

Food Insecurity and Risk of Poor Health Among US-Born Children of Immigrants

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In the United States, 20% of children younger than 6 years have immigrant parents, and this group is the fastest growing population of children in the United States.¹ Although 93% of children of immigrants are US citizens and are therefore eligible for federal assistance, such programs often do not reach these children, and as a result they are potentially vulnerable to food insecurity and poor health.² The health and well-being of this child population will have a strong impact on future health care and education systems in the United States, as well as the future productivity of the US workforce.

In comparison with households in which all members are US born, households with immigrants are at a highly elevated risk of household food insecurity.^{3–9} Food insecurity refers to lack of access to enough food for an active and healthy life for all household members because of financial constraints.¹⁰ In households experiencing food insecurity, not all members have access to enough food, and they may have reduced food intakes, consume poor-quality food, or have disrupted eating patterns. We and other researchers have found that among infants and toddlers aged 0 to 3 years, who are in the most sensitive period of brain growth and cognitive development, household food insecurity is related to reported fair or poor child health,¹¹ developmental risks,¹² and behavior problems.¹³ Household food insecurity has also been associated with reported poor health among older children,^{11,14–21} with adolescent and adult depression,^{14,22–26} and with low academic performance.^{24,27,28}

Among mothers, household food insecurity has been associated with a greater risk of mental health problems, including depressive symptoms¹⁴ and anxiety.^{13,29} In turn, maternal mental health problems have a negative effect on the health and well-being of children,^{30–35} including children of immigrants. For instance, among Mexican immigrants in the United States, maternal depressive symptoms and

Objectives. We investigated the risk of household food insecurity and reported fair or poor health among very young children who were US citizens and whose mothers were immigrants compared with those whose mothers had been born in the United States.

Methods. Data were obtained from 19275 mothers (7216 of whom were immigrants) who were interviewed in hospital-based settings between 1998 and 2005 as part of the Children's Sentinel Nutrition Assessment Program. We examined whether food insecurity mediated the association between immigrant status and child health in relation to length of stay in the United States.

Results. The risk of fair or poor health was higher among children of recent immigrants than among children of US-born mothers (odds ratio [OR]=1.26; 95% confidence interval [CI]=1.02, 1.55; $P<.03$). Immigrant households were at higher risk of food insecurity than were households with US-born mothers. Newly arrived immigrants were at the highest risk of food insecurity (OR=2.45; 95% CI=2.16, 2.77; $P<.001$). Overall, household food insecurity increased the risk of fair or poor child health (OR=1.74; 95% CI=1.57, 1.93; $P<.001$) and mediated the association between immigrant status and poor child health.

Conclusions. Children of immigrant mothers are at increased risk of fair or poor health and household food insecurity. Policy interventions addressing food insecurity in immigrant households may promote child health. (*Am J Public Health*. 2009;99:556–562. doi:10.2105/AJPH.2008.144394)

anxiety have been associated with child depressive symptoms and poor family functioning.³⁶

Most studies that have investigated associations between maternal and child health and food insecurity have not included immigrants or have controlled for immigrant status. In studies involving immigrants, assessments of the impact of duration of residence have not been possible because of small sample sizes. However, length of stay in the United States may be associated with both food security and child health. Longer length of residency has been shown to be related to increased acculturation and exposure to the diets, activities, and societal norms of United States citizens, resulting in health patterns that, over time, progressively resemble those of US citizens.³⁷ In addition, eligibility for public assistance programs such as the Food Stamp Program requires that immigrants not only provide legal documentation but also prove that they have been residents of the United States for at least 5 years.

Therefore, in health research among immigrants, it is important to consider length of stay as a factor in food insecurity.

We sought to investigate the risk of household food insecurity and reported fair or poor health among very young children who were US citizens and whose mothers were immigrants compared with children whose mothers were US born. Immigrant household outcomes were considered in terms of length of residence in the United States.

We tested 4 hypotheses linking immigrant status, food security, and reported child health. First, we hypothesized that children of immigrant mothers would have higher odds of reported fair or poor health than would children of US-born mothers. Second, we hypothesized that immigrant households would have higher odds of food insecurity than would households with US-born mothers. Third, we hypothesized that household food insecurity would be associated with an increased risk of

fair or poor child health, regardless of immigrant status. Finally, we hypothesized that food insecurity would mediate the association between immigrant status and reported fair or poor child health after we controlled for all covariates, including maternal depressive symptoms.

