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How does legal status matter for oral health care among Mexican-origin children in California?



R.S. Oropesa^{a,*}, Nancy S. Landale^a, Marianne M. Hillemeier^b

^a Department of Sociology, The Pennsylvania State University, University Park, PA 16802, United States

^b Department of Health Policy and Administration, The Pennsylvania State University, University Park, PA 16802, United States

A B S T R A C T

This research examines the relationship between legal status and oral health care among Mexican-origin children. Using the 2001–2014 California Health Interview Surveys, the objectives are: (1) to demonstrate population-level changes in the legal statuses of parents, the legal statuses of children, and the likelihood of receiving dental care; (2) to reveal how the roles of legal status boundaries in dental care are changing; and (3) to determine whether the salience of these boundaries is attributable to legal status per se. The results reveal increases in the native-born share and dental care utilization for the total Mexican-origin population. Although dental care was primarily linked to parental citizenship early in this period, parental legal statuses are no longer a unique source of variation in utilization (despite the greater likelihood of insurance among citizens). These results imply that future gains in utilization among Mexican-origin children will mainly come from overcoming barriers to care among the native born.

1. Introduction

Oral health care is important for children's well-being due to the prevalence of dental disease and its role in respiratory, cardiovascular, neurological, and developmental conditions (Dye, Thornton-Evans, Li, & Iafolla, 2015; Institute of Medicine (IOM), 2011a, 2011b). The importance of such care is also amplified by disparities in health and the utilization of health services that reflect the marginalization of ethno-racial groups with few resources (Lee & Divaris, 2015; Link and Phelan, 1995; Schwendicke et al., 2015). The reduction of such disparities is an important health policy objective.

Investigations of ethno-racial disparities increasingly direct attention to Mexican-origin children, a group that is among the least likely to see a dentist and the most likely to have untreated tooth decay (Dye, Arevalo, and Vargas, 2010; Edelstein and Chin, 2009; Gao and McGrath, 2011; Stewart, Ortega, Dausey, and Rosenheck, 2002). However, documentation status is rarely examined due to limited data in the most widely-used health surveys sponsored by the federal government.¹ Federal health policy frameworks largely ignore undocumented residents as well, as exemplified by their invisibility in the IOM (2011b) report on *Improving Access to Oral Health Care for*

Vulnerable and Underserved Populations.

This study analyzes data from the 2001 to 2014 California Health Interview Surveys (CHIS) to address three objectives: (1) to describe population-level changes in dental care utilization and the legal statuses of Mexican-origin children and parents; (2) to describe changes in how specific legal statuses matter for dental care; and (3) to investigate whether legal status differences remain after controlling for various forms of capital that reflect the family's financial, educational, linguistic, and social resources. In so doing, this research illuminates the most salient status-related distinctions and the extent to which their importance is intensifying or dissipating.

It should be noted at the outset that the relevance of these issues extends beyond California, but greater geographic scope is precluded by limited data in national health surveys. Regardless, California is important on its own right. The American Community Survey shows that it has the largest shares of the Mexican-origin population (35%, 12.7 million) and Mexican immigrants (37%, 4.3 million) in the United States. Mexican-origin children are also the largest ethno-racial group under age 12 in the state; their share is now 45%, up from 38% in 2001 (<https://usa.ipums.org/usa/>).²

* Correspondence to: The Pennsylvania State University, Department of Sociology, 211 Oswald Tower, University Park, PA 16802.

E-mail addresses: rsol@psu.edu (R.S. Oropesa), nsl3@psu.edu (N.S. Landale), mmh18@psu.edu (M.M. Hillemeier).

¹ These surveys do not include questions on the status of non-citizens due to concerns about negative reactions that may adversely affect survey non-response, item non-response, and truthfulness (General Accounting Office, 2006). Human subject protections and public input are also considerations. However, such concerns may be exaggerated (Bachmeier, Van Hook, and Bean, 2014). The National Academies of Sciences, Engineering, and Medicine (2015) recommend that future health surveys directly measure legal status.

² This exceeds 41% for whites (25%), African Americans (5%), and Asians (11%) combined.

2. Perspectives and hypotheses

2.1. Civic stratification

This investigation is theoretically grounded in *civic stratification*, a perspective that emphasizes the hierarchical classification of immigrants by the state to regulate access to the rights of citizenship (Lockwood, 1996; Morris, 2003; Torres and Waldinger, 2015). The top stratum consists of naturalized citizens with all rights of citizenship. The middle stratum holds “lawful permanent residents” with unrestricted authorization to seek employment and to receive public benefits. The bottom stratum consists of undocumented residents who lack authorization to live in the United States.³

Typically, the distinction between unauthorized and authorized immigrants who are permanent residents and citizens is of greatest interest (Torres and Waldinger, 2015). The unauthorized are uniquely disadvantaged with limited rights, resources, and opportunities that have implications for health care. *If civic stratification matters, undocumented children and children of the undocumented should be least likely to receive dental care.* Possible reasons include undocumented parents’ unique interests in curtailing use of public spaces and contact with institutions to minimize the risk of apprehension. Undocumented parents are also disproportionately concentrated in low-paying, no-insurance jobs (Bean, Brown, Leach, Bachmeier, and Van Hook, 2014; Hall, Greenman, and Farkas, 2010). Uncertainty about children’s eligibility for public programs is another possible consideration.

At the same time, the question of whether documentation, citizenship, or nativity is most important for receiving dental care remains open. Some studies show that children of undocumented parents do not necessarily have the lowest levels of medical care. For example, Mexican-origin children of permanent residents are the least likely to see a physician in California (Oropesa, Landale, and Hillemeier 2016).

