

IS THE UNITED STATES BAD FOR CHILDREN'S HEALTH?

RISK AND RESILIENCE AMONG YOUNG CHILDREN OF IMMIGRANTS



YOUNG CHILDREN OF IMMIGRANTS: RESEARCH FINDINGS AND POLICY CHOICES

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The public symposium was convened by MPI's National Center on Immigrant Integration Policy in January 2013. The goal of this and other reports in the series is to frame the major policy and practice issues affecting children (birth through age 10) with immigrant parents. By drawing on scholarly research, the papers collectively address public policy in the areas of early education, health, and immigration. Both the symposium and the research flowing from it were supported by the Foundation for Child Development.

To access other papers produced for the symposium, please visit: www.migrationpolicy.org/integration.

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Executive Summary

Immigration is reshaping the US population. The US Census Bureau estimates that immigrants accounted for 32 percent of population growth between 2000 and 2010. In 2011, the most recent available year of the American Community Survey (ACS), 24 percent of children under the age of 18 had at least one immigrant parent.¹ What do these changes mean for the health and well-being of children in the United States? Past research consistently finds differences in health and health risks between the children of immigrants and the children of natives. However, it is difficult to accurately characterize the health of children of immigrants across their extremely diverse backgrounds and circumstances. While children in some national-origin groups appear to be adjusting well to the United States and may even enjoy better health outcomes than children of natives, children in other origin groups face poorer socioeconomic circumstances, have more limited access to public benefits and services, and therefore face greater challenges in the course of their health and development.

Research consistently finds differences in health and health risks between the children of immigrants and the children of natives.

Here, we summarize past research on the health of children of immigrants. We first provide background on the children of immigrants of all national origins. We then focus on the largest and most vulnerable group of children living in the United States today, the children of Mexican immigrants. Mexicans make up the largest national-origin group among both adult immigrants and their children. Key findings include:

- Early childhood is a critical period during which adverse conditions and events can significantly influence subsequent physical and mental health status. Investment in children's health is thus crucial for adult health and well-being.
- Children of immigrants have healthy starts to life, including lower-than-expected infant mortality rates and fewer instances of low birth weight.
- However, in early and middle childhood, children of immigrants no longer have a comparative health advantage over children of natives.
- Children of Mexican immigrants tend to experience greater childhood health risks than most other children. For example, although fewer children of Mexican immigrants suffer from asthma, those with asthma are at greater risk because of limited access to treatment. Additionally, moving to the United States appears to increase the risk of obesity among Mexican children of immigrants, especially among boys and among those with the least-aculturated parents.
- Mexican immigrant families with children face several challenges that are likely to contribute to physical health problems. These challenges include limited English proficiency (LEP), low socioeconomic status (SES), high levels of food insecurity, unauthorized legal status, and lower receptivity in "new destination" communities that have not traditionally been destinations for immigrants.

1 Steven J. Ruggles et al., *Integrated Public Use Microdata Series: Version 5.0* [Machine-readable database] (Minneapolis: University of Minnesota, 2012).



I. Introduction

Currently, nearly one-quarter of children under the age of 18 have at least one immigrant parent, meaning that immigrant families and their children will play a significant role in shaping the nation's future.² In this report, we consider what this remarkable fact might mean for the health and well-being of children in the United States. Past research has focused on differences in health and health risks between the children of immigrants (defined here as children with at least one foreign-born parent) and the children of natives, often finding better health outcomes among the children of immigrants. But this oversimplifies the situation. While children in some national-origin groups appear to be adjusting well to the United States and may even enjoy better health outcomes than children of natives, children in other origin groups face poorer socioeconomic circumstances, have more limited access to public benefits and services, and therefore face greater challenges in the course of their health and development.

This diversity is important because the largest and most rapidly growing national-origin groups in the United States are among the most vulnerable. To prevent the widening of health disparities, sufficient research and policy efforts must be directed toward these large, high-impact immigrant groups.

The largest and most rapidly growing national-origin groups in the United States are among the most vulnerable.

Here, we summarize the current state of knowledge about the health of children of immigrants. We first provide an overview about the children of immigrants of all national origins. We then focus on the largest group of children living in the United States today, the children of Mexican immigrants. In 2011, 39 percent of the 18.7 million children of immigrants (i.e., those under 18) had Mexican-born parents (Table 1). While immigration from Mexico has declined during the past few years, high immigration from other parts of Latin America and relatively high Latino fertility rates³ continue to sustain growth in the Latino population. The Census Bureau⁴ has projected that Latinos will compose 30 percent of the total population by 2050, making them the second-largest racial/ethnic group after non-Hispanic whites (who are projected to compose 46 percent of the population at that time).

² Ruggles et al., *Integrated Public Use Microdata Series*.

³ Nancy S. Landale, R. Salvador Oropesa, and Christina Bradatan, "Hispanic Families in the United States: Family Structure and Process in an Era of Family Change," in *Hispanics and the Future of America*, eds. Marta Tienda and Faith Mitchell (Washington, DC: National Academy Press, 2006): 138–78; Elizabeth Wildsmith and Kelly Raley, "Race-Ethnic Differences in Nonmarital Fertility: A Focus on Mexican American Women," *Journal of Marriage and Family* 68 (2006): 491–508.

⁴ US Census Bureau, "2008 National Population Projections," www.census.gov/population/projections/data/national/2008.html.

**Table 1. Number and Origins of Children of Immigrants in the United States, 2011**

Country/Region of Origin	Number of Children of Immigrants in United States	Share of All Immigrant Children
Canada	376,184	2.0
Central America/Caribbean	9,953,300	53.3
Mexico	7,209,581	38.6
Other Central America	1,428,110	7.6
Caribbean	1,315,609	7.0
South America	1,053,204	5.6
Europe	2,101,497	11.3
Asia	4,259,529	22.8
India	910,175	4.9
Vietnam, Laos, Thailand, Cambodia	760,484	4.1
China	666,259	3.6
Philippines	650,100	3.5
Korea	364,232	2.0
Japan	202,041	1.1
Other	706,238	3.8
Africa	817,529	4.4
Pacific Islands	90,847	0.5
Other	30,484	0.2
Total	18,682,574	100.0

Source: Authors' analysis of data from the 2011 American Community Survey (ACS).

II. The Importance of Childhood Health and Health Disparities

Optimal childhood health is recognized as a key determinant of well-being and productivity throughout life.⁵ Early childhood in particular is increasingly viewed as a critical period in which adverse conditions and events can significantly influence subsequent physical and mental health status.⁶ For example, nutri-

5 National Research Council and Institute of Medicine, *Children's Health, The Nation's Wealth: Assessing and Improving Child Health* (Washington, DC: The National Academies Press, 2004).

6 Diana Kuh and Yoav Ben-Shlomo, *A Life Course Approach to Chronic Disease Epidemiology* (New York: Oxford University Press, 2004); Jack P. Shonkoff, William T. Boyce, and Bruce S. McEwen, "Neuroscience, Molecular Biology, and the Childhood Roots of Health Disparities: Building a New Framework for Health Promotion and Disease Prevention," *Journal of the American Medical Association* 301, no. 21 (2009): 2252–59; Anne Case, Angela Fertig, and Christina Paxson, "The Lasting Impact of Childhood Health and Circumstance," *Journal of Health Economics* 24, no. 2 (2005): 365–89; Steven A. Haas, "The Long-Term Effects of Poor Childhood Health: An Assessment and Application of Retrospective Reports," *Demography* 44, no. 1 (2007): 113–35; Clyde Hertzman and William T. Boyce, "How Experience Gets Under the Skin to Create Gradients in Developmental Health," *Annual Review of Public Health* 31 (2010): 329–47.



tional deficits and toxic environmental exposure in both the prenatal months and in early childhood have been linked to a range of chronic conditions in adulthood, including cardiovascular disease, hypertension, lung disease, and diabetes.⁷ Associations have also been found between psychosocial stressors in childhood — such as socioemotional and economic deprivation — and the development of mental and physical problems later in life.⁸

Additionally, childhood health is likely to influence the social and economic integration of immigrants.⁹ For example, experts regard delays in cognitive development during early childhood as a key reason for educational and social inequality later in life.¹⁰ More specifically, children with cognitive and other delays in preschool are more likely to become high school dropouts and to experience delinquency, unemployment, low earnings, and dissatisfaction with their adult lives than their otherwise similar peers.¹¹ The connection between children's cognitive development and school success is discussed in another report in this series;¹² early cognitive development is also closely linked with physical health and overall well-being. Another major childhood health condition, obesity, is linked to a number of serious health conditions, including hypertension, elevated blood pressure, cancer, and diabetes.¹³ Beyond its impact on physical health and mortality, obesity is related to difficulties in social adjustment, poor mental health, and lower academic achievement¹⁴ — factors that in turn have wide-ranging implications for children's quality of life¹⁵ and productivity as adults.¹⁶

Childhood health is likely to influence the social and economic integration of immigrants.

More broadly, group disparities in health provide an indication of the degree to which groups are marginalized within the larger society. In the United States and elsewhere, SES and race are strongly associated with health and longevity. Higher-status groups tend to be healthier and live longer because they are able to mobilize the resources that keep them healthy. They can position themselves in the lowest-risk neighborhoods, schools, and jobs, and are able to secure access to the best health resources (e.g., health care,

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- 7 Shonkoff, Boyce, and McEwen, "Neuroscience, Molecular Biology, and the Childhood Roots of Health Disparities;" David J. Barker, "The Developmental Origins of Adult Disease," *Journal of the American College of Nutrition* 23, no. 6 Suppl. (2004): 588S–595S; Manuel Soto-Martinez and Peter D. Sly, "What Goes Around, Comes Around: Childhood Influences on Later Lung Health? Relationship between Environmental Exposures in Children and Adult Lung Disease: The Case for Outdoor Exposures," *Chronic Respiratory Disease* 7, no. 3 (2010): 173–86; Marko Elovainio et al., "Socioeconomic Differences in Cardiometabolic Factors: Social Causation or Health-related Selection? Evidence From the Whitehall II Cohort Study, 1991–2004," *American Journal of Epidemiology* 174, no. 7 (2011): 779–89.
 - 8 Katri Räikkönen et al., "Risk of Severe Mental Disorders in Adults Separated Temporarily from their Parents in Childhood: The Helsinki Birth Cohort Study," *Journal of Psychiatric Research* 45, no. 3 (2011): 332–38; Vincent J. Felitti et al., "Relationship of Childhood Abuse and Household Dysfunction to Many of the Leading Causes of Death in Adults: The Adverse Childhood Experiences (ACE) Study," *American Journal of Preventive Medicine* 14, no. 4 (1998): 245–58.
 - 9 Alberto Palloni, "Childhood Health and the Reproduction of Inequalities," *Demography* 43 (2006): 587–615.
 - 10 Anne Case and Christina H. Paxson, "Children's Health and Social Mobility," *The Future of Children* 16 (2006): 151–173; Palloni, "Childhood Health and the Reproduction of Inequalities."
 - 11 Jose Blackorby and Mary Wagner, "Longitudinal Postschool Outcomes of Youth with Disabilities: Findings from the National Longitudinal Transition Study," *Exceptional Children* 62 (1996): 399–414.
 - 12 Robert Crosnoe, *Preparing the Children of Immigrants for Early Academic Success* (Washington, DC: Migration Policy Institute, 2013), www.migrationpolicy.org/pubs/COI-EarlyAcademicSuccess.pdf
 - 13 Richard J. Deckelbaum and Christine L. Williams, "Childhood Obesity: The Health Issue," *Obesity Research* 9 (2001): S239–S243; William Dietz, "Health Consequences of Obesity in Youth: Childhood Predictors of Adult Disease," *Pediatrics* 101 (1998): 518–25; Richard S. Strauss and Harold A. Pollack, "Social Marginalization of Overweight Children," *Archives of Pediatrics and Adolescent Medicine* 157 (2003): 746–52.
 - 14 Ashlesha Datar, Roland Sturm, and Jennifer L. Magnabosco, "Childhood Overweight and Academic Performance: National Study of Kindergartners and First-Graders," *Obesity Research* 12 (2004): 58–68; Strauss and Pollack, "Social Marginalization of Overweight Children."
 - 15 Karen C. Swallen, Eric N. Reither, Steven A. Haas, and Ann M. Meier, "Overweight, Obesity, and Health-Related Quality of Life among Adolescents: The National Longitudinal Study of Adolescent Health," *Pediatrics* 115 (2005): 340–47.
 - 16 John Cawley, "The Impact of Obesity on Wages," *Journal of Human Resources* 39 (2004): 451–74.



high-quality food and housing, exercise opportunities).¹⁷ Health outcomes for children of immigrants thus provide an indication of how well immigrants are integrating into American society.