METHODS

Data were obtained from the Children's Sentinel Nutrition Assessment Program (C-SNAP), an ongoing multisite study investigating the relationship between public assistance participation and the well-being of mothers with children aged 0–3 years. Since 1998, C-SNAP study researchers have been interviewing caregivers of infants and toddlers in emergency departments and pediatric care clinics in 7 US cities: Baltimore, MD; Boston, MA; Little Rock, AR; Minneapolis, MN; Philadelphia, PA; Los Angeles, CA (data collection in Los Angeles ended in 2001); and Washington, DC (data collection in Washington, DC, ended in 2000). Interviewers were on site 4 to 7 days per week. They approached mothers of children 36 months or younger who were being seen for conditions that were not life threatening. A full description of the study methods can be found in Casey et al.¹⁴ (or see <http://www.c-snap.org>).

Sample

Women were eligible for the study if they were accompanying a noncritically ill child aged 0 to 36 months, spoke English or Spanish (or, in Minneapolis only, Somali), were knowledgeable about the child's household, and had not completed a C-SNAP interview within the previous 6 months. Children were weighed and measured and caregivers were interviewed in private settings. All of the participants received compensation for taking part in the study.

We excluded participants with private insurance coverage. Restricting our sample to Medicaid recipients and to those with no health insurance coverage helped us maintain a sample population that was financially all poor or near poor, thus eliminating wide variations in income and associated variables that might have influenced health outcomes. Data were collected from June 1998 to June 2005.

In preliminary analyses, participation rates in means-tested income support programs,

such as the Food Stamp Program and Temporary Assistance for Needy Families, were 5 times greater among mothers who received Medicaid or had no health insurance coverage than among those who had private health insurance. Mothers of children without private health insurance were 4 times more likely than were mothers of children with private health insurance to not have completed high school. These differences suggest that restricting the sample to children with public or no insurance coverage ensured that most of the participants were in low-income groups. Mothers born outside of the United States and Puerto Rico were categorized as immigrants. All infants and toddlers included in our study were US citizens.

Of the 27 269 women who were approached, 3065 (11.2%) were not interviewed because they did not speak English or Spanish (or Somali in Minneapolis), they did not have knowledge of the child's household, or they had been interviewed in the preceding 6 months. In addition, 1881 (6.9%) women refused to be interviewed, and 533 (2.0%) did not complete their interviews. Of the remaining 21 790 women, 2515 (11.5%) were excluded from the final sample because the family had private insurance coverage.

Instruments and Outcomes

The primary outcome measures were participants' assessments of their children's health and household food insecurity. Participants' reports of their children's overall health status, derived in a standard format from the Third National Health and Nutrition Examination Survey, were treated as a binary variable (excellent, very good, or good vs fair or poor).³⁸ Food insecurity, measured with the US Department of Agriculture's 18-question survey module, was categorized as a binary variable according to the standard procedure; that is, 3 or more affirmative responses to the survey's 18 items indicated that a household was food insecure.³⁹ This measure has been validated to reflect household food insecurity in multiple global regions and various linguistically different populations in the United States.^{40–42}

In January 2000, a validated 3-item maternal depressive symptom screen developed by Kemper and Babonis was integrated into the C-SNAP survey.⁴³ This 3-item screen has a

sensitivity of 100%, a specificity of 88%, and a positive predictive value of 66%. Mothers were considered to have depressive symptoms if they responded affirmatively to 2 of the 3 screening items. Because this measure was not integrated into C-SNAP until 2000, only 13 702 of the 19 275 respondents (and 4652 of the 7216 immigrant respondents) had data available on depressive symptoms.

Statistical Analyses

Bivariate associations between mother's place of birth and dichotomous outcomes (household food insecurity and reported child health status) were evaluated with the χ^2 test. Duration of residence was stratified into 3 categories: 0 to 5 years ("newly arrived"), 6 to 10 years, and 11 years or longer. These categories were selected because of the 5-year minimum residency necessary to receive food stamps in most states. The sample was generally evenly distributed across the 3 categories. We used the χ^2 test to measure bivariate associations between the 3 duration of stay categories and demographic variables.

Low-income mothers who had been born in the United States made up the reference group for comparisons across outcomes. Based on the results of the bivariate analyses, the variables we controlled in the regression analyses assessing reported child health and household food insecurity status were low birthweight (less than 2500 g), maternal educational level, maternal marital status, maternal age, and child breastfeeding status (ever breastfed; yes or no).

