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Race and Ethnic Disparities in Depression Among Mothers in Los Angeles: Individual, Family, and Neighborhood Effects

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Depression is an important indicator of maternal well-being because it can have debilitating effects on a woman's physical health and level of functioning in and out of the home. Maternal depression is also likely to have important effects on the care, cognitive development, health, and well-being of her children (see Black, 2002; Luoma et al., 2001; Oyserman et al., 2002; Petterson et al., 2001, Spence et al., 2002). High rates of maternal depression—and, in particular, *undiagnosed* depression—are unfortunate because depression is a disease that can be diagnosed easily and treated effectively and inexpensively.

Despite the potential importance of maternal depression, there are major gaps in knowledge concerning its overall level of prevalence; disparities by socioeconomic status, race/ethnicity, and immigration status; and determinants at the individual, family, and neighborhood levels. The leading reason for these gaps is that valid and accurate depression screeners have not been included in many social surveys. Even when they have been included, these surveys have often not included large samples of certain groups of interest, such as Latinos and immigrants. The role of neighborhood characteristics on maternal depression is another key topic lacking significant research attention. Recently, researchers have begun to explore the effects of neighborhood characteristics on the frequency of depression (Siefert et al., 2000). However, previous studies have focused on cities in the Midwest (such as the Project on Human Development in Chicago neighborhoods), which may have a different experience than cities in other parts of the U.S.

In this paper, we will examine maternal depression using new data from the first wave of the Los Angeles Family and Neighborhood Survey (L.A.FANS), fielded in 2000-2001. L.A.FANS screened mothers in the sample for depression using a well-tested standardized depression inventory and collected information on a wide variety of relevant covariates at the individual, family, and neighborhood level.

Data

This study is based on data from Wave 1 of the Los Angeles Family and Neighborhood Survey (L.A.FANS), which was fielded in a sample of 65 census tracts throughout Los Angeles County. L.A.FANS is a longitudinal survey, designed to answer research questions about the effects of neighborhood social environments on outcomes for adults and children in Los Angeles. Wave 1 of the L.A.FANS survey began in April 2000 and was completed at the end of 2001.

L.A.FANS is based on a multistage clustered sampling design. First, census tracts in Los Angeles County were divided into three strata based on the percent of the tract's population in poverty in 1997. The three strata are: very poor (those in the top 10 percent of the poverty distribution), poor (tracts in the 60-89th percentiles), and non-poor (tracts in the bottom 60 percent of the distribution). To achieve an oversample of poor and very poor tracts, 20 tracts were sampled in the poor and very poor strata. An additional 25 tracts were sampled in the non-poor stratum, for a total of 65 tracts (see Sastry et al., 2003 for more detail). In the second stage, census blocks were sampled within each tract and all dwelling units were listed in sampled

blocks. In the third stage, households were sampled within each block and screened. Approximately 40-50 households were interviewed in each census tract, for a total sample size of 3,000 households.

In households with children, one child was chosen at random from all household members age 17 and younger. If the child had one or more siblings, one of these was chosen at random as a second sampled child. Interviews were conducted with sampled children's primary caregiver (usually the mother). L.A.FANS collected extensive information on the household socioeconomic status, family life, neighborhood life, residential mobility, program participation, health status, health insurance, and health care utilization, and many other topics. To permit comparisons with national-level survey data, the L.A.FANS employed standard, well-tested batteries of questions from the Panel Study of Income Dynamics, the National Longitudinal Survey, the National Survey of Families and Households, and other national surveys. Questions on health status in L.A.FANS came primarily from the National Health Interview Survey.

The L.A.FANS measured depression using the Comprehensive International Diagnostic Interview short form (CIDI-SF), the international standard recommended by the World Health Organization. The CIDI-SF was designed to assess major depression during the 12-month period preceding the interview and was administered to all mothers of sampled children. The response rate among mothers selected for the sample was 89 percent, which yielded a sample of about 1,900 respondents.

Analysis Plan

The analysis will proceed in three steps. First, we will examine disparities in maternal depression by race/ethnicity, by SES, by immigration status, and by other important demographic and socioeconomic characteristics. Next, we will estimate multivariate models that control for comprehensive set of individual and family characteristics and will take several different approaches to controlling for neighborhood-level effects. Finally, we will examine whether women with symptoms of depression (based on the CIDI) report that they have been diagnosed with depression, whether they have seen a psychiatrist or psychologist in the past year, and whether they are currently taking medications. In particular, we will focus on ethnic disparities in the diagnosis and treatment of women with depressive symptoms, using both descriptive and regression analysis.

Our multivariate analyses will be based on logistic regression models in which the dependent variable is an indicator of whether the mother was assessed by the CIDI as having depression (y=1) or not (y=0). Among the individual and family level covariates we will examine are mother's age, race/ethnicity, immigration status, number of children, marital status, education, and employment, and family income, size, and living arrangements. The goal of our analysis will be to explain major disparities in maternal depression that are observed in the L.A.FANS data—principally, differences in depression according to mother's race/ethnicity and poverty status. We will estimate a sequence of models, beginning with a basic model that includes only two variables: race/ethnicity and poverty status. This model will document ethnic differentials in depression and serve as a baseline against which to compare more complex models. To this basic model we first add measures of the mother's demographic characteristics (such as her age and immigration status and the number of children she cares for and their ages). Next, we add measures of family background and structure (such as marital status and living arrangements). Finally, we will add measures describing the home environment, the quality of her relationship with her partner, levels of family and social support, and the mother's

employment status and job characteristics. This sequence of models will be useful for uncovering the pathways through which observed disparities in maternal depression operate.

Although this analysis is not centrally focused on neighborhood effects on depression, we will control for neighborhood factors using tract-level fixed effects. The fixed effects provide a control for all neighborhood level factors combined. The results from estimating the fixed effects models tell us about how important neighborhood-level variation is, both before and after controlling for individual and family covariates. They also allow us to account for the correlation in the error term among all women residing in the same neighborhood.

Finally, as described above, we will examine ethnic disparities in diagnosis and pharmacological treatment of depression, in order to investigate the prevalence of undiagnosed and untreated depression in the sample and their variation by ethnic group.

Preliminary Results

In Table 1 we present some preliminary results that show the overall level of maternal depression in this sample as well as disparities in depression by race/ethnicity.

Table 1. Disparities in Maternal Depression by Race/Ethnicity

	Race/Ethnicity				
	White	Latina	Black	Asian	Total[a]
Depressed					
Yes	63	166	37	10	279
No	335	991	120	136	1,596
No. of observations	398	1,157	157	146	1875
Percent Depressed	16%	14%	24%	7%	15%

Note: [a] Total includes mothers of other race/ethnic groups.

The results show that 15% of all mothers in our sample have major depression. White and Latina mothers have very similar levels of depression while black mothers have substantially higher levels and Asian mothers have substantially lower levels. Roughly one out of every four black mothers suffered from major depression in the past 12 months according to our results, compared to less than one out of every ten Asian mothers. The similar results for white and Latina mothers suggest this may be another manifestation of the "Hispanic paradox," which has found Hispanics to have surprisingly good health outcomes compared to members of other ethnic groups with the same levels of education and income and other socioeconomic and demographic characteristics (e.g., see Buekens et al., 2000 regarding birthweight among Mexican Americans).

Other preliminary results (not shown) suggest that immigrant status, educational attainment, income, and other factors are related to maternal depression. We are currently undertaking the next steps of the analysis that are outlined above.

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