



Urban Health Literature Review
June 2005

1. Source: Am J Epidemiol. 2005 Jun 22; [Epub ahead of print]

Title: **Preterm birth: the interaction of traffic-related air pollution with economic hardship in Los Angeles neighborhoods.**

Author: **Ponce NA, Hoggatt KJ, Wilhelm M, Ritz B.**

Affiliation: Department of Health Services, School of Public Health, University of California at Los Angeles, Los Angeles, CA; Center for Health Policy and Research, School of Public Health, University of California at Los Angeles, Los Angeles, CA.

Abstract: Preterm birth may be affected by the interaction of residential air pollution with neighborhood economic hardship. The authors examined variations in traffic-related pollution exposure--measured by distance-weighted traffic density--using a framework reflecting the social and physical environments. An adverse social environment was conceptualized as low socioeconomic status (SES) neighborhoods--census tracts with concentrated poverty, unemployment, and dependence on public assistance. An adverse physical environment was depicted by the winter season, when thermal inversions trap motor vehicle pollutants, thereby increasing traffic-related air pollution. Los Angeles County, California, birth records from 1994 to 1996 were linked to traffic counts, census data, and ambient air pollution measures. The authors fit multivariate logistic models of preterm birth, stratified by neighborhood SES and third pregnancy trimester season. Traffic-related air pollution exposure disproportionately affected low SES neighborhoods in the winter. Further, in these poorer neighborhoods, the winter season evidenced increased susceptibility among women with known risk factors. Health insurance was most beneficial to women residing in neighborhoods exposed to economic hardship and an adverse physical environment. Reducing preterm births warrants a concerted effort of social, economic, and environmental policies, focused on not only individual risk factors but also the reduction of localized air pollution, expansion of health-care coverage, and improvement of neighborhood resources.

2. Source: Health Place. 2005 Jun;11(2):147-56.

Title: **The urban built environment and overdose mortality in New York City neighborhoods.**

Author: **Hembree C, Galea S, Ahern J, Tracy M, Markham Piper T, Miller J, Vlahov D, Tardiff KJ.**

Affiliation: Center for Urban Epidemiologic Studies, New York Academy of Medicine, 1216 Fifth Avenue, New York, NY 10029 5293, USA.

Abstract: Accidental drug overdose continues to be a substantial cause of mortality for drug users. Characteristics of the neighborhood built environment may be important determinants of the likelihood of drug overdose mortality independent of individual-level factors. Using data from the New York City Office of the Chief Medical Examiner, we conducted a multilevel case control study using data on accidental overdose deaths as cases and non-overdose accidental deaths as controls. We used archival data from the New York City Housing and Vacancy Survey and the Mayor's Office of Operations to assess characteristics of neighborhood external (e.g. dilapidation of buildings) and internal (e.g. quality of utilities in houses) built environment. Multilevel analyses were used to assess the relations between the neighborhood built environment and the likelihood of overdose death. Six out of the eight characteristics of the external environment studied and three out of the six characteristics of the internal environment studied were significantly associated with the likelihood of fatal drug overdose in multilevel models after adjusting for individual-level (age, race, sex) and neighborhood-level (income, drug use) variables.

Deterioration of the built environment, particularly the external environment, is associated with an increased likelihood of fatal accidental drug overdose. Disinvestment in social resources, psychosocial stressors, neighborhood differences in response to a witnessed overdose, and differences in vulnerability to the adverse consequences of drug use in different neighborhoods may explain the observed associations.

3. Source: Health Place. 2005 Jun;11(2):121-9.

Title: **Residential instability in socioeconomically deprived neighbourhoods, good or bad?**

Author: **Drukker M, Kaplan C, van Os J.**

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Abstract: Previously, both positive and negative effects of residential instability on various health outcomes have been described. The present study tests these effects in a European context, using two different data-sources (1) neighbourhood level data on socioeconomic deprivation and residential instability, and (2) individual-level community survey data to assess quality of life. Multilevel regression analyses showed that socioeconomic deprivation was negatively associated with several dimensions of quality of life, in stable neighbourhoods, while no such effect was observed in average or unstable neighbourhoods. Thus, when accounting for interaction effects, residential instability appeared to protect against negative effects of neighbourhood poverty and, therefore, may be beneficial for residents' quality of life.

4. Source: Prev Med. 2005 Jun;40(6):831-41.

Title: **Examining the relationships among built environment, physical activity, and body mass index in El Paso, TX.**

Author: **Rutt CD, Coleman KJ.**

Affiliation: Department of Psychology, University of Texas at El Paso, El Paso, TX 79968, USA.

