Health Status and Health Service Access and Use Among Children in U.S. Immigrant Families

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Objectives. We examined the health status and patterns of health care use of children in US immigrant families.

Methods. Data from the 1999 National Survey of America's Families were used to create 3 subgroups of immigrant children: US-born children with noncitizen parents, foreign-born children who were naturalized US citizens, and foreign-born children with noncitizen parents. Chi-square and logistic regression analyses were used to examine relationships between immigrant status and health access variables. Subgroup analyses were conducted with low-income families.

Results. Foreign-born noncitizen children were 4 times more likely than children from native families to lack health insurance coverage and to have not visited a mental health specialist in the preceding year. They were 40% and 80% more likely to have not visited a doctor or dentist in the previous year and twice as likely to lack a usual source of care. US-born children with noncitizen parents were also at a disadvantage in many of these aspects of care.

Conclusions. We found that, overall, children from immigrant families were in worse physical health than children from non-immigrant families and used health care services at a significantly lower frequency. (*Am J Public Health.* 2006;96: 634–640. doi:10.2105/AJPH.2004.049791)

Children of immigrant families have become the fastest growing and most ethnically diverse segment of the US child population. The 1990 US census revealed that about 15% of all children living in the United States were immigrant children or children of immigrant parentage.[1,2] Despite studies showing lower overall mortality and morbidity risks among immigrant than US-born infants, children, and adults,[3–9] children in immigrant families have been shown to fare less favorably on certain measures of well-being such as parent-reported health status.[2] Child birthplace and parental birthplace also have been found to affect insurance status and access to preventive health and dental services among US children and adolescents.[10,11]

In addition, children from immigrant households are more likely to live in poverty than children from non-immigrant households; a quarter of low-income children in the United States are members of immigrant families.[12–14] Also, most children living in immigrant households are members of minority groups, and thus they have reduced access to health care services compared with non-Hispanic White children.[15–17] Moreover, among poor families, the joint effects of foreign birthplace and lack of health insurance coverage have been associated with lack of a usual source of care.[18–20]

Of the many health issues faced by immigrants, those related to health care access and insurance are the most challenging.[21–27] Studies have shown that low-income immigrants are twice as likely to be uninsured as low-income US citizens.[21,28,29] Programs such as Medicaid and the State Child Health Insurance Program (SCHIP) were created to ensure access to health care among low-income children and families.[22] However, immigrants' access to public insurance has been affected by public policy,[21] and policies that bar public coverage among recent immigrants target a group that already has limited access to the health care system.[24]

One of the basic eligibility criteria that Medicaid applicants must satisfy is citizenship or legal residency status, and uninsured immigrant children who entered the United States after August 22, 1996, are ineligible for insurance coverage under SCHIP programs. Even immigrant families whose children are eligible for public insurance programs may be reluctant to enroll their children because they fear that enrollment will lead to problems with the authorities and affect their ability to become naturalized citizens, sponsor relatives, and reenter or remain in the country.[25,30,31]

In addition to lack of health insurance, children's access to care may be limited by their parents' knowledge and understanding of health care needs and resources, as well as language barriers.[32–35] Noncitizen adults experience greater problems in accessing health care than other groups, often because of increased language and cultural barriers.[36] These problems leave them less connected with the health care system.[18,37] Moreover, reduced use of preventive services and higher prevalences of psychosocial deficits have been reported among immigrant children.[10,38,39]

The relationships between children's well-being and various factors such as their parents' immigrant status, racial/ethnic disparities, family income, and health care status and use are interwoven and complex. To our knowledge, no studies have examined the joint and independent contributions of all of these factors to health insurance coverage and health care access among children in immigrant families. Using data from the 1999 National Survey of America's Families (NSAF), we examined health insurance status and patterns of health service use among immigrant children who were naturalized citizens, those who had been born in the United States but whose parents were not citizens, and those who, along with their parents, had been born outside the United States.

In our analyses, we assessed the independent effects of immigrant status while controlling for children's demographic and socioeconomic characteristics. We placed special

emphasis on examining relationships between citizenship status, health status, demographic characteristics, and health care access and use among children from low-income families (i.e., those with incomes below 200% of the federal poverty line [FPL]).

