Siblings Divided: Children's Immigration Status, Access to Healthcare, and Health Status

Julia Gelatt
Department of Sociology and Office of Population Research
Princeton University
1st Floor, Wallace Hall
Princeton, NJ 08544
jgelatt@princeton.edu

The author would like to acknowledge funding from the National Science Foundation Graduate Research Fellowship Program.

Introduction

Substantial media and research attention has focused on the presence and economic impacts of the estimated 11 million undocumented immigrants in the United States (Passel and Cohn 2011). However, most research focuses on adult immigrants, while undocumented children, brought to the United States by their parents, have received less notice. The number of undocumented children is estimated at about 1 million, while an estimated 1.1 million additional young adults have grown up in the United States and still lack legal status (Batalova and McHugh 2010). Such children, who generally have deep ties to the United States and often little connection to their countries of birth have very few realistic options for gaining legal status and face severely restricted rights within the United States.

Given this persistent, large segment of the child population that does not have legal status, a full understanding of child well-being in this country requires analyses of the implications of undocumented immigrant status for children. In this paper, I focus on one important aspect of child well-being -- child health. I ask: 1) What is the relationship between children's immigration status and their health insurance coverage? 2) How does immigration status and health insurance coverage affect undocumented children's access to healthcare? 3) What is the relationship between children's immigration status, their access to healthcare, and their physical and mental health? I further investigate whether parents' immigration status affects children's access to healthcare and health status.

I draw on the National Health Interview Survey and Medical Expenditure Panel Surveys to answer these questions, using foreign-born, noncitizen, Latin American children as a proxy for undocumented immigrant children. I compare the health insurance, healthcare access, and physical and mental health status of foreign-born, noncitizen children to that of their US-born, US citizen siblings. Doing so allows a much clearer analysis of the effects of immigration status on health insurance and health outcomes than prior analyses have been able to achieve. Most studies cannot fully isolate the effects of legal status from those of parental human capital, family socioeconomic status, neighborhood or community effects, and possible racial/ethnic discrimination. Looking at differences in outcomes between siblings who share the same family and neighborhood characteristics, the same cultural background, and likely the same racial assignation allows me to isolate the effects of citizenship from other covariates, allowing for an approximation of the causal effects of citizenship on access to healthcare and health outcomes.

Child health is important to study both because it is important in its own right, and because child health has strong implications for educational attainment, adult health, and earnings. Low birth weight, negative health conditions in utero and in childhood, and short stature (which indicates poorer health during childhood) are associated with lower scores on cognitive tests, lower educational attainment, lower employment rates, and lower earnings (Currie and Stabile 2007; Case and Paxson 2010). Furthermore, children's healthcare access and health are forms of childhood inequalities that are very open to policy intervention (Crosnoe 2006). Policymakers face a clear choice about whether or not to extend state-funded health insurance to undocumented immigrant children. Currently New York, Washington, Illinois, Massachusetts, the District of Columbia, and some California and Florida counties provide health insurance to all children, regardless of immigration status, while most states and counties do not (Kaiser Commission Medicaid and the Uninsured 2009). Therefore, if any disparities in access to insurance and healthcare generate negative health impacts for children, policymakers could intervene to reduce health disparities along lines of immigration status. Further, federally policymakers have a clear choice in whether or not to pass legislation that would to open a path to legal residence and broader rights within the United States to undocumented children and youth. If there are any negative relationships between immigration status and children's physical or mental health, policymakers should consider these negative impacts in the cost benefit analysis of whether to offer undocumented children and youth a workable path to legal status.

Background

Theory. Theories of immigrant assimilation, straight-line, segmented, and otherwise all argue that lacking legal status should negatively impact immigrants' ability to successfully navigate the society of their new homeland. Segmented assimilation theory suggests that immigrants' contexts of reception, including government policies offering or denying legal residence, affect assimilation trajectories across immigrant generations (Portes and Rumbaut 2001). The modern re-telling of straight line assimilation theory – first developed to describe the experiences of European immigrants to the United States at the turn of the 20th Century – likewise suggests that children of undocumented immigrants prove the exception to an otherwise optimistic scenario of upward assimilation by most children of immigrants (Alba and Nee 2005).

Unauthorized immigrant children's health insurance and healthcare access. Children who lack legal status in the United States have no claim to the federally-funded public health insurance programs – Medicaid and CHIP – to which US citizen children in low-income families have access, though hospitals

can be reimbursed for short-term, emergency medical care provided to undocumented immigrants. However, several states and counties have decided to use state and local funds to provide public insurance to undocumented immigrant children in low-income families. These places currently include New York, Washington, Illinois, Massachusetts, the District of Columbia, and some California and Florida counties. However, most states do not provide public insurance to undocumented immigrant children. Further, undocumented parents often work in jobs that do not provide employer-based health insurance. And such children generally live in low-income families that often cannot afford to purchase private health insurance plans. Existing information suggests this leads to relatively high rates of lacking health insurance among noncitizen children. Relying on imputations of legal status in the Current Population Survey, the Migration Policy Institute estimates that 44 percent of undocumented immigrant children lacked health insurance coverage in 2008, compared to 25 percent of Legal Permanent Resident (LPR) children, and 10 percent of US-born children (Capps, Rosenblum, and Fix 2009). A study of siblings' health insurance coverage found that among siblings where one child is a US citizen and another is not there were higher rates than average of having two different health insurance statuses – generally a mix of public insurance and no insurance (Percheski and Bzostek 2010). While data suggests that undocumented children have high rates of lacking health insurance, I am not aware of information that connects these insurance rates to healthcare access for undocumented children at the national level. Analysis of the California Health Interview Survey, however, shows that noncitizen children have lower rates of having a usual source of care, and lower rates of physician visits, than US citizen children (UCLA Center for Health Policy Research 2003).