2.2. Trends: Declining dental care with increasing salience of legal status

A possible scenario for temporal change is declining dental care utilization coupled with the increasing salience of legal status. This scenario is consistent with alleged shifts in public opinion and government efforts to bolster internal and external border controls. Specifically, increasing public antagonism and enhancements in governmental capacity to apprehend, detain, and deport presumably intensified pressure on the undocumented to avoid the health care system (Berk and Schur, 2001; Chavez, 2013; Hagan, Rodriguez, and Castro, 2011; Heyman, 2014; Kanstroom, 2007). *Such pressure should reduce utilization and exacerbate differences by documentation status.* Nonetheless, “fear and vulnerability” may have also spread through social contagion to authorized immigrants in “the broader community” (Rosenblum and Meissner 2014). *If so, differences should increasingly crystallize around citizen-noncitizen or native-foreign status boundaries, not documentation per se* (Coutin, 2011).

The economy is another consideration. Although a brief downturn occurred in 2001, the Great Recession of 2007–2009 was especially severe. The recession undercut the economic foundations of many families as financial, real estate, and labor markets collapsed. Family budget constraints tightened and “elective” expenditures suffered as a result. This points to the possibility of a shock-induced *decline in dental care utilization* (at least temporarily). *Severe economic shocks should also intensify status-related differences if their impacts are concentrated in some categories.*⁴

³ Among various admission channels for foreign nationals are those for refugees, asylees, and temporary migrants. The former are in the middle stratum. Refugees must apply for a green card one year after entering. Asylees are encouraged to do so. Few Mexicans are eligible for these statuses.

⁴ The incomes of Mexican-origin non-citizen households typically declined while incomes of citizen households increased at the onset of the recession (Kochhar 2008).

2.3. Countervailing trends: Increasing utilization with decreasing salience of legal status

Another possible scenario is increasing utilization with the dissipation of status-related differences due to countervailing trends in immigration, the social climate, and the policy environment. Specifically, net migration fell to zero when cross-border movement collapsed during the recession and border control intensified (Hoefler, Rytina, and Baker, 2011; Passel, Cohn, and Gonzalez-Barrera, 2013; Warren and Warren, 2013). Fewer undocumented arrivals should alleviate downward pressure on utilization rates if these immigrants are particularly unlikely to receive care. *Thus, rates could stabilize or increase through changes in population movement.*

As for the social climate, fear of contact with the health care system may have grown with antagonism towards the undocumented in the nation at large (Derose, Escarce, and Lurie, 2007; Portes, Fernández-Kelly, & Light, 2010). However, California’s social climate is increasingly receptive towards the undocumented; fewer residents view them as a threat to the state’s economic, social, and cultural fabric. The number who are extremely concerned about the adverse impacts of those characterized as “illegal” immigrants has waned and most residents now favor paths to citizenship and health coverage for undocumented children (Field Research Corporation, 2006, 2013; USC/USC/Los Angeles Times, 2013). *Such favorable shifts in public opinion could facilitate utilization by alleviating concerns about using public spaces and public institutions.*

The policy environment revolves around the most important federal programs for children’s health care—Medicaid and the State Child Health Insurance Program (CHIP). California administers these as Medi-Cal and Healthy Families, with dental care offered under each as fee-for-service Denti-Cal and managed care plans.⁵ In general, the number and share of children in these programs have increased since 2001 (California Healthcare Foundation, 2012; www.medicare.gov). For example, public insurance increased from 36% in 2008 to 47% in 2015 for all California children ages 0–11 (<https://usa.ipums.org/usa/>). Public insurance for California’s Mexican-origin children rose from 51% to 64%, mostly during the recession and after 2014.

There are two pillars of eligibility for Medi-Cal and Healthy Families. The first is low income, as determined by the ratio of family income to federal poverty thresholds (CHF, 2006, 2013). This is not a source of change since the upper limit of eligibility for both programs combined has been constant.⁶ Second, federal funds have been largely restricted to citizens and non-citizens classified as “qualified aliens.” This classification excludes unauthorized residents. This classification also excluded those in their first five years as a permanent resident until the 2009 CHIP Reauthorization Act lifted this ban. Nonetheless, California started using state funds to cover those subject to the five-year ban several years before. This is another indicator of receptivity.

County-based programs also emerged to cover children who were ineligible for state-supported coverage due to legal status, including Calkids, Children’s Health Initiatives (Healthy Kids), and the Kaiser Permanente Child Health Program. Calkids was created by a private foundation in 1992, with “virtually all” enrollees undocumented by 2006 (CaliforniaKids Healthcare Foundation, 2006, p. 11). Children’s Health Initiatives mobilized local, private, and foundation support to expand the safety net. Starting with one county in 2001, these initiatives peaked at 31 counties in 2007 (CHF, 2012).

The timing of this coincided with a state legislative milestone (AB

⁵ CHIP was administered as Healthy Families during most of the period examined here. Healthy Families transitioned to Medi-Cal in 2013–14.

⁶ Medi-Cal supports infants in families whose income is 0–200% of the threshold, ages 1–5 whose income is 0–133% of the threshold, and ages 6–19 whose income is 0–100% of the threshold. Healthy Families extends the income limit to 250% of the poverty threshold for all ages (CHF, 2006, 2013). The upper limit is greater in a few counties with a high cost-of-living.