METHODS

Data Source

The 1999 NSAF was the second in a series of biannual surveys examining the health, economic, and social characteristics of children, adults younger than 65 years, and their families in the United States. Interviews were conducted in either English or Spanish with members of 44 499 households selected via a random-digit dialing survey of homes with telephones and face-to-face surveys conducted in households without telephones. Families with incomes below 200% of the FPL were oversampled. Interviews were conducted between February and October 1999.[40]

In our analyses, we used the 1999 NSAF Child Public Use File, which includes data from 35 938 children and adolescents younger than 18 years. In households with children, up to 2 children were sampled, one 5 years or younger and one between the ages of 6 and 17 years. The adult most knowledgeable about the child's health care, education, and well-being was asked to participate in the interview; 92.4% of the responding adults were either the mother or father of the child and are referred to hereafter as "the parent." The national response rate for the child interviews was 81.4%.[41]

Measures

Health care access and use measures were based on the following questions asked of parents (each preceded by "During the past 12 months"): How many months did the child have no health insurance? How many times did the child see a dentist or a dental hygienist (for children older than 3 years)? How many times did the child receive mental health services, including mental health services from a doctor, mental health counselor, or therapist (for children older than 3 years)? How many times did the child see a doctor (excluding visits to dentists, mental health service providers, and emergency rooms)? Parents were also asked whether the child had a usual source of care other than the emergency room. Two additional questions were asked of parents of children from poor families: Does the child have Medicaid or SCHIP health insurance coverage or coverage through other state programs? and Have you ever heard of Medicaid or SCHIP? All of these measures were coded as dichotomized outcomes (i.e., yes/no, 0/other).

Health indicators included parent-reported overall current health status (fair or poor health vs good/very good or excellent health), negative behaviors (based on Behavioral Problems Index scores at 6–11 years and 12–17 years of age), and involvement in school and extracurricular activities (among 6–17-year-olds). These multiple health indicators allowed us to provide a snapshot of not only children's physical health but also their mental health and social well-being.

Children's immigrant status was determined on the basis of both their and their parents' citizenship (US citizen, naturalized US citizen, or noncitizen) and nativity (born or not born in the United States) status. Information on parents was abstracted from the adult data set and linked to children's records via unique identification numbers for fathers and mothers. Four subgroups of children were formed: (1) children who were US-born citizens and whose parents (one or both) were citizens (UBC group; this category included children with one immigrant parent because it was presumed that the citizen parent would have the knowledge necessary to access the US health care system), (2) children who were US-born citizens and but whose parents were not (UBNC group), (3) foreign-born children who were naturalized US citizens and whose parents were also naturalized citizens (FBC group), and (4) children who were foreign-born noncitizens and whose parents were also noncitizens (FBNC group).

Covariates assessed included child race/ethnicity (non-Hispanic White, non-Hispanic Black, Hispanic, non-Hispanic Asian, non-Hispanic other), age group (0–5, 6–10, 11–17 years), and gender; parent education (less than high school, high school, more than high school); and parent-reported health status (excellent/good vs fair/poor). Also, using US Census Bureau poverty thresholds, we created a poverty status variable that combined family income and family size.[42] Children in families below the poverty threshold were coded as "poor," whereas children in families with incomes at 100% to 200% of the poverty threshold were coded as "near poor." Both poor and near poor families were included in the low-income subgroup analyses.

Statistical Analysis

WesVar 4.0, a statistical analysis package developed by Westat (Rockville, Md) to accommodate data generated by complex survey designs, was used in conducting the data analyses.[43] Descriptive analyses of proportions were used to characterize the study participants. Simple comparative analyses were conducted with χ^2 tests to assess the relationship between child immigrant status and each health access variable. Multiple logistic regression models were set up to examine the same associations after adjustment for all covariates. We conducted collinearity diagnostic analyses based on standard approaches before examining the logistic models.

RESULTS

Table 1 shows the demographic distributions of the sample children according to immigrant status. The 1999 NSAF child core data included 32 965 children born in the United States; the parents of 31 888 of these children were US citizens (i.e., UBC group), and the parents of 1077 were noncitizens (UBNC group). In addition, there were 1027 children born outside of the United States and its territories, among them 190 naturalized citizens (FBC group) and 837 noncitizens (FBNC group).