In our analyses, we followed Baron and Kelly's 4-step process for testing mediational hypotheses.⁴⁴ Initially, we examined the association between immigrant status and reported fair or poor child health in a logistic regression analysis after we controlled for covariates identified in our primary model. We then examined the association between immigrant status and food insecurity in a logistic regression analysis that controlled for covariates identified in our primary model.

Given that our recent research and that of others has shown that maternal depression is an important factor to consider in investigations of household food insecurity and child health,^{14,35,45} we assessed how maternal depressive symptoms might alter the results revealed in the first 2 models among the most

recent members of the sample (evaluated between 2000 and 2005), from whom data on depressive symptoms had been collected. We used the subsample of participants who completed the depression screening and controlled for maternal depression in the first 2 models. Because maternal depressive symptoms did not significantly affect the direction or magnitude of the odds ratios (ORs), we continued with the analysis including the full sample.

In the third step, we examined whether there was an association between food insecurity and poor health. Finally, we investigated whether the association between immigrant status and poor child health declined after food insecurity was controlled. As part of this fourth step, we used the Sobel test for mediation to formally examine whether the decline in association was significant.⁴⁶

RESULTS

Sample Characteristics

Immigrant mothers' places of birth varied according to study site. Table 1 displays the countries of birth most prevalent in the C-SNAP sample. Fifty-seven percent of the immigrant sample consisted of women from the Americas, including Mexico, Central America, and the Caribbean.

Demographic characteristics differed substantially between immigrant and US-born mothers. A larger percentage of immigrants than US-born mothers were married (60% vs 25%; $P<.001$), had not completed high school (48% vs 32%; $P<.001$), and were older on average (27.8 years vs 25.6 years; $P<.001$; Table 2). Children of immigrant mothers were more likely to be breastfed and less likely to have weighed below 2500 g at birth than children of US-born mothers.

Rates of participation in the principal public assistance programs also varied. The greatest difference between immigrant and US-born mothers was their participation in the Food Stamp Program. Food stamp participation among US-born mothers was twice that of immigrants (49% vs 23%; $P<.001$), whereas US-born mothers were less likely than immigrants (78% vs 87%; $P<.001$) to participate in the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC).

Unadjusted Outcomes

Unadjusted analyses showed that, in comparison with US-born mothers, immigrant mothers reported significantly higher rates of household food insecurity (35% vs 16%; $P<.001$) and fair or poor child health (14% vs 12%; $P<.001$). The prevalence of depressive

symptoms was significantly lower among immigrant mothers than among US-born mothers (28% vs 40%; $P<.001$).

Background characteristics varied according to immigrant mothers' length of US residence (Table 3). The mean age of immigrant mothers who had been in the United States for more than 10 years was significantly higher than the mean age of newly arrived immigrant mothers (30.1 years vs 26.4 years; $P<.001$). In addition, immigrant mothers with more than 10 years of US residence were more likely than newly arrived mothers to have completed education beyond high school (27% vs 18%; $P<.001$). Rates of receipt of food stamps or WIC benefits did not differ significantly according to length of residence. Unadjusted results with respect to well-being indicators demonstrated that whereas food insecurity decreased with longer durations of residence, maternal depressive symptoms increased. There were no significant differences in perceived child health based on duration of residence.

Multivariate Analyses

We initially tested the hypothesis that children with low-income immigrant mothers would have higher odds of reported fair or poor health than would children with US-born mothers. Children of immigrants who had been in the United States for 10 years or less had greater odds of reported fair or poor health than children of US-born mothers (for both immigrants who had been in the United States for 0–5 years and immigrants who had been in the United States for 6–10 years, OR=1.27; 95% confidence interval [CI]=1.07, 1.49; $P=.01$ and OR=1.26; 95% CI=1.05, 1.51; $P=.02$). The adjusted odds of reported fair or poor health among children of immigrants who had been in the United States longer than 10 years were not significantly different from those among children of US-born mothers. All immigrant households were at significantly higher risk of food insecurity than were households with US-born mothers (for immigrants who had been in the United States for 0–5 years, OR=2.45; for those who had been in the United States 6–10 years, OR=2.11; and for those who had been in the United States 11 or more years, OR=1.44; for all, $P<.001$; Table 4).