1433, passed 2006) that required public school students to receive an oral health assessment from a licensed professional when entering kindergarten or first grade (www.cda.org). School districts were also required to disseminate information on oral health and program assistance. Still in effect, this policy supports dental care utilization and reductions in status-related differences if those in undocumented families with few resources are the least likely to get care.⁷

Another milestone is the 2010 Affordable Care Act (ACA). With dental care deemed an essential benefit for children, this act instituted numerous reforms to reduce the number of uninsured citizens (www.healthcare.gov). It enabled states to create exchanges where insurers could offer qualified plans, to expand Medicaid and CHIP, and to subsidize premiums for the low income. The ACA also imposed a federal tax penalty for remaining uninsured. Administered as Covered California, the state exchange opened enrollment in 2013 for dental and health coverage the following year (California Health Benefit Exchange, 2013). California also passed legislation to cover the undocumented under full-scope Medi-Cal and Denti-Cal (SB 75, 2015) and to provide them with unsubsidized access to the state exchange (SB 15, 2016).⁸

These are signs of an increasingly protective state policy environment. In contrast, the national policy environment has grown increasingly restrictive with initiatives to bolster internal and external border controls that could have negative spillover effects on health care. These include programs to coordinate Immigration and Customs Enforcement (ICE) and state and local police (287 g, Priority Enforcement, Secure Communities programs). The federal government also institutionalized E-Verify, an electronic program for employers to determine the eligibility of non-citizen job applicants. Such efforts increase pressure on unauthorized residents to remain in the shadows and to minimize contact with the health care system.⁹

This expansion of federal enforcement activities should intensify documentation status differences in utilization, but expectations are unclear for the state ([Leerkes, Leach, & Bachmeier, 2011](#)). In California, police cannot detain the undocumented for minor offenses, private employers may opt out of E-verify, employers cannot contact federal agencies about undocumented workers, and the undocumented are now eligible for driver's licenses. The State Senate also recently passed a "California Values Act" that would further limit police cooperation with ICE and create "safe zones" for the undocumented in public places, including health facilities.

In summary, civic stratification points to legal status as a determinant of differences in dental care among Mexican-origin children. However, uncertainty exists about how their utilization of oral health care services has changed and how the effect of legal status has changed. The conventional wisdom is that documentation per se is paramount and persistent as a determinant, but citizenship and nativity

⁷ Parents can seek a waiver for this requirement. No information is available on waiver uptake by legal status.

⁸ The state recently withdrew its request for a waiver to permit this due to concerns about whether the federal government would use enrollment information to apprehend the undocumented.

⁹ Only 6% of businesses in California participated in E-Verify in 2012, compared to 42% in Arizona ([Meissner, Kerwin, Chisti, & Bergeron, 2013](#)). The 287(g) program was started in 2002 to authorize specially-trained police officers in local departments to perform immigration enforcement duties, including identifying the undocumented during routine questioning in initial encounters and detention. Secure Communities was active from 2008 to 2014, after 287(g) was downsized. Secure Communities facilitated the transmission of biometric data collected from persons arrested in local jurisdictions to ICE for a determination of their eligibility for detention and removal. Priority Enforcement began in 2014 to re-direct removal proceedings to those convicted of serious crimes. The new administration is attempting to reverse course by expanding these programs and the priorities for removal. In California, the Orange County Sheriff's Office is the only agency to have a current memorandum of agreement with ICE to participate in 287(g) (www.ice.gov/factsheets/287g). To the best of our knowledge, cooperation peaked from 2005–09 with participation by the Sheriff's Offices of Los Angeles County (signed 2005), Orange County (2006), Riverside County (2006), and San Bernardino County (2005). Only one county was active by 2010.

are potential sources of differences in utilization as well.

3. Data and methods

3.1. Source

We examine probability samples of Mexican-origin children ages 2–11 from the 2001–2014 California Health Interview Surveys ([CHIS, 2014](#)). These surveys were administered to the parent who was "most knowledgeable" about the focal child's health by telephone in odd-numbered years before 2011 and continuously thereafter.¹⁰ Parents were interviewed in five languages, including English and Spanish. In total, 17,894 children were "Mexican," "Mexican American," or "Chicano" with U.S.-resident parents.

All analyses rely on imputed data generated by the CHIS, which uses logical imputation from values for household members and predicted values from generalized linear models. The prevalence of incomplete information for most survey items is below 2%, except for household income at 20% ([CHIS, 2014](#)). Documentation status per se was imputed for less than 5% of parents of children.

3.2. Dental care

Parents indicated when their child "last visited a dentist or dental clinic." Those seeing a dentist, dental hygienist, or dental specialist in the past year (coded 1) are contrasted with those who had not (coded 0). Because the American Academy of Pediatric Dentistry recommends that exams start when the first tooth erupts or no later than age one, two is the minimum age for inclusion here.

3.3. Legal status

Legal statuses of mothers, fathers, and children are ascertained with questions that permit identification of native-born citizens, naturalized citizens, permanent residents, and non-permanent residents. The latter are referred to as "undocumented" because the overwhelming majority lack a temporary visa ([Gonzalez-Barrera, Lopez, Passel, and Taylor, 2013](#)).

The operationalization of parental status emphasizes the lowest-status mother or father ([Table 1](#); see [Oropesa, Landale, and Hillemeier, 2015](#)). Children of one (outlined) and two (shaded) undocumented parents are identified first, followed by their permanent resident counterparts. Naturalized citizens are next, irrespective of number due to sparse frequencies for some years. Two native-born parents remain.¹¹

The full set of children's statuses is initially examined. This reveals changes in population composition that shift subsequent attention primarily to nativity. Nonetheless, results from supplementary analyses to contrast undocumented and native-born children of undocumented parents are also reported.

3.4. Covariates

Several socio-economic variables are included because legal status covaries with forms of capital that affect decisions. The *household income-to-needs ratio* measures economic resources. This identifies those below and above the poverty line (i.e., 100–199, 200–299, and 300 +

¹⁰ Surveys are fielded for the UCLA Center for Health Policy Research using random-digit dialing and multi-stage sampling to generate representative samples of California adults (18+), adolescents (12–17), and children (0–11). One person in each age group per household was randomly selected.

¹¹ There are several reasons for these operational decisions. First, sixteen unique categories would fully describe the joint statuses of parents (4 × 4). This would be unwieldy and compromise estimates for some years due to sparse frequencies. Second, information on both parents is used irrespective of family structure because non-resident parents may support their children by covering them under their own insurance. Preliminary analyses indicate that inferences are not sensitive to this decision.

Table 1
Coding scheme: Parent status for Mexican-origin children ages 2-11 in California (N = 17,894).

