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Do Restrictive Omnibus Immigration Laws Reduce Enrollment in Public Health Insurance by Latino Citizen Children? A Comparative Interrupted Time Series Study

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Abstract

In the United States, there is concern that recent state laws restricting undocumented immigrants' rights could threaten access to Medicaid and the Children's Health Insurance Program (CHIP) for citizen children of immigrant parents. Of particular concern are omnibus immigration laws, state laws that include multiple provisions increasing immigration enforcement and restricting rights for undocumented immigrants. These laws could limit Medicaid/CHIP access for citizen children in immigrant families by creating misinformation about their eligibility and fostering fear and mistrust of government among immigrant parents. This study uses nationally-representative data from the National Health Interview Survey (2005–2014; $n=70,187$) and comparative interrupted time series methods to assess whether passage of state omnibus immigration laws reduced access to Medicaid/CHIP for US citizen Latino children. We found that law passage did not reduce enrollment for children with noncitizen parents and actually resulted in temporary increases in coverage among Latino children with at least one citizen parent. These findings are surprising in light of prior research. We offer potential explanations for this finding and conclude with a call for future research to be expanded in three ways: 1) examine whether policy effects vary for children of undocumented parents, compared to children whose noncitizen parents are legally present; 2) examine the joint effects of immigration-related policies at different levels, from the city or county to the state to the federal; and 3) draw on the large social movements and political mobilization literatures that describe when and how Latinos and immigrants push back against restrictive immigration laws.

Keywords

United States; immigration policy; Latino children; health disparities; Medicaid; Children's Health Insurance Program

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Introduction

Latino children—95% of whom are US-born citizens—make up one-quarter of US children (Mather and Foxen, 2016). Due to high poverty rates among Latino families (Mather and Foxen, 2016), federal health insurance programs for low-income children—Medicaid and the Children’s Health Insurance Program (CHIP)—are important sources of health insurance for Latino children. While 91% of eligible children were enrolled in Medicaid/CHIP in 2014, there was substantial variation across states, from 80% in Utah to 99% in Vermont (Kenney et al., 2016). State policies that make it easier for children to enroll are partially responsible for these differences (The Henry J. Kaiser Family Foundation, 2016); however, state laws unrelated to Medicaid/CHIP may also influence enrollment. In particular, scholars have raised concerns that state-level laws restricting rights for immigrants may contribute to geographic disparities in Medicaid/CHIP enrollment for Latino children by increasing immigrant parents’ fear of interacting with public institutions (Hardy et al., 2012; Pedraza and Zhu, 2013).

The most comprehensive and harshest state immigration laws are omnibus immigration laws, defined as single bills combining three or more provisions related to immigration (Laglaron et al., 2008). Passed in 10 states between 2006 and 2013, they increased state and local immigration enforcement, decreased undocumented immigrants’ access to employment, and decreased undocumented immigrants’ access to public and private services and benefits. Importantly, these laws did not directly regulate who could enter or stay in the state, and they did not change citizen children’s rights or eligibility for benefits, regardless of their parents’ immigration statuses.

Omnibus immigration laws were unique from other single-issue immigration-related laws in that they sought to create comprehensive immigration policy regimes that would drive undocumented immigrants out of the state (Allen, 2016). Omnibus laws were intended to act as symbolic policies to shape undocumented immigrants’ interactions with state and local institutions in ways that extended beyond the specific policy changes, and, as such, they may have had spillover effects on legally-present immigrants and on citizen children with immigrant parents (Pedraza and Zhu, 2013).

Qualitative studies (Hardy et al., 2012; White et al., 2014b) suggest that omnibus laws reduced health care access for citizen children with noncitizen parents by engendering fear, discrimination, and misinformation among parents, but that these effects were likely short-lived (Koralek et al., 2009). However, no population-based studies have been conducted, despite calls for rigorous assessments of the laws’ long-term impacts on public health (Hardy et al., 2012). This study uses nationally representative data from the National Health Interview Survey and comparative interrupted time series methods to answer the question: Did the passage of state omnibus immigration laws reduce enrollment in public health insurance (Medicaid and CHIP) for Latino citizen children with noncitizen parents? If so, for how long did effects last?

Omnibus immigration laws

Ten states passed one or more omnibus immigration laws between 2006 and 2013: Alabama (2011, 2012), Arizona (2007, 2010), Colorado (2006), Georgia (2006, 2009, 2011, 2013), Indiana (2011), Missouri (2008, 2009), Nebraska (2009), Oklahoma (2007), South Carolina (2008, 2011), and Utah (2008, 2011). Omnibus laws shared many common provisions, as shown in Table 1 and Appendix Table 1. Many of the provisions reiterated federal law (Koralek et al., 2009); for example, undocumented immigrants were already barred from receiving most federally-funded public benefits. Other provisions went beyond federal law, although the most severe of these (e.g., those creating criminal penalties for being in the state without documents) were overturned in court.

