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Parental Immigration Status is Associated with Children's Health Care Utilization: Findings from the 2003 New Immigrant Survey of US Legal Permanent Residents

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Abstract

Our objective was to examine the association between parental immigration status and child health and health care utilization. Using data from a national sample of immigrant adults who had recently become legal permanent residents (LPR), children ($n = 2{,}170$) were categorized according to their parents' immigration status prior to LPR: legalized, mixed-status, refugee, temporary resident, or undocumented. Logistic regression with generalized estimating equations was used to compare child health and health care utilization by parental immigration status over the prior 12 months. Nearly all children in the sample were reported to be in good to excellent health. Children whose parents had been undocumented were least likely to have had an illness that was reported to have required medical attention (5.4 %). Children whose parents had been either undocumented or temporary residents were most likely to have a delayed preventive annual exam (18.2 and 18.7 %, respectively). Delayed dental care was most common among children whose parents had come to the US as refugees (29.1 %). Differences in the preventive annual exam remained significant after adjusting for socioeconomic characteristics. Parental immigration status before LPR was not associated with large differences in reported child health status. Parental immigration status before

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LPR was associated with the use of preventive annual exams and dental services. However, no group of children was consistently disadvantaged with respect to all measures.

Keywords

Background

Nearly one quarter of children in the United States have at least one foreign-born parent [1], and this cohort represents the fastest growing group of American children [2]. These families, for simplicity described as "immigrant families," are highly diverse in national origin, socioeconomic status, and educational background. Additionally, they are diverse in their immigration experience, and include different subgroups of documented migrants (e.g. refugees and temporary migrants) as well as undocumented migrants.

Our understanding of the health status and other health issues among children in immigrant families remains limited. Previous studies have reported that children in undocumented families are more likely to be uninsured, in poor health, and lack a usual source of care relative to children in documented immigrant or non-immigrant families [3–5]. Another study found that children in refugee families may be more likely than children in non-refugee immigrant families to obtain dental care [6]. This pattern of disparities has been attributed to language, economic, and cultural barriers, but the importance of parental immigration status has not been adequately studied. For example, undocumented parents may be fearful of discovery by authorities and this may discourage them from accessing pediatric care [7]. In contrast, individuals from other immigrant subgroups, such as refugees, may be more likely to seek health care, perhaps because of engagement with case management services that promote access to care.

Available research is scant and largely limited to data from California. While this research advances the literature significantly, these analyses may not be nationally representative, due to state-specific policies. Furthermore, they did not consider the critically important differences between subgroups of documented immigrants, including immigrants following diverse pathways to legal permanent residency.

In order to address health disparities that affect children in immigrant families [8–14], it is important that we identify and understand disparities between subgroups that may be concealed by aggregate analyses. Using data from a national sample of immigrant parents who had recently become legal permanent residents of the US, we sought to examine the association between parental immigration status and child health. We hypothesized that the children's general health status and utilization of primary care and dental services would vary by their parents' immigrant subgroup. Specifically, we hypothesized that the children of formerly undocumented immigrants would have worse health status and less access to primary pediatric and dental care than the children of other subgroups of immigrants.

To test these hypotheses, we have used data from the New Immigrant Survey (NIS), a nationally representative, cross-sectional, self-reported survey of adult immigrants who had received permission to permanently reside in the US within the last 3 months, on average, before survey administration. Immigrants with permission to indefinitely reside in the US, called legal permanent residents (LPRs), are demographically and socioeconomically diverse, and represent approximately one-third of the total immigrant population [15, 16]. The NIS is unique because it includes detailed information about both parental immigrant subgroup and child health status.

Methods

Data Source

We conducted a secondary data analysis of the 2003 NIS, a detailed description of which is available elsewhere [17]. Briefly, the NIS sampling frame was compiled from administrative records held by the US government. Respondents were drawn from a multistage probability sample of all adults admitted to legal permanent residence in the US from May through November of 2003. The NIS oversampled immigrants who had received legal permanent residency through employer sponsorship or the diversity program, an annual immigration lottery that allows a small number of randomly selected applicants from countries with relatively low levels of US immigration to receive US legal permanent residency without family or employer sponsorship. Survey instruments were translated into ten languages (Amharic, French, Haitian Creole, Korean, Mandarin, Polish, Russian, Spanish, Tagalog, and Vietnamese) and key concepts were translated into eight additional languages (Arabic, Croatian, Farsi, Gujarati, Hindi, Serbian, Ukrainian, and Urdu). Adults were interviewed in-person or over the telephone, in the language of their choice. The overall response rate was 69 %, which is comparable to similar studies of US immigrants [18].