	Mother's legal status			
	U.S. born	Naturalized citizen	Permanent resident	Undocumented
Father's legal status				
U.S. born	28.5% (A)	3.5% (B)	2.5% (C)	0.6% (D)
Naturalized citizen	5.0% (E)	5.5% (F)	5.3% (G)	1.9% (H)
Permanent resident	4.0% (I)	3.2% (J)	8.6% (K)	3.8% (L)
Undocumented	3.4% (M)	1.3% (N)	2.3% (O)	20.6% (P)

Note: These weighted percentages are based on children ages 2+ for all years. Boxed areas identify combinations according to the low-status parent. Shaded areas identify same-status combinations that are preserved.

percent of the threshold). The parent's highest level of *education* and *English proficiency* are indicators of human capital, with *family structure* (single vs. two-parent) a source of social capital. Additional controls are the *child's age*, *survey year*, and *county of residence* (a fixed effect, details available on request). Counties are important as administrative units for public programs, as well as their variation in composition, structure, and dental care availability.

3.5. Insurance

Legal status may affect utilization through *dental insurance*. Insurance information is unavailable for most recent years (2009–2012), except 2013–14. This survey asked: "Do you now have any type of insurance that pays for part or all of your child's dental care?" Interviewers could offer "dental insurance, prepaid dental plans such as HMOs, or government plans such as Medi-Cal or Healthy Families" as examples.

3.6. Analysis plan

Separate analyses are reported for the *total sample* and the *native-born sample of Mexican-origin children*, based on weighted data with standard errors adjusted for the complex sample design using SAS Survey Analysis Procedures. The former permits generalizability to the total population. The latter highlights children in mixed-status families, especially the native born with undocumented parents (Fix & Zimmermann, 2001; Yoshikawa, 2011). As noted, native born and undocumented children of undocumented parents are also compared.

3.7. Caveats

Non-response bias is a potential issue for all survey research. As

would be expected during an era of declining survey participation (National Research Council, 2013), the CHIS response rate fell from 35% in 2001 to 11–14% from 2009 onward (CHIS, 2016).¹² However, the response rate is a weak stand-alone indicator of representativeness and the potential for biased estimates is reduced by proper weighting (Davern et al., 2010; Groves, 2006; Groves and Peytcheva, 2008a, 2008b; Keeter, Hatley, Kennedy, and Lau, 2017; National Research Council, 2013). Of course, the prevalence and consequences of selectivity by legal status are unknowable without information on non-respondents.

4. Results

4.1. Trends

Table 2 shows changes in population composition among Mexican-origin children since 2001. The native-born share grew from around 90% to 97%. Consistent with the downward trend in immigration, this indicates that children's legal status now has little potential to explain variation in dental care. The undocumented account for the largest share of the foreign born, but there are too few to have much impact on the overall rate. There are also too few naturalized citizens and permanent residents to examine separately because nearly all are native born.

Parental status distributions for all and U.S.-born children also shifted. The top panel indicates that the percentage of all children with two citizen parents increased from less than 40% to almost 50%. This reflects growth in two native-born parents from 25% to 34%, along

¹² CHIS response rates are similar to those for some comparable surveys, including the Behavioral Risk Factor Surveillance System (CHIS, 2016). In addition, some evidence suggests that non-response is not a source of bias here (Lee, Brown, Grant, Berlin, and Brick, 2009).

Table 2
Legal status: Weighted percentages for Mexican-origin children ages 2–11 in California, 2001–2014.

	All	Year						
	Years	2001	2003	2005	2007	2009	2011–12	2013–14
All children (N = 17,894)								
Child legal status								
U.S. born	93.8	91.0	89.8	92.6	93.2	95.7	96.2	97.1
Foreign born	6.2	9.0	10.2	7.4	6.8	4.3	3.8	2.9
Naturalized citizen	(0.6)	(0.8)	(0.4)	(0.3)	(0.7)	(0.8)	(0.7)	(0.3)
Permanent resident	(1.0)	(1.4)	(1.7)	(0.8)	(0.9)	(0.9)	(0.6)	(1.0)
Undocumented	(4.6)	(6.8)	(8.1)	(6.2)	(5.2)	(2.7)	(2.5)	(1.7)
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Wald $\chi^2 = 73.9, p < .001$								
Parent legal status								
U.S. born	28.5	25.0	24.2	29.2	28.7	27.2	30.6	33.7
Naturalized citizen	13.9	13.2	12.5	15.2	15.3	13.6	13.5	14.0
One permanent resident	15.1	17.5	18.2	14.0	17.1	14.3	13.8	11.4
Two permanent residents	8.6	11.3	11.6	8.5	6.5	10.9	6.7	5.4
One undocumented	13.3	13.5	12.6	13.1	11.6	13.6	13.4	15.0
Two undocumented	20.6	19.5	21.0	19.9	20.7	20.4	21.9	20.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Wald $\chi^2 = 102.3, p < .001$								
Unweighted N _{2,11}	17,849	3,360	2,286	2,865	2,616	2,470	2,456	1,841
U.S.-born children (N = 16,704)								
Parent legal status								
U.S. born	30.4	27.4	26.9	31.5	30.8	28.4	31.9	34.7
Naturalized citizen	14.6	14.3	13.7	16.4	16.3	13.8	13.6	14.4
One permanent resident	15.5	18.2	19.7	14.5	17.4	14.3	14.1	11.6
Two permanent residents	8.5	11.6	11.6	8.9	6.4	10.9	6.6	4.9
One undocumented	13.3	13.4	12.7	13.2	11.5	13.4	13.6	14.7
Two undocumented	17.7	15.1	15.4	15.5	17.6	19.1	20.2	19.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Wald $\chi^2 = 117.5, p < .001$								
Unweighted N _{2,11}	16,704	3,060	2,072	2,660	2,455	2,327	2,337	1,793

Note: The Wald log-linear χ^2 test for odds ratios is reported, with p-values based on an adjustment for the degrees of freedom.

with fewer permanent residents. Still, the overall share with undocumented parents has been stable. Similar changes occurred among the native born in the bottom panel, except for a slight increase in those with two undocumented parents. This share grew to 20% when both the economy and immigration declined in 2007–2009. The current percentage of children in these “mixed-status” families remains at this level.