Passage of each omnibus law generated extensive media coverage and heightened public opposition to immigration (Quiroga et al., 2014), as well as resistance from Latino communities and immigrant rights groups (Pham, 2008). In seven of the 10 states, lawsuits blocked portions of the laws from being implemented (Allen, 2016). There is little information about whether and how implementation proceeded for those provisions that were allowed to take effect (Pham, 2008). However, law passage had immediate effects on communities, even before implementation, and there is some evidence that legally-present Latino immigrants experienced spillover effects (Ellis et al., 2016; Quiroga et al., 2014). Latinos—particularly low-skilled noncitizens—were more likely to migrate from, and less likely to migrate to, states with omnibus laws (Bohn et al., 2014; Ellis et al., 2016). The federal government found that Alabama’s law led to an immediate drop in school enrollment and attendance among Latino children that was not entirely attributable to outmigration, with “continuing and lasting consequences” for Latino students (Perez, 2012, p. 2). As we detail below, there is also preliminary evidence from several states suggesting that omnibus law passage reduced health care access for citizen children in immigrant families.

Conceptual framework

We draw from two theoretical frameworks to understand how the passage of omnibus immigration laws could have contributed to disparities in Medicaid/CHIP coverage. First, the socio-cultural framework for health services disparities (Alegría et al., 2011) identifies federal, state, and local laws as primary determinants of health inequities. Laws shape people’s ability and willingness to access care through mechanisms both within and outside the health care system. Within the health care system, laws change what services and benefits are available, for whom, and how they are financed. Outside the health care system, laws shape the context in which individuals access or choose not to access benefits and services.

Second, the social construction public policy framework (Schneider et al., 2014) articulates how laws can have tangible effects, even in the absence of implementation. According to social construction theory, policies have both instrumental and symbolic effects. Instrumental effects are caused by specific, concrete changes in policy or practice. Symbolic effects, in contrast, do not result from specific policy changes. Rather, they are driven by social constructions intentionally created by policymakers and advocates and reinforced in the media. By characterizing a law’s target population as threatening to US society (or,

alternately, as important contributors to society), social constructions influence the way others treat target group members and how target group members interact with the government (Schneider et al., 2014).

Drawing on these conceptual frameworks, we propose that omnibus laws could influence Medicaid/CHIP enrollment of citizen Latino children through both instrumental and symbolic effects occurring within and outside the health care system. In terms of instrumental effects within the health care and public benefits systems, omnibus laws reinforced federal prohibitions on undocumented immigrants' access to public benefits like Medicaid/CHIP, created more stringent requirements for applicants to prove their legal statuses, and required public agencies to report to immigration authorities when undocumented immigrants applied for benefits for themselves. Although these provisions did not restrict Medicaid/CHIP eligibility for citizen children, providers and parents reported confusion and misinformation about who was eligible for benefits, what documentation was required to prove citizenship or immigration status, and whether providers were required to report to immigration officials when undocumented parents applied for benefits for their children (Browne et al., 2016; Hardy et al., 2012; Koralek et al., 2009; White et al., 2014b).

Omnibus laws could also have instrumental effects through mechanisms outside the health care and benefits systems, particularly through increased immigration enforcement and restricted access to identification documents such as driver's licenses. Some parents reported being less likely to drive because they were afraid law enforcement would stop them and check their immigration statuses (Hardy et al., 2012; Quiroga et al., 2014). Some parents also feared that immigration authorities would patrol program offices and health care facilities (Jiménez-Silva et al., 2013). After omnibus law passage, parents and providers reported that immigrant parents were less likely to apply for benefits for eligible children (Jiménez-Silva et al., 2013), and some parents who applied reported being denied benefits because of the parents' immigration statuses (Koralek et al., 2009).

In addition to their instrumental effects, omnibus laws may have far-reaching consequences through symbolic effects. Omnibus laws intentionally framed undocumented immigrants as undeserving of resources and as damaging to American values and to the economy (Pedraza and Zhu, 2013). Media coverage and political rhetoric helped entrench these constructions and conflated ethnicity with immigration status, so that Latinos were perceived as undocumented immigrants regardless of their actual immigration statuses (Viruell-Fuentes et al., 2012). Latino immigrants—and those perceived to be immigrants—reported increased discrimination in law enforcement encounters, in employment, and in day-to-day interactions (Koralek et al., 2009; Lowell et al., 1995; White et al., 2014b). Discrimination also occurred within the health care system; parents reported that providers and public employees engaged in more discriminatory behaviors such as refusing to accept legitimate documents that proved legal presence or treating Latino parents with less respect and more hostility (Koralek et al., 2009; White et al., 2014b). As a result, noncitizen parents may have refrained from seeking benefits for their eligible children because they anticipated experiencing discrimination and being denied benefits.

