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Urban Health Literature Review

November – December 2007

Topic A: Urban Environment Impacts on Health
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Topic A: Urban Environment Impacts on Health

1. **Masi CM, Hawkley LC, Piotrowski ZH, Pickett KE. Neighborhood economic disadvantage, violent crime, group density, and pregnancy outcomes in a diverse, urban population. *Soc Sci Med*. December 2007;65(12):2440-57.**

Prior research has established associations between pregnancy outcomes and specific neighborhood characteristics, including economic disadvantage, violent crime, and racial/ethnic segregation. Recently, associations have also been found between various health outcomes and group density, the degree to which an individual is a racial or ethnic majority in his or her local community. The objective of this study was to determine the extent to which census tract economic disadvantage, violent crime rate, and group density are associated with pregnancy outcomes among White, Black, and Hispanic infants in a large metropolitan setting. This cross-sectional study utilized 1990 census data, 1991 crime data, and 1991 birth certificate information for singleton live births in Chicago, Illinois. Results show substantial racial segregation in Chicago, with 35% of census tracts having more than 90% Black residents and 45% of census tracts having fewer than 10% Black residents. After stratifying by maternal race/ethnicity, we used multilevel analyses to model pregnancy outcomes as a function of individual and census tract characteristics. Among all racial/ethnic groups, violent crime rate accounted for most of the negative association between tract economic disadvantage and birth weight. Group density was also associated with birth weight but this association was stronger among Whites and Hispanics than among Blacks. Further analysis revealed that group density was more strongly associated with preterm birth while violent crime rate was more strongly associated with small for gestational age. These results suggest that group density and violent crime may impact birth weight via different mechanisms.

2. **Laraia B, Messer L, Evenson K, Kaufman JS. Neighborhood factors associated with physical activity and adequacy of weight gain during pregnancy. *J Urban Health*. November 2007;84(6):793-806.**

Healthy diet, physical activity, smoking, and adequate weight gain are all associated with maternal health and fetal growth during pregnancy. Neighborhood characteristics have been associated with poor maternal and child health outcomes, yet conceptualization of potential mechanisms are still needed. Unique information captured by neighborhood inventories, mostly conducted in northern US and Canadian urban areas, has been shown to reveal important aspects of the community environment that are not captured by the demographic quantities in census data. This study used data from the Pregnancy, Nutrition, and Infection (PIN) prospective cohort study to estimate the influences of individual-level and neighborhood-level characteristics on health behaviors and adequacy of weight gain during pregnancy. Women who participated in the PIN study and who resided in Raleigh, North Carolina and its surrounding suburbs were included (n = 703). Results from a neighborhood data collection inventory identified three social constructs, physical incivilities, territoriality, and social spaces, which were hypothesized to influence maternal health behaviors. The physical incivility scale was associated with decreased odds (adjusted OR = 0.74, 95%CI = 0.57, 0.98) in participating in vigorous leisure activity before pregnancy after controlling for several individual confounders, and a crude association for decreased odds of excessive weight gain (OR = 0.79, 95%CI = 0.64, 0.98). The social spaces scale was associated with decreased odds for inadequate (adjusted OR = 0.74, 95%CI = 0.56, 0.98) and excessive (adjusted OR = 0.69, 95%CI = 0.54, 0.98) gestational weight gain. The social spaces scale was also associated with decreased odds of living greater than 3 miles from a supermarket (adjusted OR = 0.03, 95%CI = 0.00, 0.27). Territoriality was not associated with any pregnancy-related health behavior. None of the neighborhood constructs were associated with smoking or diet quality. Physical incivilities and social spaces neighborhood characteristics may be important to measure to improve our understanding of the potential mechanisms through which neighborhood environments influence health.

3. **Bernstein KT, Galea S, Ahern J, Tracy M, Vlahov D. The built environment and alcohol consumption in urban neighborhoods. *Drug Alcohol Depend*. December 2007 1;91(2-3):244-52.**

OBJECTIVES: To examine the relations between characteristics of the neighborhood built environment and recent alcohol use. METHODS: We recruited participants through a random digit dial telephone survey of New York City (NYC) residents. Alcohol consumption was assessed using a structured interview. All respondents were assigned to neighborhood of residence. Data on the internal and external built environment in 59 NYC neighborhoods were collected from archival sources. Multilevel models were used to assess the adjusted relations between features of the built environment and alcohol use. RESULTS: Of the 1355 respondents, 40% reported any alcohol consumption in the past 30 days, and 3% reported more than five drinks in one sitting (heavy drinking) in the past 30

days. Few characteristics of the built environment were associated with any alcohol use in the past 30 days. However, several features of the internal and external built environment were associated with recent heavy drinking. After adjustment, persons living in neighborhoods characterized by poorer features of the built environment were up to 150% more likely to report heavy drinking in the last 30 days compared to persons living in neighborhoods characterized by a better built environment. CONCLUSIONS: Quality of the neighborhood built environment may be associated with heavy alcohol consumption in urban populations, independent of individual characteristics. The role of the residential environment as a determinant of alcohol abuse warrants further examination.

4. **Giles-Corti B, Knuiman M, Pikora TJ et al. Can the impact on health of a government policy designed to create more liveable neighbourhoods be evaluated? An overview of the RESIDential Environment Project. *N S W Public Health Bull.* November 2007;18(11-12):238-42.**

There is growing interest in the impact of community design on the health of residents. In 1998, the Western Australian Government began a trial of new subdivision design codes (i.e. Liveable Neighbourhoods Community Design Code) aimed at creating pedestrian-friendly neighbourhoods to increase walking, cycling and public transport use. The trial provided a unique opportunity for a natural experiment to evaluate the impact of a government planning policy on residents. Nevertheless, evaluations of this kind present a number of methodological challenges in obtaining the highest quality evidence possible. This paper describes the RESIDential Environment Project's study design and discusses how various methodological challenges were overcome.

5. **Berry HL. 'Crowded suburbs' and 'killer cities': a brief review of the relationship between urban environments and mental health. *NSW Public Health Bull.* November 2007;18(11-12):222-7.**

Most of the world's population now lives in cities, with 90% of Australians living in urban settlements of more than 10 000 people. Urban environments help shape population health, particularly among disadvantaged people, where poor health is concentrated. A growing body of research has focussed on the association between cities and mental health. Three hypotheses have been proposed to explain this association: psychosocial stressors; concentrated disadvantage; and social drift. It remains unclear, however, how the characteristics of urban environments are related to each other and to mental health, and what might be the pathways underpinning the experience of different individuals. With one in five Australian adults meeting the diagnostic criteria for a mental disorder each year, investigation of the relationship between urban environments and mental health is urgently needed. This paper briefly reviews recent studies linking disadvantaged urban environments with mental health and proposes a hypothetical model to help guide future research.

6. **Cozens P. Public health and the potential benefits of Crime Prevention Through Environmental Design. *N S W Public Health Bull*. November 2007;18(11-12):232-7.**

Studies have consistently found that safety and security are major public concerns; however, crime is rarely considered as an outcome in public health. The recent shift by planning policy towards promoting compact, 'walkable' communities close to public transport aims to redress many of the problems associated with urban sprawl. However, communities that do not feel safe are less likely to be active citizens. This paper argues that Crime Prevention Through Environmental Design has potential benefits for public health in the provision of local crime risk assessments and in delivering safer environments, which can support active living, walkable communities and public health.