III. Health among Children of Immigrants: A Mix of Resilience and Risk

Past research has tended to emphasize the healthiness of immigrants and their children. It is well documented that children of immigrants have healthy starts to life, including lower-than-expected infant mortality rates and fewer instances of low birth weight.¹⁸ In some cases, this advantage appears to extend into childhood and adolescence. Compared with the children of natives, the young children of immigrants experience lower prevalence of several health conditions, including allergies, asthma, developmental problems, and learning disabilities.¹⁹ Obesity, smoking, and substance abuse are less common among foreign-born than US-born adolescents.²⁰ This pattern of favorable health outcomes among immigrants and their children — despite their lower SES — has been termed the “epidemiological paradox.” As discussed below, immigration and health scholars often hypothesize the existence of protective cultural practices and familial social networks to explain some of these immigrant health advantages.

Meanwhile, new data on the health of young children of immigrants have become available over the past decade, including several rich longitudinal data sources: the Early Childhood Longitudinal Surveys (ECLS), the Fragile Families and Child Well-being Study, and the National Longitudinal Survey of Youth (NLSY): Children and Young Adults Sample. The research emerging from these data-collection efforts paints a considerably more nuanced picture of the health and well-being of young children of immigrants. Some of this work suggests that the health advantages observed among children of immigrants during infancy erode in early childhood.²¹ Additionally, children of immigrants may be at higher risk for certain conditions. For example, pesticide exposure is a problem among children of migrant workers.²² Immigrant children may be less up to date on certain immunizations,²³ particularly DtaP, Hib, and Hep-B.²⁴ When comparisons are made across parental place of birth (children of immigrants versus children of natives) rather than children’s place of birth (US versus foreign born), it becomes clear that obesity is more

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- 17 Bruce G. Link and Jo Phelan “Social Conditions as Fundamental Causes of Disease,” *Journal of Health and Social Behavior* 35, Extra Issue (1995): 80–94.
- 18 Kariakos S. Markides and Jeannine Coreil, “The Health of Hispanics in the Southwestern United States: An Epidemiologic Paradox,” *Public Health Reports* 101 (1986): 253–65; Robert A. Hummer et al., “Race/Ethnicity, Nativity, and Infant Mortality in the United States,” *Social Forces* 77, no. 3 (1999): 1083–117; Nancy S. Landale, R. Salvador Oropesa, and Bridget K. Gorman, “Immigration and Infant Health: Birth Outcomes of Immigrant and Native Women,” in *Children of Immigrants: Health, Adjustment, and Public Assistance*, ed. Donald J. Hernandez (Washington, DC: National Academy Press, 1999); Joyce A. Martin et al., “Births: Final Data for 2010,” *National Vital Statistics Reports* 61, no. 1 (2012): 1–72.
- 19 Erin Hamilton, Jodi Berger Cardoso, Robert A. Hummer, and Yolanda C. Padilla, “Assimilation and Emerging Health Disparities among New Generations of US Children,” *Demographic Research* 25 (2011): 783–818.
- 20 Penny Gordon-Larsen, Kathleen Harris, Dianne S. Ward, and Barry M. Popkin, “Acculturation and Overweight-Related Behaviors among Hispanic Immigrants to the US: The National Longitudinal Study of Adolescent Health,” *Social Science and Medicine* 57, no. 11 (2003): 2023–34; Barry M. Popkin and Richard J. Udry, “Adolescent Obesity Increases Significantly in Second and Third Generation US Immigrants: The National Longitudinal Study of Adolescent Health,” *Journal of Nutrition* 128 (1998): 701–06; Namratha R. Kandula, Margaret Kersey, and Nicole Lurie, “Assuring the Health of Immigrants: What the Leading Health Indicators Tell Us,” *Annual Review of Public Health* 25 (2004): 357–76.
- 21 Yolanda C. Padilla, Jason D. Boardman, Robert A. Hummer, and Marilyn Espitia, “Is the Mexican American ‘Epidemiologic Paradox’ Advantage at Birth Maintained through Early Childhood?” *Social Forces* 80 (2002): 1101–23; Erin Hamilton, Julien Teitler, and Nancy Reichman, “Mexican American Birth Weight and Child Overweight: Unraveling a Possible Early Life Course Health Transition,” *Journal of Health and Social Behavior* 52, no. 3 (2011): 333–48.
- 22 Kandula, Kersey, and Lurie, “Assuring the Health of Immigrants: What the Leading Health Indicators Tell Us.”
- 23 Ibid.
- 24 DtaP is a vaccine for diphtheria, tetanus, and pertussis; Hib is a vaccine for *Haemophilus influenzae* type B; and Hep-B is a vaccine for Hepatitis B.



prevalent among children of immigrants than children of natives.²⁵ Research on other indicators further debunks the common wisdom: Erin Hamilton and colleagues²⁶ did not find any noticeable differences in the prevalence of ear infections or headaches across immigrant generations; in other words, children of immigrants did not exhibit any clear health advantages or disadvantages for these conditions.

The health advantages observed among children of immigrants during infancy erode in early childhood.

Overall, as better data permit the examination of a wider range of health conditions in early and middle childhood, children of immigrants are no longer viewed as uniformly resilient to common childhood health problems. Research has instead begun to reveal considerable ambiguity in the health status of children of immigrants. One research team concluded: “Taken as a whole, our findings suggest that the development of children in immigrant families is neither strictly favorable nor uniformly unfavorable.”²⁷ Health risks appear to vary greatly depending on the origins of immigrant parents, with children of Latino immigrants often the most at risk.

IV. Children of Mexican Immigrants: Cause for Concern

Children of Mexican immigrants compose the single-largest origin group (see Table 1), and research generally shows they experience greater childhood health risks than most other children. In this section we focus on children of Mexican immigrants, though some studies focus on a broader group: all children of Latino immigrants. In what follows, we use the term “Mexican-origin” to refer to all children with Mexican ethnicity (both children of immigrants and children of natives combined), and “Latino” to refer to children with Latino or Hispanic ethnicity (e.g., Mexican, Cuban, Puerto Rican, Salvadoran, Dominican, etc.). Among these groups, children of Mexican immigrants have at least one parent who was born in Mexico, while children of Latino immigrants are those with at least one foreign-born parent who self-identifies as Latino or Hispanic.

In a comprehensive review of the health of all Latino children (without discerning by parental nativity), Flores and his research team²⁸ concluded that Latino children are at elevated risk for a wide range of health and developmental problems, including “school dropout, environmental hazards, obesity, diabetes mellitus, asthma, lack of health insurance, nonfinancial barriers to health care access, and impaired quality of care.” Another study based on ECLS²⁹ found that Latino children in immigrant families had worse physical health (but better mental health) in kindergarten than white children of natives. Their poorer physical health was associated with significantly lower math scores in first grade, although this deficit was offset nearly completely by their better mental health. Although Robert Crosnoe³⁰ examined Latino children of immigrants rather than all Latino children, neither Crosnoe³¹ nor Glenn Flores and

25 Hamilton et al., “Assimilation and Emerging Health Disparities;” Jennifer Van Hook, Elizabeth Baker, Claire E. Altman, and Michelle Frisco, “Canaries in a Coalmine: Immigration and Overweight among Mexican-Origin Children in the US and Mexico,” *Social Science and Medicine* 74 (2012): 125–34.

26 Hamilton et al., “Assimilation and Emerging Health Disparities.”

27 Margot I. Jackson, Kathleen Kiernan, and Sara McLanahan, “Immigrant-Native Differences in Child Health: Does Maternal Education Narrow or Widen the Gap?” *Child Development* 83, no. 5 (2012): 1508.

28 Glenn Flores et al., “The Health of Latino Children: Urgent Priorities, Unanswered Questions, and a Research Agenda,” *Journal of the American Medical Association* 288, no. 1 (2002): 82–91.

29 Robert Crosnoe, “Health and the Education of Children from Racial/Ethnic Minority and Immigrant Families,” *Journal of Health and Social Behavior* 47, no. 1 (2006): 77–93.

30 Ibid.

31 Ibid.



colleagues³² examined Mexican-origin children separately from other Latino children. Nevertheless, we suspect that the poor health outcomes observed among Latino children are driven by Mexican-origin children. This group, composed of both children of immigrants and natives, made up 70 percent of all Latino children in 2011. A study focused specifically on the children of Mexican immigrants³³ (using the 1979 cohort of NLSY) similarly found that the favorable birth weight of children with Mexican-born mothers did not translate into better cognitive outcomes in early childhood. Instead, high levels of poverty, low maternal education, and disadvantages associated with being a child of an immigrant appeared to override the health advantages that children of Mexican immigrants experienced during infancy.

Latino children are at elevated risk for a wide range of health and developmental problems.

In this section, we focus on two health outcomes of particular significance for young children of Mexican immigrants: asthma and obesity. Asthma provides an important example: while Mexican children of immigrants are at an advantage since they are less likely to suffer from asthma, they are still at great risk because of limited access to treatment. Obesity is another case entirely; children of Mexican immigrants are at a great disadvantage compared with other children, and medical treatment remains largely ineffective. We conclude with a description of the specific challenges facing the children of Mexican immigrants.

A. Asthma

Asthma is a leading chronic disease in childhood, affecting over 10 million US children aged 17 and under in 2010.³⁴ The prevalence of asthma varies by race/ethnicity, with rates among non-Hispanic Black children (16 percent) considerably higher than rates among non-Hispanic white and Latino children: 8 percent in both groups. Although relatively few studies have examined patterns of asthma prevalence among children in immigrant families, existing research generally finds lower prevalence among children of immigrants compared to those with native-born parents across racial/ethnic groups.³⁵ Interestingly, Margot Jackson and colleagues³⁶ — analyzing US data from the Fragile Families and Child Well-being Study — found that the immigrant asthma advantage was only present among children whose mothers had relatively low formal education. Children of more highly educated immigrant mothers and those of native-born mothers did not differ significantly in asthma prevalence. Since children in families of lower SES are less likely to have a regular primary care provider in a position to recognize asthma symptom patterns over time,³⁷ there is likely to be underdiagnosis of asthma in this population.

Regardless of parental place of birth, Mexican-origin children have lower asthma prevalence than children in other ethnic groups. Analyzing data from the National Health Interview Survey (NHIS), Marielena Lara and her colleagues³⁸ found that the lifetime prevalence of asthma among Mexican-origin children was 10 percent — lower than the prevalence for non-Hispanic white children (13 percent), non-Hispanic Black

32 Flores et al., “The Health of Latino Children.”

33 Padilla et al., “Is the Mexican American ‘Epidemiologic Paradox’ Advantage at Birth Maintained through Early Childhood?”

34 Barbara Bloom, Robin A. Cohen, and Gulnur Freeman, “Summary Health Statistics for US Children: National Health Interview Survey, 2010,” *Vital and Health Statistics* 10, no. 250 (2011): 1–89.

35 Krista M. Perreira and India J. Ornelas, “The Physical and Psychological Well-Being of Immigrant Children,” *The Future of Children* 21, no. 1 (2011): 195–218; Marielena Lara, Lara Akinbami, Glenn Flores, and Hal Morgenstern, “Heterogeneity of Childhood Asthma among Hispanic Children: Puerto Rican Children Bear a Disproportionate Burden,” *Pediatrics* 117, no. 1 (2006): 43–53.

36 Jackson, Kiernan, and McLanahan, “Immigrant-Native Differences in Child Health.”

37 Jennifer E. DeVoe, Carrie J. Tillotson, Lorraine S. Wallace, Sarah E. Lesko, and Heather Angier, “The Effects of Health Insurance and a Usual Source of Care on a Child’s Receipt of Health Care,” *Journal of Pediatric Health Care* 26, no. 5 (2012): e25–e35; Leesha K. Hoilette, Sarah J. Clark, Achamyeleh Gebremariam, and Matthew M. Davis, “Usual Source of Care and Unmet Need among Vulnerable Children: 1998–2006,” *Pediatrics* 123, no. 2 (2009): e214–e219.

