, Bahl A, Cohen A, Baron ED. Predictors of homelessness among older adults in New York city: disability, economic, human and social capital and stressful events. *J Health Psychol.* September 2007;12(5):696-708.**

We interviewed 61 housed and 79 homeless adults aged 55 and over about disability; economic, human and social capital; and stressful life events prior to becoming homeless. Over half of the homeless group had previously led conventional lives. Human capital, social capital and life events were more important than disability or economic capital in predicting homelessness. The homeless adults were younger, more likely to be male and better educated than housed adults, but had shorter job tenure and fewer social ties. Homeless adults faced multiple, cascading risks, including job loss and housing loss. Implications for prevention are discussed.

Topic F: Injection Drug Use

38. **Wylie JL, Shah L, Jolly A. Incorporating geographic settings into a social network analysis of injection drug use and bloodborne pathogen prevalence. *Health Place.* September 2007;13(3):617-28.**

Using social network analysis, we investigated how communal meeting places can link injection drug user (IDU) populations and create opportunities for the transmission of bloodborne pathogens. In our locale, specific hotels played a key role in the injection drug scene. Within this hotel network some IDU injected at only one hotel while others injected at multiple hotels; this latter group potentially acted as spatial bridges linking relatively distinct hotel networks. Pathogen prevalence showed a gradation with the highest prevalence occurring at the centre of the network. Consistent with pathogen prevalence, people most central to the network were more likely to engage in risky injection practices. Incorporating geographic place into analyses involving IDU can contribute to an understanding of pathogen transmission patterns in an area and assist public health efforts to develop targeted intervention programs.

39. **Tseng FC, O'Brien TR, Zhang M et al. Seroprevalence of hepatitis C virus and hepatitis B virus among San Francisco injection drug users, 1998 to 2000. *Hepatology.* September 2007;46(3):666-71.**

Previous studies suggest that most injection drug users (IDUs) become infected with hepatitis C virus (HCV) and hepatitis B virus (HBV) soon after initiating drug use. The Urban Health Study (UHS) recruited serial cross-sections of IDUs in the San Francisco Bay

area from 1986 to 2005. In the current study, we determined the prevalence of antibody to HCV and HBV (core) among UHS participants during 1998 to 2000. To examine whether the time from onset of injection to acquisition of viral hepatitis has increased, we also compared the findings among recent (<10 years) initiates to drug use who participated during 1998-2000 with those who participated in 1987. Of 2,296 IDUs who participated during 1998-2000, 91.1% had antibody to HCV and 80.5% to HBV. The number of years a person had injected drugs strongly predicted infection with either virus ($P(\text{trend}) < 0.0001$). HCV seroprevalence among recent initiates in 1998-2000, by years of injection drug use, was: ≤ 2 , 46.8%; 3 to 5, 72.4%; 6 to 9, 71.3%. By comparison, HCV seroprevalence among 1987 participants was: ≤ 2 years, 75.9%; 3 to 5, 85.7%; 6 to 9, 91.1% ($P < 0.0001$). A consistent pattern was observed for HBV ($P < 0.0001$), and these findings were not explained by demographic differences between 1987 and 1998-2000 participants. During 1987, however, 58.7% of recent initiates had shared syringes within the past 30 days compared with 33.6% during 1998-2000 ($P < 0.0001$). CONCLUSION: HCV and HBV seroprevalence among newer initiates to injection drug use in the San Francisco Bay area decreased markedly between 1987 and 1998-2000. This decrease coincided with the implementation of prevention activities among this population.

40. Sylvestre DL, Zweben JE. Integrating HCV services for drug users: a model to improve engagement and outcomes. *Int J Drug Policy*. October 2007;18(5):406-10.

Although the majority of prevalent and incident cases of hepatitis C are related to injection drug use, drug users often find it difficult to access treatment services because of concerns about adherence and treatment candidacy. In response to the growing epidemic, OASIS, a nonprofit community clinic, developed a successful peer-based HCV group that allowed us to engage, educate, test, and treat hepatitis C in large numbers of drug users, the majority of whom have multiple potential barriers to intervention. Integrating services for hepatitis C, addiction, mental health, and psychosocial problems, the model involves a collaboration of medical providers and peer educators and incorporates elements of other proven behavioural models, including self-help groups, therapeutic communities, and peer interventions. Our results indicate that this peer-based model is successful at engaging, educating, and treating a diverse spectrum of chaotic drug users. We conclude that an integrated, peer-based approach to intervention can engage even the most challenging addicted patients with hepatitis C, and can facilitate their successful screening and treatment.

Topic G: Correctional Health

41. Tucker JD, Chang SW, Tulsy JP. The catch 22 of condoms in US correctional facilities. *BMC Public Health*. October 2007 21;7:296.:296.