7. **Capon AG. The way we live in our cities. *Med J Aust*. December 2007 3;187(11-12):658-61.**

During 2007, the human species became predominantly urban. Australia is highly urbanised, and health varies within Australian cities. Australian urban life is characterised by sedentariness, excess food intake, reliance on cars for transport, a high level of exposure to media and marketing messages, and a consumer culture. These characteristics are linked to obesity, diabetes, heart disease, some cancers, chronic respiratory disease, injury, depression and anxiety. The evolution of cities has been characterised as a four-stage process: poverty, industrial, consumption and eco-city. Each stage but the last has defining health disorders. Transition to healthy and sustainable cities requires infrastructure investment in new urban areas (including mass transit, education and health services), better conditions for walking and cycling, access to healthy food and encouragement of suburban economic development. There is a role for everyone in the transition to healthy and sustainable cities.

8. **Colabianchi N, Dowda M, Pfeiffer KA, Porter DE, Almeida MJ, Pate RR. Towards an understanding of salient neighborhood boundaries: adolescent reports of an easy walking distance and convenient driving distance. *Int J Behav Nutr Phys Act*. December 2007 18;4:66.:66.**

Numerous studies have examined the association between the surrounding neighborhood environment and physical activity levels in adolescents. Many of these studies use a road network buffer or Euclidean distance buffer around an adolescent's home to represent the appropriate geographic area for study (i.e., neighborhood). However, little empirical research has examined the appropriate buffer size to use when defining this area and there is little consistency across published research as to the buffer size used. In this study, 909 12th grade adolescent girls of diverse racial and geographic backgrounds were asked to report their perceptions of an easy walking distance and a convenient driving distance. These two criterions are often used as the basis for defining one's neighborhood.The mean easy walking distance in minutes reported by adolescent girls was 14.8 minutes (SD = 8.7).

The mean convenient driving distance in minutes reported was 17.9 minutes (SD = 10.8). Nested linear multivariate regression models found significant differences in reported 'easy walking distance' across race and BMI. White adolescents reported on average almost 2 minutes longer for an easy walking distance compared to African American adolescents. Adolescents who were not overweight or at risk for overweight reported almost 2 minutes fewer for an easy walking distance relative to those who were overweight or at risk for overweight. Significant differences by urban status were found in the reported 'convenient driving distance'. Those living in non-urban areas reported on average 3.2 minutes more driving time as convenient compared to those living in urban areas. Very little variability in reported walking and driving distances was explained by the predictors used in the models (i.e., age, race, BMI, physical activity levels, urban status and SES).This study suggests the use of a 0.75 mile buffer to represent an older female adolescent's neighborhood, which can be accessed through walking. However, determining the appropriate area inclusive of car travel should be tailored to the geographic location of the adolescent since non-urban adolescents are willing to spend more time driving to destinations. Further research is needed to understand the substantial variability across adolescent perceptions of an easy walking and convenient driving distance.

Topic B: Adolescents and Children

9. **Bush CL, Pittman S, McKay S, Ortiz T, Wong WW, Klish WJ. Park-based obesity intervention program for inner-city minority children. *J Pediatr*. November 2007;151(5):513-7, 517.**

OBJECTIVE: To assess an intervention strategy--a 6-week obesity intervention program, Project KidFIT, at 3 Houston, Texas park centers--to address the obesity epidemic in minority children. STUDY DESIGN: Project KidFIT is a physical fitness and nutrition education program aimed at promoting the benefits of physical activity and improving nutrition knowledge in overweight (body mass index [BMI] > or = 95th percentile) minority children. RESULTS: A total of 120 minority children (77 boys and 43 girls; mean age, 10.1 years) were enrolled in the program. Approximately 71% of these children were at risk of overweight (BMI > or = 85th percentile), and 54% were overweight. Decreases in body weight (0.3 +/- 0.2 kg [mean +/- standard error]) and BMI (0.1 +/- 0.1 kg/m2) were detected in the overweight children, whereas increases in body weight (0.4 +/- 0.1 kg) and BMI (0.2 +/- 0.1 kg/m2) were observed in the children with normal body weight (BMI < 85th percentile but > 5th percentile). Significant improvements (P < .05) in flexibility, muscular endurance, and muscular strength were detected in all children, regardless of weight status. CONCLUSIONS: The findings suggest that the city park-based KidFIT program might be effective at promoting stabilization for body weight and BMI and improving physical activity performance and nutrition knowledge in overweight minority children.

10. **Langevin DD, Kwiatkowski C, McKay MG et al. Evaluation of diet quality and weight status of children from a low socioeconomic urban environment supports "at risk" classification. *J Am Diet Assoc*. November 2007;107(11):1973-7.**

This cross-sectional study evaluated diet quality and weight status in 248 randomly selected low-income urban children, aged 7 to 13 years, who were participating in a larger study on the effectiveness of multivitamin supplementation on school performance. Food frequency questionnaires were used to determine intake of total calories and food groups, selected micronutrients, and amount and percent of calories from sweets. Results were compared to age-appropriate recommendations of the Food Guide Pyramid and to the Dietary Reference Intakes. Height, weight, and ages obtained from current-year student health records were used to calculate body mass index (calculated as kg/m(2)) percentile for age. Of 193 participants with usable food frequencies and available weight, height, sex, and age, 22% (n=43) were at risk for overweight and 36% (n=69) were overweight. More than 75% of participants failed to meet recommended servings for grains, vegetables, dairy, and fruit groups, and mean intake of each of these food groups was significantly less than recommendations (P<0.001). Twenty-five percent or more of subjects did not meet Recommended Dietary Allowances for iron and folate. Mean intake of calcium was below the Adequate Intake for calcium and 76% of children 8 years old and younger and 93% of children 9 years old and older did not meet the Adequate Intake for calcium. Mean calorie intake was 1,723 kcal (standard deviation+/-924) and mean percent of calories from carbohydrate, protein, and fat was 57%, 13%, and 32%, respectively. No correlation was found between total calories, total dietary sugar, or percent of calories from sweets and body mass index. Results of this study suggest that these urban children may be "at risk," based on the high percentage who are overweight and have insufficient food group consumption and micronutrient intake.