Sample

The primary NIS dataset includes 8,573 adult respondents. This group included 2,267 parents, all of whom answered detailed questions about the health status of up to two school-aged, biological, step or adopted children (5–18 years) living in the household at the time of survey administration and who were randomly selected from a roster of all eligible children in the household using computer assisted personal interviewing software (n = 3,351). From the sample of 3,351 children, we excluded 982 whose parents had become LPRs while living outside of the US, as our intention was to focus on immigrant families living in the US. We also excluded 199 children (5.9 %) because of missing information on parents' immigration status. The final sample of 2,170 children was categorized according to the immigrant subgroup to which their parents had belonged immediately before becoming LPRs, as described below. Survey responses are believed to capture differences extant prior to becoming LPR, given the brief interval (median 3.1 months) from receipt of LPR to survey administration, the lead time required to enroll in insurance and schedule health care appointments, and the fact that time to survey administration was comparable among groups.

Using parental immigration status immediately prior to becoming LPR, immigrant subgroups were defined as: (a) *legalized*: parents who were undocumented until they received legal status through immigration regularization programs in the 1990s (n = 504); (b) *mixed-status*: one immigrant parent who was married to a US citizen (n = 419); (c) *refugee*: parents who were refugees, asylees, or humanitarian parolees (n = 290);[1] (d) *temporary resident*: parents who were visitors in the US for education, employment, or tourism (n = 787); and e) *undocumented*: parents who entered the US without documentation and remained undocumented until they were sponsored for LPR (n = 170). Among the 1,751 children in the *legalized, refugee, temporary resident, and undocumented* subgroups, 83.0 % (1,453) had married parents; and of this group 20.4 % (307) had missing data for one parent and 21.1 % (297) had parents with discordant status, meaning each parent belonged to a different immigrant subgroup.

When parental immigration data were missing, children were categorized according to the immigrant subgroup of the parent for whom data were available. When parental immigration status was discordant, children were categorized according to the immigrant subgroup of the parent with the most advantageous immigrant status. This was based upon access to public benefits, such that *refugee* and *legalized* superseded *temporary resident*, which superseded *undocumented*.

Measures

Children's general health status was reported by the respondent parent and dichotomized as excellent, very good or good versus fair or poor. Parents were also asked if their child had any activity-limiting health conditions ("Any physical, emotional or mental condition that limits or prevents his/her ability to attend school regularly? Do regular school work? Do activities such as play, or participate in games or sports?") and if the child had experienced any illness that required medical attention or treatment within the prior 12 months ("During the past 12 months has [child] had any illnesses that required medical attention or treatment?").

Utilization of annual preventive care and dental care were assessed using parental recall of the date or interval since each child's last primary care and dental care visits. A delayed preventive annual exam was defined as not having seen "a doctor for a routine health check up" within the 12 months prior to the survey. Delayed dental care was defined as not having seen a dentist for "a checkup or to have some dental work done" within the same time period.

The following data on parental sociodemographic characteristics were obtained during the survey interview: country of birth, educational attainment, employment status, English proficiency, household income, and time in the US. The child's age, country of birth, health

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[1]We elected to combine these three groups (refugees, asylees, and humanitarian parolees) for the following reasons. First, these three groups typically receive permission to remain in the US on similar grounds, that of prior persecution (refugees, asylees) or humanitarian crisis (humanitarian parolees). Second, these groups have often had similar pre-immigration experiences in post-conflict or post-crisis settings. Third, after being granted refugee, asylee, or humanitarian parolee status, they are treated similarly with regards to access to public health insurance and other means-tested public benefits. Of note, data from the Department of Homeland Security show that 34,496 refugees, 10,431 asylees, and 4,202 parolees became legal permanent residents in 2003.

insurance coverage (private insurance vs. other),[2] and sex were also reported on the survey. For both parents and children, country of birth was categorized as: Asia (East and South Asia); Europe and Central Asia; Latin America (Mexico, Central America, South America) and the Caribbean; the United States; or Other [19].[3] Parental education, categorized as less than high school, high school, college, or postgraduate, was determined for the parent with the highest educational attainment. Households were characterized as "employed" if either parent was working. Self-rated parental English proficiency, dichotomized as very well or well versus not well or not at all, was assessed for the respondent parent. Unfortunately, comparable data were not available for her/his spouse, thus we could not determine the parent with the higher English proficiency level. However, for the majority (83.0 %) of married couples, both parents had been interviewed in the same language, which suggests that their English proficiency may have been similar. Using the 2003 federal poverty level (FPL) for a family of four ($18,400), household income was categorized as: unknown, FPL, 101–200 % FPL, 201–300 % FPL, 301–400 % FPL, or>400 % FPL. Time in the US was assessed only for the respondent parent, as comparable data were not available for his/her spouse.