Table 3 displays trends in oral health care utilization (% seeing a dentist) among all Mexican-origin children and among status-specific segments of this population. These percentages permit comparisons across years *within status* and across statuses *within year*. Within year, the Wald χ^2 test for log odds ratios indicates the significance of the overall association between legal status and utilization. Tests for differences between specific categories relied on *t* statistics from logistic regressions. Asterisks denote significance using two undocumented parents as the reference. Shading denotes significance with native-born parents as the reference ($p < .05$, shaded and outlined; $p < .10$, shaded only). Within-status, the Wald statistic in the last column indicates the overall significance of year. Letters indicate significant differences between specific years with 2013–2014 as the reference (^a $p < .10$; ^b $p < .05$; etc.).

Overall, utilization improved throughout the period along with these changes in the nativity of children and parental legal statuses. Two-thirds saw a dentist in 2001. This grew to 80% in 2007, before reaching 89% in 2013–14 (discussed below). However, the foundation and magnitude of differences shifted with uneven changes in utilization across statuses. The decline in foreign-born children was accompanied by the dissipation of nativity as a source of variation. Before 2005, 70% of the native born and fewer than 60% of the foreign born obtained

care. These values have increased to 89% and 87%, respectively.

As for parental status, differences that initially solidified around citizenship dissipated due to relatively rapid gains among those at the bottom and stagnation for children of U.S.-born parents in the aftermath of the recession. In 2001, 77% with two U.S.-born parents, 74% with two naturalized parents, and 71% with one citizen and one permanent resident parent received care. These values surpass those for two undocumented (59%), one undocumented (61%) and two permanent resident parents (63%). *Similarity between children with undocumented and two permanent resident parents suggests that the crucial point in the status hierarchy for care was citizenship, not documentation status.*

In contrast, values ranging from 83% to 89% indicate that status-related gaps in utilization largely closed in 2011–12. This holds for 2013–2014, except for the lower rate for children with two native-born parents (86%) than for children of two undocumented parents (95%). *This reversal reflects stagnation among children of native-born parents and improvements among those with undocumented parents since 2007.*

The last rows of estimates focus on children in mixed-status families by contrasting U.S.-born and undocumented children of two undocumented parents (parenthesized). The latter (67%) are less likely than the former (78%) to utilize care across all years combined, but the disadvantage of undocumented children is most evident early on and if the conventional significance criterion ($p < .05$) is disregarded.¹³ Rates

¹³ Tests of significance for some comparisons require caution for later surveys because statistical power and the reliability of estimates are affected by group sizes. There are fewer undocumented children now than in the past.

Table 3
Weighted percent with dental care by status and year: Mexican-origin children ages 2–11 in California, 2001–2014.

	All Years	2001	2003	2005	2007	2009	2011-12	2013-14	Year Wald χ^2
All Children (N=17,894)									
Total with dental care	79.6	68.3***	70.4***	77.0***	79.8***	83.1***	85.9+	89.2	190.8***
Child Nativity									
U.S. born (ref.)	80.2	69.5 ^d	72.0 ^d	77.4 ^d	79.8 ^d	83.3 ^c	85.8 ^b	89.2	155.5***
Foreign born	70.4***	56.2*** ^b	57.0*** ^b	72.7	78.4	80.1	87.1	87.2	34.0***
Parent legal status									
U.S. born	80.2**	76.9*** ^b	70.2*** ^c	77.1 ^a	81.9*	82.7+	83.4	85.5***	25.0***
Naturalized citizen	84.7***	74.4*** ^d	82.6*** ^c	81.5 ^c	79.4 ^d	90.2***	89.0	93.6	36.8***
One permanent resident	80.3**	71.4*** ^a	71.3*** ^a	81.2*	81.4	84.9**	83.9	91.0	31.6***
Two permanent residents	79.0	62.5	72.7**	76.2	79.6	89.7**	89.3	88.3	38.4***
One undocumented	78.8+	60.7 ^c	74.9***	74.0	80.9	84.9*	84.9	86.4+	43.9***
Two undocumented (ref.)	75.6	59.1 ^d	58.8 ^d	73.0 ^d	75.0 ^d	73.0 ^d	88.1 ^c	95.1	99.1***
Wald χ^2	30.8***	49.7***	26.0***	7.0	6.2	17.0**	3.7	13.8*	
U.S.-Born Children (N=16,704)									
Parent legal status									
U.S. born	80.2	76.8***	70.2+	77.1	81.9*	82.7+	83.4	84.5**	25.0***
Naturalized citizen	84.5***	73.9**	82.6***	81.5+	79.2	90.0**	88.7	93.5	36.5***
One permanent resident	79.9	70.6+	71.3+	80.4	80.4	84.9*	83.6	90.9	30.1***
Two permanent residents	79.6	63	74.6*	76.8	79.9	90.1**	90.2	86.7	35.3***
One undocumented	79.7	62.8	73.4*	74.6	82.9+	84.8*	84.9	88.2	37.7***
Two undocumented (ref.)	77.6	61.5	63.2	73.4	74.2	73.1	88.4	94.8	69.4***
(Undocumented child)	(67.0***)	(52.1)	(51.0+)	(72.3)	(78.0)	(72.7)	(84.4)	(99.1+)	(32.6)***
Wald χ^2	16.9**	32.5***	16.1**	5.1	6.1	15.8**	3.9	12.2*	

Note: Within-year, asterisks denote significance with two undocumented parents as the reference for parental status and U.S. born as the reference for child nativity: +p < .10; *p < .05; **p < .01; ***p < .001. Significant contrasts from two U.S.-born parents are shown with green shading that is outlined for p < .05 and red shading that is not outlined for p < .10. Within-status, 2013-14 is the reference for temporal comparisons. Differences with prior years are indicated by superscripts: ^ap < .10; ^bp < .05; ^cp < .01, ^dp < .001. Overall tests are based on the Wald χ^2 log-linear test for odds ratios. Asterisks for undocumented children denote significant differences between them and US-born children of two undocumented parents from a separate analysis.

for both groups rose from the lowest observed and converged with the others.