11. **Suglia SF, Gryparis A, Wright RO, Schwartz J, Wright RJ. Association of black carbon with cognition among children in a prospective birth cohort study. *Am J Epidemiol*. February 2008 1;167(3):280-6.**

While studies show that ultrafine and fine particles can be translocated from the lungs to the central nervous system, the possible neurodegenerative effect of air pollution remains largely unexplored. The authors examined the relation between black carbon, a marker for traffic particles, and cognition among 202 Boston, Massachusetts, children (mean age = 9.7 years (standard deviation, 1.7)) in a prospective birth cohort study (1986-2001). Local black carbon levels were estimated using a validated spatiotemporal land-use regression model (mean predicted annual black carbon level, 0.56 mug/m(3) (standard deviation, 0.13)). The Wide Range Assessment of Memory and Learning and the Kaufman Brief Intelligence Test were administered for assessment of cognitive constructs. In analysis adjusting for sociodemographic factors, birth weight, blood lead level, and tobacco smoke exposure, black carbon (per interquartile-range increase) was associated with decreases in the vocabulary (-2.2, 95% confidence interval (CI): -5.5, 1.1), matrices (-4.0, 95% CI: -7.6, -0.5), and composite intelligence quotient (-3.4, 95% CI: -6.6, -0.3) scores of the Kaufman

Brief Intelligence Test and with decreases on the visual subscale (-5.4, 95% CI: -8.9, -1.9) and general index (-3.9, 95% CI: -7.5, -0.3) of the Wide Range Assessment of Memory and Learning. Higher levels of black carbon predicted decreased cognitive function across assessments of verbal and nonverbal intelligence and memory constructs.

12. **Perry CD, Kenney GM. Preventive care for children in low-income families: how well do Medicaid and state children's health insurance programs do? *Pediatrics*. December 2007;120(6):e1393-e1401.**

OBJECTIVE: Child health problems that are caused or exacerbated by health behaviors remain a leading cause of medical spending for children. We examined receipt of clinician advice by low-income children, comparing children who had public insurance with those who had private insurance, as well as with children who were uninsured for part or all of the year. METHODS: We used children who were aged 3 to 17 and living in families with incomes of <250% of the federal poverty level in the Medical Expenditure Panel Survey data from 2001 to 2003 to estimate linear probability models on receipt of preventive advice. The main outcome measures were receipt of clinician's advice about healthy eating, physical activity, the harmful effects of smoking in the home, proper safety restraints in a car, and use of a bicycle helmet. We also examined 2 related barriers to receiving clinician advice: whether the child had any preventive care visits in the past year and whether the child had a usual source of care other than a hospital emergency department. RESULTS: Publicly insured children were more likely than privately insured, full-year-uninsured children, and part-year-uninsured children to have had a preventive care visit in the past year, but regardless of health insurance group, many children went without preventive care. Even conditional on having had a preventive care visit, 48% did not receive clinician advice in any of the areas measured, and 41% of the overweight children were advised about neither healthy eating nor exercise in the past year. CONCLUSIONS: Enrolling more uninsured children in Medicaid and State Children's Health Insurance Programs could improve the chances that families receive advice about health behaviors and injury prevention; however, nearly half of the children who were insured for the entire year did not receive important advice from their clinicians.

13. **Shibru 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. **Fisher HH, Eke AN, Cance JD, Hawkins SR, Lam WK. Correlates of HIV-related risk behaviors in African American adolescents from substance-using families: patterns of adolescent-level factors associated with sexual experience and substance use. *J Adolesc Health*. February 2008;42(2):161-9.**

PURPOSE: To examine adolescent-level correlates of HIV-related risk behaviors among urban African American adolescents whose mothers use crack cocaine. METHODS: Interviews were conducted with 208 African American adolescents (aged 12-17 years) to assess psychosocial, behavioral, and perceived environment correlates of HIV-related risk behavior. Adolescents were children of community-recruited African American women not currently in drug treatment who reported crack cocaine use (in last 6 months). Bivariate and multivariate regression models were used to evaluate associations among adolescent-level factors, sexual experience, and substance use. RESULTS: Of the adolescents, 30% reported being sexually experienced, and 23% reported alcohol or drug use in the past month. Older age and lower school satisfaction were associated with both sexual experience and substance use, but no other factors were associated with both risk behaviors. Male gender, current substance use, high HIV/AIDS knowledge, and high risk perception were associated with being sexual experienced. Sexual experience and lower expectations for future life outcomes were associated with substance use. A general pattern of protective factors related to attitudes about future goals, help-seeking behavior, and positive feelings about school emerged for substance use. CONCLUSIONS: These results suggest that the patterns of adolescent-level risk and protective factors for sexual experience and substance use may be unique in African American adolescents from substance-abusing families. Instead of an increase in problem behaviors associated with using substances, protective factors were evident, suggesting these adolescents may have resiliency for dealing with environmental stressors related to substance use. Implications for HIV prevention programs involving mentoring and goal development are discussed.

15. **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.

16. **Mosavel M, El-Shaarawi N. "I have never heard that one": young girls' knowledge and perception of cervical cancer.** ***J Health Commun*****. December 2007;12(8):707-19.**

With the advent of a vaccine for the human papillomavirus (HPV), many are claiming that cervical cancer may become a health worry of the past. While the vaccine certainly represents an important step forward in the fight against HPV and cervical cancer, it does not diminish the importance of health education or screening interventions particularly amongst adolescents. This study explores the existing state of cancer and cervical cancer knowledge of Latina and African American adolescent girls from low-income, urban neighborhoods. We found that the study participants expressed a range of attitudes toward cancer. Knowledge of cancer also was varied and somewhat anecdotal, showing no unified body of knowledge, but instead representing an assemblage of information culled from formal and informal sources. Participants were most familiar with breast and lung cancer and mentioned these types of cancer most frequently in the focus groups. Most participants had never heard of cervical cancer, while a few were familiar with several aspects of the disease. Cancer knowledge seemed to be gleaned mostly from personal stories, perhaps suggesting the pervasiveness of cancer incidence in their community. The predominant attitudes expressed toward cancer included fear, uncertainty, and anxiety. Our findings suggest that considerable continued health promotion efforts are needed to improve knowledge about cancer in general, and particularly about cervical cancer, to reduce fear and to highlight the effectiveness of prevention and screening.

Topic C: HIV/AIDS

17. **Riley ED, Gandhi M, Hare C, Cohen J, Hwang S. Poverty, unstable housing, and HIV infection among women living in the United States. *Curr HIV /AIDS Rep*. December 2007;4(4):181-6.**

Women who are HIV positive incur a higher risk of mortality than men who are HIV positive, a difference which is primarily based in the social context of poverty. Economic crises that lead to homelessness, unmet subsistence needs, and sex exchange often reorder priorities among women with HIV infection, de-emphasizing consistent medical care or the use of antiretroviral therapy. High rates of mental illness, drug use, and victimization further increase health and safety risks. HIV prevention messages highlighting education and behavior change insufficiently address the predicament of indigent women where constrained survival choices in the context of poverty may take precedence over safe behaviors. In this article, we highlight the risks of poor and unstably housed women to clarify the context in which risks occur. Suggestions for service provision are offered with the understanding that providers may have limited time and expertise to meet the entire array of needs for impoverished women.