TABLE 1—Most Prevalent Immigrant Countries of Origin, by Study Site: Children's Sentinel Nutrition Assessment Program, 1998–2005

Country	Immigrants in Sample, No. (%)	Data Collection Site						
		Baltimore, MD, %	Boston, MA, %	Little Rock, AR, %	Los Angeles, CA, %	Minneapolis, MN, %	Washington, DC, %	Philadelphia, ^a PA, %
Cape Verde	272 (4)	0	99	0	0	<1	0	0
Dominican Republic	272 (4)	0	87	<1	0	1	11	1
Ecuador	216 (3)	0	3	0	2	91	3	0
El Salvador	657 (9)	0	21	0	10	5	64	0
Guatemala	177 (2)	1	29	3	39	13	16	0
Haiti	551 (8)	0	100	0	0	<1	0	0
Jamaica	156 (2)	3	93	0	2	2	1	0
Mexico	2726 (37)	<1	1	1	32	63	2	<1
Somalia	670 (9)	0	5	<1	0	95	0	0
All others	1519 (21)	2	62	2	9	19	5	1

Note. Percentages rounded to the nearest whole number. Total sample size was $n=7216$; for Baltimore, $n=37$; for Boston, $n=2315$; for Little Rock, $n=85$; for Los Angeles, $n=1150$; for Minneapolis, $n=2910$; for Washington, DC, $n=676$; for Philadelphia, $n=43$.

^aData collection began in January 2005.

TABLE 2—Characteristics of US-Born and Immigrant Mothers and Children (N=19 275): Children's Sentinel Nutrition Assessment Program, 1998–2005

	US-Born Mothers, Mean (SD) or %	Immigrant Mothers, Mean (SD) or %	P
Mother's age, y	25.6 (7.03)	27.8 (6.43)	<.001
Mother married	25	60	<.001
Race/ethnicity			<.001
Black	65	32	
Latino	13	63	
White	20	2	
Length of residence in US, y	...	7.5 (6.00)	...
Maternal educational level			<.001
Less than high school	32	48	
High school or equivalent	43	32	
College	25	20	
Maternal health insurance coverage			<.001
Public coverage	92	86	
No coverage	8	14	
Child age, mo	12.7 (9.83)	11.5 (9.84)	<.001
Low birthweight	15	10	<.001
Breastfed	37	82	<.001
Household participation in public assistance			
TANF	35	17	<.001
Food stamps	49	23	<.001
WIC	78	87	<.001
Unadjusted health outcomes			
Household food insecurity	16	35	<.001
Reported fair or poor child health	12	14	<.001
Maternal depressive symptoms ^a	40	28	<.001

Note. TANF = Temporary Assistance for Needy Families; WIC = Special Supplemental Nutrition Program for Women, Infants, and Children. For US-born mothers, n=12 059; for immigrant mothers, n=7216.

^aThis instrument was added in January 2000. The total sample that was assessed with this instrument was n=13 702.

In an analysis restricted to mothers who had been recruited after 2000, and for whom data were therefore available on depressive symptoms, we tested the study hypotheses while also controlling for symptoms of depression. The results did not change appreciably.

We then tested the relationship between food insecurity and reported poor child health. An examination of the study participants as a whole indicated that children in households with food insecurity had significantly higher odds of reported fair or poor health (OR=1.74, $P<.001$) after immigrant status and other covariates were controlled.

We next controlled for food insecurity, and the ORs for immigrant status and reported fair or poor child health declined from 1.26

($P<.01$) to 1.15 ($P=.12$) among immigrants who had been in the United States for 0 to 5 years, from 1.26 ($P<.02$) to 1.15 ($P=.15$) among immigrants who had been in the United States for 6 to 10 years, and from 1.05 ($P=.65$) to 1.01 ($P=.93$) among immigrants who had been in the United States for 11 or more years.

We used the Sobel test to investigate whether the declines we observed in the ORs when food insecurity was included as a mediator of the relationship between immigrant status and reported fair or poor child health were significant. Results showed that food insecurity was a significant mediator of the increased odds of fair or poor child health among immigrants who had been in the United

States for 0 to 5 years ($z=8.55$, $P<.001$) and 6 to 10 years ($z=7.49$, $P<.001$).

DISCUSSION

Despite positive factors (e.g., increased breastfeeding rates, reduced rates of low birthweight, and 2-parent families) that should have decreased the risk of perceived poor child health among the immigrant families in this study, we found that US-born children of immigrant mothers who had been in the United States 10 years or less were at increased risk of poor health relative to children of US-born mothers. This apparent paradox suggests that, notwithstanding these indicators of well-being, low-income immigrant families often may lack the nutritional and other resources necessary to protect their children's health.