In addition, we created a general measure of state-level support for health programs for immigrants. This measure does not capture the full spectrum of state benefit eligibility rules, which are nuanced and varied. Instead, for simplicity, we created a dichotomous variable that indicates whether the respondent's state of residence had extended public health insurance eligibility to all age- and income-eligible LPRs by 2002 [20]. Our intent was to capture whether states had taken minimal steps to ensure health care access for all legally, permanently residing immigrant children.

Data Analysis

We used the χ^2 test (for categorical variables) and one-way analysis of variance (for continuous variables) to compare the immigrant subgroups with respect to sociodemographic differences and the five health outcomes: general health status, activity-limiting health conditions, illness that required medical attention, delayed preventive annual exam, and delayed dental care. In order to account for the complex sample design, we used the SAS PROC SURVEYFREQ. PROC SURVEYFREQ is used to analyze data from surveys with complex sampling strategies; this allows for appropriate variance estimation and weighting of the data. For each dependent variable, we fit a multivariable logistic regression model that included parental immigrant subgroup and controlled for parental and child covariates. We analyzed the parental and child variables that are described in the Measures section above. These covariates differed among groups and have also been included in previous studies of child health [3, 4, 11, 21, 22]. In order to account for clustering of children within families (the sample includes 715 sibling pairs and 740 children without siblings), logistic regression modeling used generalized estimating equations (PROC GENMOD). Model results were used to calculate predicted (adjusted) estimates for

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[2]In the US, private health insurance is associated with fewer access-related barriers to annual preventive health care. However, children with public insurance are often more likely to have dental insurance coverage.
[3]We used a modified version of the World Bank's Country and Income Groups.

each dependent variable [23]. Immigrant subgroup was considered to be associated with each outcome if it remained significant at the 0.05 level in the multivariate models.

We used SAS Version 9.2 software for all analyses. The Office of Population Research at Princeton University approved the use of the New Immigrant Survey for this analysis, and the Institutional Review Board of Yale School of Medicine approved and monitored the conduct of this study.

Results

Description of the Sample

The profile of sociodemographic characteristics varied by parental immigrant subgroup prior to LPR (Table 1). The legalized cohort had the highest proportion of children who had been born in the US (85.3 %), and former refugees the fewest (21.0 %). Children in families that had been undocumented had the lowest rate of private health insurance coverage (20.0 %), and the children of former temporary residents had the highest rate of private coverage (50.4 %). In addition, nearly a third of children in temporary resident families had parents with a postgraduate education (33.8 %), and nearly two-thirds had parents with adequate English proficiency. Children in undocumented families were most likely to have parents with limited English proficiency (75.0 %), and families in this cohort had among the longest mean duration of US residency (12.2 years), exceeded only by the legalized cohort (15.7 years). Refugee families had the shortest mean duration of US residency (6.6 years).

Unadjusted Results

Nearly all children in the sample—including the children of former refugees and undocumented immigrants—were reported to be in good to excellent health (Table 2). Unadjusted differences in general health status were relatively small but statistically significant. Larger and statistically significant group differences were found, however, with regard to activity-limiting health conditions ($P = 0.020$), delayed preventive annual exam (P <0.001), and delayed dental care ($P = 0.019$). Contrary to our hypothesis, children in families that had been undocumented prior to LPR were the least likely to have had a significant illness in the prior year (5.4 %), compared with nearly one in seven children (14.1 %) in mixed-status families. However, children in families that had been undocumented were also among those who were most likely to have had a delayed preventive annual exam (18.2 %), similar to the children of temporary residents (18.7 %). Utilization of dental services was least common among children in refugee families; nearly one-third (29.1 %) of children in this subgroup had not received dental services in the previous 12 months.