18. **Berger-Greenstein JA, Cuevas CA, Brady SM, Trezza G, Richardson MA, Keane TM. Major depression in patients with HIV/AIDS and substance abuse. *AIDS Patient Care STDS*. December 2007;21(12):942-55.**

Previous research has been inconsistent in documenting a strong relationship between depression and HIV/AIDS, although a recent meta-analysis of studies examining this issue indicates that rates of depression are modestly higher for this population. For the current study, conducted from 2001-2004, we sought to examine rates and types of depressive symptoms in a cohort of patients receiving HIV care at two urban medical centers. These patients were participants in an intervention study examining adherence and mental health in persons triply diagnosed with psychiatric disorders, substance use disorders, and HIV/AIDS. Nearly three quarters of these participants were people of color, two thirds described their sexual orientation as heterosexual, and the vast majority were unemployed. We sought to examine the relationship of depression to patients' adherence to antiretroviral medication regimens (highly active antiretroviral therapy [HAART]). Results obtained from structured clinical interviews and self-report questionnaires indicated that study participants experienced high rates of depressive symptoms, and that 72.9% of participants met criteria for major depressive disorder (MDD). The results of this study offer a detailed view of the incidence and nature of MDDs and depressive symptoms for an urban sample of substance-abusing adults with HIV/AIDS. Given the degree to which depressive symptoms and MDD appear to be prevalent for this group, as well as the observation that these symptoms are amenable to treatment, future research should focus on identifying helpful strategies and interventions for treating these symptoms, effective ways of providing linkages to care, and ways in which standardized assessment and treatment protocols might be adapted to better suit this population.

19. **Sayles JN, Ryan GW, Silver JS, Sarkisian CA, Cunningham WE. Experiences of social stigma and implications for healthcare among a diverse population of HIV positive adults. *J Urban Health*. November 2007;84(6):814-28.**

Stigma profoundly affects the lives of people with HIV/AIDS. Fear of being identified as having HIV or AIDS may discourage a person from getting tested, from accessing medical services and medications, and from disclosing their HIV status to family and friends. In the present study, we use focus groups to identify the most salient domains of stigma and the coping strategies that may be common to a group of diverse, low-income women and men living with HIV in Los Angeles, CA (n = 48). We also explore the impact of stigma on health and healthcare among HIV positive persons in our sample. Results indicate that the most salient domains of stigma include: blame and stereotypes of HIV, fear of contagion, disclosure of a stigmatized role, and renegotiating social contracts. We use the analysis to develop a framework where stigma is viewed as a social process composed of the struggle for both internal change (self-acceptance) and reintegration into the community. We discuss implications of HIV-related stigma for the mental and physical health of HIV-positive women and men and suggestions for possible interventions to address stigma in the healthcare setting.

Topic D: Men Who Have Sex with Men

20. **Friedman MS, Marshal MP, Stall R, Cheong J, Wright ER. Gay-related Development, Early Abuse and Adult Health Outcomes Among Gay Males. *AIDS Behav*. November 2007 8;.**

This study examined relationships between timing of gay-related developmental milestones, early abuse, and emergence of poor health outcomes in adulthood among 1,383 gay/bisexual men in the Urban Men's Health Study. Latent Profile Analysis grouped participants as developing early, middle or late based on the achievement of four phenomena including age of first awareness of same-sex sexual attractions and disclosure of sexual orientation. Participants who developed early were more likely, compared to others, to experience forced sex and gay-related harassment before adulthood. They were more likely to be HIV seropositive and experience gay-related victimization, partner abuse and depression during adulthood. Early forced-sex, gay-related harassment and physical abuse were associated with several negative health outcomes in adulthood including HIV infection, partner abuse, and depression. This analysis suggests that the experience of homophobic attacks against young gay/bisexual male youth helps to explain heightened rates of serious health problems among adult gay men.

21. **Kipke MD, Weiss G, Wong CF. Residential status as a risk factor for drug use and HIV risk among young men who have sex with men. *AIDS Behav*. November 2007;11(6 Suppl):56-69.**

There is growing behavioral and epidemiological evidence to suggest that young men who have sex with men (YMSM) are at high risk for becoming HIV-infected. Unfortunately, relatively little research has been conducted to examine the range of individual, social, and community-level factors that put these young men at increased risk. To address existing gaps in the literature, the Healthy Young Men's (HYM) Study was launched in Los Angeles to examine the range of factors associated with HIV risk and protective behaviors within an ethnically diverse sample of 526 YMSM recruited using a venue-based stratified probability sampling design. In this paper we present findings that demonstrate that YMSM who experience residential instability, who have been forced to leave their home because of their sexuality, and/or who are precariously housed are at significantly greater risk for drug use and involvement in HIV risk-related behaviors.

Topic E: Homelessness

22. **Wolitski RJ, Kidder DP, Fenton KA. HIV, homelessness, and public health: critical issues and a call for increased action.** ***AIDS Behav*****. November 2007;11(6 Suppl):167-71.**

Homelessness and housing instability are significant public health issues that increase the risks of HIV acquisition and transmission and adversely affect the health of people living with HIV. This article highlights the contributions of selected papers in this special issue of AIDS and Behavior and considers them within the broader context of prior research on the associations between housing status and HIV risk, use of HIV medical care, adherence to HIV treatment, and the physical health of HIV-seropositive persons. Special recognition is given to the roles of interrelated health problems, such as substance abuse, poor mental health, and physical and sexual abuse, that often co-occur and exacerbate the challenges faced by those who are homeless or unstably housed. Taken as a whole, the findings indicate a critical need for public health programs to develop strategies that address the fundamental causes of HIV risk among homeless and unstably housed persons and, for those living with HIV, contribute to their risk of disease progression. Such strategies should include "mid-stream" and "upstream" approaches that address the underlying causes of these risks. The successful implementation of these strategies will require leadership and the formation of new partnerships on the part of public health agencies. Such efforts, however, may have significant effects on the individuals and communities most affected by HIV/AIDS.

23. **Kidder DP, Wolitski RJ, Campsmith ML, Nakamura GV. Health status, health care use, medication use, and medication adherence among homeless and housed people living with HIV/AIDS.** ***Am J Public Health*****. December 2007;97(12):2238-45.**

OBJECTIVES: We sought to compare health status, health care use, HIV anti-retroviral medication use, and HIV medication adherence among homeless and housed people with HIV/AIDS. METHODS: Data were obtained from a cross-sectional, multisite behavioral survey of adults (N=7925) recently reported to be HIV positive. RESULTS: At the time

interviews were conducted, 304 respondents (4%) were homeless. Self-ratings of mental, physical, and overall health revealed that the health status of homeless respondents was poorer than that of housed respondents. Also, homeless respondents were more likely to be uninsured, to have visited an emergency department, and to have been admitted to a hospital. Homeless respondents had lower CD4 counts, were less likely to have taken HIV anti-retroviral medications, and were less adherent to their medication regimen. Homeless respondents needed more HIV social and medical services, but nearly all respondents in both groups had received needed services. Housing status remained a significant predictor of health and medication outcomes after we controlled for potential confounding variables. CONCLUSIONS: Homeless people with HIV/AIDS are at increased risk of negative health outcomes, and housing is a potentially important mechanism for improving the health of this vulnerable group.

24. **Salazar LF, Crosby RA, Holtgrave DR et al. Homelessness and HIV-associated risk behavior among African American men who inject drugs and reside in the urban south of the United States.** ***AIDS Behav*** **. November 2007;11(6 Suppl):70-7.**

This study determined whether homeless injection drug users (IDUs) were more likely than stably housed IDUs to engage in HIV-associated risk behaviors. Respondent driven sampling was used to recruit 343 African American male IDUs. About 69% of men had been homeless in the past year and 13% were HIV positive. Controlling for age and income, homeless men as compared to stably housed men were 2.6 times more likely to report sharing needles, 2.4 times more likely to have 4 or more sex partners and 2.4 times more likely to have had sex with other men. Homeless men were also twice as likely to report having unprotected sex with a casual partner and about two-thirds less likely to report never using sterile needles. Self-reported HIV status was an effect modifier of these associations such that the observed relationships applied mostly only to men who were not knowingly HIV positive.

