Health Insurance Coverage among Foreign-Born US Residents: The Impact of Race, Ethnicity, and Length of Residence

Mae Thamer, PhD, Christian Richard, MS, Adrianne Waldman Casebeer, MPP, and Nancy Fox Ray, MS

ABSTRACT

Objectives. This study examined the health insurance status of the US foreign-born population and the influence of race, ethnicity, and length of residence on health insurance status.

Methods. Data were obtained from the 1989 and 1990 National Health Interview Surveys, including the Insurance and Family Resource Supplements.

Results. In 1989 and 1990, the foreign-born population was twice as likely as the US-born population to be uninsured (26.2% vs 13.0%). The highest rate of uninsured status, 40.8%, was found among foreign-born Hispanics. Persons who had lived in the United States for less than 15 years were 1.5 to 4.7 times more likely to be uninsured than were US-born Whites.

Conclusions. Foreign-born US residents—especially Hispanics and persons residing in the United States for less than 15 years—are vulnerable to not having health insurance, which may limit their access to medical services. The administrative criteria for public programs may explain the high rates of uninsured status among recent immigrants. Recently enacted federal legislation could substantially increase the number of uninsured among the US foreign-born population, with profound public health implications. (*Am J Public Health.* 1997;87:96–102)

Introduction

Foreign-born residents in the United States constitute a large and growing proportion of the total US population. Over the past 2 decades, the foreign-born population increased from 9.6 million to 19.8 million persons, and by 1990 it constituted 7.9% of the total US population.[1] Although they share the common experience of migrating to the United States, foreign-born residents have diverse ethnic origins—in 1990, 26% immigrated from Central America, 25% from Asia, 22% from Europe, 9% from the Caribbean, and the remaining 18% from other regions in the world.[2] The foreign-born population also comprises individuals whose legal and immigration status can affect their access to and utilization of the US health care system. The overwhelming majority of foreign-born residents, however, have legal status; in 1990, 90% of all foreign-born residents were in the United States legally.[3]

The influx of refugees and immigrants over the past 2 decades has stressed the health care delivery systems and social service agencies in many major metropolitan areas.[3–8] Despite increasing public concern and an often vitriolic debate over federal and state immigration policies,[9–14] only a few small-scale studies in limited geographic areas have been conducted to examine health insurance coverage and use of health services among specific immigrant populations.[15–18] These studies suggest that immigrants are often uninsured and that they underutilize the health care system. Use of the health care system by immigrants is influenced by cultural barriers—such as native beliefs and practices, language, and religion—as well as socioeconomic factors.[19–24] The health insurance status of the foreign-born population by race and ethnicity has not been documented. Furthermore, the differential impact on insurance status of length of residence in the United States by race and ethnicity has not been explored. Health insurance coverage and, as a consequence, health resource utilization may be expected to vary by length of residence in the United States, because of the lower socioeconomic status of newly arrived immigrants[25] as well as specific length of residency- and work-related requirements for public insurance programs like Medicare and Medicaid.[13,26] The purpose of this paper is twofold: (1) to report, on a national basis, the rates of health insurance coverage of the foreign-born population, by selected racial and ethnic groups; and (2) to determine the probability of having insurance, based on nativity status, race and ethnicity, and length of residence in the United States.

Methods

Sample Selection

This study used data from the 1989 and 1990 National Health Interview Survey (NHIS). The NHIS is a cross-sectional household survey of the noninstitutionalized population conducted annually by the National Center for Health Statistics (NCHS). Data from 2 survey years, 1989 and 1990, were aggregated to increase the sample size of the foreign-born population, thereby increasing the

The authors are with the Medical Technology and Practice Patterns Institute, Washington, DC.

Requests for reprints should be sent to Mae Thamer, PhD, Medical Technology and Practice Patterns Institute, 2121 Wisconsin Ave, NW, Suite 220, Washington, DC 20007.