Abstract: OBJECTIVE: The current study examined the relationships among built environment, physical activity, and body mass index (BMI) in a primarily Hispanic border community in El Paso, TX. METHODS: Data from a 2001 community-wide health survey were matched to environmental data using geocoding techniques in ARC VIEW software. A total of 996 adults were surveyed by phone and 452 were successfully geocoded. RESULTS: The sample was 71% female, 79% Hispanic, 42 +/- 17 years old, moderately acculturated, and had socioeconomic status (SES) levels of semi-skilled workers. Increasing BMI was related to less moderate intensity physical activity ($P = 0.05$), higher SES ($P = 0.0003$), worse overall health ($P = 0.0004$), and living in areas with greater land-use mix (less residential; $P = 0.03$). The relationship between overall health and BMI was in part mediated by higher numbers of barriers to physical activity in those with poor health, which lead to a decrease in moderate physical activity. These variables explained 20% of the variance in BMI. CONCLUSIONS: This is one of the first studies to find a positive relationship between land-use mix and BMI in a predominantly Hispanic, low-income community. The positive association between BMI and land-use mix may be due to the inclusion of individual SES as a controlling variable in the analyses, suggesting that SES may have a differential effect on how the built environment influences BMI in low- to moderate-income minority communities.

5. Source: MMWR Morb Mortal Wkly Rep. 2005 Jun 24;52(24):601-5.

Title: **Use of social networks to identify persons with undiagnosed HIV infection—seven U.S. cities, October 2003-September 2004.**

Author: Centers for Disease Control and Prevention (CDC).

Abstract: An estimated 250,000 persons living with human immunodeficiency virus (HIV) in the United States are not aware of their infections and their risk for transmitting HIV. As part of CDC's Advancing HIV Prevention Initiative, identifying persons with undiagnosed HIV infection and linking them to medical care and prevention services is a national priority. In 2003, a 2-year demonstration project was begun with nine community-based organizations (CBOs) in seven cities to evaluate the effectiveness of using a social network strategy at multiple sites to identify persons at risk for HIV infection and direct them to HIV counseling, testing, and referral (CTR). In this strategy, HIV-positive persons and HIV-negative persons at high risk (i.e., recruiters) are enlisted to recruit for CTR persons from their social, sexual, and drug-use networks (i.e., network associates [NAs]) believed to be at risk for HIV infection. This report summarizes preliminary results from the first year of this 2-year project, which indicated that 133 persons recruited 814 NAs, resulting in 46 newly identified HIV infections (approximately 6% of all persons tested). Health departments and CBOs should consider this strategy as an effective method for recruiting persons for CTR and identifying those with undiagnosed HIV infection.

6. Source: J Urban Health. 2005 Jun;82(2):225-36. Epub 2005 May 11.

Title: **Mortality and socioeconomic deprivation in census tracts of an urban setting in southern Europe.**

Author: **Dominguez-Berjon MF, Borrell C, Lopez R, Pastor V.**

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Abstract: In southern European cities, research on deprivation and mortality inequalities using small-area analysis is recent. In many countries, the census tract (CT) is the smallest territorial unit for which population data are available. The aim of this study was to examine the association between mortality from all causes and socioeconomic deprivation in CTs in Barcelona (Spain). A cross-sectional ecologic study was carried out using mortality data for 1987-1995 and 1991 census variables. Mortality data were obtained from death certificates. Socioeconomic deprivation indicators were drawn from the census and included unemployment, inadequate education, and low social class. They were correlated, and a deprivation index was elaborated with them. The analysis was descriptive, and multivariate Poisson regression models were adjusted. The most deprived CTs tend to present higher mortality (49.7% of CT in the quartile associated with greatest deprivation were included in the top male mortality quartile and 40.4% in the top female mortality quartile), whereas the less deprived ones present lower mortality. For male mortality, the risk of dying among those in the quartile representing most deprivation is from 25 to 29% higher (depending on the indicator chosen) than the least deprived quartile, and for women, it is from 12 to 14% higher. We concluded that the mortality from all causes in the CT of a southern European city has shown a clear positive association with a variety of socioeconomic deprivation indicators drawn from the census. Studies of this nature may help to orient more specific studies in which CTs are grouped together as a function of particular population and/or health characteristics.

7. Source: Am J Respir Crit Care Med. 2005 Jun 1;171(11):1272-8. Epub 2005 Mar 11.

Title: **Air pollution and child respiratory health: a case-crossover study in Australia and New Zealand.**

Author: **Barnett AG, Williams GM, Schwartz J, Neller AH, Best TL, Petroseschevsky AL, Simpson RW.**

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Abstract: Rationale: The strength of the association between outdoor air pollution and hospital admissions in children has not yet been well defined. Objectives: To estimate the impact of outdoor air pollution on respiratory morbidity in children after controlling for the confounding effects of weather, season, and other pollutants. Methods: The study used data on respiratory hospital admissions in children (three age groups: < 1, 1-4, and 5-14 years) for five cities in Australia and two in New Zealand. Time series of daily numbers of hospital admissions were analyzed using the case-crossover method; the results from cities were combined using a random-effects meta-analysis. Measurements and Main Results: Significant increases across the cities were observed for hospital admissions in children for pneumonia and acute bronchitis (0, 1-4 years), respiratory disease (0, 1-4, 5-14 years), and asthma (5-14 years). These increases were found for particulate matter with a diameter less than 2.5 μm (PM_{2.5}) and less than 10 μm (PM₁₀), nephelometry, NO₂, and SO₂. The largest association found was a 6.0% increase in asthma admissions (5-14 years) in relation to a 5.1-ppb increase in 24-hour NO₂. Conclusions: This study found strong and consistent associations between outdoor air pollution and short-term increases in childhood hospital admissions. A number of different pollutants showed significant associations, and these were distinct from any temperature (warm or cool) effects.