Immigrants and physical and mental health. Existing evidence provides two contradictory predictions about the relationship between immigration status and physical health. On the one hand, a broad set of evidence shows that immigrants, overall, have better health status that their US-born counterparts, due to some combination of co-ethnic support networks, health behaviors, selective immigration, or selective emigration. The evidence on whether this extends to first generation immigrant children (both legal immigrant and undocumented) is somewhat mixed. Research shows immigrant children have lower doctor-reported rates of asthma, allergies, developmental problems, and learning disabilities; have lower rates of obesity and slower weight gain in childhood; have lower parent-reported rates of common health problems such as colds or flu, pneumonia, and earaches or ear infections; and have more positive health behaviors than US-born children, but also have higher rates of doctor-reported frequent ear infections and frequent headaches, more negative parent-reported global health status, and are less likely to be up-to-date on immunizations than US-born children (Burgos et al.

2005; Blake et al. 2001; Hamilton, Teitler, and Reichman 2011; Strine et al. 2002; Popkin and Udry 1998; Harris, Perreira, and Lee 2009; Singh, Kogan, and Yu 2009; Jackson 2011).

On the other hand, one would expect that blocked access to health insurance and possibly healthcare, and other disadvantages of life as an undocumented immigrant would lead to lower health status among undocumented immigrant children, when compared to US-born children. Undocumented children have lower rates of lacking health insurance than their US-born peers, and may therefore face lower healthcare access, or access lower quality care. It is not clear, however, whether or not blocked healthcare access would have immediate impacts on children, since children are generally healthy.

In addition to potential disparities in healthcare access, undocumented children and particularly undocumented teens, face other barriers not experienced by their US-born siblings. Often, children do not realize they are undocumented until their friends start working or getting driver's licenses in high school. Yet some children become aware of their immigration status early on, and may experience heightened anxiety and mental health problems as they become aware of the need to hide their immigration status or to avoid certain types of government officials and institutions, and as they face the threat of possible deportation. As they approach the end of high school, undocumented teens realize the great difficulties they will face in life in obtaining higher education and/or in finding well-paying, stable employment. The anxieties and fears associated with undocumented status could manifest in physical or mental health problems for likely-undocumented children. I am not aware of any quantitative studies of the mental health of unauthorized immigrant children. Studies of the mental health of immigrants overall, not accounting for legal status, suggest that first generation immigrants have better mental health outcomes than native-born peers (Crosnoe 2006), but it is not at all clear that this finding would hold for unauthorized immigrant children.

Hypotheses

I expect to find, first, that the NHIS and MEPS data confirm that likely-undocumented children have lower rates of health insurance coverage than their US-born siblings, driven by foreign-born noncitizen children's lack of access to public insurance. I expect that because of this lower access to health insurance, undocumented children will have lower rates of access to healthcare than their US citizen siblings. Because children are generally healthy, and because potential health advantages of immigrants may work against negative impacts of blocked access to healthcare, it is difficult to predict whether immigration status should have a negative impact or no impact on children's health. Finally, I expect that because of the anxiety and fear, and blocked future opportunities associated with being an

undocumented immigrant, likely-undocumented children will have more mental health problems than their US-born peers.

Methods

I look at the relationship between immigration status, access to healthcare, and health outcomes using the National Health Interview Survey (NHIS) and the associated Medical Expenditure Panel Survey (MEPS). Both are large, nationally-representative, annual surveys that ask about the health insurance coverage and certain health outcomes of all members of selected households. In order to increase my sample size for the relatively small population of mixed immigration status siblings, I merged together the 2002-2008 waves of the NHIS and link them to the MEPS surveys from years 2003 to 2009. The MEPS surveys a subsample of respondents from the NHIS over the course of two years. The NHIS collects information about respondents' place of birth and citizenship status, but not about their immigration status (temporary immigrant, legal permanent resident, or undocumented, for example). Therefore, I use noncitizen Mexicans and Central and South Americans as a proxy for undocumented immigrants. Of course not all foreign-born, noncitizen Latin American immigrants are undocumented, but best available estimates suggest that about 87 percent of children who have an undocumented parent have parents from Mexico or another part of Latin America, and that about 57 percent of Mexican immigrants and 53 percent of Salvadoran and Guatemalan immigrants overall (children and adults) in the United State are undocumented (Passel and Cohn 2010; Rumbaut 2008), meaning the share of noncitizens who are undocumented is much higher. The undocumented share is also likely higher for relatively young parents -- those with children age 0 to 17, since legal status is positively correlated with age and with earlier year of entry to the United States.