Topic F: Injection Drug Use

25. **German D, Davey MA, Latkin CA. Residential transience and HIV risk behaviors among injection drug users.** ***AIDS Behav*****. November 2007;11(6 Suppl):21-30.**

Housing instability has been linked to HIV risk behaviors. Many studies have focused on the implications of one's housing structure or lack thereof. This study focuses on residential transience as an additional dimension of housing instability. Specifically, we assessed the associations between transience and four HIV risk behaviors. Transience was defined as moving twice or more in the past six months. Multivariate analyses of a sample of current injectors (n = 807) indicated that transience had an independent effect on HIV risk behaviors. Transient individuals were more likely to share needles and go to a shooting gallery than non-transient individuals. Transience was not associated with exchanging sex or having multiple sex partners when homelessness was included in the models. Further examination of the association between housing and HIV should consider the role of

transience. Interventions that promote housing stability among IDUs and address HIV risk during times of instability are needed.

26. **Coady MH, Latka MH, Thiede H et al. Housing status and associated differences in HIV risk behaviors among young injection drug users (IDUs).** ***AIDS Behav*****. November 2007;11(6):854-63.**

Using cross-sectional analysis we examined residential status and associated differences in HIV risk behaviors among 3266 young IDUs enrolled in an HIV prevention trial. A three-level outcome (homeless (37%), equivocally housed (17%), housed (46%)) was defined based on responses to two questions assessing subjective and objective criteria for homelessness: "equivocally housed" participants were discordant on these measures. In multivariate analysis, antecedents of homelessness were having lived in an out-of-home placement, been thrown out of the home or in juvenile detention, and experienced childhood abuse; while correlates included receiving income from other and illegal sources, drinking alcohol or using methamphetamine at least daily, using shooting galleries, backloading, and sex work. A subset of these variables was associated with being equivocally housed. HIV risk varies by housing status, with homeless IDUs at highest risk. Programs for IDUs should utilize a more specific definition of residential status to target IDUs needing intervention.

27. **Frye V, Latka MH, Wu Y et al. Intimate partner violence perpetration against main female partners among HIV-positive male injection drug users.** ***J Acquir Immune Defic Syndr*****. November 2007 1;46 Suppl 2:S101-9.**

Intimate partner violence (IPV) against women is a serious public health and social problem and is associated with a host of adverse health outcomes and behaviors, HIV risk behaviors included, among women who are victimized. Historically, research has focused on correlates of IPV victimization among women; thus, there is less information on the role of men in perpetrating IPV, particularly among men at risk for transmitting HIV to their female partners. We assessed the self-reported prevalence and correlates of perpetration and threat of perpetration of physical and/or sexual IPV against a main female partner among 317 HIV-positive men who were current injection drug users (IDUs). More than 40% of men reported perpetrating physical (39%) and/or sexual (4%) violence against their main female partners in the past year. Multivariate analyses revealed that low education, homelessness, psychologic distress, and unprotected sex with main and nonmain HIV-negative female partners were positively associated with IPV perpetration against main female partners. These findings reveal that IPV perpetration is prevalent among HIV-positive male IDUs and associated with sexual HIV transmission risk behaviors. IPV assessment and treatment among HIV-positive men in HIV care is recommended as a way to prevent IPV perpetration and victimization and to reduce potential HIV transmission.

28. **Thiede H, Hagan H, Campbell JV et al. Prevalence and correlates of indirect sharing practices among young adult injection drug users in five U.S. cities. *Drug Alcohol Depend*. November 2007;91 Suppl 1:S39-47.**

BACKGROUND: Sharing of drug paraphernalia to prepare, measure and divide drugs for injection remains an important residual risk factor for hepatitis C and other blood-borne infections among injection drug users (IDUs) especially as sharing of syringes for injection decreases. METHODS: We analyzed data from five U.S. cities to determine the prevalence and independent correlates of non-syringe paraphernalia-sharing (NSPS) and syringe-mediated drug-splitting (SMDS) among 15-30-year-old IDUs who reported not injecting with others' used syringes (receptive syringe-sharing, RSS). RESULTS: NSPS was reported by 54% of IDUs who did not practice RSS and was independently associated (p<0.05) with having > or =5 injection partners, injecting with sex partners or regular injection partners, injecting in shooting galleries, peers' sharing behaviors, lower self-efficacy for avoiding NSPS, and less knowledge of HIV and HCV transmission. SMDS was reported by 26% of IDUs who did not practice RSS, and was independently associated with having > or =5 injection partners, injecting in shooting galleries, and inversely associated with unknown HIV status. CONCLUSIONS: NSPS and SMDS were common among young adult IDUs. Increased efforts to prevent these risky practices should address social and environmental contexts of injection and incorporate knowledge and skills building, self-efficacy, and peer norms.

29. **De P, Cox J, Boivin JF, Platt RW, Jolly AM. The importance of social networks in their association to drug equipment sharing among injection drug users: a review. *Addiction*. November 2007;102(11):1730-9.**

AIM: To examine the scientific evidence regarding the association between characteristics of social networks of injection drug users (IDUs) and the sharing of drug injection equipment. METHODS: A search was performed on MEDLINE, EMBASE, BIOSIS, Current Contents, PsycINFO databases and other sources to identify published studies on social networks of IDUs. Papers were selected based on their examination of social network factors in relation to the sharing of syringes and drug preparation equipment (e.g. containers, filters, water). Additional relevant papers were found from the reference list of identified articles. RESULTS: Network correlates of drug equipment sharing are multi-factorial and include structural factors (network size, density, position, turnover), compositional factors (network member characteristics, role and quality of relationships with members) and behavioural factors (injecting norms, patterns of drug use, severity of drug addiction). Factors appear to be related differentially to equipment sharing. CONCLUSIONS: Social network characteristics are associated with drug injection risk behaviours and should be considered alongside personal risk behaviours in prevention programmes. Recommendations for future research into the social networks of IDUs are proposed.