When results were examined according to immigrant status, significant differences were found on most of the sociodemographic variables assessed. The highest proportion of children younger than 5 years was in the UBNC group, whereas the highest proportion of adolescents was in the FBC group. More than 80% of the UBNC group and nearly 60% of the FBNC group were Hispanic; nearly half of the FBC group was in the non-Hispanic other (i.e., Asian) category. The highest rate of poverty was seen in the UBNC group, with 42.5% of these families living under the FPL,

TABLE 1—Participants' Sociodemographic Characteristics, by Immigrant Status: National Survey of America's Families, 1999

		US Born		Foreign Born	
	No.	Citizen Parents (n = 31 888[a]), %	Noncitizen Parents (n = 1077[a]), %	Citizen (Naturalized) (n = 190[a]), %	Noncitizen (n = 837[a]), %
Age, y					
0–5	10 055	29.45	49.51	13.85	12.53
6–11	10 308	30.44	30.6	26.82	26.34
12–17	13 454	40.11	19.9	59.33	40.19
Gender					
Male	17 435	51.37	49.29	44.87	52.28
Female	16 557	48.63	50.71	55.13	47.72
Race/ethnicity					
Non-Hispanic White	22 214	68.95	3.8	21.19	17.49
Non-Hispanic Black	5 217	15.91	5.61	11.33	7.33
Hispanic	5 035	11.41	80.61	20.48	58.51
Other non-Hispanic	1 213	2.75	9.96	47.00	16.67
Family income, % of federal poverty level					
<100	5 885	16.13	42.54	5.48	32.57
100–199	7 664	21.86	35.33	20.06	32.79
200–299	6 701	20.19	9.85	22.29	13.63
≥300	13 739	41.81	12.27	52.16	21.01
Parents' highest education					
Less than high school or GED	4 071	10.00	54.04	5.2	34.74
High school or GED	10 140	30.54	18.88	25.54	17.85
More than high school or GED	19 781	59.46	27.08	69.26	47.41
Living arrangement					
Does not live with parent(s)	1 353	4.09	0.42	3.33	4.51
Lives with single parent	8 476	24.96	30.14	13.55	19.91
Lives with both parents	24 163	70.95	69.43	83.12	75.58

Note. GED = general equivalency diploma.
[a]Unweighted.

followed by the FBNC group (32.6%); the rates for both groups were more than twice that of the UBC group. More than half of the parents in the UBNC group had less than a high school education. More FBC children than UBNC, FBNC, and UBC children lived in 2-parent households, and more UBNC children than children in the other groups lived in single-parent households.

Table 2 shows results for the measures of children's health status, well-being, and health care access and use according to immigrant status. A higher percentage of UBNC group parents than parents in the other groups rated their children as being in fair or poor health. In the 6- to 11-year age group, parents in the UBC group rated their children as engaging in negative behaviors at twice the rate of parents of foreign-born children. Among the 12- to 17-year-olds, percentages of parent-rated negative behaviors were higher in the FBNC and UBC groups (8% in both) than in the UBNC (3.6%) and FBC (1.5%) groups. More than 40% of UBNC children did not participate in extracurricular activities, as compared with 30% of FBNC children and fewer than 20% of FBC and UBC children.

More than half of the FBNC children and a third of the UBNC children did not have insurance coverage at various times during the year preceding the interview; rates were much lower in the FBC (13%) and UBC (15%) groups. Nearly half of the FBNC children had not visited a dentist or doctor within the previous year, and one third of the UBNC group had not done so. The pattern was similar for mental health visits within the preceding year. Rates of emergency room visits in the past year were almost twice as low among foreign-born citizen and noncitizen children as among the other groups. More than a quarter of the FBNC children did not have a usual source of care, as compared with 18% of UBNC children, 12% of FBC children, and 6% of UBC children.

Table 3 shows adjusted odds ratios (ORs), derived from multiple logistic regression analyses, for child health status, well-being, and health service indicators. These analyses controlled for child race/ethnicity, age, and gender; parent-reported health status; parents' education; and family poverty status. Compared with UBC children (the reference group), both FBNC children (OR=4.32; 95% confidence interval [CI]=3.31, 5.64) and FBC children (OR=1.31; 95% CI=1.00, 1.75) were significantly more likely to have not had health insurance coverage at various times during the preceding year. Also, FBNC children were significantly more likely than their US-born counterparts to have no usual source of care (OR=1.93; 95% CI=1.34, 2.78) and to have not visited a doctor (OR=1.39; 95% CI=1.05, 1.82), dentist (OR=1.76; 95% CI=1.34, 2.31), or mental health specialist (OR=3.68; 95% CI=1.93, 7.01) within the previous year. In general, there were no significant differences between FBC children and UBC children on any of the outcomes assessed.