Adjusted Results

As the results in Table 3 show, adjustment for sociodemographic characteristics widened the disparity in the proportion of children who had activity-limiting conditions between two groups of children: children in former refugee and temporary resident families (6.7 vs. 2.1 %, P <0.05). In addition, children in formerly undocumented and temporary resident families remained significantly more likely to experience a delayed preventive annual exam

(14.8 and 13.8 %, respectively) compared with other groups of children (for example, 7.3 % of children in legalized families reported a delayed preventive annual exam). In contrast, parental immigrant subgroup was no longer significantly associated with reported child health or delayed dental care. Groups with the largest and smallest proportions of children in each category differed by only 1.6 % (adjusted) for parent-rated health and 6.2 % (adjusted) for delayed dental care.

Discussion

In this cohort of children whose parents had recently become LPRs, we found that in unadjusted analyses parental immigrant history was associated with the use of pediatric primary care and dental services. Children whose parents had been legalized or temporary residents were more likely to have delayed annual preventive care than children in other immigrant subgroups, and children whose parents had been refugees were more likely to have delayed dental care. However, no single group of children was consistently disadvantaged with respect to all measures of child health and health care utilization. Differences in primary care utilization were not fully explained by socioeconomic and demographic factors, such as children's nativity or parental English proficiency. In contrast, differences in the utilization of dental services were largely attributable to socioeconomic and demographic characteristics, and oral health care utilization was inadequate for all groups.

The parents in this study reported that their children were generally healthy. This was somewhat surprising, since previous studies of immigrant families have reported lower levels of child health status. For example, a nationally representative study of US-born children with non-citizen parents reported that approximately 13 % of children were in poor or fair health [24, 25]. The findings of the present study may be related to the fact that NIS respondents are new LPRs. Although available data demonstrate that a significant number of LPRs live in poverty [26, 27], this group may still have more resources or social supports than other groups of immigrants.

There are very few data on utilization of primary care and dental services among children in different immigrant families, because most large studies of child health do not collect detailed information about children's or parents' immigration history. In a state-wide survey of California children that focused on children with special health care needs, 7 % of all children in immigrant families and 16 % of children with at least one undocumented parent had no visits to the doctor in the past year [3]. This is consistent with results from our study, in which children whose parents had been undocumented prior to LPR were more likely than children in mixed-status, refugee, or legalized families to have gone without a preventive annual exam for the past year.

Although socio-demographic differences may make it difficult to compare children in the NIS sample with children in the general US population, the 2003 National Survey of Children's Health (NSCH) can provide additional context. Data from the NSCH suggest that, in general, children in nonimmigrant families are less likely than those in the NIS sample to have delayed preventive annual exams or dental care. Among children aged 5–17

years with native-born parents: 2.3 % were reported to be in fair or poor health; 12 % had not seen a health care professional in the past 12 months for preventive medical care, such as a physical exam or well-child checkup; and 9 % had not seen a dentist of any kind within the prior 12 months [28].

Although we hypothesized that children in undocumented families would experience worse health and lower utilization of health services than other groups of children, this group was not found to be disadvantaged for all measures. Instead, we were surprised to find that children in temporary resident families also had a high rate of delayed annual preventive care. This group of children had the highest rates of private health insurance, and their parents were most likely to have completed higher education and to speak English proficiently. These characteristics are generally associated with increased access to health care [21, 22]. This finding raises questions about the US experience of temporary residents. It is possible that temporary residents, whose legal status in the US is often dependent upon their employer, may be less likely to take time off for routine medical care for their children. Temporary residents had been ineligible for public health insurance programs in most states, so it is also possible that they are less likely to be engaged in state-sponsored programs promoting preventive care. Similarly, temporary residents, who live in the US on a provisional basis, may be less likely to adopt US preventive health care norms, particularly if they perceive that their children are in good health.

We did not hypothesize that the children of legalized immigrants would be most likely to have received dental care, given that their parents were less likely to have completed high school or speak English proficiently, and only 30 % of children were privately insured. However, the majority of children in legalized families were born in the US, lived in states with broadened public insurance eligibility rules for immigrant children, and their parents had the longest duration of US residency. These characteristics may be associated with access to insurance that includes dental coverage or with adoption of US norms regarding regular pediatric dental care. This is also consistent with the relatively low rate of delayed annual preventive care among children in this subgroup.