30. **Friedman SR, Tempalski B, Brady JE et al. Predictors of the degree of drug treatment coverage for injection drug users in 94 metropolitan areas in the United States of America. *Int J Drug Policy*. December 2007;18(6):475-85.**

AIMS: A prior study concluded that drug treatment coverage, defined as the percentage of injection drug users in drug treatment, varied from 1 percent to 39 percent (median 9 percent) in 96 metropolitan statistical areas (MSAs) in the United States. Here, we determine which metropolitan area characteristics are associated with drug treatment coverage. METHODS: We conducted secondary analysis of official data, including the number of injection drug users in treatment and other variables, for 94 large US MSAs. We estimated the number of injection drug users in these metropolitan areas using previously described methods. We used lagged cross-sectional analyses where the independent variables, chosen on the basis of a Theory of Community Action, preceded the dependent variable (drug treatment coverage) in time. Predictors were determined using ordinary least squares multiple regression and confirmed with robust regression. RESULTS: Independent predictors of higher drug treatment coverage for injectors were: presence of organisations that support treatment (unstandardized beta=1.64; 95 percent CI .59 to 2.69); education expenditures per capita in the MSA (unstandardized beta=.12; 95 percent CI -.34 to 2.69); lower percentage of drug users in treatment who are non-injection drug users (unstandardized beta=-0.18; 95 percent CI -0.24 to -0.12); higher percentage of the population who are non-Hispanic White (unstandardized beta=.14; 95 percent CI .08 to .20); lower per capita long-term debt of governments in the metropolitan area (unstandardized beta=-0.93; 95 percent CI -1.51 to -0.35). CONCLUSIONS: In conditions of scarce treatment coverage for drug injectors, an indicator of epidemiologic need (the per capita extent of AIDS among injection drug users) does not predict treatment coverage, and competition for treatment slots by non-injectors may reduce injectors' access to treatment. Metropolitan finances limit treatment coverage. Political variables (racial structures, the presence of organisations that support drug treatment, and budget priorities) may be important determinants of treatment coverage for injectors. Although confidence in these results would be higher if we had used a longitudinal design, these results suggest that further research and action that address structural, political, and other barriers to treatment expansion are sorely needed.

31. **Hagan H, Campbell JV, Thiede H et al. Injecting alone among young adult IDUs in five US cities: evidence of low rates of injection risk behavior. *Drug Alcohol Depend*. November 2007;91 Suppl 1:S48-55.**

Illicit drug injection typically occurs in private or semi-public settings where two or more injectors are present. In a large sample of young adult injectors (aged 15-30) in five US cities, we describe those who reported consistently injecting by themselves in a recent period. Among 3199 eligible subjects, 85% were male, median age was 24 years, and median number of years injecting was four. Fifteen percent (n=467) who reported always injecting alone in the previous 3 months were compared to other IDUs to understand the relationship between this practice and injection risk behavior. IDUs who reported injecting

alone were substantially less likely to report injection with a syringe (AOR=0.16, 95% CI 0.1-0.2) or other drug preparation equipment (AOR=0.17, 95% CI 0.13-0.2) previously used by another injector. Markedly low rates of injection risk behavior were observed in IDUs who reported injecting alone; this practice may facilitate safe injection by granting the individual greater control over the injection setting. However, risks may include accidental overdose with severe consequences.

Topic G: Correctional Health

32. **Boutwell AE, Nijhawan A, Zaller N, Rich JD. Arrested on heroin: a national opportunity.** ***J Opioid Manag*****. November 2007;3(6):328-32.**

OBJECTIVES: Heroin addiction in the United States exacts significant social, economic, medical, and public health costs, estimated at almost $22 billion in 1996. The national drug control strategy of arrest and mandatory sentencing of drug offenders over the past two decades has resulted in ever greater numbers of drug users who encounter the criminal justice system each year. No estimate of heroin use among the U.S. incarcerated population exists. The authors attempted to estimate the proportion of heroin-using individuals who pass through the corrections system annually to determine the potential impact of interventions designed to link heroin-using individuals to addiction treatment. METHODS: The authors constructed an estimate by employing the following elements: arrestee drug-testing data, total number of arrests, an estimate of the mean annual number of arrests in a drug-using population, estimates of arrestees incarcerated, and estimates of heroin use and addiction in the U.S. population. The authors present each component of the estimate and how it was derived, and conclude by discussing the degree of uncertainty in the estimates and the implications of our results for policy makers. RESULTS: Using a conservative estimate, the authors found that 24 percent to 36 percent of all heroin addicts pass through the corrections system each year, representing more than 200,000 individuals. CONCLUSIONS: Viewed as a public health opportunity, effective linkage to addiction treatment could ultimately reduce the costs associated with poor health, disease transmission, criminality, and recidivism that heroin use exacts on individuals and communities.

33. **Freudenberg N, Moseley J, Labriola M, Daniels J, Murrill C. Comparison of health and social characteristics of people leaving New York City jails by age, gender, and race/ethnicity: implications for public health interventions.** ***Public Health Rep*****. November 2007;122(6):733-43.**

OBJECTIVES: We compared health and social needs by gender, age, and race/ ethnicity of people leaving New York City jails and assessed the implication of these differences for the development of jail reentry programs. METHODS: Surveys were completed with 1,946 individuals (536 men, 704 women, and 706 adolescent males) between 1997 and 2004. Structured questionnaires captured data on demographic, criminal justice, substance use, and health characteristics. Bivariate comparisons were performed to determine variations

between men and women, men and male adolescents, and non-Latino black and Hispanic/Latino respondents. RESULTS: The majority of participants were black and Hispanic/Latino, reported high levels of substance use, had high rates of recidivism, and experienced difficult living circumstances. Compared with men, women were more likely to be homeless, use illicit drugs, report drug charges at index arrest, have health problems, and be parents. Adolescent males were more likely than men to rely on illegal activities for income and to have used marijuana and alcohol recently, and were less likely to report homelessness or health problems. Ethnic/racial differences between black and Hispanic/Latino respondents within gender and age groups were smaller than differences among these groups. CONCLUSIONS: Jails concentrate individuals with multifaceted health and social problems, providing opportunities to engage at-risk populations in comprehensive reentry programs. Gender, age, and ethnic/racial differences among incarcerated populations require that interventions be tailored to the specific needs of these different groups.

Topic H: Urban Health in Developing Countries

34. **Van de PE, O'Donnell O, Van DE. Are urban children really healthier? Evidence from 47 developing countries. *Soc Sci Med*. November 2007;65(10):1986-2003.**

On average, child health outcomes are better in urban than in rural areas of developing countries. Understanding the nature and the causes of this rural-urban disparity is essential in contemplating the health consequences of the rapid urbanization taking place throughout the developing world and in targeting resources appropriately to raise population health. Using micro-data on child health taken from the most recent Demographic and Health Surveys for 47 developing countries, the purpose of this paper is threefold. First, we document the magnitude of rural-urban disparities in child nutritional status and under-5 mortality across all 47 developing countries. Second, we adjust these disparities for differences in population characteristics across urban and rural settings. Third, we examine rural-urban differences in the degree of socioeconomic inequality in these health outcomes. The results demonstrate that there are considerable rural-urban differences in mean child health outcomes in the entire developing world. The rural-urban gap in stunting does not entirely mirror the gap in under-5 mortality. The most striking difference between the two is in the Latin American and Caribbean region, where the gap in growth stunting is more than 1.5 times higher than that in mortality. On average, the rural-urban risk ratios of stunting and under-5 mortality fall by, respectively, 53% and 59% after controlling for household wealth. Controlling thereafter for socio-demographic factors reduces the risk ratios by another 22% and 25%. We confirm earlier findings of higher socioeconomic inequality in stunting in urban areas and demonstrate that this also holds for under-5 mortality. In a considerable number of countries, the urban poor actually have higher rates of stunting and mortality than their rural counterparts. The findings imply that there is a need for programs that target the urban poor, and that this is becoming more necessary as the size of the urban population grows.