38 Lara et al., “Heterogeneity of Childhood Asthma among Hispanic Children.”



children (16 percent), and Puerto Rican children (26 percent). Similar results were gleaned from the California Healthy Kids Survey,³⁹ according to which asthma prevalence among specific groups of Latino children ranged from 13 percent for Mexican-origin children to 23 percent among Puerto Rican children.

The NHIS analyses of Lara and colleagues⁴⁰ also found that Mexican immigrant children born outside the United States had significantly lower odds of having an asthma diagnosis than Mexican-origin children born in the United States. In a similar vein, Kamal Eldeirawi and colleagues⁴¹ examined data for Mexican-origin children who participated in the third National Health and Nutrition Examination Survey (NHANES). Risk of an asthma diagnosis was significantly associated with being born in the United States, as were a history of respiratory wheezing symptoms and positive allergic skin reactions to common allergens. The authors concluded that both environmental exposure and lifestyle factors that promote asthma and other allergic conditions are likely to be more common among Mexican-origin families living in the United States as compared with those living in Mexico.

Risk of an asthma diagnosis was significantly associated with being born in the United States.

Clearly, lower asthma prevalence among children of Mexican immigrants is positive. However, it is only part of the story and may even send a misleading message about these children's health risks. For children who have asthma, treatment requires continual monitoring and medication. Children with untreated asthma more often go to the emergency room with acute symptoms, and are more likely than other children to miss school and not participate in sports and other activities. More research is needed, but all signs suggest that children of Mexican immigrants are highly disadvantaged in access to high-quality care for chronic health conditions, including asthma. As emphasized in another report in this series,⁴² Mexican children of immigrants are less likely to have health insurance and access to high-quality health care than other national-origin groups. Additionally, one study found that Latino preschool children who were hospitalized for asthma were 17 times less likely than white children to be prescribed a nebulizer,⁴³ suggesting that they were not receiving the quality of care necessary to adequately manage their asthma.

B. Obesity

In the United States, the prevalence of obese children aged 6-11 quadrupled over the past five decades, increasing from 4 percent in the late 1960s to 18 percent in 2010.⁴⁴ For children, "obese" is defined as having a body mass index (BMI) at or above the 95th percentile (gauged against a distribution of children from the early 1970s), and "overweight" is defined as having a BMI at or above the 85th percentile but less than the 95th percentile.⁴⁵ Obesity is linked to a number of serious health conditions, including hyperten-

39 Adam M. Davis, Richard Kreutzer, Michael Lipsett, Galatea King, and Nazerah Shaikh, "Asthma Prevalence in Hispanic and Asian American Ethnic Subgroups: Results from the California Healthy Kids Survey," *Pediatrics* 118, no. 2 (2006): 363–70.

40 Lara et al., "Heterogeneity of Childhood Asthma among Hispanic Children."

41 Kamal Eldeirawi, Rob McConnell, Sally Freels, and Victoria W. Persky, "Associations of Place of Birth With Asthma and Wheezing in Mexican American Children," *Journal of Allergy and Clinical Immunology* 116 (2005): 42–48.

42 Leighton Ku and Mariellen Jewers. *Health Care for Immigrant Families: Current Policies and Issues*, (Washington, DC: Migration Policy Institute, 2013), www.migrationpolicy.org/pubs/COI-HealthCare.pdf.

43 Jonathan A. Finkelstein et al., "Quality of Care for Preschool Children with Asthma: The Role of Social Factors and Practice Setting," *Pediatrics* 95, no. 3 (1995): 389–94.

44 Cheryl D. Fryar, Margaret D. Carroll, and Cynthia L. Ogden, "Prevalence of Obesity among Children and Adolescents: United States, Trends 1963-1965 through 2009-2010" (Health E-Stat report, Division of Health and Nutrition Examination Surveys, National Center for Health Statistics, Washington, DC, 2012), www.cdc.gov/nchs/data/hestat/obesity_child_09_10/obesity_child_09_10.pdf.

45 Centers for Disease Control and Prevention, *Defining Overweight and Obesity*, vol. 2012 (Atlanta, GA: Centers for Disease Control and Prevention, 2012).



sion, elevated blood pressure, cancer, and diabetes.⁴⁶ The rise in obesity-related health conditions may even decrease life expectancy for current and future generations of Americans.⁴⁷ Obesity can also lead to an accumulation of risk factors that alter the aging process in enduring ways. It leads to disability, lower health-related quality of life in old age,⁴⁸ and a greater number of hospital admissions and longer lengths of stay.⁴⁹ Obesity is also related to difficulties in social adjustment, poor mental health, and lower academic achievement,⁵⁰ and thus has wide-ranging implications for children's quality of life⁵¹ and productivity as adults.⁵² Thus, obesity clearly places young people at a disadvantage for good health, longevity, and economic well-being.

Regardless of parents' place of birth, Mexican-origin children are particularly vulnerable to the risks of obesity. They have the highest prevalence of obesity among all major racial/ethnic groups. Among children aged 6-11 during the 2007-08 period, 39 percent of Mexican-origin children, 36 percent of African American children, and 29 percent of non-Hispanic white children were overweight or obese.⁵³ Additionally, children of Mexican immigrants, especially boys, show an even higher prevalence of obesity than Mexican-origin and other Latino children of natives. Van Hook, Baker, and Altman's⁵⁴ analyses of data from the ECLS Kindergarten Class of 1998-99 (ECLS-K) indicates that 57 percent of Mexican sons of immigrants were overweight or obese, which is more than boys in native families of all major racial/ethnic groups (53 percent among Latinos, 37 percent among Blacks, and 39 percent among whites). Analyses of the NHANES indicate the same patterns, with Latino children of immigrants consistently more likely to be overweight or obese.⁵⁵ In light of the harmful effects of obesity on health and SES attainment, the high likelihood of being overweight could reduce these children's chances of successful integration. Yet, obesity among the children of immigrants is poorly understood.

The most common explanation for obesity among children of immigrants is that exposure to the American environment is bad for health in general. The key idea behind what is referred to here as the "health acculturation" perspective is that longer exposure to the US environment and greater acculturation should lead to less-healthy diets, sedentary activity, and obesity.⁵⁶

However, research based on data collected in both Mexico and the United States suggests that this view is only partially correct. Consistent with the health acculturation perspective, children living in Mexico tend to weigh less than their peers who reside in the United States.⁵⁷ In fact, Mexican children whose parents are the most likely to migrate to the United States are among the leanest children in Mexico; they appear to gain weight rapidly after arriving in the United States. Contrary to the health acculturation model,

46 Deckelbaum and Williams, "Childhood Obesity;" Dietz, "Health Consequences of Obesity in Youth;" Strauss and Pollack, "Social Marginalization of Overweight Children."

47 Jay S. Olshansky et al., "A Potential Decline in Life Expectancy in the US in the 21st Century," *Obstetrical and Gynecological Survey* 60 (2005): 450-52.

48 Kenneth F. Ferraro and Jessica Kelley-Moore, "Cumulative Disadvantage and Health: Long-Term Consequences of Obesity," *American Sociological Review* 68 (2003): 707-29.

49 Markus Schafer and Kenneth F. Ferraro, "Obesity and Hospitalization over the Adult Life Course: Does Duration of Exposure Increase Use?" *Journal of Health and Social Behavior* 48 (2007): 434-49.

50 Datar, Sturm, and Magnabosco, "Childhood Overweight and Academic Performance;" Strauss and Pollack, "Social Marginalization of Overweight Children."

51 Swallen et al., "Overweight, Obesity, and Health-Related Quality of Life among Adolescents."

52 Cawley, "The Impact of Obesity on Wages."

53 Cynthia L. Ogden, Margaret D. Carroll, Lester R. Curtin, Molly M. Lamb, and Katherine M. Flegal, "Prevalence of High Body Mass Index in US Children and Adolescents, 2007-2008," *Journal of the American Medical Association* 303, no. 3 (2010): 242-49.

54 Jennifer Van Hook, Elizabeth Baker, and Claire Altman, "Does it Begin at School or Home? The Institutional Origins of Overweight among Young Children of Immigrants," in *Immigration, Diversity, and Education*, eds. Elena L. Grigorenko and Ruby Takahashi (New York: Routledge/Taylor and Francis Group, 2009): 205-24.

55 Elizabeth Baker, Kelly S. Balistreri, and Jennifer Van Hook, "Maternal Employment and Overweight among Hispanic Children of Immigrants and Children of Natives," *Journal of Immigrant and Minority Health* 11, no. 3 (2009): 158-67.

56 Susan J. Blumenthal, "A Public Health Approach to Decreasing Obesity," *Journal of the American Medical Association* 288 (2002): 2178; Robert Carter, "The Impact of Public Schools on Childhood Obesity," *Journal of the American Medical Association* 288 (2002): 2180; Ellen J. Fried and Marion Nestle, "The Growing Political Movement against Soft Drinks in Schools," *Journal of the American Medical Association* 288 (2002): 2181.

57 Van Hook et al., "Canaries in a Coalmine."



however, children of immigrants appear to be more vulnerable to obesity than children of natives.⁵⁸ In fact, children of immigrants with the least-aculturated parents (those who arrived recently or have low English proficiency) weigh more than other children of immigrants.⁵⁹ These findings persist even after controlling for a broad set of family, school, and neighborhood characteristics. Furthermore, health behaviors linked to obesity do not always increase with acculturation. A review of studies on dietary acculturation showed no clear positive associations between diet and indicators of acculturation among children.⁶⁰ Overall, among all Mexican children (those living in Mexico and in the United States), the heaviest children are those living in the United States with the least-aculturated parents. While somewhat perplexing, this suggests that moving to the United States may increase the risk of obesity, but acculturation among immigrants after they arrive can reduce it. It is possible that as immigrant parents learn English and adjust to their new environments, they become more aware of obesity-related risks in the United States and are then able to develop effective strategies for protecting their children.

Another common explanation of disparities in childhood obesity is related to poverty and low parental education. In the United States, obesity and harmful weight-related behaviors are more common among individuals with lower levels of education, particularly women and children.⁶¹ For children, the effects of parental SES are thought to operate through various mechanisms in the children's homes, neighborhoods, and schools.⁶² For example, poor children may have less access to nutritious fresh fruits and vegetables because these kinds of foods are less available in their neighborhood stores, restaurants, and schools, and they cost more than energy-dense foods (e.g., pasta). These ideas lead to the expectation that low SES increases the risk of obesity for all children. However, research has failed to find a consistent relationship between SES and obesity, particularly among the children of immigrants. Latino children of immigrants with better-educated parents are less likely to be obese than those with less-educated parents. But independent of parental education, higher-income children are more likely to be overweight, possibly because income allows families to eat out, purchase pre-prepared foods, and avoid heavy labor — all of which could increase the risk of obesity.⁶³

Moving to the United States may increase the risk of obesity, but acculturation among immigrants after they arrive can reduce it.

Clearly, more research is needed to understand the high prevalence of obesity among children of Mexican immigrants. Most likely, childhood obesity arises from multiple factors, and the explanation differs somewhat across groups. For example, while poverty and living in poor neighborhoods may help explain obesity among non-Hispanic white children, LEP may be more important for Latino children of immigrants. The prevention and treatment of childhood obesity is therefore challenging since it most likely requires group-specific interventions that modify children's contexts in culturally sensitive ways to increase the availability of healthy foods and opportunities for physical activity.

58 Ibid.

59 Jennifer Van Hook and Elizabeth Baker, "Big Boys, Little Girls: Gender, Acculturation, and Weight among Young Children of Immigrants," *Journal of Health and Social Behavior* 51 (2010): 200–14.

60 Jessie Satia-Abouta, Ruth E. Patterson, Marian L. Neuhouser, and John Elder, "Dietary Acculturation: Applications to Nutrition Research and Dietetics," *Journal of the American Dietetic Association* 102 (2002): 1105–18.

61 Jeffery Sobal and Albert J. Stunkard, "Socioeconomic-Status and Obesity: A Review of the Literature," *Psychological Bulletin* 105 (1989): 260–75.