In order to isolate the effects of immigration status from family socioeconomic effects, I compare the health insurance, access to healthcare, and health outcomes of foreign-born, noncitizen children to the outcomes of their US-born, citizen siblings. I therefore construct a sample of children under age 18 who live with at least one sibling. As stated above, I selected only those children who have at least one foreign-born parent from Mexico or Central or South America. My analysis focuses on children who are in a sibling pair or group in which at least one child is a US-born citizen and at least one child is a foreign-born noncitizen. I call this group mixed citizenship siblings. I exclude any foreign-born children who entered the United States above the age of 10 years old. I do this to control as much as possible for any differences in health status generated by time spent in the child's country of birth, where nutrition, healthcare, and other health related factors might have been very different from those

experienced by their US-born siblings in the United States. In the seven years of combined NHIS and MEPS files, there are 845 children living in such mixed citizenship sibships who have complete data on key variables. In addition to this group of mixed citizenship siblings, I also include two control groups in some analyses: 1) families in which parents are foreign-born noncitizens from Latin America, and children are US-born citizens and 2) families in which parents are foreign-born naturalized citizens from Latin America and children are US-born citizens. I use these comparison groups to try to identify associations between family immigration status composition and child health.

I first look at sibling differences in health insurance coverage, including an examination of whether or not children currently have health insurance, and at whether they have public or private health insurance, using the MEPS summary measure of health insurance coverage. For most children, I have two annual measures of health insurance coverage. I coded children according to their most advantaged health insurance status during the two years, considering private health insurance more advantaged than public insurance. I next examine how citizenship status and type of health insurance coverage are associated with healthcare access, looking at whether children have a usual care provider in either MEPS survey year and whether they had a routine care checkup in the last 12 months in either MEPS survey. Finally, I examine differences in self-reported physical and mental health status between US-born citizen and noncitizen siblings, and in the Columbia Impairment Scale, which measures a scale of children's functioning in terms of interpersonal relations, emotional problems, school functioning, and use of leisure time. For physical and mental health measures, I have up to three measures per child per year. I take the average of all available physical health and of all available mental health measures. Global health status is a widely-used measure of health status. It has been found to correlate highly with reports of specific health conditions, and parents' reports of children's global health status have been shown to be highly correlated with physicians' reports of health (Case, Lubotsky, and Paxson 2001). Research on the global mental health measure included in the MEPS found that the measure seems to pick up a combination of psychological and physical health problems (Fleishman and Zuvekas 2007). For the Columbia Impairment Scale, parents are asked to rate the child's impairment on 13 items in a range from 0 (no problem) to 4 (a big problem). I sum these 13 measures to create a scale that ranges in total from 0 to 52, taking the average score for the two years of MEP interviews for each child. Higher scores indicate greater impairment. Because the distribution of scores is right skewed, I take the natural log of the scale.

I investigate differences between mixed citizenship siblings first by using family-level random intercepts to account for unobserved family or neighborhood effects. Next, I more tightly control for

family-level effects by using family fixed effects. I use a mixture of ordinary least squares, logistic, and ordered logistic regression models. In the random effects models, I control for children's age and gender, the family's country of origin (Central or South American versus Mexico), whether the child's father is in the household, whether there are four or more adults in the household as a measure of household overcrowding, the number of siblings the child has, parental educational attainment, the language of interview (English, Spanish, or English and Spanish), and the survey year. In regressions looking at health insurance coverage I also control for whether one parent has health insurance through work. For physical health measures, I also control for children's health insurance coverage, and whether or not they have a usual healthcare provider.

Results

Individual and family characteristics. Table 1 shows descriptive statistics of children's individual characteristics (age and gender), and healthcare access and health outcomes. On average, foreign-born children are older than their US-born siblings – 10.1 years old compared to 4.8 years old in the NHIS, and are very slightly less likely to be female. Table 2 shows family-level characteristics of this mixed sibling sample. The great majority (95 percent) of families are from Mexico. The average educational attainment of parents is low – 71 percent have less than a high school education, while just 11 percent have some college education. The majority of interviews (62 percent) were conducted in Spanish. Twelve percent of families have no father present. Children live with an average of 2.4 siblings, and 2.3 adults. Just 23 percent of parents have health insurance through work.

Insurance access. In descriptive statistics, clear disparities in health insurance coverage are evident, as expected, with about half of likely-undocumented children lacking health insurance coverage, compared to 11 percent of their US-born siblings. Likely-undocumented and citizen children have similar rates of private health insurance coverage, so the difference in health insurance coverage come from disparities in access to public health insurance coverage – 80 percent for US citizens compared to 40 percent for likely-undocumented children. Foreign-born noncitizen children who have access to public health insurance either live in one of the states that provide public insurance to undocumented youth, or they are not actually undocumented. (I do not have access to state-level indicators, so I am not able to draw this distinction.) Table 3 shows logistic regressions exploring the relationship between immigration status and whether or not children have health insurance coverage, with and without individual and family-level controls, with a household-level random intercept. With or without controls, likely-undocumented children have over 95 percent lower odds of having health

insurance coverage than their citizen siblings. Older children also have lower odds of having health insurance coverage, but this does not explain away the relationship between immigration status and insurance coverage. The fixed effects regression with age and gender controls (model 4) tells the same story, that likely-undocumented children have vastly lower odds (92 percent lower odds) of having health insurance coverage, even when compared directly to their own siblings.