Children of non-Hispanic Black, Asian, and other racial/ethnic backgrounds were more likely than non-Hispanic White children to lack health insurance coverage. Also, after adjustment for health insurance status and various other sociodemographic characteristics, non-Hispanic Black, Hispanic, and Asian children were all more likely than non-Hispanic White children to lack a usual source of care; the corresponding odds ratios were 2.27 (95% CI=1.71, 3.01), 2.20 (95% CI=1.75, 2.78), and 3.17 (95% CI=2.05, 4.90). Lack of health insurance coverage was a major predictor of children not receiving adequate pediatric health care services. Those who had not

TABLE 2—Health Status, Health Care Access, and Health Care Use, by Immigrant Status: National Survey of America's Families, 1999

	US Born, % (SE)		Foreign Born, % (SE)	
	Citizen Parents	Noncitizen Parents	Citizen (Naturalized)	Noncitizen
Health and well being				
Fair/poor current health status	3.91(0.22)	13.52 (1.85)	4.05 (2.65)	12.22 (1.95)
Negative behavior at ages 6–11 y	6.46 (0.56)	6.91 (2.00)	2.74 (1.76)	2.19 (1.05)
Negative behavior at ages 12–17 y	7.50 (0.42)	3.58 (1.94)	1.49 (0.91)	8.46 (2.67)
No involvement in activities at ages 6–17 y	16.75 (0.53)	42.64 (3.29)	15.21 (3.67)	29.12 (2.50)
Health insurance coverage and health care use and access				
Lack of medical insurance at any time in past 12 mo	15.34 (0.55)	34.37 (2.62)	12.86 (3.68)	52.3 (2.77)
No usual source of care other than ER	5.78 (0.27)	18.21(1.93)	12.19 (4.18)	27.93 (2.63)
At least one doctor visit in past year	77.03 (0.54)	65.43 (2.28)	77.04 (5.38)	51.75 (2.48)
ER visit in past year	25.43 (0.47)	23.47 (1.96)	11.59 (3.62)	12.45 (1.72)
At least one visit to dentist in past year (≥3 y old)	80.47 (0.44)	62.73 (2.81)	84.65 (3.42)	55.59 (2.81)
Visit to mental health specialist in past year (≥3y old)	7.17 (0.32)	2.83 (0.89)	5.55 (1.86)	1.77 (0.46)
Subset of items targeted specifically to families with incomes at or below 200% of FPL				
Lack of medical insurance at any time in past 12 mo	26.68 (1.12)	38.76 (3.20)	37.19 (10.58)	68.58 (3.58)
Current Medicaid/SCHIP/state coverage	40.66 (0.95)	48.83 (3.30)	18.28 (5.48)	19.57 (2.50)
Aware of separate SCHIP program	50.25 (1.20)	48.51 (3.14)	46.6 (11.74)	39.71 (4.16)
Aware of Medicaid program	89.85 (0.70)	90.83 (1.27)	89.95 (4.26)	80.79 (3.10)

Note. ER = emergency room; FPL = federal poverty level; SCHIP = State Child Health Insurance Program. All χ^2 *P*s were less than .05.

had insurance coverage at any time during the preceding 12 months were 2 to 3 times less likely than those who had to have visited a doctor or to have a usual source of care.

Parents' educational attainment and family's poverty status were both independent risk factors for all of the indicators assessed other than visits to mental health specialists. Compared with children from families that were at or above 300% of the FPL and in which parents had a college education, children of parents with less educational attainment and lower incomes were significantly more likely to lack health insurance or a usual source of care and to not have visited a doctor or dentist in the previous 12 months. The age differences in health indicators were as expected: In general, children younger than 5 years were less likely to use dental or mental health services. Of particular interest were the significantly increased risks of not having a usual source of care and not having visited a doctor in the preceding 12 months among the 6- to 10-year and 11- to 17-year age groups.