62 Garden Tabacchi, Santo Giammanco, Maurizio La Guardia, and Marco Giammanco, "A Review of the Literature and a New Classification of the Early Determinants of Childhood Obesity: From Pregnancy to the First Years of Life," *Nutrition Research* 27 (2007): 587–604.

63 Kelly S. Balistreri and Jennifer Van Hook, "Socioeconomic Status and Body Mass Index among Hispanic Children of Immigrants and Children of Natives," *American Journal of Public Health* 99, no. 12 (2009): 2238–46.



C. *Explaining the Poor Health Outcomes of Children of Mexican Immigrants*

What factors place the children of Mexican immigrants in their particularly vulnerable position? To answer this question, it is crucial to focus on the characteristics and circumstances of their families. Regardless of their origins, children's health is increasingly regarded as a product of multiple interacting influences, including biology, behavior, and social and physical environments.⁶⁴ Although children are embedded within multiple environments — that range from their families to their schools, neighborhoods, and communities — the family is often viewed as the principal and most immediate social context for children's health. Indeed, children are dependent upon their families to provide a broad range of resources necessary for their health and development, including interpersonal relationships, material resources, time, and connections to institutions and the broader environment. Many sources of risk and resilience for children stem directly and indirectly from their families.

What factors place the children of Mexican immigrants in their particularly vulnerable position?

Children in immigrant families are exposed to a distinct constellation of risk and protective factors due to their parents' status as immigrants.⁶⁵ For many immigrant parents, international migration is a challenging and transformative process that involves socioeconomic incorporation, acculturation, language issues, and coping with stressors related to legal status and the climate of reception in the host community. The challenges parents face and their success in navigating the new terrain have implications for the social and material resources available to children, both within and outside of the family. In addition, immigrant parents provide a link between their children — most of whom were born in the United States — and the parents' own countries of origin and home cultures. Their success in retaining protective aspects of the origin culture can be critical to their children's resilience in the face of risks.

Mexican immigrant families often operate in ways that protect children. The protective effects of origin cultures strongly underlie the health acculturation perspective, which seeks to explain the health advantages often observed among immigrants and their children in past research. A central premise of this theory is that immigrants (particularly recent arrivals) are especially resilient in the face of vulnerabilities associated with poverty and low parental education because they retain healthy aspects of their origin-country lifestyles, such as health-promoting daily routines and low rates of maternal smoking and alcohol use. These protections fade as immigrants become more acculturated. A related argument is that immigrant families lose some of their strengths as assimilation occurs. Traditionally, Latino immigrants have had strong family networks that provide material and social support to those in need. To the extent that the family becomes less cohesive with time in the United States, acculturation may lead to less social support and poorer health behavior. Less support for healthy lifestyles also may result from a loss of connections to other protective environments, such as strong ethnic or immigrant communities.

These arguments suggest a negative process of assimilation in which protective influences on health are lost as immigrants spend time in the United States. But as shown in more recent research revealing the high prevalence of obesity among children of immigrants and lower access to care among those with asthma, the relationship between immigrant incorporation and health is more complex than once thought. The children of some disadvantaged immigrant groups may actually be more vulnerable than the children of natives. Segmented assimilation theory⁶⁶ suggests that there are various assimilation pathways that depend on the context of reception and attributes of the immigrant group, such as race, social

64 National Research Council and Institute of Medicine, *Children's Health, The Nation's Wealth*.

65 Donald J. Hernandez and Evan Charney, eds., *From Generation to Generation: The Health and Well-Being of Children in Immigrant Families* (Washington, DC: National Academy Press, 1998).

66 Alejandro Portes and Min Zhou, "The New Second Generation: Segmented Assimilation and its Variants," *Annals of the American Academy of Political and Social Science* 530 (1993): 74–96; William Haller, Alejandro Portes, and Scott M. Lynch, "Dreams Fulfilled, Dreams Shattered: Determinants of Segmented Assimilation in the Second Generation," *Social Forces* 89 (2011): 733–62.

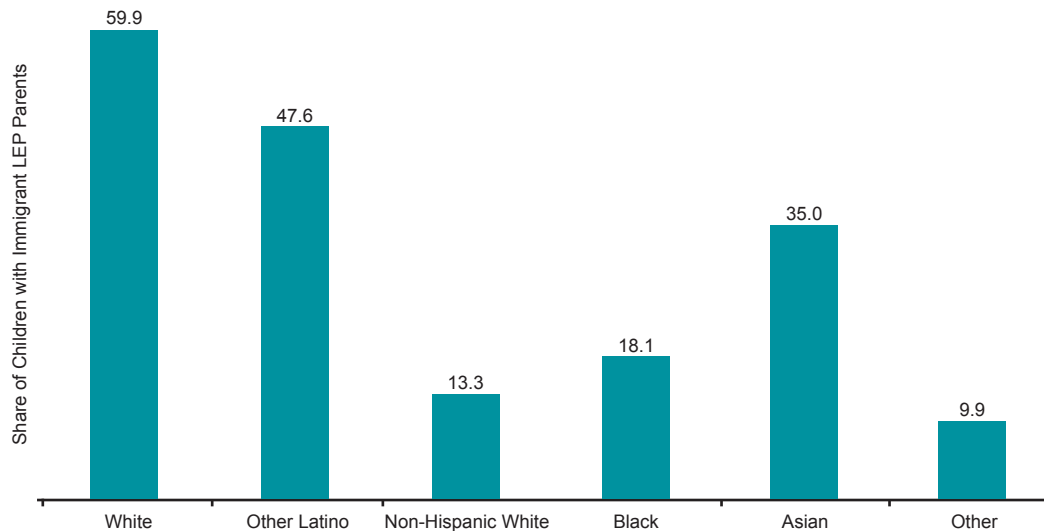


capital, and resources. Those with limited resources, dark skin, or legal status barriers may be particularly vulnerable, especially if they live in communities with persistent poverty, high unemployment and crime, and little effort to accommodate immigrants. Such contexts of reception can constrain opportunities and increase stress. Below, we discuss four challenges facing Mexican immigrant families with children: LEP, low SES, unauthorized legal status, and their unaccommodating reception in communities that have not traditionally been destinations for immigrants.

Acculturation may lead to less social support and poorer health behavior.

Limited English language proficiency. Language use is intertwined with acculturation. Proficiency in and use of the host-country language have long been considered central to the acculturation process,⁶⁷ and standard acculturation measures and scales rely heavily on questions about language proficiency and use.⁶⁸ The majority of young children of immigrants have at least one parent who is LEP, which means that the parent speaks a language other than English at home and speaks English less than “very well.”⁶⁹ Many children of immigrants live in linguistically isolated homes, or homes in which all household members aged 14 and older speak a language other than English and are LEP.⁷⁰ Our own analysis of data from the 2011 American Community Survey (ACS) shows that nearly 60 percent of children of Mexican immigrants do not have a parent who speaks English “very well” or better, a higher share than for children of immigrants from other racial/ethnic groups (see Figure 1).

Figure 1. Share of Children of Immigrants with Limited English Proficient (LEP) Parents (%), 2011



Note: Neither parent speaks English very well or as their primary language at home.

Source: Authors’ analysis of Census Bureau 2011 American Community Survey (ACS) data.

67 Milton Gordon, *Assimilation in American Life: The Role of Race, Religion, and National Origins* (New York: Oxford University Press, 1964).

68 Marielena Lara, Cristina Gamboa, M. Iya Kahramanian, Leo S. Morales, and David E. Hayes Bautista, “Acculturation and Latino Health in the United States: A Review of the Literature and its Sociopolitical Context,” *Annual Review of Public Health* 26 (2005): 367–97.

69 Randy Capps, Michael Fix, Jason Ost, Jane Reardon-Anderson, and Jeffrey S. Passel, *The Health and Well-Being of Young Children of Immigrants* (Washington, DC: Urban Institute, 2004), www.urban.org/UploadedPDF/311139_Childrenimmigrants.pdf.

70 Frederic Allen Lestina, *Analysis of the Linguistically Isolated Population in Census 2000*, Final Report (Washington, DC: US Census Bureau, 2003), www.census.gov/pred/www/rpts/A.5a.pdf.



Although studies of health among children of immigrants often emphasize the protective effects of adherence to the home culture, including home-language use, LEP parents and linguistic isolation are also risk factors. Parents who do not speak English well are less able to access health services and other benefits for their children. Such services can promote health, prevent specific health problems, and diagnose and treat existing health problems. To the extent that limited English language ability limits parents' engagement with the health-care system and other service-delivery systems that promote child health, children of immigrants are at risk compared with children of natives.

Low socioeconomic status. The socioeconomic incorporation of immigrant families varies by their country or region of origin, as well as their mode of entry into the United States and their immigration classification. In general, there are three distinct classes of immigrants: (1) highly skilled professionals, executives, and managers; (2) unskilled labor migrants, including unauthorized immigrants as well as those who enter legally through family-reunification channels; and (3) refugees and asylees.⁷¹ The dissimilar strengths and vulnerabilities of each immigrant class shape its socioeconomic incorporation. Specifically, human capital (e.g., education and skills), financial resources, legal status, social networks, and family circumstances differ by immigrant class, and these in turn influence the advantages and disadvantages experienced by children.

Highly skilled legal immigrants have dominated flows from most Asian countries, including China, India, Iran, Japan, Korea, and the Philippines. In contrast, low-skilled laborers and service workers have dominated flows from Latin American countries, such as the Dominican Republic, El Salvador, and Mexico. Refugees from Laos and Cambodia have also entered the United States primarily as unskilled workers.⁷² For example, of legal immigrants admitted in FY2011 under employment-based preferences, 64 percent originated from Asia (with 24 percent from India alone), but only 7 percent originated from Mexico. Among all legally admitted immigrants, one-fifth of Asians and half of Indians, but only 6 percent of Mexicans, were admitted under the employment-based criteria.⁷³

These differences are reflected in family income and parental education. Overall, children of immigrants are more likely than children with native parents (21 versus 15 percent) to live in families with incomes below the federal poverty level.⁷⁴ At the same time, poverty levels for children of immigrants vary substantially depending on their race/ethnicity. Our analysis of the 2011 ACS shows that 40 percent of children with Mexican immigrant parents are poor, compared to 28 percent of other Latino children of immigrants, 26 percent of Black children of immigrants, and less than 15 percent of white, Asian, and other children of immigrants (see Figure 2).

71 Rubén Rumbaut, "Ties That Bind: Immigration and Immigrant Families in the United States," in *Immigration and the Family: Research and Policy on US Immigrants*, eds. Alan Booth, Ann C. Crouter, and Nancy Landale (Mahwah, NJ: Lawrence Erlbaum Associates, 1997): 3–46.

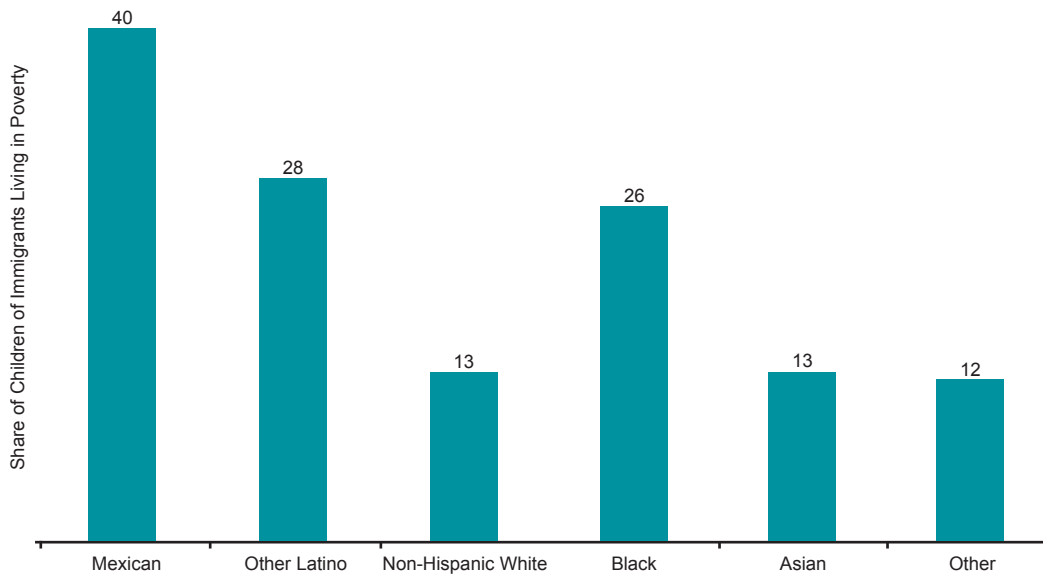
72 Ibid.