Healthcare access. In descriptive statistics, US citizen children have higher rates of having a usual care provider than likely-undocumented children (71 percent compared to 52 percent). Having a usual care provider can lead to more consistent use of preventive care and less unmet need for medical care. In random effects regressions (see table 4), being likely-undocumented is associated with much lower odds of having a usual care provider. This lower access to a usual care provider is strongly mediated by health insurance coverage, though a significant difference by legal status remains. Having either private or public insurance is associated with over 180 times the odds of having a usual care provider compared to those with no insurance (model 3). The language of interview of the MEPS survey is also associated with access to a usual care provider – children whose parents answered the MEPS survey in Spanish or Spanish and English have significantly lower odds of having a usual care provider than children whose parents answered the survey in English, suggesting language barriers to healthcare access. The fixed effects regressions tell the same story. Compared to their own US citizen siblings, likely-undocumented children have 94 percent lower odds of having a usual care provider, but this association is fully explained by difference in health insurance coverage.

To further explore potential disparities in health access, I next look at whether children had a routine care check-up in the prior year. Physicians recommend that children see a doctor for a check-up every year. In descriptive statistics, 35 percent of US citizen children had a checkup last year, compared to 20 percent of likely-undocumented children. Table 5 shows logistic regression predicting whether or not a child saw a doctor for routine care last year. Regressions with random and fixed effects both suggest that US citizen and likely-undocumented siblings are equally likely to have had a checkup in the last year, once controlling for age. Having public health insurance is associated with higher odds of having had a healthy checkup. While annual checkups are recommended for all children, younger children are more likely to see doctors regularly. Models investigating the relationship between legal status and having an annual checkup only for children under age 10 with random effects (available upon request) suggests that likely-undocumented children have lower odds of having had a checkup in the prior year, but that this relationship is explained away by differences in access to health insurance. Fixed effects regressions show this same relationship, but the difference is not significant once controlling for

age, perhaps because of the small sample of siblings under age 10 who differ in age, gender, and in whether or not they have seen a doctor in the last year.

Physical health. Does limited health insurance coverage, and limited access to healthcare affect children's health status? In descriptive statistics (see table 1) average physical health status is essentially the same for likely-undocumented and US citizen children. Regressions with family-level random effects (models 1-3 of table 6) show that the health status of likely-undocumented children and their citizen siblings are not significantly different even before controlling for family circumstances. It could be that any negative health implications of lacking access to high quality healthcare do not show up in immediate health effects for children, who are generally healthy and resilient, or that a healthy migrant effect operates to cancel out any negative implications of lacking health insurance and a usual care provider. Having public health insurance and having a usual care provider are both associated with more negative physical health, suggesting that poor health leads to higher rates of uptake of available public insurance and healthcare providers. In fixed effects regressions (models 4-6 of table 3), there is no clear association between immigration status and physical health, while again, having access to public health insurance or a usual care provider is associated with poorer health.

Mental health and impairment. In descriptive statistics, likely-undocumented children have the same mental health status rating as US citizen children (see table 1). Regressions with family level random effects, without controls, show no differences in mental health status by immigration status (see table 7). However, once adding a control for age, being likely-undocumented is associated with a very slightly better global mental health status (.07 points lower on the scale from 1 to 5, where 5 indicates worst mental health). The fixed effects regressions – models 3 and 4 – tell essentially the same story. In both random and fixed effects models, age is associated with poorer mental health status. Analyses run separately for younger children under age 13 and teenagers (not shown) suggests that the association between being likely-undocumented and better mental health is driven by younger children. This observed mental health pattern suggests that previous findings of an immigrant advantage in mental health for children may hold for younger likely-undocumented children, while for older children, it is possible that awareness of their legal status and blocked opportunities counteracts, but does not outweigh, an immigrant advantage in mental health status.

Looking at the other measure of children's mental health, table 1 shows that foreign-born noncitizen children have higher average impairment scores than their US-born siblings. In regressions with household-level random intercepts, the relationship between being likely-undocumented and a higher impairment scale is explained away by gender (see model 2 of table 8). The regression with fixed

effects shows that the positive relationship between being female and higher impairment, and the negative relationship between age and impairment explains away the relationship between immigration status and impairment. In separate analyses (not shown), I explored the relationship between immigration status and impairment separately for boys and girls. These models do not suggest that the relationship varies by gender. The lack of differences in mental health by child's immigration status suggests either that immigration status does not have a measurable impact on mental health or is counteracted by a healthy migrant effect, or that mental health effects of immigration status may come at the family, rather than individual, level.

Comparison to US citizen sibling pairs, and children with citizen parents. One reason that I may not be observing strong differences in health status between likely-undocumented children and their US-born citizens is that US citizen children may be affected by the immigration status of their siblings or their parents, meaning that legal status effects come at the family level, rather than individual level. In order to investigate whether this is true, I compare children in mixed-citizenship sibships to children in families where all children are US-born, and parents are naturalized US citizens from Latin America. I also include a comparison group of families where all children are US-born, but parents are noncitizens from Latin America. Table 9 shows these models for health and mental health measures. There are not measurable differences in reported global health status by parental or child immigration status, suggesting that any health implications of parents' immigration status or blocked access to preventive healthcare may not be severe or immediate in nature. However, the reported mental health status of children in mixed-citizenship sibships with noncitizen parents is significantly worse than that of children in citizen-only families, even controlling for the child's own immigration status. This suggests that living in a family with a complicated mix of immigration statuses affects the mental health of all children in the family, US citizens and likely-undocumented children alike. The other measure of mental health, the impairment scale, does not show this same difference in mental health by family immigration status.