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TABLE 1—Sociodemographic Characteristics (%) of the US Population Aged 18 and Older, by Nativity Status, 1989/90

	Residents	
	Foreign-Born	US-Born
Sex		
Male	47.8	47.5
Female	52.2	52.5
Race/ethnicity		
Hispanic	39.0	4.0
White	34.1	83.2
Asian/Pacific Islander	18.7	0.5
Black/other	8.2	12.3
Age, y		
18–44	62.3	57.5
45–64	24.4	25.8
65 or older	13.4	16.7
Marital status		
Married	66.7	64.2
Not married	33.3	35.8
Urbanicity status		
MSA	94.2	76.5
Non-MSA	5.8	23.5
Annual family income		
<$20 000	40.5	33.0
≥$20 000	59.5	67.0
Family size		
1–3	56.0	69.0
4–6	37.2	29.3
7 or more	6.8	1.7
Poverty index		
Below poverty threshold	15.9	8.8
At or above poverty threshold	84.1	91.2
Education, y		
<12	34.9	20.4
12	27.4	39.9
>12	37.7	39.6

Note. The total study population consists of persons for whom information on sex, age, nativity, and race was complete, not all persons responded to every question. For foreign-born residents, n = 17 812 000; US-born, n = 160 987 000. All between groups differences except sex are statistically significant at $P < .001$ (chi-square test). Percentages may not add to 100 because of rounding. MSA = metropolitan statistical area.

Source. Data are from the National Health Interview Survey, 1989, 1990.

TABLE 2—Health Status and Use of Ambulatory Services by the US Population Aged 18 Years and Older, by Nativity Status,[a] 1989/90

	Foreign-Born Residents	US-Born Residents
Self-assessed health status fair or poor, %	11.7	12.1
Activity measures		
No. restricted-activity days,[b] mean	14.5*	17.3
No. bed days,[c] mean	7.2	7.0
No. work-loss days,[d] mean	2.9*	3.6
Use of ambulatory services		
No. physician visits,[e] mean	4.6*	6.0
Less than 2 y since last physician visit, %	80.7*	86.6

Source. Data are from the NHIS, 1989, 1990.

[a]Measures for the foreign-born are age-adjusted according to the age distribution of the total US-born population.

[b]Number of days in the last year in which the respondent could not conduct normal activity for more than half the day because of an illness or injury.

[c]Number of days in the last year during which the respondent stayed in bed more than half the day because of an illness or injury.

[d]Number of days in the last year in which the respondent missed more than half a day of work because of an illness or injury.

[e]Number of physician visits per person in the past year.

*$P < .01$, difference between foreign-born and US-born populations tested by *t* test.

reliability of the statistical estimates. The core NHIS queries individuals about basic sociodemographic characteristics, health status, and health services utilization. Supplemental surveys conducted for the entire NHIS sample—the 1989 Insurance Supplement and the 1990 Family Resources Supplement—contained specific questions about insurance status for each year. The reliability of conclusions drawn from NHIS is bolstered by a response rate greater than 95% in both survey years.[27,28]

The NHIS and the two supplemental surveys were linked by means of each respondent's unique identification number. Data were extracted for the following population cohorts of foreign-born and US-born individuals: all, Hispanic, Black, White, Asian or Pacific Islander, and persons of other races. Regardless of their race, respondents were determined to be of Hispanic origin if they identified themselves either as belonging to a specific Hispanic ethnicity or as "Spanish." Because of the small sample of Black foreign-born residents, this paper focuses on the three largest foreign-born populations in the United States: Hispanics, Whites, and Asians and Pacific Islanders. Furthermore, since the NHIS did not ask about nativity status for persons under age 18, the foreign-born population in this study is restricted to persons aged 18 or older. In this analysis, the unweighted study sample of 16 326 foreign-born residents interviewed for the NHIS was composed of 6470 Hispanics, 5481 Whites, 2905 Asians and Pacific Islanders, and 1470 immigrants of other races.