73 Department of Homeland Security (DHS), *Yearbook of Immigration Statistics: 2011* (Washington, DC: Office of Immigration Statistics, DHS, 2011), www.dhs.gov/yearbook-immigration-statistics-2011-1.

74 Ajay Chaudry and Karina Fortuny, "Children of Immigrants: Economic Well-Being" (Brief no. 4, Urban Institute, Washington, DC, 2010), www.urban.org/publications/412270.html.



Figure 2. Share of Children of Immigrants Living in Poverty (%), 2011

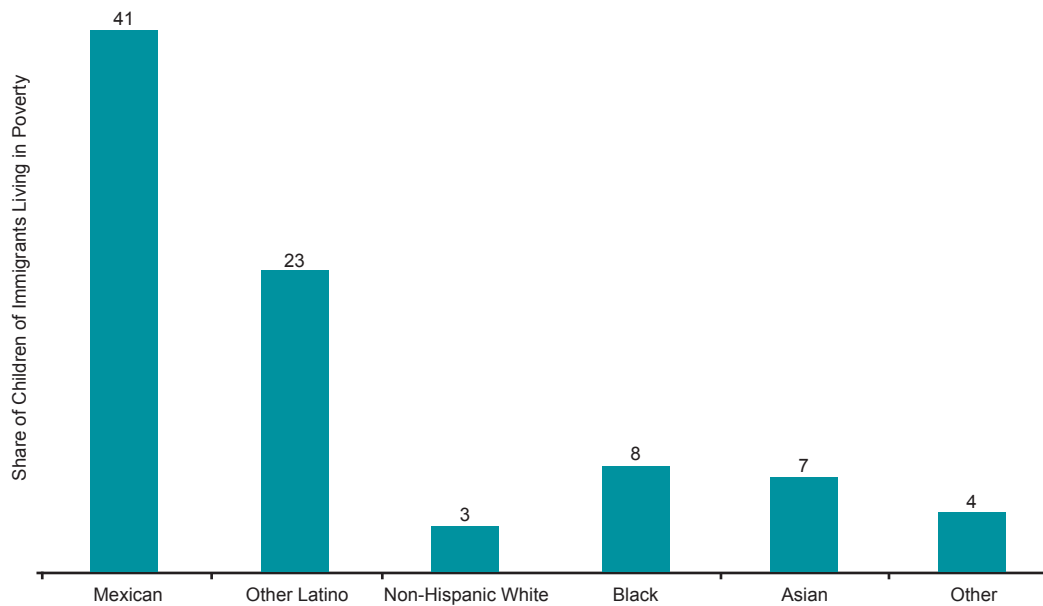


Note: “Living in poverty” refers to families with incomes below the federal poverty level.

Source: Authors’ analysis of 2011 ACS data.

Children in poor immigrant families also tend to have parents with relatively limited levels of education and lower skill levels (see Figure 3). Forty-one percent of children of Mexican immigrants have parents with less than a high school education, compared with only 23 percent of children of other Latino immigrants and less than 10 percent of children of immigrants from the other racial/ethnic groups.

Figure 3. Share of Children of Immigrants Whose Parents Have Less than a High School Education (%), 2011



Note: Neither parent has a high school degree or equivalent.

Source: Authors’ analysis of 2011 ACS data.



Because low-wage unskilled jobs typically do not provide health insurance,⁷⁵ children of Mexican immigrants are more likely than children of US-born parents and children in more advantaged immigrant families to lack health insurance. Children of Mexican immigrants are among the groups with the highest risk in this regard, with 19 percent lacking health insurance, compared to 8 percent of children of immigrants from regions other than Latin America and the Caribbean.⁷⁶

Eligibility for Medicaid, the Children's Health Insurance Program (CHIP), or other public health insurance programs varies across states. Some states bar *legal* immigrant children from these programs during their first five years in the United States, while other states provide coverage for all legal immigrant children, and some states cover unauthorized children as well. This topic is discussed in greater detail in another report in this series.⁷⁷ Here, we simply emphasize that a lack of insurance may lead to delay in treatment and worsened health problems. In addition to the problems associated with untreated asthma discussed above, one study⁷⁸ found that immigrant children had higher emergency room expenditures than native children, although immigrant children's overall medical expenditures were significantly lower.⁷⁹ This suggests that immigrant children are more likely to use the emergency room for medical care; they may also arrive in emergency rooms with more serious conditions than native children.

Low income also constrains housing and neighborhood choices. Children in immigrant families — especially those living below the poverty level — often live in crowded and distressed neighborhoods that lack basic amenities, such as good schools and safe streets.⁸⁰ Nonetheless, many of these neighborhoods have high immigrant concentrations, a factor that may provide advantages to immigrant families by easing their adjustment to the United States and reinforcing cultural supports for healthy behaviors.

Low income also is related to food insecurity. Immigrant families are particularly likely to be food insecure. According to the US Department of Agriculture (USDA),⁸¹ food-insecure households are those in which not all members have access to enough food, and some members may have reduced food intake, consume poor-quality food, or have disrupted eating patterns. Our own analysis of the 1999-2009 continuous NHANES shows that on average over the decade, 46 percent of Mexican-origin children of immigrants lived in food-insecure households compared with 12 percent of non-Hispanic white children of natives.

Food insecurity may be related to the lower general health and cognitive development of Mexican children of immigrants.⁸² Additionally, although it may seem counterintuitive, food insecurity may be related to overweight and obesity, particularly if food insecurity leads to the consumption of inexpensive, high-

- 75 Susan R. Todd and Benjamin D. Sommers, "Overview of the Uninsured in the United States: A Summary of the 2012 Current Population Survey Report" (ASPE Issue Brief, Assistant Secretary for Planning and Evaluation, US Department of Health and Human Services, Washington, DC, September 12, 2012), <http://aspe.hhs.gov/health/reports/2012/UninsuredInTheUS/ib.shtml>.
- 76 Steven P. Wallace, Paula Leite, Xóchitl Castañeda, and Marc Schenker, "Migration and Health: The Children of Mexican Immigrants in the US Consejo Nacional de Población," 2009, http://coeh.ucdavis.edu/documents/2_CONAPO_The_Children_of_Mexican_Immigrants_in_the_US.pdf.
- 77 Ku and Jewers, *Health Care for Immigrant Families*.
- 78 Sarita A. Mohanty et al., "Health Care Expenditures of Immigrants in the United States: A Nationally Representative Analysis," *American Journal of Public Health* 95, no. 8 (2005): 1431–38.
- 79 Other studies have found lower emergency room use by immigrant than native children, but relatively high use among those immigrant children who lack health insurance. Ku and Jewers, *Health Care for Immigrant Families*; Leighton Ku, "Restoring Medicaid and SCHIP Coverage to Legal Immigrant Children and Pregnant Women: Implications for Community Health and Health Care for Tomorrow's Citizens" (Geiger Gibson /RCHN Community Health Foundation Research Collaborative Policy Research Brief no. 7, School of Public Health and Health Services, Department of Health Policy, George Washington University, Washington, DC, 2009), http://sphhs.gwu.edu/departments/healthpolicy/CHPR/downloads/SCHIP-MedicaidDoc_01-14-2009.pdf; Leighton Ku and Sheethal Matani, "Left Out: Immigrants' Access To Health Care And Insurance," *Health Affairs* 20, no. 1 (2001): 247–56.
- 80 Paul Jargowsky, "Immigrants and Neighborhoods of Concentrated Poverty: Assimilation or Stagnation?" *Journal of Ethnic and Migration Studies* 35 (2009): 1129–51.
- 81 US Department of Agriculture (USDA), "Definitions of Food Security," 2012, www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/definitions-of-food-security.aspx.
- 82 Mariana Chilton et al., "Food insecurity and risk of poor health among US-born children of immigrants." *American Journal of Public Health* 99 (3) (2009): 556–62.



calorie foods, binge eating and parenting practices that ensure children get enough to eat rather than guard against eating too much. One study⁸³ found that Korean and Chinese immigrant parents who experienced food insecurity in childhood in their countries of origin were more likely to believe their child should weigh more than they currently weighed (even though, on average, their children already weighed more than average children of the same age), and so these parents encouraged children to eat more sweets.

Food insecurity may be related to the lower general health and cognitive development of Mexican children of immigrants.

Overall, the role of poverty in children's health and development is well established.⁸⁴ Poor children are less likely to be reported by their mothers as in excellent or very good health (70 percent) than nonpoor children (87 percent). Poor children also have a higher prevalence of asthma and other chronic conditions than children in higher-income families, and among those with a chronic condition, poor children are also more likely to have an activity limitation.⁸⁵ At the same time, evidence accumulated over the past several decades demonstrates that the impact of low SES on health is often weaker among recent immigrants, especially Latinos, than among the native born.⁸⁶ One possible explanation is selective migration: immigrants to the United States are healthier than those left behind, despite low SES. Another explanation that has received widespread attention is that cultural practices brought from origin countries are protective of health.

Legal status. Nearly one in three children of immigrants has at least one parent who is an unauthorized immigrant. Among Mexican children of immigrants, the figure increases to roughly half.⁸⁷ This fact is often overlooked in research on the health of children of immigrants because of the limited data available on immigrants' legal status. Currently, very little is known about the relationship between child health and parental legal status; very few national data sources cover parental immigration status.

Nevertheless, a parent's unauthorized immigration status is likely to restrict the opportunities and resources available to children. Unauthorized immigrants face legal restrictions that can limit employment opportunities, reduce incentives to make long-term plans or investments, and discourage interactions with public officials and professionals. Unauthorized immigrant parents may be reluctant to seek public assistance, health insurance, and medical care on behalf of their children, even if their children are US-born citizens and eligible for these services.⁸⁸

83 Charissa Cheah and Jennifer Van Hook, "Chinese and Korean Immigrants' Early Life Deprivation: An Important Factor for Child Feeding Practices and Children's Body Weight in the United States," *Social Science and Medicine* 74, no. 5 (2012): 744–52.

84 Laurie J. Bauman, Ellen J. Silver, and Ruth E. K. Stein, "Cumulative Social Disadvantage and Child Health," *Pediatrics* 117, no. 4 (2006): 1321–28; Jeanne Brooks-Gunn and Greg J. Duncan, "The Effects of Poverty on Children," *The Future of Children* 7, no. 2 (1997): 55–71; Anne Case, Darren Lubotsky, and Christina Paxson, "Economic Status and Health in Childhood: The Origins of the Gradient," *The American Economic Review* 92, no. 5 (2002): 1308–34.

85 Janet Currie and Wanchuan Lin, "Chipping Away At Health: On the Relationship between Income and Child Health," *Health Affairs* 26, no. 2 (2007): 1–14.

86 National Research Council and Institute of Medicine, *Children's Health, The Nation's Wealth*.

87 Jeffrey S. Passel, *Size and Characteristics of the Unauthorized Migrant Population in the U.S.* (Washington, DC: Pew Hispanic Center, 2006), www.pewhispanic.org/2006/03/07/size-and-characteristics-of-the-unauthorized-migrant-population-in-the-us/.

88 Michael Fix and Wendy Zimmerman, "All under One Roof: Mixed-Status Families in an Era of Reform," *International Migration Review* 35 (2001): 397–419; Hirokazu Yoshikawa and Jenya Kholoptseva, *Unauthorized Immigrant Parents and their Children's Development: A Summary of the Evidence* (Washington, DC: Migration Policy Institute, 2013), www.migrationpolicy.org/pubs/COI-Yoshikawa.pdf; Krista Perreira et al, "Barriers to Immigrants' Access to Health and Human Services Programs" (ASPE Research Brief, Assistant Secretary for Planning and Evaluation, US Department of Health and Human Services, Washington, DC, 2012), <http://aspe.hhs.gov/hsp/11/ImmigrantAccess/Barriers/rb.shtml>.