Discussion and Conclusions

Children's immigration status is clearly related to children's access to health insurance and healthcare, while the relationship between immigration status and child physical and mental health is less clear. Likely-undocumented children have lower levels of health insurance coverage than their own US citizen siblings, have lower rates of having a usual care provider, and for younger children, have lower rates of having a routine healthcare visit. On the other hand, there is no relationship between children's immigration status and physical health, while likely-undocumented younger children have

very slightly better reported mental health than their US citizen siblings, while older children have about the same reported mental health status. On the other hand, living with noncitizen parents and likely-undocumented siblings is associated with worse reported mental health status for US citizen children, when compared to children who have US citizen parents and siblings, according to one measure of mental health.

There are several policy and research implications of these results. First, the strong association between immigration status and health insurance coverage, and large disparities in public insurance coverage between likely-undocumented and US citizen siblings suggest that immigrant parents, even those who are likely-undocumented, are generally willing to sign up their children for health insurance for which the children are eligible. Some policymakers and advocates express concern that undocumented parents may be reluctant to access benefits for their children. At least in the case of public insurance, parents do seem willing to interact with officials and fill out government paperwork to access benefits for their children. Second, this health insurance coverage is very important for the healthcare access of likely-undocumented children in mixed-status families. Health insurance coverage greatly raises the likelihood that children have a usual healthcare provider and a routine checkup, and may fully explain the lower rates of having a routine care provider for likely-undocumented children and the lower rates of routine care checkups for younger likely-undocumented children. Third, there are not immediate, measureable physical health implications of blocked access to healthcare for likely-undocumented youth. However, further study is needed to understand whether there are longer term health effects of limited healthcare access that may manifest in young adulthood. Finally, the findings on the mental health implications of immigration status are a bit mixed, but suggest that any immigrant mental health advantage holds only for younger likely-undocumented immigrants, and that there may be family level mental health implications of living in a family with likely-undocumented parents and siblings, even for US citizen children.

There are several limitations to this study. Because the NHIS and MEPS do not ask respondents about their visa status, some of those I classify as likely-undocumented are legal immigrants with a temporary visa or lawful permanent resident status. This measurement error should have the effect of attenuating coefficients, making the relationships I find an underestimate of the implications of undocumented status for children. Second, because I am not able to track how changes in immigration status are associated with changes in child well-being, I cannot fully claim to be identifying causal effects. Still, the relationships identified in my fixed effects models should net out most confounding factors that would hamper causal claims. Finally, my measures of physical and mental health status are

imperfect. Ideally, I could rely on objective measures of children's health, including the presence of certain common childhood health conditions and biomarkers of child health. However, I am limited in my measures to those available from family-level interviews in the NHIS and those available in the MEPS. Further, low rates of health conditions among children mean that there is not enough variation in some health outcomes to allow analysis of differences by children's immigration status.

This study, in addition to past studies that relied on data with imputations of legal status, strongly suggests that US policies have generated a large population of US children that has severely constrained access to health insurance. This blocked access to health insurance also restricts such children's ability to access regular preventive medical care. While I do not clearly identify any immediate, measurable health implications of this blocked access to care, we would expect that over time, untreated childhood ailments could affect young adults' cumulative health status. Policymakers in the many states that do not provide public insurance to undocumented children face a clear choice of whether or not to extend access to insurance and, by extension, preventive healthcare to all children in the state. Further, there is some evidence of mental health implications of living in a family with undocumented parents and siblings, even for children who are themselves US citizens. Federal immigration enforcement policies, including rapidly increasing annual deportations overall and deportations of parents of US citizens, and state-level policies linking local police and federal immigration authorities or constraining the rights of undocumented immigrants have the potential to exacerbate the mental health consequences of undocumented immigration status for undocumented and US citizen children alike. In contrast, policy proposals to provide a path to legal status for some or all undocumented immigrants in the country could potentially remove US citizen and undocumented children from living in a situation of limited rights and insecurity. Until immigration reform succeeds in reducing the number of children living in a marginalized status in the United States due to their own immigration status or that of their parents, child well-being researchers should continue to increase the focus on the implications of child immigration status for children's own well-being, and for child inequality trends overall.

References

Alba, Richard D., and Victor Nee. 2005. *Remaking the American Mainstream*. Cambridge, MA: Harvard University Press.

Batalova, Jeanne, and Margie McHugh. 2010. *DREAM vs. Reality: An Analysis of Potential DREAM Act Beneficiaries*. Washington, DC: Migration Policy Institute.

Blake, S M, R Ledsky, C Goodenow, and L O'Donnell. 2001. "Recency of Immigration, Substance Use, and Sexual Behavior among Massachusetts Adolescents." *American Journal of Public Health* 91(5):794–798.

Burgos, Anthony E., Karen E. Schetzina, L. Beth Dixon, and Fernando S. Mendoza. 2005. "Importance of Generational Status in Examining Access to and Utilization of Health Care Services by Mexican American Children." *Pediatrics* 115(3):e322 –e330. Retrieved December 7, 2011.

Capps, Randy, Marc R. Rosenblum, and Michael Fix. 2009. *Immigrants and Health Reform: What's Really at Stake?* Washington, DC: Migration Policy Institute.

Case, Anne, Darren Lubotsky, and Christina Paxson. 2001. "Economic Status and Health in Childhood: The Origins of the Gradient." *National Bureau of Economic Research Working Paper Series* No. 8344. Retrieved March 16, 2011 (http://www.nber.org/papers/w8344).