35. **Barreto ML, Genser B, Strina A et al. Effect of city-wide sanitation programme on reduction in rate of childhood diarrhoea in northeast Brazil: assessment by two cohort studies. *Lancet*. November 2007 10;370(9599):1622-8.**

BACKGROUND: A city-wide sanitation intervention was started in Salvador, Brazil, in 1997 to improve sewerage coverage from 26% of households to 80%. Our aim was to investigate the epidemiological effect of this city-wide sanitation programme on diarrhoea morbidity in children less than 3 years of age. METHODS: The investigation was composed of two longitudinal studies done in 1997-98 before the intervention (the sanitation programme) and in 2003-04 after the intervention had been completed. Each study consisted of a cohort of children (841 in the preintervention study and 1007 in the postintervention study; age 0-36 months at baseline) who were followed up for a maximum of 8 months. Children were sampled from 24 sentinel areas that were randomly chosen to represent the range of environmental conditions in the study site. At the start of each study an individual or household questionnaire was applied by trained fieldworkers; an environmental survey was done in each area before and after introduction of the sanitation programme to assess basic neighbourhood and household sanitation conditions. Daily diarrhoea data were obtained during home visits twice per week. The effect of the intervention was estimated by a hierarchical modelling approach fitting a sequence of multivariate regression models. FINDINGS: Diarrhoea prevalence fell by 21% (95% CI 18-25%)-from 9.2 (9.0-9.5) days per child-year before the intervention to 7.3 (7.0-7.5) days per child-year afterwards. After adjustment for baseline sewerage coverage and potential confounding variables, we estimated an overall prevalence reduction of 22% (19-26%). INTERPRETATION: Our results show that urban sanitation is a highly effective health measure that can no longer be ignored, and they provide a timely support for the launch of 2008 as the International Year of Sanitation.

36. **Kimani-Murage EW, Ngindu AM. Quality of water the slum dwellers use: the case of a Kenyan slum. *J Urban Health*. November 2007;84(6):829-38.**

As a result of rapid urbanization in a context of economic constraints, the majority of urban residents in sub-Saharan Africa live in slums often characterized by a lack of basic services such as water and sewerage. Consequently, the urban poor often use inexpensive pit latrines and at the same time may draw domestic water from nearby wells. Overcrowding in slums limits the adequate distance between wells and pit latrines so that micro-organisms migrate from latrines to water sources. Sanitary practices in these overcrowded slums are also poor, leading to contamination of these wells. This study sought to assess sanitary practices of residents of a Kenyan urban slum and fecal contamination of their domestic water sources. This cross-sectional study involved 192 respondents from Langas slum, Kenya. Forty water samples were collected from the water sources used by the respondents for laboratory analysis of coliforms. Of these 40 samples, 31 were from shallow wells, four from deep wells, and five from taps. Multiple-tube fermentation technique was used to enumerate coliform bacteria in water. The study found that most people (91%) in the Langas slum used wells as the main source of domestic water, whereas the rest used tap water. Whereas

most people used pit latrines for excreta disposal, a substantial percentage (30%) of children excreted in the open field. The estimated distance between the pit latrines and the wells was generally short with about 40% of the pit latrines being less than 15 m from the wells. The main domestic water sources were found to be highly contaminated with fecal matter. Total coliforms were found in 100% of water samples from shallow wells, while 97% of these samples from shallow wells were positive for thermotolerant coliforms. Three out of the four samples from deep wells were positive for total coliforms, while two of the four samples were positive for thermotolerant coliforms. None of the samples from taps were positive for either total or thermotolerant coliforms. Because the presence of thermotolerant coliforms in water indicates fecal contamination, facilitated by the proximity between the wells and pit latrines, the study suggests that the pit latrines were a major source of contamination of the wells with fecal matter. However, contamination through surface runoff during rains is also plausible as indiscriminate excreta disposal particularly by children was also common. Owing to the fecal contamination, there is a high possibility of the presence of disease pathogens in the water; thus, the water from the wells in Langas may not be suitable for human consumption. To address this problem, treatment of the water at community or household level and intensive behavioral change in sanitary practices are recommended. Efforts should be made to provide regulated tap water to this community and to other slums in sub-Saharan Africa where tap water is not accessible. However, more sampling of different water sources is recommended.

37. **Li L, Morrow M, Kermode M. Vulnerable but feeling safe: HIV risk among male rural-to-urban migrant workers in Chengdu, China. *AIDS Care*. November 2007;19(10):1288-95.**

HIV prevalence is increasing in China. The proportion of infection attributable to heterosexual sex in China is also on the rise. The scale of internal migration for work is likely to be one of the factors contributing to these changing patterns, but little is known about HIV-related knowledge, perceptions and risk behaviours of China's migrant workers. This study aimed to investigate HIV-related knowledge, attitudes and risk behaviours of male rural-to-urban migrant workers in Chengdu and to identify factors associated with risk behaviours. In 2005, a cross-sectional questionnaire survey was completed by 163 male construction- and factory-based migrant workers aged 18-35 years. With a mean age of 26 years, just 30% had completed senior middle school and 47% were currently married. Respondents were highly mobile, worked long hours and were relatively poorly paid. As migrants, their access to urban services and benefits was restricted, making it difficult for family members to join them. Knowledge of HIV transmission was generally poor and discriminatory attitudes towards people with HIV were commonplace. Seventy-five percent were sexually experienced, among whom 88% had had sexual relations in the last 12 months. Of these, 30% had had two or more partners and 20% had paid for sex. Just 36% had used a condom during the most recent sexual encounter with a sex worker. Around 70% thought it was 'impossible' for them to become infected, yet a significant sub-group were engaging in sexual behaviours that place them at risk of infection with HIV and sexually transmitted infections (STIs). Logistic Regression found a significant association between having multiple sexual partners and both education level and marital status.

Education was also found to be significantly associated with purchasing sex. Targeted HIV-prevention programs for male migrant workers in Chengdu, especially for those who are single and less educated, are urgently needed.

38. **Chandisarewa W, Stranix-Chibanda L, Chirapa E et al. Routine offer of antenatal HIV testing ("opt-out" approach) to prevent mother-to-child transmission of HIV in urban Zimbabwe. *Bull World Health Organ*. November 2007;85(11):843-50.**

OBJECTIVE: To assess the impact of routine antenatal HIV testing for preventing mother-to-child transmission of HIV (PMTCT) in urban Zimbabwe. METHODS: Community counsellors were trained in routine HIV testing policy using a specific training module from June 2005 through November 2005. Key outcomes during the first 6 months of routine testing were compared with the prior 6-month "opt-in" period, and clients were interviewed. FINDINGS: Of the 4551 women presenting for antenatal care during the first 6 months of routine HIV testing, 4547 (99.9%) were tested for HIV compared with 3058 (65%) of 4700 women during the last 6 months of the opt-in testing (P < 0.001), with a corresponding increase in the numbers of HIV-infected women identified antenatally (926 compared with 513, P < 0.001). During routine testing, more HIV-infected women collected results compared to the opt-in testing (908 compared with 487, P < 0.001) resulting in a significant increase in deliveries by HIV-infected women (256 compared with 186, P = 0.001); more mother/infant pairs received antiretroviral prophylaxis (n = 256) compared to the opt-in testing (n = 185); and more mother/infant pairs followed up at clinics (105 compared with 49, P = 0.002). Women were satisfied with counselling services and most (89%) stated that offering routine testing is helpful. HIV-infected women reported low levels of spousal abuse and other adverse social consequences. CONCLUSION: Routine antenatal HIV testing should be implemented at all sites in Zimbabwe to maximize the public health impact of PMTCT.