4.2. Multivariate analyses

Table 4 presents odds ratios from bivariate and multivariate logistic regressions. The same notation identifies significant contrasts for all children (top panels) and U.S.-born children (bottom panels). Because the bivariate odds ratios simply re-express the above percentages, multivariate estimates from two models are of greater interest for the total sample. Model 1 is restricted to parental status and child nativity. Model 2 includes these variables along with all others. For the native-born sample, the multivariate model is limited to parental status and the full set of covariates because nativity is a constant. As before, parenthesized values are from supplementary analyses to contrast undocumented and native-born children of undocumented parents. Tests for Type 3 Effects indicate whether parental statuses are collectively significant after covariates are controlled.

For the total sample, we see that inferences about child nativity and parental status are generally robust in Model 1 even though bivariate estimates showing that foreign-born children were less likely to see a dentist prior to 2005 weaken when parental status is controlled. This model also suggests that those with two undocumented parents were disadvantaged relative to those with at least one citizen parent net of child nativity prior to 2011 (except 2007). However, differences in 2001 still coalesced around citizenship, not documentation. Contrasts between two undocumented, one undocumented, and two permanent resident parents were non-significant. In turn, children in these categories were all less likely than those with two native-born parents to receive care (green-shaded cells). The pattern in later years provides little evidence of a consistent shift towards permanent resident status or documentation status as a basis for differentiation. Children of two permanent

residents and two native-born parents had similar rates from 2003 onward. Rates for the former and for two undocumented parents were also similar for every year except 2003 and 2009. Thus, differences were not consistently demarcated by permanent resident status.

Documentation status was not a persistent source of differences either. Children of two undocumented parents were at a “unique disadvantage” for only two years (2003, 2009). Instead, citizenship more consistently mattered among those with foreign-born parents. *Children of the undocumented were less likely than children of naturalized citizens or one permanent resident and one citizen parent to utilize care for most years through 2009.*

Turning to Model 2 for the total sample, the F-statistics for Type 3 effects indicate that parental status is not significant for any year when socioeconomic and demographic covariates are considered (Panel C). Child nativity is another matter. The foreign born were less likely to receive care in five of seven years, notwithstanding 2013-14 (OR = .6, p = n.s.).

Multivariate results for the native born are similar. Parental status is not significant and few contrasts approach significance after including the covariates. In contrast, significant differences between native-born and undocumented children of two undocumented parents indicate that this distinction has been crucial. Despite an aberrant value for 2013-14, significant odds ratios for this contrast range from approximately .2 to .5. Thus, the negative effect of lack of documentation for children is not attributable to the covariates.¹⁴

¹⁴ Tests for interactions between year and both measures of status were conducted, with each treated as a categorical variable. Significant interactions with parental status are confined to “reduced” models for the total and U.S.-born samples. Year does not condition the effect of child nativity for any model.

4.3. Dental insurance

As noted, limited data preclude examination of dental insurance across all years. Analyses of surveys that have this information (not shown) indicate that the insured are more likely to see a dentist net of covariates, but inferences about legal status are not sensitive to including it in multivariate models. Nonetheless, the last survey provides fresh insights into how statuses and insurance currently intersect for utilization.

Table 5 presents descriptive statistics regarding dental insurance and dental care in 2013–14. Here, we focus on all children due to similar results for both samples. This reveals a stark contrast in insurance coverage between foreign-born (47%) and native-born children (91%). As for parental status, those with unauthorized mothers and fathers are among the least likely to have insurance. Again, the salient parental status-related boundary for insurance is citizenship, not nativity or

documentation. Indistinguishable rates near 80% for children with two permanent resident and two undocumented parents are lower than 93% for two native-born parents. The rates for the top three groups with at least one citizen parent are essentially the same.

The remaining columns show how status matters for dental care among uninsured and insured children. Dental care is associated with parental legal status among the uninsured, not the nativity status of children. Although few in number, uninsured children of two undocumented (90%) and two permanent residents (97%) are more likely than those with native-born parents (63%) to receive care. This is counterintuitive, as is the lack of a difference between naturalized and undocumented parents.

Surprising results are also evident for the insured, with the foreign born (97%) more likely than the native born (90%) to see a dentist (both are 79% for the uninsured). As for parental status, children of undocumented parents are more likely to see a dentist than children of

Table 4
Dental care: Multivariate odds ratios from logistic regressions for Mexican-origin children ages 2–11 in California, 2001–2014.