Case, Anne, and Christina Paxson. 2010. "Causes and Consequences of Early-Life Health." *Demography* 47:S65–S85.

Crosnoe, Robert. 2006. "Health and the Education of Children from Racial/Ethnic Minority and Immigrant Families." *Journal of Health & Social Behavior* 47(1):77–93.

Currie, Janet, and Mark Stabile. 2007. "Mental Health in Childhood and Human Capital." *National Bureau of Economic Research Working Paper Series* No. 13217. Retrieved March 16, 2011 (http://www.nber.org/papers/w13217).

Fleishman, John A, and Samuel H Zuvekas. 2007. "Global self-rated mental health: associations with other mental health measures and with role functioning." *Medical Care* 45(7):602–609. Retrieved April 18, 2012.

Hamilton, Erin R., Julien O. Teitler, and Nancy E. Reichman. 2011. "Mexican American Birthweight and Child Overweight: Unraveling a Possible Early Life Course Health Transition." *Journal of Health and Social Behavior*. Retrieved December 8, 2011 (http://hsb.sagepub.com/content/early/2011/07/23/0022146511405335.abstract).

Harris, Kathleen Mullan, Krista Perreira, and Dohoon Lee. 2009. "Obesity in the Transition to Adulthood: Predictions across Race-Ethnicity, Immigrant Generation, and Sex." *Archives of pediatrics & adolescent medicine* 163(11):1022–1028.

Jackson, Margot I. 2011. "Foreign-Born Health Integration During the Transition to Adulthood: The Case of Weight." *Social Science Research* 40(5):1419–1433. Retrieved January 23, 2012.

Kaiser Commission Medicaid and the Uninsured. 2009. *New Option for States to Provide Federally Funded Medicaid and SCHIP to Additional Immigrant Children and Pregnant Women*. Washington, DC.

Passel, Jeffrey S., and D'Vera Cohn. 2010. *U.S. Unauthorized Immigration Flows Are Down Sharply Since Mid-Decade*. Washington, DC: Pew Hispanic Center.

Passel, Jeffrey S., and D'Vera Cohn. 2011. *Unauthorized Immigrant Population: National and State Trends, 2010*. Washington, DC: Pew Hispanic Center.

Percheski, Christine, and Sharon Bzostek. 2010. "Family Complexity, Children's Health Insurance Coverage, and Access to Quality Health Care." Boston, MA.

Popkin, Barry M, and J. Richard Udry. 1998. "Adolescent Obesity Increases Significantly in Second and Third Generation U.S. Immigrants: The National Longitudinal Study of Adolescent Health." *The Journal of Nutrition* 128(4):701–706. Retrieved December 7, 2011.

Portes, Alejandro, and Rubén G. Rumbaut. 2001. *Legacies: The Story of the Immigrant Second Generation*. Berkeley, CA: University of California Press.

Rumbaut, Rubén G. 2008. "The Coming of the Second Generation: Immigration and Ethnic Mobility in Southern California." *The ANNALS of the American Academy of Political and Social Science* 620(1):196 –236. Retrieved March 15, 2011.

Singh, Gopal K., Michael D. Kogan, and Stella M. Yu. 2009. "Disparities in Obesity and Overweight Prevalence Among US Immigrant Children and Adolescents by Generational Status." *Journal of Community Health* 34(4):271–281. Retrieved March 23, 2011.

Strine, Tara W et al. 2002. "Vaccination Coverage of Foreign-Born Children 19 to 35 Months of Age: Findings from the National Immunization Survey, 1999-2000." *Pediatrics* 110(2 Pt 1):e15. Retrieved December 7, 2011.

UCLA Center for Health Policy Research. 2003. *California -- Los Angeles County Exhibits*. Los Angeles, CA.

Table 1. Descriptive statistics of individual characteristics and outcomes

	US Citizen		Foreign-born, Noncitizen	
	mean	sd	mean	sd
Age (NHIS)	4.77	3.75	10.12	3.54
Female	0.53	0.50	0.49	0.50
Has insurance				
Private	0.09	0.29	0.11	0.31
Public only	0.80	0.40	0.40	0.49
None	0.11	0.31	0.49	0.50
Has usual healthcare provider	0.71	0.45	0.52	0.50
Had routine checkup in last 12 months	0.35	0.48	0.20	0.40
Average health status (1=Excellent, 5=Poor)	2.10	0.66	2.07	0.67
Average mental health status (1=Excellent, 5=Poor)	1.98	0.66	1.97	0.69
Impairment index score (0-52)	2.47	3.74	3.39	5.14
	453		392	

Source: Combined National Health Interview Survey and Medical Expenditure Panel Survey data based on 2002-2008 NHIS.

Notes: Due to missing data and skip patterns, for the impairment scale, the US citizen sample is 288 and the foreign-born noncitizen sample is 375.

Table 2. Descriptive statistics of family-level characteristics

	mean	sd
Country of origin		
Mexico	0.95	0.23
Central or South America	0.05	0.23
Highest education level in family		
Less than high school	0.71	0.45
High school	0.18	0.38
Some college	0.09	0.29
College degree	0.02	0.14
Language of interview		
English	0.11	0.32
Spanish	0.62	0.49
English and Spanish	0.26	0.44
Mother's years in the United States		
Less than 1 year	0.00	0.00
1 to 4 years	0.15	0.36
5 to 9 years	0.46	0.50
10 to 14 years	0.30	0.46
15 or more years	0.08	0.27
No mom in household	0.01	0.09
No dad in household	0.12	0.32
Number of adults in household	2.26	0.76
Number of siblings	2.39	1.23
At least one parent gets health insurance at work	0.23	0.42
	845	

Source: Combined National Health Interview Survey and Medical Expenditure Panel Survey data based on 2002-2008 NHIS.