39. **Allen S, Karita E, Chomba E et al. Promotion of couples' voluntary counselling and testing for HIV through influential networks in two African capital cities. *BMC Public Health*. December 2007 11;7:349.**

BACKGROUND: Most new HIV infections in Africa are acquired from cohabiting heterosexual partners. Couples' Voluntary Counselling and Testing (CVCT) is an effective prevention strategy for this group. We present our experience with a community-based program for the promotion of CVCT in Kigali, Rwanda and Lusaka, Zambia. METHODS: Influence Network Agents (INAs) from the health, religious, non-governmental, and private sectors were trained to invite couples for CVCT. Predictors of successful promotion were identified using a multi-level hierarchical analysis. RESULTS: In 4 months, 9,900 invitations were distributed by 61 INAs, with 1,411 (14.3%) couples requesting CVCT. INAs in Rwanda distributed fewer invitations (2,680 vs. 7,220) and had higher response rates (26.9% vs. 9.6%), than INAs in Zambia. Context of the invitation event, including a discreet location such as the INA's home (OR 3.3-3.4), delivery of the invitation to both partners in the couple (OR 1.6-1.7) or to someone known to the INA (OR 1.7-1.8), and use

of public endorsement (OR 1.7-1.8) were stronger predictors of success than INA or couple-level characteristics. CONCLUSION: Predictors of successful CVCT promotion included strategies that can be easily implemented in Africa. As new resources become available for Africans with HIV, CVCT should be broadly implemented as a point of entry for prevention, care and support.

40. **Ali TS, Bustamante-Gavino I. Prevalence of and reasons for domestic violence among women from low socioeconomic communities of Karachi. *East Mediterr Health J*. November 2007;13(6):1417-26.**

We conducted a cross-sectional study to estimate the prevalence of domestic violence and identify the reasons for it among 400 married women aged 15-45 years in low socioeconomic areas in urban Karachi. Data were collected with a pretested questionnaire. The prevalence of verbal abuse was 97.5% by the husband and 97.0% by the in-laws; the prevalence of physical abuse was 80.0% and 57.5% by the husband and in-laws respectively. Financial issues were the commonest reason for domestic violence followed by infertility and not having a son. The prevalence of domestic violence in our sample of women is high. There is a need to address this problem with efforts from health workers, policy-makers, nongovernmental organizations and others.

41. **Kaur P, Rao TV, Sankarasubbaiyan S et al. Prevalence and distribution of cardiovascular risk factors in an urban industrial population in south India: a cross-sectional study. *J Assoc Physicians India*. November 2007;55:771-6.**

BCKGROUND: Cardiovascular diseases (CVD) are leading cause of death in developing countries including India. The huge burden of CVD in Indian subcontinent is the consequence of the large population and high prevalence of cardiovascular risk factors. This study was done to determine the prevalence of cardiovascular risk factors in two industrial units in Chennai, India. METHODS: Survey of behavioural risk factors using structured questionnaires and anthropometric measurements were done for the study population. Blood samples were collected for the fasting plasma glucose and serum cholesterol. Trend chi-square was employed to test the linear trend. RESULTS: The total study population included 2262 male subjects. Blood samples were collected for 2148 (95.0%) subjects. Age range was 18-69 years. Prevalence of major cardiovascular risk factors was: current smokers 462 (20.2%), body mass index > or = 23 kg/m2 1510 (66.8%), central obesity 1589 (70.2%), hypertension 615 (27.2%), diabetes mellitus 350(16.3%) and total cholesterol > or = 200mg/dl in 650(30.3%). CONCLUSIONS: The study results indicated high prevalence of behavioural risk factors, central obesity, hypertension and diabetes in a select group of middle and high-income young urban males. The long-term follow-up in such settings will provide an opportunity to understand the influence of risk factors on cardiovascular disease outcomes.

42. **Niakara A, Fournet F, Gary J, Harang M, Nebie LV, Salem G. Hypertension, urbanization, social and spatial disparities: a cross-sectional population-based survey in a West African urban environment (Ouagadougou, Burkina Faso).** ***Trans R Soc Trop Med Hyg*****. November 2007;101(11):1136-42.**

Data show that hypertension has become a public health problem in developing countries. Many studies have reported social disparities among the affected populations, but few of them pointed out spatial disparities within towns. We aimed to show that hypertension could be a good indicator of the medical change that occurs unequally in towns. A cross-sectional survey was done in April and October 2004 in Ouagadougou, Burkina Faso, among 2087 adults over 35 years old in different kinds of urban areas. Social and demographic data were collected and blood pressure was measured. Prevalence of hypertension was 40.2%. Age, body mass index, level of equipment, absence of community integration, absence of occupation, duration of residence over 20 years, protein-rich diet and absence of physical activity were identified as risk factors, but there were social and spatial disparities according to location of housing (parcelled-out or non-parcelled-out areas) and to integration within the town. The high rate of hypertension found in Ouagadougou and the heterogeneity of the risk within the population highlights that social and spatial risk factors have to be taken into account for the prevention of the non-transmissible diseases in countries in full process of urbanization and medical change.

43. **Araya R, Gaete J, Rojas G, Fritsch R, Lewis G. Smoking and common mental disorders: a population-based survey in Santiago, Chile.** ***Soc Psychiatry Psychiatr Epidemiol*****. November 2007;42(11):874-80.**

BACKGROUND: Smoking and common mental disorders (CMD), anxiety and depression, tend to co-exist and are important public health challenges for countries at all levels of development. We aimed to study the association between smoking and common mental disorders after adjusting for alcohol, illicit drug use and other confounders. METHODS: Cross-sectional household survey. CMD were assessed with a detailed psychiatric interview and smoking, alcohol, and illicit drug use with self-reported questionnaires. RESULTS: About 3,870 randomly selected adults were interviewed of whom 12.9% (95% CI 12-15) met criteria for ICD-10 CMD diagnoses. 38% (36-40) of the respondents were current smokers and 11% (10-13) ex-smokers. There was a robust association between heavier smoking and the presence and severity of CMD. However there were no major differences between non-smokers, ex-smokers and light smokers. In the fully adjusted models those individuals with ICD-10 CMD were significantly more likely to be current smokers [OR 1.6 (1.1-2.2)]. Smoking was also strongly associated with drinking heavily [OR 5.4 (4.0-7.3)] and illicit drug use [(OR 2.1 (1.1-4.1)] but there were no significant interactions. CONCLUSIONS: Smoking is highly prevalent and associated with CMD and other addictive behaviours in Chile. These are major public health problems in need of urgent action.