Birthweight Among Children of Immigrants by Duration in the U.S.

Low birthweight (< 2500 grams) is the second leading cause of infant mortality in the United States, after birth defects, and is associated with long-term health and developmental problems among infants who survive. Birth outcomes vary by nativity. Among Hispanics (Landale, Oropesa and Gorman 1999; Markides and Coreil 1986), blacks (Cabral et al. 1990; David and Collins 1997; Fang et al. 1999; Singh and Yu 1996), and Asians (Alexander et al. 1996; Singh and Yu 1996), immigrants have more favorable outcomes than their U.S.-born racial or ethnic counterparts. Studies of other health outcomes suggest that immigrants lose their advantage as the length of time they are in the U.S. increases (Cho and Hummer 2001; Jasso et al., 2004; Uretsky and Mathiesen 2006), though whether similar patterns exist for birth outcomes is an open question.

One prominent explanation for declines in immigrant health over time and across generations is acculturation. Acculturation theory purports that declines in health are due to the adoption, by immigrants, of risky (unhealthy) behaviors of their non-immigrant peers as they assimilate to the U.S. This theory, along with most other prevailing explanations, suggests that health outcomes should deteriorate monotonically with duration of residence in the U.S.

In the most comprehensive investigation of its kind, we use three recent national datasets to analyze patterns of birth outcomes over time among immigrants as a broad group as well as separately for Non-Hispanic white, Non-Hispanic black, and Hispanic immigrants.

Since birth certificate data do not include measures of the length of time immigrant mothers have spent in the U.S. so we use survey data from the Early Childhood Longitudinal Study-Kindergarten and Birth Cohorts (ECLS-K and ECLS-B) and the Fragile Families and Child Wellbeing birth cohort study (FF). The ECLS-K is a longitudinal cohort study based on a nationally representative sample of approximately 21,000 kindergarteners in 1998-1999. The ECLS-B is a longitudinal birth cohort study based on a nationally representative sample of approximately 10,000 children born in 2001 and followed until the end of first grade. The FF study follows a representative cohort of 4,898 children born between 1998 and 2000 in U.S. cities with over 200,000 people.

We focus on low birth weight (defined above) as an outcome. The questions about duration of residence in the U.S. are worded slightly differently in the 3 data sets, but all are clear, objective questions that can easily be converted to a standard measure of years of residence. In the ECLS-B and ECLS-K, respondents were asked, “How old were you when you first moved to the U.S.?” In FF, they were asked, “In what year did you first come to the U.S. to live?” All three studies also contain highly comparable if not identical measures of key control variables.

We compute and graph the proportions low birth weight and preterm birth to immigrants by duration of residence in the U.S. (in 2 year bands) and estimate OLS regression models (for birth weight and gestational age) and logistic regression models (for low birth weight and preterm birth) to measure the association between duration of residence in the U.S. (in 2-year intervals) and infant health controlling for risk factors associated with low birthweight and possibly with duration in the U.S., including mother’s age, parity, marital status, educational attainment, and income, as well as the father’s age (all at or just before birth).

Preliminary findings reveal a consistent curvilinear pattern in the association between duration of residence in the U.S. and low birthweight, across all three studies. Rates of low birthweight decline as duration of residence in the U.S. increases, but only for the first 10 years; after that point, there are steady increases. Additionally, we find evidence that rates of low birth weight are significantly higher for cohorts of women who arrived in the U.S. around 1990 than for cohorts arriving before and after that year. These preliminary findings suggest that the commonly espoused theories are insufficient to explain patterns of immigrant health by duration of residence in the U.S., and also that cohort effects further complicate interpretations of deterioration in health with time spent in the U.S.

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