Table 3. Association between immigration status and having health insurance coverage, Logistic

	Random Effects Regressions				Fixed Effects Regressions			
	(1)		(2)		(3)		(4)	
Foreign-born noncitizen (vs. US-born citizen)	-4.233***	(0.476)	-3.456***	(0.500)	-3.373***	(0.393)	-2.517***	(0.493)
Age in NHIS			-0.160**	(0.054)			-0.173*	(0.079)
Female			-0.122	(0.340)			-0.073	(0.532)
Controls	No		Yes		No		No	
Constant	4.528***	(0.529)	2.945*	(1.190)				
N	845		845		356		356	
BIC	748.338		853.142		90.897		97.838	
ll	-364.060		-349.069		-42.511		-40.107	

Source: Combined National Health Interview Survey and Medical Expenditure Panel Survey data based on 2002-2008 NHIS.

Notes: Standard errors in parentheses.

* p<0.05 ** p<0.01 *** p<0.001

Controls include whether from Central or South America versus Mexico, no father in household, four or more adults in household, number of siblings, parental educational attainment, language of interview, whether a parent works full time, whether a parent gets health insurance from work, and survey year.

Table 4. Association between immigration status and having a usual care provider, Logistic

	Random Effects Regressions						Fixed Effects Regressions					
	(1)		(2)		(3)		(4)		(5)		(6)	
Foreign-born noncitizen (vs. US-born citizen)	-6.784***	(0.504)	-5.789***	(0.788)	-3.645***	(0.855)	-3.996***	(0.723)	-2.833**	(0.965)	-3.317	(1.845)
Age in NHIS			-0.200*	(0.086)	-0.184*	(0.088)			-0.231	(0.150)	-0.071	(0.252)
Female			0.756	(0.540)	0.390	(0.541)			-0.773	(0.807)	-0.022	(0.969)
Types of insurance (ref=none)												
Private					5.283***	(1.345)					20.640	(2208.346)
Public					5.792***	(0.775)					20.047	(2208.346)
Controls	No		Yes		Yes		No		No		No	
Constant	4.768***	(0.389)	11.117***	(1.779)	3.351	(1.863)						
N	845		845		845		180		180		180	
BIC	666.645		786.088		761.910		38.220		46.158		42.606	
ll	-323.213		-318.911		-300.083		-16.513		-15.290		-8.321	

Source: Combined National Health Interview Survey and Medical Expenditure Panel Survey data based on 2002-2008 NHIS.

Notes: Standard errors in parentheses.

* p<0.05 ** p<0.01 *** p<0.001

Controls include whether from Central or South America versus Mexico, no father in household, four or more adults in household, number of siblings, parental educational attainment, language of interview, whether a parent works full time, and survey year.

Table 5. Association between immigration status and having had a regular checkup in last year, Logistic

	Random Effects Regressions						Fixed Effects Regressions					
	(1)		(2)		(3)		(4)		(5)		(6)	
Foreign-born noncitizen (vs. US-born citizen)	-1.288***	(0.232)	-0.373	(0.303)	-0.050	(0.324)	-1.266***	(0.235)	-0.511	(0.351)	-0.089	(0.384)
Age in NHIS			-0.165***	(0.039)	-0.154***	(0.040)			-0.124**	(0.046)	-0.122*	(0.048)
Female			0.297	(0.241)	0.324	(0.247)			0.181	(0.281)	0.203	(0.291)
Types of insurance (ref=none)												
Private					0.260	(0.620)					0.403	(1.218)
Public					1.165**	(0.378)					1.420**	(0.466)
Controls	No		Yes		Yes		No		No		No	
Constant	-1.047***	(0.206)	-0.517	(0.789)	-1.375	(0.868)						
N	845		845		845		311		311		311	
BIC	895.403		980.935		982.882		201.041		204.661		204.999	
ll	-437.593		-416.335		-410.569		-97.651		-93.721		-88.150	

Source: Combined National Health Interview Survey and Medical Expenditure Panel Survey data based on 2002-2008 NHIS.

Notes: Standard errors in parentheses.

* p<0.05 ** p<0.01 *** p<0.001

Controls include whether from Central or South America versus Mexico, no father in household, four or more adults in household, number of siblings, parental educational attainment, language of interview, whether a parent works full time, and survey year.

