

**The Effects of Neighborhoods on Child Health: New Data and Results  
from Wave 2 of the Los Angeles Family and Neighborhood Survey**

September 2009

Narayan Sastry, *University of Michigan*

and

Anne R. Pebley, *UCLA*

In this paper, we present results from examining race/ethnic and socioeconomic disparities in children's health and the role of neighborhood factors in accounting for these disparities using new data from the Los Angeles Family and Neighborhood Survey (L.A.FANS), a comprehensive longitudinal survey of children, families, and neighborhoods in L.A. County.

Wave 2 of L.A.FANS was fielded in 2006-2008 and followed respondents from Wave 1 of L.A.FANS (fielded in 2000-2001) as well as adding a sample of new entrants who moved into sampled neighborhoods between the two waves. In L.A.FANS-2, new biomarkers of stress and health were collected for children and adults and the rich set of individual, family, and neighborhood measures from Wave 1 were continued. These data allow us to study health disparities by race/ethnicity and socioeconomic status and to investigate the effects of neighborhood characteristics on these disparities. We describe the L.A.FANS data, the biomarker collection protocols, and the fieldwork results from L.A.FANS-2, including non-response rates and participation rates in the biomarker collection.

Among the biomarkers that we examine in this paper are measures of obesity, blood pressure, spirometry, chronic disease (C-reactive protein, hemoglobin A1c, and cholesterol), and stress (Epstein-Barr virus antibodies and Cortisol). Biomarkers were collected for multiple children in the same family as well as for other family members (such as parents), providing additional insights into determinants of children's health and better controls for family background. L.A.FANS also collected detailed self-reported information on overall health status and health outcomes that were not assessed with biomarkers. This allows us to examine important health outcomes such as asthma for which there is no corresponding biomarker. The collection of self-reported health measures that match the biomarkers also allows us to identify

undetected disease—that is, the presence of conditions based on biomarkers that are not reported by respondents.

In addition to a comprehensive set of background demographic, social, and economic measures at the child and family level, we incorporate a variety of measures of neighborhood characteristics. Note that the individual/family measures include an especially large set of indicators of race/ethnicity, immigration status (including documentation status), language, and experiences of discrimination. Neighborhood measures include indicators of neighborhood disadvantage, immigrant concentration, physical environment, and neighborhood social processes (such as collective efficacy).

We estimate a sequence of multilevel models for each of these outcomes that account for the family and neighborhood level clustering of the data. We estimate both categorical models, based on particular cut-offs for classifying children into risk categories, and continuous models using linear regression models that treat the outcomes as continuous. We also estimate quantile regression models to examine how the nature of race/ethnic and SES disparities vary across the distribution of the health outcomes.

We expect to document major race/ethnic and SES disparities in biomarkers (and self-reported measures) of children's health in Los Angeles. We will compare differences in the results and conclusions that arise from the biomarkers compared to the self-reported measures. The results, although primarily descriptive, will be among the first based on biomarkers of children and hence are likely to provide important new insights into the nature of health disparities and the role of neighborhood factors in shaping these disparities.