Definition of Terms

A number of sociodemographic, insurance coverage, and health-related terms are used in this analysis. Demographic characteristics of the population include age, sex, race and ethnicity, marital status, family size, and urbanicity status. Socioeconomic status indicators include educational attainment, family income of more or less than $20 000, and income above or below the poverty threshold. For the foreign-born population, length of residence was determined as a categorical variable as follows: residence in the United States at the time of the survey for less than 1 year; 1 to fewer than 5 years; 5 to fewer than 10 years; 10 to fewer than 15 years; and 15 years or more. Insurance status was determined from four questions common to both the 1989 Insurance Supplement and the 1990 Family Resources Supplement of the NHIS. Individuals were queried about their coverage by one or more of four specific types of insurance: Medicare, Medicaid, private insurance, and Civilian Health and Medical Program of the Uniformed Services (CHAMPUS). We classified individuals as having no insurance if they indicated that they were *not* covered by Medicare, Medicaid, private insurance, or CHAMPUS. Some individuals may have been covered by more than one type of insurance, although the primary payer cannot be determined from the NHIS data.

TABLE 3—Health Insurance Coverage of the US Population Aged 18 Years and Older, by Nativity Status and Race/Ethnicity, 1989/90

	Total		Hispanic		White		Asian/Pacific Islander	
	Foreign-Born, % (SE)	US-Born, % (SE)	Foreign-Born, % (SE)	US-Born, % (SE)	Foreign-Born, % (SE)	US-Born, % (SE)	Foreign-Born, % (SE)	US-Born, % (SE)
Medicare[a]	88.7* (.79)	96.2 (.16)	81.8* (2.11)	92.5 (1.38)	94.2* (.70)	96.7 (.16)	65.8* (4.51)	90.8 (3.83)
Medicaid	6.5* (.38)	4.1 (.11)	9.5* (.63)	7.9 (.55)	3.1 (.32)	2.8 (.10)	6.9* (.97)	1.9 (.51)
Private	62.4* (.88)	78.8 (.26)	45.8* (1.35)	63.3 (1.23)	78.1* (.83)	82.5 (.25)	68.1* (1.63)	83.3 (1.94)
No health insurance[b]	26.2* (.80)	13.0 (.18)	40.8* (1.31)	24.8 (1.09)	11.9 (.72)	11.0 (.17)	20.9* (1.29)	11.2 (1.76)

Note. Individuals may have been covered by more than one type of insurance; primary payer is not distinguished.
Source. Data are from the 1989 NHIS Insurance Supplement and the 1990 NHIS Family Resources Supplement.
[a]Coverage among individuals 65 years of age and older.
[b]"No insurance" is defined as not being covered by Medicare, Medicaid, private insurance, or the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS).
*$P < .01$, differences between foreign-born and US-born populations tested by t test.

Survey respondents are therefore not grouped into mutually exclusive health insurance categories.

Two principal measures were used to assess the health status of the study populations: self-assessed health status and reported activity restrictions. The NHIS asked respondents to rate their health status on a scale of excellent to poor. To mitigate cultural differences in responses to this question, we collapsed the five original health status categories into two broad categories: above average (excellent, very good, or good) and below average (fair or poor). The three measures of activity restrictions resulting from acute or chronic health conditions that were used to assess individual health status were bed days, work-loss days, and total restricted-activity days. Use of ambulatory health services was examined by means of two related measures: mean number of doctor visits in the last year, measuring the volume of physician contacts, and interval of time since the last visit to a physician, measuring access to ambulatory care. Finally, mean number of inpatient days was calculated for each person reporting a hospitalization in the past 12 months.