Our results showed that food insecurity risks varied in our immigrant sample. Low-income mothers who had lived in the United States for more than 10 years were at significantly lower risk of household food insecurity than were newly arrived immigrants. Odds of household food insecurity decreased in accordance with women's length of residence in the United States. Other studies also have suggested that food insecurity or insufficiency decreases the longer an immigrant family remains in the United States.^{7,47,48}

However, households with immigrant mothers who had been in the country for 11 years or more were still at a higher risk of food insecurity than were households with US-born mothers. Immigrants who had been in the United States for more than 11 years may have had more exposure to the US education system than did newly arrived immigrants, and better English-language skills as well. These factors, in turn, may have protected such families from vulnerability associated with food insecurity and poor child health as a result of their greater potential earnings or awareness of and access to public assistance programs.^{2,49}

In our subanalyses focusing on depression, we found that controls for depressive symptoms made little difference in the adjusted odds ratios and their level of significance. Overall, rates of depressive symptoms were significantly lower among immigrant mothers than among US-born mothers. Lower rates of depressive

TABLE 3—Characteristics of Immigrant Mothers and Children (n = 6744), by Duration of Maternal Residence in the United States: Children's Sentinel Nutrition Assessment Program, 1998–2005

	Residing in US 0–5 Years, Mean (SD) or %	Residing in US 6–10 Years, Mean (SD) or %	Residing in US ≥ 11 Years, Mean (SD) or %	P
Mother's age, y	26.41 (6.03)	28.08 (5.88)	30.05 (7.04)	<.001
Mother married	62	62	55	<.001
Race/ethnicity				<.001
Black	31	30	37	
Latino	64	65	56	
White	2	2	3	
Maternal educational level				<.001
Less than high school	51	52	39	
High school or equivalent	30	32	34	
College	18	16	27	
Maternal health insurance coverage				<.003
Public coverage	88	86	84	
No coverage	12	14	16	
Child age, mo	10.20 (9.35)	12.44 (10.15)	13.15 (10.23)	<.001
Low birthweight	10	8	11	<.001
Breastfed	86	83	75	<.001
Household participation in public assistance				
TANF	18	15	18	<.02
Food stamps	23	23	23	<.88
WIC	86	88	86	<.15
Unadjusted health outcomes				
Household food insecurity	40	35	25	<.001
Reported fair or poor child health	14	15	14	<.32
Maternal depression ^a	28	27	32	<.001

Note. TANF = Temporary Assistance for Needy Families; WIC = Special Supplemental Nutrition Program for Women, Infants, and Children. We excluded 472 immigrants with missing information on duration of residence from the analyses. For mothers residing in the United States 0–5 years, n = 3202; for mother residing in the United States 6–10 years, n = 1897; for mothers residing in the United States ≥ 11 years, n = 1645.

^aThis instrument was added in January 2000. The total sample that was assessed with this instrument was n = 4652.

symptoms among immigrants have also been reported in the literature on immigrant maternal well-being.^{36,50}

Our results show that the association between immigrant status and reported fair or poor health among children is mediated by household food insecurity. Thus, household food insecurity plays a key role in the relationship between immigrant status and poor health.

Limitations

Although statistical mediation can be observed in our data, causal relationships between household food insecurity and poor

health among children cannot be inferred from these data because of the cross-sectional study design. Child health status was assessed according to parent reports and may have been subject to recall bias, shared method bias (where reported child health and food insecurity were both reported from the caregiver's perspective), or cultural differences in reporting on child health status.^{51,52}

In addition, our immigrant sample was not representative of the US immigrant population as a whole, and some of the experiences of the sample may have represented certain areas of the United States and not others. Moreover, the sentinel sampling technique used by C-SNAP

may have introduced bias that potentially overestimated national trends in immigrant household food insecurity. Immigrants were from countries varying in sociodemographic characteristics and in immigration-related circumstances; thus, important country and ethnic differences may have been clouded. Although our analyses were restricted to families without private health insurance coverage, selection bias may have occurred in that children of newly arrived immigrants who seek care from pediatric facilities may be more severely ill than are children of US-born mothers because immigrant mothers have fewer sources of health care or may have delayed seeking treatment.

Conclusions

Our results showed that, despite better overall health indices at birth, young children who are US citizens and whose mothers are recent immigrants are at greater risk for food insecurity and for reported fair or poor health than are young children of US-born mothers. Although women who had lived in the United States for more than 10 years were at a lower risk of household food insecurity than were newly arrived immigrants, the risk for all immigrants, regardless of their duration of residence, was significantly higher than that among households with US-born mothers.