Unauthorized immigrants often experience psychological distress because they fear deportation, work under difficult and exploitative conditions, and live in crowded or unstable housing.⁸⁹ Anxious and distressed parents are less able to engage in positive parenting practices that promote children's health and development. In addition, children of unauthorized immigrants often fear their parents' deportation, even when they themselves are US citizens,⁹⁰ or may experience prolonged separations from one or both parents due to the deportation of a parent⁹¹ or because they are left behind in Mexico while their parents work in the United States.⁹²

New destinations and the climate of reception. Another challenge confronting the children of Mexican immigrants is that this population is now spreading out to parts of the country where immigrants have not traditionally settled in the past, largely in response to demands for low-skilled labor in the construction and meat-packing industries.⁹³ For example, the share of children of immigrants living in one traditional immigrant destination, California, declined from 34 percent in 1990 to 29 percent in 2010, while the share of children living in 22 other states with fast-growing immigrant populations⁹⁴ increased from 11 to 19 percent over the same period.⁹⁵ Perhaps most remarkable, as shown by our analysis of the 2011 ACS, is that children of immigrants now represent high shares of the children living in states that have not traditionally hosted immigrant populations in the recent past (see Table 2). For example, children of immigrants now represent about one-fifth of all children in Georgia, about one-third of children living in Arizona and Washington, and two-fifths of children in Nevada. Children of Mexican immigrants now make up more than 10 percent of the children living in three "traditional" immigrant destinations (California, Texas, and Illinois), but also in several other states: Arizona, Washington, Colorado, Nevada, Oregon, and New Mexico. Thus, the impact of immigration on the US population has extended far and wide.

89 Hirokazu Yoshikawa and Ariel Kalil, "The Effects of Parental Undocumented Status on the Developmental Contexts of Young Children in Immigrant Families," *Child Development Perspectives* 5, no. 4 (2011): 291–97.

90 Carola Suárez-Orozco, Hirokazu Yoshikawa, Robert T. Teranishi, and Marcelo M. Suárez-Orozco, "Growing Up in the Shadows: The Developmental Implications of Unauthorized Status," *Harvard Educational Review* 81, no. 3 (2011): 438–72.

91 Randy Capps, Rosa Maria Castañeda, Ajay Chaudry, and Robert Santos, *Paying the Price: The Impact of Immigration Raids on America's Children* (Washington, DC: Urban Institute, 2007), www.urban.org/publications/411566.html.

92 Joanna Dreby, *Divided by Borders* (Berkeley, CA: University of California Press, 2010).

93 William Kandel and Emilio A. Parrado, "Industrial Restructuring and New Rural Hispanic Migration: The Case of the US Meat Processing Industry," *Population and Development Review* 31, no. 3 (2005): 447–71.

94 Alabama, Arizona, Arkansas, Colorado, Delaware, Georgia, Idaho, Indiana, Iowa, Kansas, Kentucky, Minnesota, Mississippi, Nebraska, Nevada, North Carolina, Oklahoma, Oregon, South Carolina, Tennessee, Utah, and Washington.

95 Karina Fortuny, Randolph Capps, Margaret Simms, and Ajay Chaudry, "Children of Immigrants: National and State Characteristics" (Brief 9, Urban Institute, Washington, DC, August 2009), www.urban.org/publications/411939.html.

**Table 2. Distribution of Children of Immigrants across the States, 2011**

	All Children of Immigrants		Mexican Children of Immigrants	
	% across States	% within State	% across States	% within State
Traditional destinations	61.1	38.5	68.6	16.9
California	24.5	49.4	35.4	27.8
Texas	13.0	35.0	22.4	23.4
New York	8.1	35.2	1.7	2.9
Florida	7.0	32.6	2.3	4.1
Illinois	4.5	27.4	6.0	14.1
New Jersey	4.0	36.6	0.9	3.1
Next top 15 states	27.0	20.1	20.5	5.9
Georgia	2.8	20.8	2.5	7.2
Arizona	2.5	29.1	4.5	20.1
Washington	2.5	29.3	2.3	10.5
Virginia	2.3	23.7	0.5	2.0
North Carolina	2.2	17.9	2.2	6.9
Massachusetts	2.0	26.8	0.1	0.5
Maryland	1.9	26.3	0.3	1.6
Pennsylvania	1.8	12.1	0.4	0.9
Michigan	1.6	13.0	0.7	2.3
Colorado	1.5	23.1	2.2	13.0
Nevada	1.4	39.4	2.1	23.6
Minnesota	1.2	17.2	0.6	3.4
Oregon	1.1	24.9	1.5	12.8
Ohio	1.1	7.7	0.4	1.1
Connecticut	1.1	24.5	0.2	1.9
Remaining states	11.9	11.7	10.9	4.2
All states	100.0	25.3	100.0	9.9

Note: “% across states” refers to the percentage distribution of children of immigrants (column 2) or children of Mexican immigrants (column 4) across all states. For example 24.5 percent of all US children of immigrants live in California. “% within state” refers to percentage of all children in each state who are children of immigrants (column 3) or children of Mexican immigrants (column 5). For example, in California, 49.4 percent of all children are children of immigrants.

Source: Authors’ analysis of 2011 ACS data.

The impact of these geographic shifts on children’s health and well-being depends in large part on immigrants’ reception in new destinations. The context of reception is determined in part by local economic conditions, governmental policies toward immigrants, the attitudes of the local population, and the nature of the local immigrant and/or coethnic community.⁹⁶ Immigrants confront varying degrees of receptivity in local and national communities, depending upon their national origins, race, SES, language abilities,

⁹⁶ Alejandro Portes and Rubén G. Rumbaut, *Immigrant America: A Portrait*, 3rd ed. (Berkeley, CA: University of California Press, 2006); Alex Stepick and Carol Dutton Stepick, “Diverse Contexts of Reception and Feelings of Belonging,” *Forum: Qualitative Social Research* 10 (3): Art. 15, www.qualitative-research.net/index.php/fqs/article/view/1366/2863.



and degree of assimilation. Immigrants from countries that send large numbers of immigrants — especially unauthorized immigrants — may face greater hostility and discrimination from local communities than other immigrants. Mexican immigrants and their families face unique risks in this regard because of the size of the migration flow from Mexico and because Mexican immigrants make up the largest segment of the unauthorized population. Furthermore, new destination communities may lack the infrastructure to provide specialized services to immigrant populations, such as translation services in health clinics, or resources to help adults and children with English language acquisition. Finally, the climate of reception shapes parental and family stress levels, which further play a role in children’s health and development.

V. Conclusion

Given the wide diversity of backgrounds and circumstances among children of immigrants, we do not conclude that children of immigrants have no advantages or that all children of immigrants are at risk of poor health. In fact, it is well documented that children of immigrants have healthy starts to life. Rather, it is our contention that the diversity of experiences and outcomes among the children of immigrants, if left unaddressed, could translate into even wider disparities in health and well-being in the future.

The experiences and outcomes of children of Mexican immigrants are therefore of great importance because this is the largest group, and one facing a number of serious health risks. On the one hand, some scholars are concerned that the Mexican-origin population may remain a socially separate, marginalized, economically disadvantaged group;⁹⁷ on the other hand, optimists emphasize the resilience of immigrant families and communities. They point out that earlier immigrants, such as Italians and Irish, initially experienced difficulties much like Mexicans today but eventually assimilated successfully.⁹⁸

Both futures may be equally plausible; the children of immigrants, particularly of Mexican immigrants, stand at a crossroads. Their path going forward could depend on how well US policies and programs respond to their needs. In particular, it will be crucial to resolve the problems related to immigrants’ legal status. This would involve new immigration reform legislation providing a pathway to legal status for the 11 million unauthorized immigrants now living in the United States and addressing future demand for low-skilled labor migration.⁹⁹ Addressing problems related to legal status might also involve changing how we collect data on immigrant families and children so that the impact of new legalization policies can be evaluated. New data sources on the children of immigrants have just begun to shine light on the unique challenges facing these children. Meanwhile, an ongoing lack of appropriate data has constrained research on how immigration experiences and parental legal status shape the development of children in immigrant families. Government agencies and researchers who collect data on children’s health and development have been reluctant to include items on legal status in surveys, yet evidence suggests that immigrants are willing to answer such questions if asked — and such questions could be asked in ways that protect the confidentiality of respondents.¹⁰⁰

97 George Borjas, *Mexican Immigration to the United States* (Chicago: University of Chicago Press, 2007); Michael Fix and Jeffrey S. Passel, *The Scope and Impact of Welfare Reform’s Immigrant Provisions* (Washington, DC: Urban Institute, 2002), www.urban.org/publications/410412.html; Portes and Zhou, “The New Second Generation: Segmented Assimilation and its Variants.”

98 Richard Alba, Philip Kasinitz, and Mary C. Waters, “Commentary: The Kids Are (Mostly) Alright: Second-Generation Assimilation: Comments on Haller, Portes and Lynch,” *Social Forces* 89 (2011): 763–73; Richard Alba and Victor Nee, *Remaking the American Mainstream: Assimilation and Contemporary Immigration* (Cambridge, MA: Harvard University Press, 2003).

99 Frank D. Bean, James D. Bachmeier, Susan K. Brown, Jennifer Van Hook, and Mark Leach, “*Marginal Mexican Migration to the United States: Its Nature, Extent and Implications for Immigrant Integration*,” Chapter under preparation for Russell Sage Foundation 2010 Census Project Volume.

100 James D. Bachmeier, Jennifer Van Hook, and Frank D. Bean, “Can We Measure Immigrants’ Legal Status? Lessons from Two U.S. Surveys,” *International Migration Review*, forthcoming.



Second, policies targeting children of immigrants as well as immigrant families and communities should promote access to health care, high-quality child care, healthy diets, and physical activity. Flores and colleagues¹⁰¹ emphasize this point and advocate the provision of interpreters in medical settings and cultural competency training for health professionals.

The children of immigrants, particularly of Mexican immigrants, stand at a crossroads.

Third, attention should be paid to the development of immigrant services in both traditional and new destinations. As noted above, immigrants are dispersing to new US destinations, where they tend to encounter greater barriers to quality health care than in traditional destinations.¹⁰² Attention to these problems will ultimately benefit the full US population. Nearly one in every four US children has an immigrant parent; promoting the health of children in immigrant families will maximize the long-term well-being and productivity of tomorrow's adults.

101 Flores et al., "The Health of Latino Children."

102 Kathryn Pitkin Derosé, José J. Escarce, and Nicole Lurie, "Immigrants and Health Care: Sources of Vulnerability," *Health Affairs (Project Hope)* 26, no. 5 (2007): 1258–68.