The final 3 columns of Table 3 show adjusted odds ratios from the subgroup analyses of children from low-income families (less than 200% of the FPL). After adjustment for health status, age, gender, and race, low-income FBNC children were 5 times more likely than low-income UBC children to lack health insurance coverage (OR=5.28; 95% CI=3.68, 7.58); similarly, UBNC children were 1.6 times more likely to lack coverage (OR=1.60; 95% CI=1.20, 2.12). Both low-income FBC children (OR=0.38; 95% CI=0.18, 0.82) and low-income FBNC children (OR=0.37; 95% CI=0.25, 0.56) were less likely than low-income children in the other groups to have Medicaid, SCHIP, or state coverage.

DISCUSSION

There are several significant aspects of this study. First, we used data from a nationally representative survey to assess patterns of health service use in immigrant children and families, an area for which there is consensus among researchers that available data are scarce.[44] Second, we used multiple regression analyses to control for a number of factors that influence access to health care among such children, and the results showed the independent effects of each predictor after adjustment for other factors.

Third, instead of simply classifying immigrants in the traditional manner of nativity and citizenship, we took an extra step and linked child data to adult data, allowing us to identify a large group of children who were US citizens by birth but whose parents had been born outside of the United States. Our results showed that these children, often not identified in traditional classifications, face health care barriers (e.g., lack of a usual source of care and lack of health insurance coverage) similar to those faced by foreign-born children.

These findings suggest that parental citizenship status plays a strong role in children's health care access. There are a number of potential reasons for this situation. For example, because the naturalization process for adult immigrants usually spans about 5 to 10 years, US-born children with noncitizen parents may have been in the country for a short period of time. Also, their level of acculturation may be low, and they may be linguistically isolated. In addition, parents who are undocumented immigrants may perceive that contact with the health care system can jeopardize their immigrant status.

Before welfare reform, first-generation immigrant children were more likely than second- and later-generation children to live in families in which at least one person received public assistance. However, recent changes in welfare and immigrant policies, as reflected in the Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (Pub L No. 104-193, 110 Stat 2105) and the Illegal Immigration Reform and Immigrant Responsibility Act of 1996 (Pub L No. 104-208, 110 Stat 3009), are likely to have substantial effects on immigrant children's access to health care.[23] Under welfare reform, the extremely restrictive eligibility rules for many programs that applied historically only to illegal immigrants now also apply to legal immigrants until they become citizens and to refugees beginning 5 to 7

TABLE 3—Adjusted Odds Ratios for Pediatric Health Service Use, Total Sample and Low-Income Subsample, by Immigrant Status: National Survey of America's Families, 1999