Increased odds of food insecurity and poor health among children of immigrants, who represent the fastest growing US child population, raise concerns about future difficulties associated with development, socioemotional status, and school performance that could be passed on to the next generation of US-born children. Elevated rates of food insecurity are an indication that immigrant families and their young children face preventable health risks that may jeopardize children's ability to achieve in school, develop to their full potential, and contribute to the future economy as productive workers.

Our findings may signal the need for a reassessment of current policies toward immigrants, especially those newly arrived in the country. In cases in which children are at increased risk of poor health, policies restricting immigrant families' access to health care and public health insurance⁵³ may have serious effects on this already vulnerable population. Childhood health status affects not only health

TABLE 4—Results of Multiple Logistic Regression on Household Food Insecurity and Reported Child Health: Children’s Sentinel Nutrition Assessment Program, 1998–2005

	AOR (95% CI)	P
Model 1: fair or poor child health (n=17451)		
US born (Ref)	1.00	
Immigrant length of residence, y		
0-5	1.26 (1.07, 1.49)	.01
6-10	1.26 (1.05, 1.51)	.02
≥11	1.05 (0.87, 1.26)	.65
Model 1a: subanalysis of fair or poor child health^a (n=12527)		
US born (Ref)	1.00	
Immigrant length of residence, y		
0-5	1.26 (1.02, 1.55)	.03
6-10	1.33 (1.05, 1.67)	.02
≥11	1.18 (0.93, 1.49)	.17
Model 2: household food insecurity (n=17483)		
US born (Ref)	1.00	
Immigrant length of residence, y		
0-5	2.45 (2.16, 2.77)	<.001
6-10	2.11 (1.83, 2.42)	<.001
≥11	1.44 (1.24, 1.67)	<.001
Model 2a: subanalysis of household food insecurity^a (n=12544)		
US born (Ref)	1.00	
Immigrant length of residence, y		
0-5	2.66 (2.28, 3.10)	<.001
6-10	2.32 (1.95, 2.75)	<.001
≥11	1.56 (1.29, 1.87)	<.001
Model 3: food insecurity×poor health, with immigrant status controlled (n=17451)		
Food secure (Ref)	1.00	
Food insecure	1.74 (1.57, 1.93)	<.001
Model 4: fair or poor child health, with food insecurity controlled^b (n=17434)		
US born (Ref)	1.00	
Immigrant length of residence, y		
0-5	1.15 (0.97, 1.36)	.12
6-10	1.15 (0.95, 1.38)	.15
≥11	1.01 (0.83, 1.22)	.93

Note. AOR = adjusted odds ratio; CI = confidence interval. Analyses were adjusted for study site; race/ethnicity; maternal education, age, and marital status; child age, low birthweight, and breastfeeding; and household participation in the Food Stamp Program and the Special Supplemental Nutrition Program for Women, Infants, and Children. Analyses that controlled for self-reported symptoms of maternal depression (tested in a subsample of 12527 respondents) with the same covariates listed here showed similar results.

^aSubanalysis with maternal depressive symptoms controlled.

^bThe reduction in AORs for immigrants can be explained by significant mediation effects from immigration status to food security and fair or poor child health. Sobel test mediation values were 8.55 ($P < .001$) for immigrants with 0 to 5 years of residence and 7.49 ($P < .001$) for immigrants with 6 to 10 years of residence. The Sobel test required that there be an association between immigrant status and child health. Because there was no association between immigrant status and child health among immigrants who had been in the United States for more than 10 years, the Sobel test was not conducted for this immigrant group.

status later in life but also adult socioeconomic status.^{54,55} Therefore, immigration policies that directly or indirectly restrict access to safety net programs for children such as Medicaid, the

Food Stamp Program, and WIC may increase costs to the US medical system and may place the children affected at a further disadvantage by changing their potential trajectory for cognitive

development, adult health status, socioeconomic attainment, and productivity.

The majority of children in our sample began life with several health indices in their favor. Relative to children of low-income US-born mothers, children of immigrants were more likely to be born healthy, their mothers were less likely to report depression, they were more likely to have 2 parents, and they were more likely to have been breastfed. Sound policies and programs that improve support for immigrant caregivers, build on the momentum of children’s healthy beginnings, and increase children’s access to federal assistance programs, regardless of their mothers’ immigration status, could help prevent household food insecurity and poor health. ■

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