Works Cited

- Alba, Richard and Victor Nee. 2003. *Remaking the American Mainstream: Assimilation and Contemporary Immigration*. Cambridge, MA: Harvard University Press.
- Alba, Richard, Philip Kasinitz, and Mary C. Waters. 2011. Commentary: The Kids Are (Mostly) Alright: Second-Generation Assimilation: Comments on Haller, Portes and Lynch. *Social Forces* 89: 763–73.
- Bachmeier, James D., Jennifer Van Hook, and Frank D. Bean. Forthcoming. Can We Measure Immigrants' Legal Status? Lessons from Two U.S. Surveys. *International Migration Review*.
- Baker, Elizabeth, Kelly S. Balistreri, and Jennifer Van Hook. 2009. Maternal Employment and Overweight among Hispanic Children of Immigrants and Children of Natives. *Journal of Immigrant and Minority Health* 11 (3): 158–67.
- Balistreri, Kelly S. and Jennifer Van Hook. 2009. Socioeconomic Status and Body Mass Index among Hispanic Children of Immigrants and Children of Natives. *American Journal of Public Health* 99 (12): 2238–46.
- Barker, David J. 2004. The Developmental Origins of Adult Disease. *Journal of the American College of Nutrition* 23 (6 Suppl): 588S–95S.
- Bauman, Laurie J., Ellen J. Silver, and Ruth E. K. Stein. 2006. Cumulative Social Disadvantage and Child Health. *Pediatrics* 117 (4): 1321–28.
- Bean, Frank D., James D. Bachmeier, Susan K. Brown, Jennifer Van Hook, and Mark Leach. *Marginal Mexican Migration to the United States: Its Nature, Extent and Implications for Immigrant Integration*. Chapter under preparation for Russell Sage Foundation 2010 Census Project Volume.
- Blackorby, Jose and Mary Wagner. 1996. Longitudinal Postschool Outcomes of Youth with Disabilities: Findings from the National Longitudinal Transition Study. *Exceptional Children* 62: 399–414.
- Bloom, Barbara, Robin A. Cohen, and Gulnur Freeman. 2011. Summary Health Statistics for US Children: National Health Interview Survey, 2010. *Vital and Health Statistics* 10 (250): 1–89.
- Blumenthal, Susan J. 2002. A Public Health Approach to Decreasing Obesity. *Journal of the American Medical Association* 288: 2178.
- Borjas, George. 2007. *Mexican Immigration to the United States*. Chicago: University of Chicago Press.
- Brooks-Gunn, Jeanne and Greg J. Duncan. 1997. The Effects of Poverty on Children. *The Future of Children* 7 (2): 55–71.
- Capps, Randy, Michael Fix, Jason Ost, Jane Reardon-Anderson, and Jeffrey S. Passel. 2004. *The Health and Well-Being of Young Children of Immigrants*. Washington, DC: Urban Institute. www.urban.org/UploadedPDF/311139_Childrenimmigrants.pdf.
- Capps, Randy, Rosa Maria Castañeda, Ajay Chaudry, and Robert Santos. 2007. *Paying the Price: The Impact of Immigration Raids on America's Children*. Washington, DC: Urban Institute. www.urban.org/publications/411566.html.
- Carter, Robert. 2002. The Impact of Public Schools on Childhood Obesity. *Journal of the American Medical Association* 288: 2180.
- Case, Anne, Angela Fertig, and Christina Paxson. 2005. The Lasting Impact of Childhood Health and Circumstance. *Journal of Health Economics* 24 (2): 365–89.
- Case, Anne and Christina H. Paxson. 2006. Children's Health and Social Mobility. *The Future of Children* 16(2): 151-173.



- Case, Anne, Darren Lubotsky, and Christina Paxson. 2002. Economic Status and Health in Childhood: The Origins of the Gradient. *The American Economic Review* 92 (5): 1308–34.
- Cawley, John. 2004. The Impact of Obesity on Wages. *Journal of Human Resources* 39: 451–74.
- Centers for Disease Control and Prevention. 2012. *Defining Overweight and Obesity*, vol. 2012. Atlanta, GA: Centers for Disease Control and Prevention.
- Chaudry, Ajay and Karina Fortuny. 2010. Children of Immigrants: Economic Well-Being. Brief no. 4, Urban Institute, Washington, DC. www.urban.org/publications/412270.html.
- Cheah, Charissa and Jennifer Van Hook. 2012. Chinese and Korean Immigrants' Early Life Deprivation: An Important Factor for Child Feeding Practices and Children's Body Weight in the United States. *Social Science and Medicine* 74 (5): 744–52.
- Chilton, Mariana, Maureen M. Black, Carol Berkowitz, Patrick H. Casey, John Cook, Diana Cutts, Ruth Rose Jacobs, Timothy Heeren, Stephanie Ettinger de Cuba, Sharon Coleman, Alan Meyers, and Deborah A. Frank. 2009. Food insecurity and risk of poor health among US-born children of immigrants. *American Journal of Public Health* 99(3): 556–62.
- Crosnoe, Robert. 2006. Health and the Education of Children from Racial/Ethnic Minority and Immigrant Families. *Journal of Health and Social Behavior* 47 (1): 77–93.
- _____. 2013. *Preparing the Children of Immigrants for Early Academic Success*. Washington, DC: Migration Policy Institute. www.migrationpolicy.org/pubs/COI-EarlyAcademicSuccess.pdf.
- Currie, Janet and Wanchuan Lin. 2007. Chipping Away At Health: On the Relationship between Income and Child Health. *Health Affairs* 26 (2): 1–14.
- Datar, Ashlesha, Roland Sturm, and Jennifer L. Magnabosco. 2004. Childhood Overweight and Academic Performance: National Study of Kindergartners and First-Graders. *Obesity Research* 12: 58–68.
- Davis, Adam M., Richard Kreutzer, Michael Lipsett, Galatea King, and Nazerah Shaikh. 2006. Asthma Prevalence in Hispanic and Asian American Ethnic Subgroups: Results from the California Healthy Kids Survey. *Pediatrics* 118 (2): 363–70.
- Deckelbaum, Richard J. and Christine L. Williams. 2001. Childhood Obesity: The Health Issue. *Obesity Research* 9: S239–S243.
- Department of Homeland Security (DHS). 2011. *Yearbook of Immigration Statistics: 2011*. Washington, DC: Office of Immigration Statistics, DHS. www.dhs.gov/yearbook-immigration-statistics-2011-1.
- Derose, Kathryn Pitkin, José J Escarce, and Nicole Lurie. 2007. Immigrants and Health Care: Sources of Vulnerability. *Health Affairs (Project Hope)* 26 (5): 1258–68.
- DeVoe, Jennifer E., Carrie J. Tillotson, Lorraine S. Wallace, Sarah E. Lesko, and Heather Angier. 2012. The Effects of Health Insurance and a Usual Source of Care on a Child's Receipt of Health Care. *Journal of Pediatric Health Care* 26 (5): e25–e35.
- Dietz, William. 1998. Health Consequences of Obesity in Youth: Childhood Predictors of Adult Disease. *Pediatrics* 101: 518–25.
- Dreby, Joanna. 2010. *Divided by Borders*. Berkeley, CA: University of California Press.
- Eldeirawi, Kamal, Rob McConnell, Sally Freels, and Victoria W. Persky. 2005. Associations of Place of Birth with Asthma and Wheezing in Mexican American Children. *Journal of Allergy and Clinical Immunology* 116: 42–8.



- Elovainio, Marco, Jane E. Ferrie, Archana Singh-Manoux, Martin Shipley, G. David Batty, Jenny Head, Mark Hamer, Markus Jokela, Marianna Virtanen, Eric Brunner, Michael G. Marmot, and Mika Kivimäki. 2011. Socioeconomic Differences in Cardiometabolic Factors: Social Causation or Health-related Selection? Evidence From the Whitehall II Cohort Study, 1991-2004. *American Journal of Epidemiology* 174 (7): 779–89.
- Felitti, Vincent J., Robert F. Anda, Dale Nordenberg, David F. Williamson, Alison M. Spitz, and Valerie Edwards. 1998. Relationship of Childhood Abuse and Household Dysfunction to Many of the Leading Causes of Death in Adults. The Adverse Childhood Experiences (ACE) Study. *American Journal of Preventive Medicine* 14 (4): 245–58.
- Ferraro, Kenneth F. and Jessica Kelley-Moore. 2003. Cumulative Disadvantage and Health: Long-Term Consequences of Obesity. *American Sociological Review* 68: 707–29.
- Finkelstein, Jonathan A., Randall W. Brown, Lynda C. Schneider, Scott T. Weiss, Jose M. Quintana, Donald A. Goldmann, and Charles J. Homer. 1995. Quality of Care for Preschool Children with Asthma: The Role of Social Factors and Practice Setting. *Pediatrics* 95 (3): 389–94.
- Fix, Michael and Jeffrey S. Passel. 2002. *The Scope and Impact of Welfare Reform's Immigrant Provisions*. Washington, DC: Urban Institute. www.urban.org/publications/410412.html.
- Fix, Michael and Wendy Zimmerman. 2001. All under One Roof: Mixed-Status Families in an Era of Reform. *International Migration Review* 35: 397–419.
- Flores, Glenn, Elena Fuentes-Afflick, Oxiris Barbot, Olivia Carter-Pokras, Luz Claudio, Marielena Lara, Jennie A. McLaurin, Lee Pachter, Francisco Ramos Gomez, Fernando Mendoza, R. Burciaga Valdez, Antonia M. Villarruel, Ruth E. Zambrana, Robert Greenberg, and Michael Weitzman. 2002. The Health of Latino Children: Urgent Priorities, Unanswered Questions, and a Research Agenda. *Journal of the American Medical Association* 288 (1): 82–91.
- Fortuny, Karina, Randolph Capps, Margaret Simms, and Ajay Chaudry. 2009. Children of Immigrants: National and State Characteristics. Brief 9, Urban Institute, Washington, DC. www.urban.org/publications/411939.html.
- Fried, Ellen J. and Marion Nestle. 2002. The Growing Political Movement against Soft Drinks in Schools. *Journal of the American Medical Association* 288: 2181.
- Fryar, Cheryl D., Margaret D. Carroll, and Cynthia L. Ogden. 2012. Prevalence of Obesity Among Children and Adolescents: United States, Trends 1963–1965 through 2009–2010. Division of Health and Nutrition Examination Surveys, National Center for Health Statistics, Washington, DC. www.cdc.gov/nchs/data/hestat/obesity_child_09_10/obesity_child_09_10.pdf.
- Gordon, Milton. 1964. *Assimilation in American Life: The Role of Race, Religion, and National Origins*. New York: Oxford University Press.
- Gordon-Larsen, Penny, Kathleen Harris, Dianne S. Ward, and Barry M. Popkin. 2003. Acculturation and Overweight-Related Behaviors among Hispanic Immigrants to the US: The National Longitudinal Study of Adolescent Health. *Social Science and Medicine* 57 (11): 2023–34.
- Haas, Steven A. 2007. The Long-Term Effects of Poor Childhood Health: An Assessment and Application of Retrospective Reports. *Demography* 44 (1): 113–35.
- Haller, William, Alejandro Portes, and Scott M. Lynch. 2011. Dreams Fulfilled, Dreams Shattered: Determinants of Segmented Assimilation in the Second Generation. *Social Forces* 89: 733–62.
- Hamilton, Erin, Julien Teitler, and Nancy Reichman. 2011. Mexican American Birth Weight and Child Overweight: Unraveling a Possible Early Life Course Health Transition. *Journal of Health and Social Behavior* 52 (3): 333–48.



- Hamilton, Erin, Jodi Berger Cardoso, Robert A. Hummer, and Yolanda C. Padilla. 2011. Assimilation and Emerging Health Disparities among New Generations of US Children. *Demographic Research* 25: 783–818.
- Hernandez, Donald J. and Evan Charney, eds. 1998. *From Generation to Generation: The Health and Well-Being of Children in Immigrant Families*. Washington, DC: National Academy Press.
- Hertzman, Clyde and William T. Boyce. 2010. How Experience Gets Under the Skin to Create Gradients in Developmental Health. *Annual Review of Public Health* 31: 329–47.
- Hoilette, Leesha K., Sarah J. Clark, Achamyeleh Gebremariam, and Matthew M. Davis. 2009. Usual Source of Care and Unmet Need among Vulnerable Children: 1998–2006. *Pediatrics* 123 (2): e214–e219.
- Hummer, Robert A., Monique Biegler, Peter B. De Turk, Douglas Forbes, W. Parker Frisbie, Ying Hong, and Starling G. Pullum. 1999. Race/Ethnicity, Nativity, and Infant Mortality in the United States. *Social Forces* 77 (3): 1083–117.
- Jackson, Margot I., Kathleen Kiernan, and Sara McLanahan. 2012. Immigrant-Native Differences in Child Health: Does Maternal Education Narrow or Widen the Gap? *Child Development* 83 (5): 1501–09.
- Jargowsky, Paul. 2009. Immigrants and Neighborhoods of Concentrated Poverty: Assimilation or Stagnation? *Journal of Ethnic and Migration Studies* 35: 1129–51.
- Kandel, William and Emilio A. Parrado. 2005. Industrial Restructuring and New Rural Hispanic Migration: The Case of the US Meat Processing Industry. *Population and Development Review* 31 (3): 447–71.
- Kandula, Namratha R., Margaret Kersey, and Nicole Lurie. 2004. Assuring the Health of Immigrants: What the Leading Health Indicators Tell Us. *Annual Review of Public Health* 25: 357–76.
- Ku, Leighton. 2009. Restoring Medicaid and SCHIP Coverage to Legal Immigrant Children and Pregnant Women: Implications for Community Health and Health Care for Tomorrow’s Citizens. Geiger Gibson /RCHN Community Health Foundation Research Collaborative Policy Research Brief no. 7, The George Washington University, School of Public Health and Health Services, Department of Health Policy, Washington, DC. http://sphhs.gwu.edu/departments/healthpolicy/CHPR/downloads/SCHIP-MedicaidDoc_01-14-2009.pdf.
- Ku, Leighton and Mariellen Jewers. 2013. *Health Care for Immigrant Families: Current Policies and Issues*. Washington, DC: Migration Policy Institute. www.migrationpolicy.org/pubs/COI-HealthCare.pdf.
- Ku, Leighton and Sheethal Matani. 2001. Left Out: Immigrants’ Access to Health Care And Insurance. *Health Affairs* 20 (1): 247–56.
- Kuh, Diana and Yoav Ben-Shlomo Y. 2004. *A Life Course Approach to Chronic Disease Epidemiology*. New York: Oxford University Press.
- Landale, Nancy S., R. Salvador Oropesa, and Christina Bradatan. 2006. Hispanic Families in the United States: Family Structure and Process in an Era of Family Change. In *Hispanics and the Future of America*, eds. Marta Tienda and Faith Mitchell, 138–78. Washington, DC: National Academy Press.
- Landale, Nancy S., R. Salvador Oropesa, and Bridget K. Gorman. 1999. Immigration and Infant Health: Birth Outcomes of Immigrant and Native Women. In *Children of Immigrants: Health, Adjustment, and Public Assistance*, ed. Donald J. Hernandez. Washington, DC: National Academy Press.
- Lara, Marielena, Cristina Gamboa, M. Iya Kahramanian, Leo S. Morales, and David E. Hayes Bautista. 2005. Acculturation and Latino Health in the United States: A Review of the Literature and its Sociopolitical Context. *Annual Review of Public Health* 26: 367–97.