Limitations

Although we found that variation in utilization of pediatric primary care was associated with parents' immigrant subgroup, it is possible that this association is explained by confounding variables that we could not account for in our analyses. These variables may include neighborhood-level differences—such as proximity to health care providers or supportive co-ethnic communities—or other family-level variables, such as family wealth. However, given the legal and social context of immigration in the US, in which access to state and federal health insurance programs is explicitly tied to immigrant subgroup, it is possible that differences may be attributable, at least in part, to parental immigrant subgroup.

The complex nature of immigration also posed a number of methodological challenges for our study. Immigrants in the US are culturally diverse, and it is possible that parents from different cultural groups may have interpreted questions about the health and health care needs of their children differently or have differed in their recollection. As with other studies relying on parental report, this is a limitation of our study. Additionally, immigrants may

enter the US on multiple occasions before becoming LPRs, and their immigration status may change over time [29]. For example, an immigrant may enter the US with a student visa, apply for asylum and remain in the US without documentation, and ultimately become an asylee before attaining LPR. However, our categorization schema takes into account only the last status before LPR. Although it is difficult to predict how this would affect our results, it is possible that it has led us to underestimate differences among groups. Similarly, our study, like other research focusing on the correlations between parental characteristics and pediatric outcomes, is complicated by the fact that most children have two parents who may have different immigration histories. There are no data on the relative influence of maternal versus parental immigrant subgroup, and we have assumed that families would rely upon the resources available to the parent who belongs to the most advantageous immigrant subgroup. To evaluate this assumption, we re-categorized children according to the *least* advantageous immigrant subgroup of either parent, with undocumented superseding all other subgroups. As might be expected, we found that this change lowered the proportion of children in undocumented families with delayed primary and dental care. However, other trends were similar, and we chose to use our original categorization scheme.

Finally, our study was limited to families that have attained legal permanent residency. This group may be more homogenous than the broader population of US immigrants, many of whom lack the legal status, employment, and family supports necessary to become LPRs. However, these are the best available data on the relationship between child health and parental immigration history, and we believe that they deepen our understanding of the health and health care utilization of children in the many immigrant families who become LPRs each year.

Implications

It is important to disaggregate pediatric health information by parental immigrant history. Such analyses will improve the identification of pediatric subgroups that have higher rates of appropriate health care utilization, as well as vulnerable subgroups that require concentrated action. This is of particular importance in regions with large immigrant populations. In these regions, social services targeting specific immigrant subgroups may be able to partner with the health system in order to improve outreach and utilization.

Given that eligibility for many public programs is linked to immigrant subgroup, detailed analyses according to children's immigrant subgroup are also needed. These data would allow policymakers to better understand the health impact of changes to immigration-related eligibility criteria. To accomplish this, the research community will need to develop better methodological and analytic tools that allow for either the imputation [30] or the direct assessment of children's and parents' immigration history. Without this information, it will be challenging—if not impossible—to understand the impact that state and federal insurance eligibility rules have on the health and health services utilization of children in immigrant families. Nor will we be able to distinguish groups with adequate health outcomes from those with persistent health disparities.

Acknowledgments

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Table 1

Characteristics of children (5–18 years) in immigrant families, by parental immigrant subgroup: New Immigrant Survey 2003

	Parental subgroup				
	Legalized[a]	Mixed-status[b]	Refugee	Temp. Res.[c]	Undoc.[d]
Number	504	419	290	787	170
Child's characteristics					
Age[†], year (SD)	11.1 (3.5)	10.4 (3.8)	11.5 (3.8)	10.9 (3.7)	11.0 (3.8)
Sex, % female	44.1	49.6	45.5	52.2	51.8
Region of birth[†], %					
Asia	0.2	9.8	13.1	28.3	2.4
Latin America/Caribbean	14.3	20.3	12.8	14.5	33.3
Europe/Central Asia	0	4.1	36.6	11.1	0
United States	85.3	61.5	21.0	33.3	64.3
Other	0.2	4.3	16.6	12.9	0
Health insurance[†], % private	30.0	42.5	30.3	50.4	20.0
Parents' characteristics					
Region of birth[†], %					
Asia	46.1	15.6	15.3	38.7	2.9
Latin America/Caribbean	22.4	65.6	23.7	35.8	97.1
Europe/Central Asia	23.1	8.9	39.0	13.4	0
Other	8.4	9.9	22.0	12.1	0
Educational attainment[†], %					
<High school	72.3	39.4	37.9	27.8	71.2
High school	20.1	27.5	31.6	10.5	24.0
College	7.2	20.5	15.3	28.0	2.9
Postgraduate	0.3	12.6	15.3	33.8	1.9
Employment status, % unemployed	5.1	5.3	6.4	5.7	10.2
Limited English proficiency[†e], %	64.8	51.6	55.8	36.0	75.0
Household income $18,400, %	17.3	16.1	23.2	16.1	23.1
Time in the US[†], year (SD)	15.7 (3.7)	7.9 (6.5)	6.6 (3.9)	8.1 (5.4)	12.2 (6.2)