	Total Sample, OR (95% CI)					Low-Income Subsample (Families Below 200% of FPL), OR (95% CI)		
	No Health Insurance at Various Times in Past Year	No Usual Source of CareOther Than ER in Past 12 Months	No Dental Visit in Past 12 Months[a]	No Doctor Visit in Past 12 Months	No Visit to Mental Health Specialist in Past 12 Months[a]	Lack of Health Insurance Coverage at Any Time in Past 12 Months	Medicaid/ SCHIP/State Health Insurance Coverage	Aware of Medicaid Program
Immigrant status								
US-born citizen	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
US-born citizen with noncitizen parents	1.31 (1.00, 1.75)	1.51 (1.04, 2.19)	0.92 (0.68, 1.25)	1.04 (0.81, 1.39)	2.32 (1.12, 4.82)	1.60 (1.20, 2.12)	1.13 (0.86, 1.51)	1.27 (0.81, 2.00)
Foreign-born citizen (naturalized)	1.26 (0.69, 2.32)	1.36 (0.64, 2.89)	0.75 (0.46, 1.23)	0.80 (0.42, 1.50)	0.93 (0.41, 2.10)	1.54 (0.61, 3.93)	0.38 (0.18, 0.82)	1.43 (0.56, 3.66)
Foreign-born noncitizen	4.32 (3.31, 5.64)	1.93 (1.34, 2.78)	1.76 (1.34, 2.31)	1.39 (1.05, 1.82)	3.68 (1.93, 7.01)	5.28 (3.68, 7.58)	0.37 (0.25, 0.56)	0.61 (0.40, 1.01)
Health status								
Good	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Poor/fair	1.27 (0.96, 1.67)	1.06 (0.76, 1.47)	1.15 (0.88, 1.49)	0.64 (0.50, 0.81)	0.30 (0.21, 0.42)	1.02 (0.77, 1.35)	1.62 (1.23, 2.14)	0.92 (0.64, 1.31)
Age group, y								
0–5	1.01 (0.86, 1.18)	0.51 (0.42, 0.61)	2.89 (2.52, 3.31)	0.45 (0.40, 0.50)	3.43 (2.68, 4.40)	0.85 (0.69, 1.02)	1.72 (1.48, 2.00)	1.24 (1.00, 1.54)
6–10	1.07 (0.90, 1.27)	0.59 (0.47, 0.74)	0.79 (0.69, 0.92)	0.77 (0.69, 0.87)	1.11 (0.90, 1.36)	1.01 (0.81, 1.24)	1.23 (1.04, 1.47)	1.16 (0.93, 1.45)
11–17	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Gender								
Male	0.97 (0.86, 1.09)	1.07 (0.90, 1.28)	1.17 (1.04, 1.31)	1.12 (1.01, 1.24)	0.74 (0.61, 0.91)	0.92 (0.79, 1.07)	1.04 (0.91, 1.19)	0.96 (0.73, 1.26)
Female	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Race/ethnicity								
Non-Hispanic White	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Non-Hispanic Black	2.09 (1.28, 3.43)	2.27 (1.71, 3.01)	1.30 (1.10, 1.53)	1.17 (0.97, 1.40)	1.05 (0.78, 1.41)	0.87 (0.69, 1.08)	2.58 (2.08, 3.20)	0.96 (0.72, 1.28)
Hispanic	1.15 (0.93, 1.42)	2.20 (1.75, 2.78)	1.32 (1.11, 1.57)	1.29 (1.09, 1.53)	1.35 (0.97, 1.86)	1.19 (0.93, 1.51)	1.45 (1.24, 1.71)	0.84 (0.58, 1.22)
Non-Hispanic Asian	0.47 (0.31, 0.72)	3.17 (2.05, 4.90)	1.39 (0.99, 1.94)	1.35 (0.99, 1.83)	2.32 (1.09, 4.96)	0.50 (0.26, 0.96)	0.96 (0.56, 1.66)	0.31 (0.17, 0.57)
Other non-Hispanic	2.09 (1.28, 3.43)	1.49 (0.89, 2.49)	0.76 (0.37, 1.54)	1.14 (0.78, 1.67)	0.38 (0.21, 0.69)	1.46 (0.92, 2.31)	1.34 (0.84, 2.14)	2.65 (1.43, 4.91)
Family income, % of FPL								
<100	5.31 (4.10, 6.87)	1.93 (1.39, 2.67)	1.78 (1.46, 2.17)	1.43 (1.23, 1.67)	0.48 (0.37, 0.61)	…	…	…
100–199	6.04 (4.84, 7.53)	1.55 (1.14, 2.12)	2.09 (1.74, 2.50)	1.54 (1.34, 1.77)	0.72 (0.57, 0.91)	…	…	…
200–299	3.16 (2.49, 4.00)	1.62 (1.23, 2.14)	1.68 (1.43, 1.98)	1.43 (1.25, 1.64)	0.84 (0.70, 1.01)	…	…	…
≥300	1.00	1.00	1.00	1.00	1.00	…	…	…
Parents' highest education						…	…	…
Less than high school or GED	2.17 (1.69, 2.78)	1.55 (1.20, 2.02)	2.02 (2.42, 2.69)	1.84 (1.51, 2.24)	1.09 (0.72, 1.65)	…	…	…
High school or GED	1.21 (1.01, 1.43)	1.15 (0.92, 1.44)	1.38 (1.19, 1.60	1.28 (1.12, 1.47)	1.08 (0.89, 1.31)	…	…	…
More than high school or GED	1.00	1.00	1.00	1.00	1.00	…	…	…
Child's medical insurance status in past 12 mo						…	…	…
Always insured	…	1.00	1.00	1.00	1.00	…	…	…
Not always insured	…	3.53 (2.86, 4.37)	3.53 (2.95, 4.21)	3.05 (2.56, 3.64)	2.34 (1.63, 3.35)	…	…	…

Note. OR = odds ratio; CI = confidence interval; ER = emergency room; FPL = federal poverty level; SCHIP = State Child Health Insurance Program; GED = general equivalency diploma. Values were adjusted for health status and demographic characteristics.
[a]Analysis conducted with children older than 3 years.

years after their arrival in the United States. Collectively, these policies send a signal to legal immigrants that they should avoid Medicaid even if they are uninsured and eligible.[45,46] Thus, children of immigrants will be most seriously affected by this recent reform.