- Lara, Marielena, Lara Akinbami, Glenn Flores, and Hal Morgenstern. 2006. Heterogeneity of Childhood Asthma among Hispanic Children: Puerto Rican Children Bear a Disproportionate Burden. *Pediatrics* 117 (1): 43–53.
- Lestina, Frederic Allen. 2003. *Analysis of the Linguistically Isolated Population in Census 2000*. Final Report. Washington, DC: US Census Bureau. www.census.gov/pred/www/rpts/A.5a.pdf.
- Link, Bruce G. and Jo Phelan. 1995. Social Conditions as Fundamental Causes of Disease. *Journal of Health and Social Behavior* 35 (Extra Issue): 80–94.
- Markides, Kariakos S. and Jeannine Coreil. 1986. The Health of Hispanics in the Southwestern United States: An Epidemiologic Paradox. *Public Health Reports* 101: 253–65.
- Martin, Joyce A., Brady E. Hamilton, Stephanie J. Ventura, Michelle J. K. Osterman, Elizabeth Wilson, and T. J. Matthews. 2012. Births: Final Data for 2010. *National Vital Statistics Reports* 61 (1): 1–72.
- Mohanty, Sarita A., Steffie Woolhandler, David U. Himmelstein, Susmita Pati, Olveen Carrasquillo, and David H. Bor. 2005. Health Care Expenditures of Immigrants in the United States: A Nationally Representative Analysis. *American Journal of Public Health* 95 (8): 1431–38.
- National Research Council and Institute of Medicine. 2004. *Children's Health, The Nation's Wealth: Assessing and Improving Child Health*. Washington, DC: The National Academies Press.
- Ogden, Cynthia L., Margaret D. Carroll, Lester R. Curtin, Molly M. Lamb, Katherine M. Flegal. 2010. Prevalence of High Body Mass Index in US Children and Adolescents, 2007–2008. *Journal of the American Medical Association* 303 (3): 242–49.
- Olshansky, Jay S., Douglas J. Passaro, Ronald C. Hershov, Jennifer Layden, Bruce A. Carnes, Jacob Brody, Leonard Hayflick, Robert N. Butler, David B. Allison, and David S. Ludwig. 2005. A Potential Decline in Life Expectancy in the US in the 21st Century. *Obstetrical and Gynecological Survey* 60: 450–52.
- Padilla, Yolanda C., Jason D. Boardman, Robert A. Hummer, and Marilyn Espitia. 2002. Is the Mexican American “Epidemiologic Paradox” Advantage at Birth Maintained through Early Childhood? *Social Forces* 80 (March): 1101–23.
- Palloni, Alberto. 2006. Childhood Health and the Reproduction of Inequalities. *Demography* 43: 587–615.
- Passel, Jeffrey S. 2006. *Size and Characteristics of the Unauthorized Migrant Population in the U.S.* Washington, DC: Pew Hispanic Center. www.pewhispanic.org/2006/03/07/size-and-characteristics-of-the-unauthorized-migrant-population-in-the-us/.
- Perreira, Krista M. and India J. Ornelas. 2011. The Physical and Psychological Well-Being of Immigrant Children. *The Future of Children* 21 (1): 195–218.
- Perreira, Krista M., Robert Crosnoe, Karina Fortuny, Juan Manuel Pedroza, Kjersti Ulvestad, Christina Weiland, and Hirokazu Yoshikawa, and Ajay Chaudry. 2012. Barriers to Immigrants’ Access to Health and Human Services Programs. ASPE Research Brief, Assistant Secretary for Planning and Evaluation, US Department of Health and Human Services, Washington, DC. <http://aspe.hhs.gov/hsp/11/ImmigrantAccess/Barriers/rb.shtml>.
- Popkin, Barry M. and Richard J. Udry. 1998. Adolescent Obesity Increases Significantly in Second and Third Generation US Immigrants: The National Longitudinal Study of Adolescent Health. *Journal of Nutrition* 128: 701–06.
- Portes, Alejandro and Rubén G. Rumbaut. 2006. *Immigrant America: A Portrait*, 3rd ed. Berkeley: University of California Press.



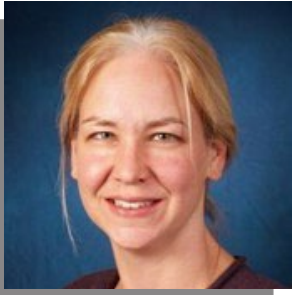
- Portes, Alejandro and Min Zhou. 1993. The New Second Generation: Segmented Assimilation and its Variants. *Annals of the American Academy of Political and Social Science* 530: 74–96.
- Räikkönen, Katri, Marius Lahti, Kati Heinonen, Anu-Katriina Pesonen, Kristian Wahlbeck, Eero Kajantie, Clive Osmond, David Barker, and Johan Eriksson. 2011. Risk of Severe Mental Disorders in Adults Separated Temporarily from their Parents in Childhood: The Helsinki Birth Cohort Study. *Journal of Psychiatric Research* 45 (3): 332–38.
- Ruggles, Steven J., Trent Alexander, Katie Genadek, Ronald Goeken, Matthew B. Schroeder, and Matthew Sobek. 2012. *Integrated Public Use Microdata Series: Version 5.0* [Machine-readable database]. Minneapolis: University of Minnesota.
- Rumbaut, Rubén. 1997. Ties That Bind: Immigration and Immigrant Families in the United States. In *Immigration and the Family: Research and Policy on US Immigrants*, eds. Alan Booth, Ann C. Crouter, and Nancy Landale, 3–46. Mahwah, New Jersey: Lawrence Erlbaum Associates.
- Satia-Abouta, Jessie, Ruth E. Patterson, Marian L. Neuhouser, and John Elder. 2002. Dietary Acculturation: Applications to Nutrition Research and Dietetics. *Journal of the American Dietetic Association* 102: 1105–18.
- Schafer, Markus and Kenneth F. Ferraro. 2007. Obesity and Hospitalization over the Adult Life Course: Does Duration of Exposure Increase Use? *Journal of Health and Social Behavior* 48: 434–49.
- Shonkoff Jack P., William T. Boyce, and Bruce S. McEwen. 2009. Neuroscience, Molecular Biology, and the Childhood Roots of Health Disparities: Building a New Framework for Health Promotion and Disease Prevention. *Journal of the American Medical Association* 301 (21): 2252–59.
- Sobal, Jeffery and Albert J. Stunkard. 1989. Socioeconomic-Status and Obesity: A Review of the Literature. *Psychological Bulletin* 105: 260–75.
- Soto-Martinez, Manuel and Peter D. Sly. 2010. What Goes Around Comes Around: Childhood Influences on Later Lung Health? Relationship between Environmental Exposures in Children and Adult Lung Disease: The Case for Outdoor Exposures. *Chronic Respiratory Disease* 7 (3): 173–86.
- Stepick, Alex and Carol Dutton Stepick. Diverse Contexts of Reception and Feelings of Belonging. *Forum: Qualitative Social Research* 10 (3): Art. 15. www.qualitative-research.net/index.php/fqs/article/view/1366/2863.
- Strauss, Richard S. and Harold A. Pollack. 2003. Social Marginalization of Overweight Children. *Archives of Pediatrics and Adolescent Medicine* 157: 746–52.
- Suárez-Orozco, Carola, Hirokazu Yoshikawa, Robert T. Teranishi, and Marcelo M. Suárez-Orozco. 2011. Growing Up in the Shadows: The Developmental Implications of Unauthorized Status. *Harvard Educational Review* 81 (3): 438–72.
- Swallen, Karen C., Eric N. Reither, Steven A. Haas, and Ann M. Meier. 2005. Overweight, Obesity, and Health-Related Quality of Life among Adolescents: The National Longitudinal Study of Adolescent Health. *Pediatrics* 115: 340–47.
- Tabacchi, Garden, Santo Giammanco, Maurizio La Guardia, and Marco Giammanco. 2007. A Review of the Literature and a New Classification of the Early Determinants of Childhood Obesity: From Pregnancy to the First Years of Life. *Nutrition Research* 27: 587–604.
- Todd, Susan R. and Benjamin D. Sommers. 2012. Overview of the Uninsured in the United States: A Summary of the 2012 Current Population Survey Report. ASPE Issue Brief, Assistant Secretary for Planning and Evaluation, US Department of Health and Human Services, Washington, DC. <http://aspe.hhs.gov/health/reports/2012/UninsuredInTheUS/ib.shtml>.



- US Census Bureau. 2008. National Population Projections 2008. www.census.gov/population/projections/data/national/2008.html.
- US Department of Agriculture. 2012. Definitions of Food Security. www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/definitions-of-food-security.aspx.
- Van Hook, Jennifer and Elizabeth Baker. 2010. Big Boys, Little Girls: Gender, Acculturation, and Weight among Young Children of Immigrants. *Journal of Health and Social Behavior* 51: 200–14.
- Van Hook, Jennifer, Elizabeth Baker, and Claire Altman. 2009. Does it Begin at School or Home? The Institutional Origins of Overweight among Young Children of Immigrants. In *Immigration, Diversity, and Education*, eds. Elena L. Grigorenko and Ruby Takanishi, 205–24. New York: Routledge/Taylor and Francis Group.
- Van Hook, Jennifer, Elizabeth Baker, Claire E. Altman, and Michelle Frisco. 2012. Canaries in a Coalmine: Immigration and Overweight among Mexican-Origin Children in the US and Mexico. *Social Science and Medicine* 74: 125–34.
- Wallace, Steven P., Paula Leite, Xóchitl Castañeda, and Marc Schenker. 2009. Migration and Health: The Children of Mexican Immigrants in the US. Consejo Nacional de Población. http://coeh.ucdavis.edu/documents/2_CONAPO_The_Children_of_Mexican_Immigrants_in_the_US.pdf.
- Wildsmith, Elizabeth and Raley Kelly. 2006. Race-Ethnic Differences in Nonmarital Fertility: A Focus on Mexican American women. *Journal of Marriage and Family* 68: 491–508.
- Yoshikawa, Hirokazu and Ariel Kalil. 2011. The Effects of Parental Undocumented Status on the Developmental Contexts of Young Children in Immigrant Families. *Child Development Perspectives* 5 (4): 291–97.
- Yoshikawa, Hirokazu and Jenya Kholoptseva. 2013. *Unauthorized Immigrant Parents and their Children's Development: A Summary of the Evidence*. Washington, DC: Migration Policy Institute. www.migrationpolicy.org/pubs/COI-Yoshikawa.pdf.



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