BACKGROUND: Despite the high prevalence of sexually transmitted infections (STIs) and HIV infection in US correctional settings, most jails and prisons in the United States prevent inmates from using condoms to prevent STIs/HIV. DISCUSSION: This article makes the following arguments to justify a scalable and feasible next step in the prevention of HIV/STIs among inmates: condoms are a basic and essential part of HIV/STI prevention, HIV/STI transmission occurs in the context of corrections, and several model programs

show the feasibility of condom distribution in prisons. A lower end estimate for HIV incidence among incarcerated applied to 2,000,000 new inmates annually results in thousands of new HIV infections acquired each year in corrections that could be prevented with condoms in corrections facilities. Programs from parts of the United States, Canada, and much of Europe show how programs distributing condoms in correctional facilities can be safe and effective. SUMMARY: Public health and corrections officials must work together to ensure that condoms and broader sexual disease prevention programs are integrated into US jail and prison health systems.

42. Bick JA. Infection control in jails and prisons. *Clin Infect Dis.* October 2007 15;45(8):1047-55.

At the end of 2005, approximately 7 million people (or 1 of every 33 American adults) were either in jail, in prison, or on parole. Compared with the general public, newly incarcerated inmates have an increased prevalence of human immunodeficiency virus infection, hepatitis B virus infection, hepatitis C virus infection, syphilis, gonorrhea, chlamydia, and Mycobacterium tuberculosis infection. While incarcerated, inmates are at an increased risk for the acquisition of blood-borne pathogens, sexually transmitted diseases, methicillin-resistant Staphylococcus aureus infection, and infection with airborne organisms, such as M. tuberculosis, influenza virus, and varicella-zoster virus. While incarcerated, inmates interact with hundreds of thousands of correctional employees and millions of annual visitors. Most inmates are eventually released to interact with the general public. Tremendous opportunities exist for infectious diseases specialists and infection-control practitioners to have an impact on the health of correctional employees, the incarcerated, and the communities to which inmates return. This article presents a brief review of some of the most important infection-control challenges and opportunities within the correctional setting.

Topic H: Disaster Response and Prevention

43. Andrulis DP, Siddiqui NJ, Gantner JL. Preparing racially and ethnically diverse communities for public health emergencies. *Health Aff (Millwood)*. September 2007;26(5):1269-79.

The tragedy of Hurricane Katrina in New Orleans confirmed that effective implementation of public health preparedness programs and policies will require compliance from all racial and ethnic populations. This study reviews current resources and limitations and suggests future directions for integrating diverse communities into related strategies. It documents research and interventions, including promising models and practices that address preparedness for minorities. However, findings reveal a general lack of focus on diversity and suggest that future preparedness efforts need to fully integrate factors related to race, culture, and language into risk communication, public health training, measurement, coordination, and policy at all levels.

44. Pengelly LD, Campbell ME, Cheng CS, Fu C, Gingrich SE, Macfarlane R. Anatomy of heat waves and mortality in Toronto: lessons for public health protection. *Can J Public Health.* September 2007;98(5):364-8.

BACKGROUND: Periods of unusually hot weather, especially in temperate climates, carry with them a burden of morbidity and mortality, particularly in urban areas. With lessening debate on its origins, and signs of global warming already apparent, it is becoming imperative for public health practitioners to recognize and predict the risks of "heat waves", and to develop protective community responses to them. This study makes use of historical data and a methodology developed previously to examine the pattern of hot weather experienced over the last five decades in the City of Toronto, and to assess the associated burden of mortality. **METHODS:** Synoptic classification of air masses based on meteorological data for Toronto was used, to assign the annual mean burden of illness (in terms of elevated mortality) associated with hot weather and air pollution. Then, coefficients relating daily mortality risk to historical daily weather and air quality data were determined with a model system that (for each air mass) assessed the factors that contributed to day-to-day variability in mortality. **RESULTS:** Over the period of study, there were 120 (95% CI: 105-135) heat-related deaths on average per year, with great variability from year to year, reflecting the variability of hot weather. Mortality was greatest in July and August, when the greatest number of multi-day heat episodes occurred. Furthermore, the longer the episode, the greater was the daily risk for mortality. **INTERPRETATION:** The method can be used to forecast the risk of heat-related mortality, and to facilitate the development of public health responses to mitigate that risk.

45. Chin FK. Scenario of a dirty bomb in an urban environment and acute management of radiation poisoning and injuries. *Singapore Med J.* October 2007;48(10):950-7.

In the new security environment, there is a clear and present danger of terrorists using non-conventional weapons to inflict maximum psychological and economic damage on their targets. This article examines two scenarios of radiation contamination and injury, one accidental in nature leading to environmental contamination, and another of deliberate intent resulting in injury and death. This article also discusses the management of injury from radiological dispersion devices or dirty bombs, with emphasis on the immediate aftermath as well as strategy recommendations.