	Parental subgroup					
	Legalized[a]	Mixed-status[b]	Refugee	Temp. Res.[c]	Undoc.[d]
State of residence (eligible)[†f], %	94.3	75.7	66.6	79.8	83.5

‡ $P < 0.05$,

† $P < 0.001$

[a] *Legalized*: children in families with at least one parent who had been undocumented prior to receiving legal status through an immigration regularization program in the 1990s

[b] *Mixed-status*: children in families with one US-citizen parent and one non-citizen parent

[c] *Temporary Resident*: children in families with at least one parent who had been a temporary resident in the US prior to becoming LPR

[d] *Undocumented*: children whose parent or parents had been undocumented prior to becoming LPR

[e] Respondents who reported speaking English "not well" or "not at all"

[f] A dichotomous variable was created to reflect whether the respondent was residing in a state that had extended public health insurance eligibility to all age- and income-eligible LPRs by 2002

Table 2

Unadjusted percentages and 95 % confidence intervals (95 %CI) for health status and health care utilization for children (5–18 years), by parental immigrant subgroup: New Immigrant Survey 2003

		Legalized[a]	Mixed-status[b]	Refugee	Temp. Res.[c]	Undoc.[d]	P
Fair/poor health status	%	4.6	1.9	3.1	1.2	1.8	0.002
	95 %CI	2.8, 6.4	0.6, 3.3	1.1, 5.1	0.4, 1.9	0, 3.8	
Activity-limiting health condition	%	4.8	4.9	5.9	2.7	4.2	0.020
	95 %CI	2.7, 6.9	2.8, 6.9	2.8, 9.1	1.4, 4.0	0.7, 7.6	
Illness requiring medical attention[e]	%	8.6	14.1	10.5	10.3	5.4	0.047
	95 %CI	7.8, 12.7	10.3, 17.9	6.5, 14.5	5.9, 11.3	1.2, 9.5	
Delayed preventive annual exam[f]	%	7.8	6.5	11.7	18.7	18.2	<0.001
	95 %CI	4.7, 10.9	3.4, 9.4	6.7, 16.6	15.0, 22.3	10.8, 25.5	
Delayed dental care[g]	%	17.0	23.3	29.1	20.1	23.4	0.019
	95 %CI	12.9, 21.0	18.4, 28.2	22.7, 35.4	16.6, 23.5	15.2, 31.7	

[a]*Legalized*: children in families with at least one parent who had been undocumented prior to receiving legal status through an immigration regularization program in the 1990s

[b]*Mixed-status*: children in families with one US-citizen parent and one non-citizen parent

[c]*Temporary resident*: children in families with at least one parent who had been a temporary resident in the US prior to becoming LPR

[d]*Undocumented*: children whose parent or parents had been undocumented prior to becoming LPR

[e]Any illness believed by parents to require medical attention within the 12 months prior to survey administration

[f]No routine health checkups by a physician within the 12 months prior to survey administration

[g]No dental encounters within the 12 months prior to survey administration

Table 3

Adjusted percentages for health status and health care utilization for children (5–18 years), by parental immigrant subgroup: New Immigrant Survey 2003[†]

	Legalized	Mixed-status	Refugee	Temporary resident	Undocumented
Fair/poor health status, %	2.7	1.4	2.3	1.2	1.1
Activity-limiting health condition, %	3.6	3.9	6.7[a]	2.1[a]	4.1
Illness requiring medical attention, %	12.7[b]	11.5	8.2	7.5[b]	8.7
Delayed annual preventive exam, %	7.3[g,h]	5.6[c,d]	6.7[e,f]	13.8[d,f,h]	14.8[c,e,g]
Delayed dental care, %	17.6	23.8	21.2	18.5	19.1

Comparisons with the same letter are significant at $P < 0.05$

[†] Results are adjusted for the following covariates: child's age, place of birth (US vs. other), insurance coverage (private vs. other); parental region of birth, education, English-proficiency, household income, and time in the US; and whether the family resides in a state that offers public health insurance to eligible legal permanent residents