Table 6. Association between immigration status and global physical health status, OLS

	Higher number indicates poorer health, 1=excellent health, 5=poor health											
	Random Effects Regressions						Fixed Effects Regressions					
	(1)		(2)		(3)		(4)		(5)		(6)	
Foreign-born noncitizen (vs. US-born citizen)	-0.022	(0.022)	-0.045	(0.034)	0.001	(0.035)	-0.022	(0.022)	-0.053	(0.036)	-0.003	(0.037)
Age in NHIS			0.004	(0.004)	0.008	(0.004)			0.006	(0.005)	0.009	(0.005)
Female			0.021	(0.026)	0.018	(0.026)			0.023	(0.027)	0.019	(0.027)
Types of insurance (ref=none)												
Private					-0.018	(0.079)					-0.032	(0.096)
Public					0.098*	(0.040)					0.097*	(0.043)
Has usual care provider					0.141**	(0.046)					0.176**	(0.055)
Controls	No		Yes		Yes		No		No		No	
Constant	2.087***	(0.038)	2.082***	(0.157)	1.884***	(0.163)	2.095***	(0.015)	2.058***	(0.030)	1.844***	(0.058)
N	845		845		845		845		845		845	
BIC	1150.004		1252.012		1251.832		66.237		76.437		65.052	
ll	-561.523		-548.503		-538.305		-26.379		-24.740		-8.938	

Source: Combined National Health Interview Survey and Medical Expenditure Panel Survey data based on 2002-2008 NHIS.

Notes: Standard errors in parentheses.

A higher number indicates poorer mental health.

* p<0.05 ** p<0.01 *** p<0.001

Controls include whether from Central or South America versus Mexico, no father in household, four or more adults in household, number of siblings, parental educational attainment, language of interview, whether a parent works full time, and survey year.

Table 7. Association between immigration status and global mental health status, OLS

	Higher number indicates poorer health, 1=excellent health, 5=poor health							
	Random Effects Regressions				Fixed Effects Regressions			
	(1)		(2)		(3)		(4)	
Foreign-born noncitizen (vs. US-born citizen)	0.011	(0.019)	-0.070*	(0.029)	0.011	(0.019)	-0.080**	(0.030)
Age in NHIS			0.014***	(0.004)			0.016***	(0.004)
Female			-0.021	(0.023)			-0.023	(0.023)
Controls	No		Yes		No		No	
Constant	1.962***	(0.038)	1.926***	(0.163)	1.971***	(0.013)	1.912***	(0.025)
N	845		845		845		845	
BIC	1008.785		1101.437		-179.005		-189.007	
ll	-490.914		-473.216		96.242		107.982	

Source: Combined National Health Interview Survey and Medical Expenditure Panel Survey data based on 2002-2008 NHIS.

Notes: Standard errors in parentheses.

A higher number indicates poorer mental health.

* p<0.05 ** p<0.01 *** p<0.001

Controls include whether from Central or South America versus Mexico, no father in household, four or more adults in household, number of siblings, parental educational attainment, language of interview, whether a parent works full time, and survey year.

Table 8. Association between immigration status and Columbia Impairment Scale score, Log-linear

	Random Effects Regressions				Fixed Effects Regressions			
	(1)		(2)		(3)		(4)	
Foreign-born noncitizen (vs. US-born citizen)	0.569**	(0.182)	0.337	(0.228)	0.593**	(0.194)	0.099	(0.278)
Age in NHIS			0.047	(0.033)			0.104*	(0.043)
Female			-0.539**	(0.195)			-0.560*	(0.221)
Controls	No		Yes		No		No	
Constant	-1.468***	(0.190)	-0.749	(0.736)	-1.519***	(0.140)	-1.878***	(0.309)
N	633		633		633		633	
BIC	3047.450		3146.027		2330.180		2322.675	
ll	-1510.824		-1498.833		-1158.639		-1148.437	

Source: Combined National Health Interview Survey and Medical Expenditure Panel Survey data based on 2002-2008

Notes: Standard errors in parentheses.

* p<0.05 ** p<0.01 *** p<0.001

Controls include whether from Central or South America versus Mexico, no father in household, four or more adults in household, number of siblings, parental educational attainment, language of interview, whether a parent works full time, and survey year.

Table 9. Association between family immigration status, child's own immigration status, and health outcomes

	OLS with Random Effects							
	Physical health status (higher=worse health)				Mental health status (higher=worse health)		Impairment Scale (higher=poorer functioning)	
	(1)		(2)		(3)		(4)	
Family immigration status (ref=citizen parents and children)								
Noncitizen parents, mixed-citizenship sibship	0.102	(0.056)	0.092	(0.056)	0.153**	(0.056)	-0.259	(0.266)
Noncitizen parents, all children US-born	0.053	(0.043)	0.037	(0.043)	0.079	(0.043)	-0.093	(0.189)
Child is foreign born	-0.038	(0.026)	0.006	(0.028)	-0.029	(0.022)	0.055	(0.179)
Age in NHIS	0.003	(0.002)	0.004**	(0.002)	0.007***	(0.001)	0.122***	(0.012)
Female	0.004	(0.012)	0.002	(0.012)	-0.029**	(0.011)	-0.264***	(0.079)
Types of insurance (ref=none)								
Private			-0.028	(0.038)				
Public			0.080**	(0.030)				
Has usual care provider			0.102***	(0.027)				
Controls	Yes		Yes		Yes		Yes	
Constant	1.859***	(0.063)	1.744***	(0.071)	1.688***	(0.063)	-1.411***	(0.295)
N	4474		4474		4474		3419	
BIC	6677.607		6669.452		5703.586		16283.754	
ll	-3233.728		-3217.042		-2746.717		-8040.163	

Source: Combined National Health Interview Survey and Medical Expenditure Panel Survey data based on 2002-2008 NHIS.

Notes: Standard errors in parentheses.

* p<0.05 ** p<0.01 *** p<0.001

Controls include whether from Central or South America versus Mexico, no father in household, four or more adults in household, number of siblings, parental educational attainment, language of interview, whether a parent works full time, and survey year.