	All Years	2001	2003	2005	2007	2009	2011-12	2013-14
All children (N=17,894)								
Panel A. Bivariate Model								
Child nativity								
Foreign Born	.59***	.56**	.52**	0.78	0.92	0.81	1.12	0.82
Parent legal status								
U.S. born	1.31**	2.30***	1.66**	1.25	1.51*	1.76+	0.68	0.28***
Naturalized citizen	1.79***	2.01***	3.34***	1.63+	1.28	3.41***	1.10	0.74
One permanent res	1.31**	1.72**	1.75**	1.59*	1.46	2.07**	0.70	0.52
Two permanent res	1.22	1.15	1.87**	1.18	1.30	3.22**	1.13	0.39
One undocumented	1.20+	1.07	2.01***	1.05	1.41	2.07*	0.76	0.33+
Two undocumented	---	---	---	---	---	---	---	---
F Type 3 Effects	6.1***	9.9***	5.2***	1.4	1.2	3.3**	0.70	2.8*
Panel B. Multivariate - Model 1								
Child nativity								
Foreign Born	.66***	0.76	0.69+	0.92	1.1	1.01	0.95	0.64
Parent legal status								
U.S. born	1.20*	2.12***	1.46+	1.22	1.54*	1.76+	0.68	0.27***
Naturalized citizen	1.65***	1.86**	2.95***	1.59+	1.30	3.41***	1.09	0.72
One permanent res	1.23*	1.61*	1.55*	1.56+	1.48	2.07**	0.70	0.50
Two permanent res	1.151	1.082	1.71*	1.16	1.31	3.22**	1.13	0.40
One undocumented	1.135	1.012	1.91**	1.03	1.43	2.07*	0.76	0.32+
Two undocumented	---	---	---	---	---	---	---	---
F Type 3 Effects	4.4***	7.4***	4.0**	1.3	1.0	3.3**	0.70	3.0*
Panel C. Multivariate - Model 2								
Child nativity								
Foreign born	.40***	0.47**	.37***	0.49	.42*	.29**	.42+	0.6
Parent legal status								
U.S. born	0.94	1.21	0.84	0.81	1.04	0.76	1.22	0.37
Naturalized citizen	1.17	1.07	1.45	0.85	0.91	1.48	1.40	0.95
One permanent res	0.96	1.04	1.01	0.97	1.05	1.08	0.90	0.46
Two permanent res	0.90	0.78	1.08	0.81	0.84	1.11	1.13	0.46
One undocumented	1.06	0.89	1.32	0.77	1.40	1.46	1.14	0.48
Two undocumented	---	---	---	---	---	---	---	---
(Undocumented child)								
F Type 3 Effects	1.21	0.8	1.3	0.3	0.7	1.1	0.3	0.9

U.S. Born (N=16,704)								
Panel D. Bivariate Model								
Parent legal status								
U.S. born	1.17	2.08***	1.38+	1.22	1.57*	1.76+	0.66	0.30**
Naturalized citizen	1.58***	1.78**	2.77***	1.60+	1.32	3.32***	1.03	0.79
One permanent res	1.15	1.50+	1.45+	1.49	1.43	2.07*	0.67	0.54
Two permanent res	1.13	1.06	1.71*	1.20	1.38	3.36**	1.21	0.35
One undocumented	1.13	1.05	1.61*	1.06	1.68+	2.05*	0.74	0.41
Two undocumented	---	---	---	---	---	---	---	---
(Undocumented child)	(.58***)	(0.68)	(.61+)	(.94)	(1.23)	(.98)	(.71)	(6.11+)
F Type 3 Effects	3.4**	6.5***	3.2*	1.00	1.2	3.1**	0.8	2.5*
Panel E. Multivariate - Model 2								
Parent legal status								
U.S. born	0.88	1.12	0.79	0.73	0.98	0.68	1.15	0.40
Naturalized citizen	1.09	0.97	1.38	0.77	0.86	1.31	1.23	1.06
One permanent res	0.87	0.93	0.92	0.85	0.94	0.95	0.83	0.49
Two permanent res	0.85	0.72	1.04	0.80	0.82	1.03	1.13	0.33
One undocumented	1.05	0.96	1.08	0.74	1.63	1.34	1.07	0.62
Two undocumented	---	---	---	---	---	---	---	---
(Undocumented child)	(.35***)	(.42**)	(.29***)	(.48)	(.41+)	(.18**)	(.22*)	(4.4)
F Type 3 Effects	1.4	0.7	1.0	0.3	1.3	0.9	0.2	0.8

Note: For the total sample, Model 1 is limited to parent legal status and child nativity. For the total and U.S.-born samples, Model 2 adds poverty status, education, English proficiency, family structure, child’s age, county, and year (the latter for all years combined). For the U.S.-born sample, Model 2 omits child nativity. Within-year, asterisks denote significant differences with two undocumented parents as the reference for parental status and U.S. born as the reference for child nativity: +p < .10; *p < .05; **p < .01; ***p < .001. Contrasts with two U.S.-born parents are shown with green shading that is outlined for p < .05 and red shading that is not outlined for p < .10. Asterisks for undocumented children denote significant differences between them and US-born children of two undocumented parents from a separate analysis.

Table 5
Weighted percent seeing a dentist by insurance status: Mexican-origin children ages 2–11 in California, 2013–14.

	All children			U.S.-born children		
	Percent	Dental care		Percent	Dental care	
	Insured	Uninsured	insured	Insured	Uninsured	insured
Child nativity						
U.S. born	90.7	79.2	90.3			
Foreign born	46.8***	78.8	96.8***			
Wald χ^2	20.5***	0.001	4.4*			
Parent legal status						
U.S. born	93.3**	63.1*	86.0**	93.3*	63.1*	86.0**
Naturalized citizen	94.4**	83.0	94.2	94.5*	82.7	94.0
One permanent resident	93.0*	87.0	91.2	93.0*	87.7	91.2
Two permanent residents	78.3	97.4+	85.8	84.3	95.9	85.0
One undocumented	88.4	57.6**	90.2	91.9*	64.6*	90.3
Two undocumented	81.4	90.2	96.2	82.7	88.7	96.1
(Undocumented child)				(61.7)	(...)	(98.6)
Wald χ^2	18.1**	19.8**	12.3*	15.3*	10.1+	11.8*
N	1,841	197	1,644	1,793	179	1,614

Note: Asterisks indicate significant differences between each category and two undocumented parents for parental status and the native born for child nativity: +p < .10, *p < .05, **p < .01, ***p < .001. Green-shaded cells that are outlined indicate significance at p < .05 with the U.S. born as the reference. No contrasts with the latter are significant at p < .10.

two native-born parents. They are not more likely than others with foreign-born parents. Thus, children of the native born are among the least likely of the insured to see a dentist.¹⁵

Lastly, the finding for children in mixed-status families is also revealing (column 4). 83% of the native born with two undocumented parents are insured. The value for undocumented children of two undocumented parents is 62%. Despite its insignificance due to sample size, this substantial difference points to the child’s documentation status as an additional impediment to dental care through insurance.