Generally speaking, US-born children of immigrant parents are showing declining rates of health insurance coverage.[47] This, combined with the fact that new immigrant parents are probably not receiving job-related health insurance, contributes to the alarming situation in which children who are US citizens but whose parents are not citizens often do not have health insurance coverage and often lack a usual source of care. In 1999, as a result of the lobbying efforts of advocacy groups and health service providers, the federal government issued a "clarification"[48] of the public charge rule that explicitly exempted enrollment in Medicaid from being used as a basis for classifying a noncitizen as a public charge. However, we were unable to assess the effects of this change in classification policy because it was made during the same year the NSAF data were collected. It will be interesting to assess these effects via the 2002 NSAF results.

Our findings also demonstrate that children of noncitizen parents, whether or not they are themselves foreign born, are more likely than children of parents who are citizens to be in poor health, whereas they are less likely to display behavior problems, particularly when they are younger. Moreover, access to health insurance and access to health care appear to be strongly influenced by children's citizenship and nativity status. Foreign-born noncitizen children are at significantly higher risk not only of being uninsured but of lacking access to medical and dental care.

Among the sociodemographic factors assessed, poverty's effects on access to health insurance and health care appeared to be the strongest. Children from poor and near poor families were more than 5 times as likely as children from higher income families to lack health insurance coverage. The strong adverse effect of lacking insurance coverage on all aspects of pediatric health care use can be seen from both our study and other research on immigrant health. In addition, after adjustment for insurance coverage status, children in poorer families were nearly twice as likely to have not visited a dentist in the preceding year and to lack a usual source of sick care and 50% more likely not to have visited a doctor in the previous year. The only exception to this pattern was seen in the use of mental health care; poor children were significantly more likely to have received mental health services than their higher income peers.

Among children from low-income families, those with noncitizen parents were more likely to be uninsured than those whose parents were US-born citizens and foreign-born citizens. Although low-income immigrant families were not significantly different from higher income families in terms of their awareness of Medicaid, foreign-born children of noncitizen parents and foreign-born children who were naturalized citizens were both less likely to be enrolled in the program. Also, foreign-born noncitizen children and US-born children with noncitizen parents were at a significantly elevated risk of lacking insurance coverage. Although eligible, foreign-born children who were naturalized citizens were 62% less likely than US-born citizen children to have Medicaid/SCHIP insurance coverage. Again, this points to barriers faced by new immigrant parents in entering the public insurance system.

Our study involved some potential limitations. For example, we did not have data on length of stay in the United States or parents' English-language proficiency. In addition to different levels of access conferred by citizenship, immigrant status may serve as a composite measure of length of stay in the United States, English proficiency, and degree of acculturation. Furthermore, undocumented immigrants and less educated immigrants were less likely to participate in the survey, and thus the results presented here may represent underestimates of the extent to which children from immigrant families are at risk.

Our findings point to the need for policy responses at several levels. First, outreach is needed to encourage immigrant families, particularly immigrant parents of citizen children, to enroll their children in public insurance programs when they are eligible. Second, efforts are needed to encourage all children to use preventive health and dental services, and these initiatives should involve education of families about the availability of health care services as well as development of services that are culturally competent and linguistically accessible. Finally, the Immigrant Children's Health Improvement Act (HR 1143, §582), a recently introduced amendment to the Temporary Assistance to Needy Families legislation that proposes restoring health insurance coverage to legal immigrant children and pregnant woman, may mitigate some of the hardships experienced by noncitizen immigrant children. ■

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Contributors

Z.J. Huang conceptualized the study, conducted the data analysis, and led the writing of the article. S.M. Yu assisted in the supervision of the study and the writing of the article. R. Ledsky assisted in the literature review and the writing of the article.

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