Analytic Methods

Univariate descriptive analyses were performed to examine the relationship between nativity status and insurance coverage, health status, and use of ambulatory services. Insurance coverage was also examined by length of residence in the United States. Analyses were performed for the overall US population as well as for selected racial and ethnic groups. All estimates were statistically weighted to reflect national population estimates, and an aggregation methodology developed by NCHS was used to pool 2 years of NHIS data.[29] The NHIS has a complex sample design that must be taken into account in the calculation of the standard errors. Furthermore, because estimates obtained from the NHIS are based on samples of the population and are subject to sampling error, the relative standard error associated with each measure was calculated. On the basis of published recommendations by NCHS, only estimates with a calculated relative standard error of less than 30% were deemed to be statistically reliable.[25] Unless otherwise indicated, all differences are statistically significant at $P < .05$ or less.

A logistic multivariate analysis was conducted to predict the probability of health insurance coverage. The main predictor variables were nativity status, length of US residence, and race/ethnicity. The model controlled for sociodemographic confounding variables including age, sex, marital status, family size, family income, educational status, and urbanicity status. Since insurance status may be influenced by health status, proxies for disability and severity of illness were also used as confounding factors; these included self-assessed health status, number of restricted activity days, number of doctor visits in the past year, interval since last doctor visit, and number of inpatient days in the past year. The model was analyzed with and without the latter three utilization measures, since utilization of health services is known to be influenced by insurance status. Inclusion of the utilization measures did not, however, exhibit a biasing effect on the main predictor variables, and these measures were retained in the model as additional proxies for unmeasured severity of illness. Health insurance coverage was the dependent variable and odds ratios were calculated for the selected predictor variables. Ninety-five percent confidence intervals associated with each odds ratio were used to test for statistical significance. Overall model fit was tested by means of the Wald statistic. Standard errors were calculated with the SUDAAN statistical package for use in stratified multistage samples.[30]

Results

Descriptive Findings

Sociodemographic characteristics. Table 1 compares the sociodemographic characteristics of the foreign-born population and the US-born population. The 1989/90 NHIS estimate for the foreign-born adult population of approximately 17.8 million is consistent with the 1990 Bureau of Census estimate of 17.7 million.[31] Overall, 39.0% of the foreign-born population in 1989/90 was of Hispanic origin, 34.1% was White, 18.7% was Asian or Pacific Islander, and 8.2% was Black or other. The racial composition of the foreign-born population contrasts sharply with that of the US-born population, which was disproportionately (83.2%) non-Hispanic White. The foreign-born components of the Hispanic and Asian/Pacific Islander populations in 1989/90 were larger than the US-born components, reflecting the recent influx of these groups to the United States.

With the exception of sex, all other sociodemographic measures shown in Table 1 were statistically different between the US-born and foreign-born populations. Foreign-born residents were somewhat younger, more likely to be married, and more likely to have a very large family than were US-born residents. The foreign-born population resided almost exclusively in urban metropolitan areas. Socioeconomic measures indicate that foreign-born residents were more likely to be economically disadvantaged than were US-born residents; 40.5% of foreign-born residents, vs 33.0% of US-born residents, reported an annual family income of less than $20 000. This measure does not account for the larger size of foreign-born families—44.0% of foreign-born residents reported a family size of four or more, compared with 31% of US-born residents. The poverty index is based on family size; foreign-born families were almost twice as likely as US-born families to be below the poverty level (15.9% vs 8.8%). Another measure of socioeconomic status is educational attainment; almost 35% of foreign-born respondents had not completed high school, compared with 20.4% of US-born respondents.

Health status and the use of ambulatory services. Health status and use of ambulatory services are reported in Table 2. Since age is related to health status and use of health services, measures for the foreign-born population were age adjusted according to the age distribution of the US-born population by means of a regression analysis. No significant difference in self-reported health status between the two populations was found; about 12% of respondents in both groups reported their health status as fair or poor. However, the US-born population reported a larger number of restricted-activity days and work-loss days due to medical conditions. Foreign-born residents also reported approximately 1.5 fewer annual physician visits than their US-born counterparts, and a greater proportion of the foreign-born population had not seen a physician in the past 2 years (19.3% vs 13.4%).