¹⁵ Unweighted N’s for parental categories range from 233 to 460 among the insured, except for 120 children with two permanent resident parents.

5. Conclusions

This research pursued three objectives. The first was to describe population-level changes in parent legal status, child legal status, and dental care utilization for California’s Mexican-origin children. In contrast to the early 2000s, nearly all of these children were native born by 2014. This reflects, in part, a decline in the undocumented. Indeed, the number of undocumented children dwindled to such an extent that their legal status is not “the” key to improving dental care for this population. Currently, 2% of California’s Mexican-origin children are unauthorized—40,000 among 2.35 million children. Conversely, parental legal status varies considerably even though those with two native-born parents increased from 500,000 in 2001 to 800,000 in 2013–

14. Children with two undocumented parents grew from 263,000 to 450,000, while those with two “green card” parents decreased by half to 110,000.

The trend in dental care mirrored the increase in native-born children. Utilization increased dramatically among all Mexican-origin children—from 70%₂₀₀₁₋₀₃ to 90%₂₀₁₃₋₁₄. This reflected a relatively large increase early on, followed by steady growth thereafter. Steady growth is surprising given the expectation of declining utilization during the Great Recession, unless one considers countervailing factors throughout the period of observation. These include offsetting shifts in population composition with fewer new immigrants, the emergence of Children’s Health Initiatives, favorable legislation, and favorable shifts in the social climate (arguably). Dental insurance coverage also expanded among Mexican-origin children—from 79% in 2003 to 89% in 2014. This occurred among both native-born and foreign-born children. 91% of the native born had coverage in the most recent survey, up six percentage points from 2003. Coverage increased from 33% to 47% among a declining number of foreign-born children.

Explanations of these aggregate-level trends are complicated because specific “causes” are difficult to isolate and may differ across time, space, and populations. In this vein, greater utilization was not limited to Mexican-origin children. Dental care increased steadily from 79%₂₀₀₁ to 87%₂₀₁₃₋₁₄ among all children in the state, and for whites (79%₂₀₀₁–87%₂₀₁₃₋₁₄), Asians (76%₂₀₀₁–87%₂₀₁₁₋₁₂, but 82%₂₀₁₃₋₁₄) and African Americans (72%₂₀₀₁–96%₂₀₁₃₋₁₄). The extent to which these simultaneous shifts shared common causes is an important topic for future research.

The second objective focused on how legal status affects dental care. In 2001, parental citizenship was decisive. Approximately 75% of children with citizen parents and 60% with non-citizen parents received care. This difference later dissipated due to relatively greater increases in utilization among children of undocumented parents than among those with native-born parents, especially in the aftermath of the recession. Put differently, the rate for children of native-born parents improved the least throughout the period. Dental care also increased among native-born and foreign-born children per se, but greater improvements for the undocumented majority eliminated the deficit for the latter. The rate for U.S.-born children grew from 70%₂₀₀₁ to 86–89%₂₀₁₁₋₁₄, while that for undocumented children rose from 52%₂₀₀₁ to 82%₂₀₁₁₋₁₂.

These findings have important implications. In 2014, 2.1 of 2.4 million Mexican-origin children saw a dentist (2.35_{million} * .892_{rate}). Of 300,000 without care, 246,000 were native born. If all foreign-born children received care, the overall rate would rise from 89.2% to 89.6%. If all native-born children received care, it would be 99.6%. Similarly, the number with native-born parents (123,000) who lacked care was twice that of one (39,000) and two undocumented parents (23,000) combined. Thus, reaching native-born children and parents is crucial for future inroads.

The third objective was to examine whether parents’ and children’s statuses play independent roles in oral health care utilization. Although the multivariate results show that parental legal status matters beyond child nativity in the earliest years, it is always inconsequential after covariates are controlled. In contrast, foreign-born and undocumented children remain relatively disadvantaged in models with covariates. Among children in mixed-status families with undocumented parents, the undocumented are less likely than the native born to receive dental care. Fewer children may be undocumented, but their status still matters.

As noted, insurance is an important consideration as well. Children with two undocumented and two permanent resident parents are the least likely to have coverage. Still, those with native-born parents are relatively less likely to receive care among the uninsured. This is another reminder of the access-related needs of U.S.-born children with U.S.-born parents. Supplementary analyses also indicate that few status-related differences in dental care remain once insurance is controlled (not shown).

Several study limitations provide direction for future research. First, findings based on Mexican-origin children in California from 2001–2014 are not necessarily generalizable to other ethno-racial groups, states, or eras. Second, the inability to identify unauthorized residents with certainty among Mexican-origin non-citizens without green cards is a potential source of measurement error. Third, county is accounted for as a fixed effect without drawing attention to geographic location and context. Shortages of participating providers under Denti-Cal in some counties exemplify locational constraints that extend beyond family resources per se. Last, the extent of coverage error and non-response error by legal status cannot be determined. Both may fluctuate over time and space with shifts in fear of apprehension among the undocumented.

In closing, the 2001–2014 period concluded with the implementation of the 2010 Affordable Care Act, which mandates dental coverage as an “essential benefit” for children. In California, plans offered in the insurance marketplace are required to provide children with free preventive and diagnostic dental care (Covered California, www.coveredca.com). The state also expanded eligibility for means-tested health programs to undocumented children in 2016. Such developments are grounds for optimism during a time when the hostility of political leaders in the national government towards both the undocumented and the ACA is not conducive to a positive outlook. These shifting political winds are likely to amplify long-standing concerns about “crises” in access to care for those with few resources. Nonetheless, the fact remains that the likelihood of seeing a dentist has improved over time for Mexican-origin children. It remains to be seen whether the past is prologue.

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Conflict of interest

This research devoid of conflicts of interest.

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