DEMOGRAPHIC VULNERABILITY, NEIGHBORHOOD POLLUTION, AND RACIAL HEALTH DISPARITIES

The proposed project focuses on the ways in which social and economic conditions at the individual-, family-, and neighborhood-levels interact with neighborhood concentrations of environmental pollution to affect racial disparities in health and mortality. We will develop comprehensive measures of neighborhood pollution using data from the Environmental Protection Agency and several other sources, and attach these neighborhood- pollution estimates, along with information on other neighborhood characteristics, to longitudinal data for a diverse group of individuals in the Panel Study of Income Dynamics. The resulting multilevel data will provide a unique opportunity to assess long-term effects of neighborhood pollution on mortality, self-rated health, physical limitations, and diagnoses of cancer, cardiovascular disease, asthma, and other specific medical conditions for a national sample of adults. We will assess the efficacy of these data by comparing them to estimates of health-outcome prevalence and cross-sectional associations between neighborhood pollution and health derived from the National Health and Nutrition Examination Survey. Analyses of our unique longitudinal, multilevel data will focus on the extent to which vulnerability to the health effects of neighborhood pollution is heightened by exposure to stressful conditions in the household or economic and social distress in the neighborhood of residence. Central to the project is the assessment of the role of group differences in exposure to neighborhood pollution, and differences in susceptibility to the effects of pollution, in explaining persistent racial and ethnic differences in health.