Insurance status. Among the population aged 65 and older, foreign-born residents were significantly less likely to have Medicare coverage than were US-born persons of similar race and ethnicity (88.7% vs 96.2%; Table 3). Foreign-born persons were more likely than US-born persons to receive Medicaid (6.5% vs 4.1%); however, differences in Medicaid coverage based on nativity status were significant only for the Hispanic and Asian/Pacific Islander populations. A greater proportion of US-born respondents than foreign-born respondents were covered by private insurance (78.8% vs 62.4%).

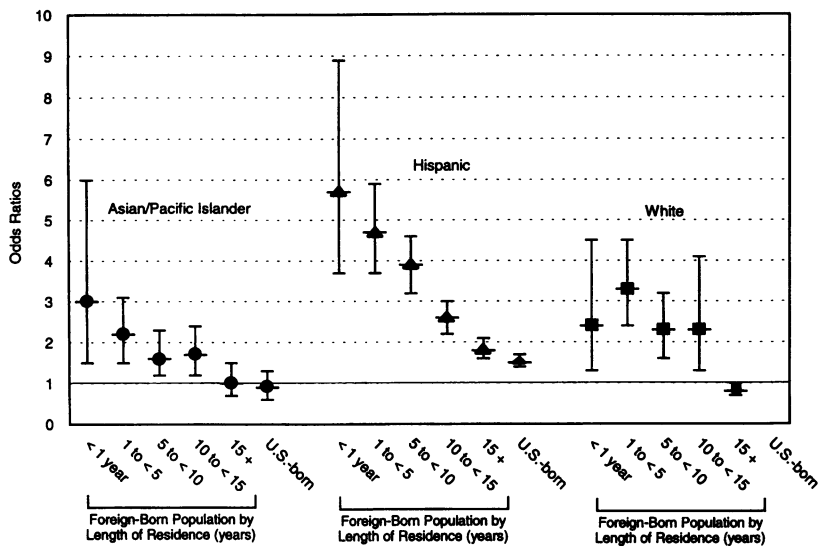
Foreign-born residents of the United States were twice as likely as US-born residents not to have health insurance (26.2% vs 13.0%). This comparison, however, masks significant differences by race and ethnicity. A striking proportion of Hispanic foreign-born respondents (40.8%) reported no health insurance, compared with 24.8% of US-born Hispanics. Although smaller in magnitude, the disparity in health insurance coverage according to nativity status was also noteworthy among Asians and Pacific Islanders; 20.9% of all foreign-born members of this group lacked health insurance, compared with 11.2% of their US-born counterparts. Finally, there was no statistical difference in the proportion of Whites without health insurance according to nativity status.

For all cohorts, a positive relationship existed between length of residence in the United States and acquisition of health insurance (Table 4). However, the average length of residence in the United States differed among foreign-born resi-

TABLE 4—Lack of Health Insurance Coverage among the US Population Aged 18 Years and Older, by Race/Ethnicity, Nativity Status, and Length of Residence in the United States, 1989/90

Nativity and Length of Residence	% of Foreign-Born Population	% Uninsured (SE)
Total population		
Foreign-born	100.0	26.2* (0.80)
<1 y	3.8	50.3* (2.78)
1 to <5 y	14.1	43.9* (1.83)
5 to <10 y	16.9	36.1* (1.43)
10 to <15 y	14.3	31.8* (1.70)
15+ y	50.9	14.6 (0.65)
US-born	. . .	13.0 (0.18)
Hispanics		
Foreign-born	100.0	40.8* (1.31)
<1 y	3.7	69.5* (4.10)
1 to <5 y	14.3	61.9* (2.30)
5 to <10 y	17.9	53.0* (1.96)
10 to <15 y	17.3	43.7* (2.63)
15+ y	46.7	26.4 (1.30)
US-born	. . .	24.8 (1.09)
Whites		
Foreign-born	100.0	11.9 (0.72)
<1 y	2.9	33.5* (5.26)
1 to <5 y	8.2	31.3* (3.07)
5 to <10 y	8.9	20.7* (2.57)
10 to <15 y	8.7	20.3* (3.52)
15+ y	71.2	6.7* (0.44)
US-born	. . .	11.0 (0.17)
Asians and Pacific Islanders		
Foreign-born	100.0	20.9* (1.29)
<1 y	5.5	36.0* (4.76)
1 to <5 y	22.8	29.5* (3.24)
5 to <10 y	25.2	24.0* (2.38)
10 to <15 y	17.2	18.8* (2.30)
15+ y	29.2	9.9 (1.41)
US-born	. . .	11.2 (1.76)