8. Source: Disasters. 2005 Jun;29(2):171-94.

Title: **A critical analysis of earthquakes and urban planning in Turkey.**

Author: **Sengezer B, Koc E.**

Affiliation: Yildiz Technical University, Faculty of Architecture, City and Regional Planning, Turkey.

Abstract: The land use plans and policies of developed countries that live with the threat of earthquakes are gaining importance in reducing or eliminating the long-term threat to people and property. In developing countries, however, these plans and policies seem to increase the level of vulnerability. This paper examines the effects of the earthquakes that have occurred in Turkey since 1992, with a particular focus on urbanisation and planning policies. It is based on extensive surveys carried out on location immediately after the earthquakes in Erzincan and Kocaeli-Golcuk in 1992 and 1999, respectively. The analysis takes into account several factors, including the height of buildings, geological conditions and the construction period. The authors conclude that land use planning can serve as a very useful instrument for mitigating the extent of disaster damage if it is part of an appropriate planning system. In the case of Turkey, the planning system needs to be reorganised for this purpose.

9. Source: Soc Sci Med. 2005 Jun;60(12):2785-97. Epub 2005 Jan 8.

Title: **The impacts of dwelling conditions on older persons' psychological well-being in Hong Kong: the mediating role of residential satisfaction.**

Author: **Phillips DR, Siu OL, Yeh AG, Cheng KH.**

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Abstract: About 11% of Hong Kong's population of 7 million people are aged 65 and over and many of them live in old urban areas. Many of these areas have been subjected to urban redevelopment and some of the residents have been relocated to newer estates in peripheral new towns. Previous studies have focused on the challenges the urban environment has placed on older persons in terms of capability

to cope with the demands that the environment places upon them. This paper suggests that dwelling conditions can act as stressors and become contributing factors that impact on older persons' residential satisfaction and psychological well-being (subjective well-being). This study examines the role of residential satisfaction (satisfaction with dwelling unit, estate and district) in mediating the effects of dwelling conditions (interior environment and exterior environment) on psychological well-being. A sample of older persons was recruited from a sampling frame of 16 urban sub-areas located in old urban areas and new towns. 518 older persons (224 males, 294 females) aged 60 and over were interviewed and the findings indicated that residential satisfaction was determined by assessment of both the interior environment and the exterior environment, although these were appraised differently. The interior environment had a greater impact on residential satisfaction than the exterior environment. It appeared that environmental dwelling conditions mainly affected older persons' psychological well-being indirectly and, hence, probably influenced their opportunities for successful ageing. However, subsequent tests revealed that dwelling conditions had no direct impact on psychological well-being. In light of these findings, it is proposed that the role of environmental factors and their relation to older persons' psychological well-being depends on the extent to which a person's expectations of residential satisfaction are met. Some implications of these findings for local housing and social care policy are discussed.

10. Source: Soc Sci Med. 2005 Jun;60(12):2845-63. Epub 2005 Jan 25.

Title: **Particulate air pollution, social confounders, and mortality in small areas of an industrial city.**
Author: **Jerrett M, Buzzelli M, Burnett RT, DeLuca PF.**

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Abstract: Scientists and policymakers have shown growing interest in the health effects of chronic air pollution exposure. In this study, we use geostatistical techniques in combination with small-area data to address a central research question: "Does chronic exposure to particulate air pollution significantly associate with mortality when the effects of other social, demographic, and lifestyle confounders are taken into account?" Our analysis relies on age-standardized mortality ratios for census tracts (CTs) of Hamilton (average population of 3419 persons), social and demographic data from the 1991 Census of Canada, smoking variables extracted from secondary surveys, and total suspended particulate (TSP) data from 23 monitoring stations operated by the Ministry of the Environment. Air pollution data are interpolated with a geostatistical procedure known as "kriging". This method translates fixed-site pollution monitoring observations into a continuous surface, which was overlaid onto the population-weighted centroids of the CTs. Our results show substantively large and statistically significant health effects for women and men. Evaluated over the inter-quartile range of the data, we found the relative risk of premature mortality for TSP exposure to be 1.19 (95% CI: 1.13-1.26) for women and 1.30 (95% CI: 1.24-1.37) for men. We also tested associations with cardio-respiratory and cancer mortality. We found positive, significant associations between particulate exposure and these causes of death in most models. Inclusion of socioeconomic, demographic, and lifestyle reduced but did not eliminate the health effects of exposure to particulate air pollution. Overall our results suggest that intra-urban variations in particulate air pollution significantly associate with premature, all-cause, cardio-respiratory, and cancer mortality in small areas of Hamilton.

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