Source. Data are from the 1989 NHIS Insurance Supplement and the 1990 NHIS Family Resources Supplement.
*$P < .01$, difference between the US-born and each same-race foreign-born cohort, by length of residence and overall.



Note. The model adjusts for age, sex, education, income, family size, marital status, urbanicity status, health status, and use of ambulatory and inpatient services. Blacks and others were included in the analysis although the results, which are similar, are not shown.

FIGURE 1—Probability (odds ratios and 95% confidence intervals) of having no insurance compared with the US-born White population (reference group), by race/ethnicity, length of residence in the United States, and nativity status.

dents by race and ethnicity. Earlier cohorts of immigrants were predominantly White, while the most recent immigrants were largely Asians and Pacific Islanders. Rates of uninsured status were significantly different between the foreign-born populations residing in the United States for fewer than 15 years and the US-born population, suggesting that the transition to acquiring health insurance at rates similar to the US-born population may occur after a group has resided in the United States for more than 15 years. Compared with the other foreign-born cohorts, Hispanics reported the highest rates of uninsured status for every length of residence; Hispanics had the highest rates of uninsured status in the US-born population as well.

Multivariate Analysis

A logistic regression was performed to analyze the role of nativity status, length of residence in the United States, and racial and ethnic background as predictors for health insurance coverage. The results are presented in Figure 1 as odds ratios (with 95% confidence intervals) representing, for each population, the probability of having no insurance compared with the US-born White population. The model used in this study includes the total US population and adjusts for sociodemographic characteristics, health status measures, and health resource utilization.

After adjustments were made for these confounding variables, only three cohorts had the same probability of being uninsured as the US-born White population: Asians and Pacific Islanders who were born in the United States, Asians and Pacific Islanders who had lived in the United States for 15 years or more, and foreign-born Whites who had lived in the United States for 15 years or more. All other populations were significantly more likely to be uninsured than the US-born White population. The foreign-born Asian/Pacific Islander and White populations had similar odds ratios; for persons residing in the United States for fewer than 15 years, the odds ratios ranged from approximately 1.5 to 3.3 for each length of residence. Length of residence did not improve the likelihood of being insured until it reached 15 or more years.

For the foreign-born Hispanic population, however, longer length of residence in the United States seemed to improve the likelihood of being insured. For example, Hispanics residing in the United States for 1 to less than 5 years were almost 5 times as likely as US-born Whites to be uninsured (odds ratio [OR] = 4.7, 95% confidence interval [CI] = 3.7, 5.9). Hispanics residing in the United States for 5 to less than 10 years were almost 4 times as likely as US-born Whites to be uninsured (OR = 3.9, 95% CI = 3.2, 4.6). Finally, Hispanics residing in the United States for 15 years or more and US-born Hispanics were 1.8 times (95% CI = 1.6, 2.1) and 1.5 times (95% CI = 1.4, 1.7) more likely, respectively, to be uninsured than were US-born Whites. Despite these improving odds ratios, and in contrast to the foreign-born White and Asian/Pacific Islander populations, Hispanics who had resided in the United States for 15 years or more—and even those who were born in the United States—had a significantly higher probability of being uninsured than members of the US-born White population.

Discussion

The results of this study illustrate that on a national basis, a large proportion of foreign-born residents of the United States are not covered by health insurance. Foreign-born persons who have resided in the United States for fewer than 15 years, Hispanic immigrants in particular, are at especially high risk of lacking health insurance coverage. The insurance status of the foreign-born population is important because of the link between health insurance coverage, access to health care services, and subsequent utilization of these services in the United States.[17,32,33,34] Our results concur with those of past studies that indicate that foreign-born nativity status is generally associated with lower socioeconomic and occupational status, income, and educational attainment, as well as lower use of medical resources.[25,35,36] The immigration status of the foreign-born population has a substantial impact on this population's likelihood of having insurance coverage, particularly Medicaid and Medicare. Unlike private insurance, which is obtained as a benefit related to employment or on an ability-to-pay basis, the acquisition of public health insurance is governed by specific regulations that determine the timing and type of health insurance that non–US residents are eligible to receive.[26]

Although past efforts focused on preventing illegal immigrants from receiving public social benefits,[37] current initiatives focus on *legal* foreign-born residents. For example, a bill introduced in Congress as part of the Republican legislative agenda (also known as the

Contract with America) would prohibit the use of public benefits programs by legal immigrants under age 75. These programs include the supplemental security income program, temporary assistance for needy families, Medicaid services, food stamps, and other social services. This bill, which passed in different versions in both the House of Representatives and the Senate, was ultimately vetoed by the President.[38] Yet many of the restrictions pertaining to immigrant eligibility for public programs were resurrected in the Personal Responsibility and Work Opportunity Reconciliation Act of 1996, which was signed into law on August 22, 1996.[39] The "Welfare Reform Law," as it is commonly known, prohibits most legal immigrants who have not yet become citizens from SSI and food stamp benefits. (For elderly immigrants who are ineligible for Medicare, SSI has been a bridge to Medicaid coverage. Finally, this law also provides states with the "option to deny" many additional benefits to legal immigrants, including nonemergency Medicaid services. The extent to which states will exercise this option is unknown. Despite the fact that they must pay taxes and contribute to the Social Security system, legal immigrants in the United States would be denied public benefits under this bill. This could lead to costly, adverse social and public health consequences, including further exacerbation of the high rates of uninsured status found in this study.

Several limitations of this study should be noted. Caution must always be taken when using national survey data to examine characteristics of different racial and ethnic groups.[40] With regard to the foreign-born population, use of NHIS data does not permit determination of immigration status or identification of country of origin. The preliminary findings of this study should lend urgency and credence to contentions that more accurate identification of the foreign-born population in national surveys will enhance the understanding of the behavior and needs of this population. Finally, it should be noted that the findings of this study do not necessarily mean that foreign-born residents do not receive adequate and timely health care in the United States. The three primary types of insurance discussed in this paper (Medicare, Medicaid, and private) are not the only sources for health care services for immigrants. Migrant health centers and community health centers have a long-standing tradition of providing free care to immigrant populations.[41–43] A provision of the Immigration Reform and Control Act of 1986, whereby immigrants were legalized under the amnesty program, also conferred the opportunity for the foreign-born population to travel legally outside the United States.[44] For example, Mexicans who applied for legal status and did not have public medical benefits could seek medical assistance in their home country without fear of exposure to Immigration and Naturalization Service officials. Finally, foreign-born residents may choose a more familiar cultural milieu and seek health care from alternative healers or through the use of home remedies.[45]

In conclusion, this study found that foreign-born residents of the United States generally face greater economic disadvantages than US-born residents and that these disadvantages extend to higher rates of uninsured status and lower use of ambulatory care services. Length of residence in the United States was found to be an important explanatory variable in an examination of the health insurance status of the foreign-born population. To more accurately identify the foreign-born population in national health surveys, immigration status and country of origin must be ascertained. Finally, the substantial number of foreign-born persons without health insurance reported in this paper may be further exacerbated by legislative initiatives that seek to minimize or prohibit the use of public benefits programs by legal immigrants. □

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