According to a study in Oklahoma, Latino community members reported that the atmosphere of fear within their communities had declined within a year after passage, and social service providers reported receiving guidance allowing them to resume providing some services regardless of immigration status (Koralek et al., 2009). Thus, we predict negative effects of the omnibus laws decreased over time.

Prior research and gaps in knowledge

As described above, qualitative studies document that passage of omnibus immigration laws may have reduced access to health care and means-tested benefits for Latino children in immigrant families (Koralek et al., 2009; Quiroga et al., 2014). However, the few quantitative studies do not consistently find effects of omnibus laws on health care access. A longitudinal study of Latino adolescent mothers found that after Arizona passed SB 1070 in 2010, mothers were less likely to seek preventive care for their US-born children (Toomey et al., 2014). This small study did not use a representative sample, limiting its generalizability, and did not have a comparison group. A medical records review revealed that after Georgia's law was scheduled to be implemented in 2011, Latino children visited Atlanta emergency departments in lower numbers and presented in more serious condition, compared to prior years (Beniflah et al., 2013). In contrast, in a review of health department records from one Alabama county, there was no significant change in the number of visits for Latino children in 2011, the year after HB 56 was scheduled to be implemented, compared to the previous year (White et al., 2014a). Because the latter two studies use health records, their samples are not representative of the state populations, and they only include children who eventually sought care. None of the studies could examine whether the effects of the laws differentially by parents' citizenship status or how long the effects of the laws lasted.

A second relevant body of research focuses on immigration enforcement, one component of omnibus laws. For Latino children with noncitizen parents, heightened state and local immigration enforcement was associated with a reduced probability of enrollment in Medicaid (Pedraza and Zhu, 2013; Watson, 2014) or nutrition assistance programs (Vargas and Pirog, 2016; Watson, 2014) and an increased risk of food insecurity (Potochnick et al., 2016). The enforcement measures studied in these laws are different from omnibus laws in a few important ways. First, these enforcement policies were implemented, whereas omnibus laws were rarely implemented in full (Allen, 2016). Second, the immigration enforcement policies occurred at the local level, which may be more salient to immigrants' daily lives than state-level laws (Watson, 2013). On the other hand, local immigration enforcement may have less of an effect on access to health care than omnibus laws because omnibus laws are more comprehensive legislation intended to create a hostile climate for immigrants state-wide and across multiple domains of life.

This study is the first to use rigorous quasi-experimental methods to examine the short- and long-term effects of omnibus law passage on Medicaid/CHIP enrollment for Latino citizen children and to examine how those effects differed by parental citizenship status. We build on previous studies in four ways: 1) we add an un-exposed comparison group, Latino children in non-policy states; 2) we use a nationally-representative sample; 3) we examine how long effects persist; and 4) we examine whether the laws affected children differently

based on their parents' citizenship. The comparison group in this study is children in states that did not pass an omnibus law. These states each passed one or more single-issue immigration laws during this period, some of which were similar to provisions in omnibus laws. Thus, the comparison in this study is between omnibus laws and any other combination of single-issue laws existing in other states, rather than between omnibus laws and the absence of any state immigration laws. Because our data do not distinguish between legally-present and undocumented noncitizens, our study focuses on all noncitizen parents, regardless of legal status.

Methods

Data and Measures

Data came from the National Health Interview Survey (NHIS), a representative, repeated cross-sectional survey of US households in all 50 states and the District of Columbia (Parsons et al., 2014). Using a stratified sampling design, NHIS surveys approximately 35,000 households (87,500 people) annually, oversampling Latino households. Face-to-face interviews gather information on every household member, with questions about demographics, economic wellbeing, health insurance, health care access, and physical and mental health. Adults answer questions about themselves, and a knowledgeable adult (usually a parent) answers questions about each child under 18. During the 2005–2014 period, household size ranged from 1 to 18 members; 99% of families lived in single-family households. About 55% of families included children; among those, the mean number of children was 2.2 (range 1–12).

The analytic sample included all Latino, US citizen children (ages 0–17) from households interviewed between 2005 and 2014. We excluded 1,945 children who had missing data on any variable except family income, for a final sample of 70,187.

Individual-level variables

The outcome was a dichotomous variable indicating that the child was enrolled in Medicaid or CHIP at the time of the interview. To measure health insurance coverage, NHIS asks a series of questions and probes, refers to these programs by state-specific name (e.g., Medi-Cal), and asks to see the child's insurance card. As a result, NHIS provides more accurate data on public insurance coverage, with estimates that are closer to administrative counts, compared to other national surveys (Lynch et al., 2011).

Parent citizenship was a dichotomous variable coded as at least one citizen parent vs. only noncitizen parent(s). Parent citizenship and all other individual-level variables were self-reported by the residential parent. For 1,974 children with no residential parent, the household head was substituted.

We control for individual demographic, socioeconomic, and health characteristics. Age in years was calculated based on date of birth and date of interview. Child's gender was reported by the parent as female or male. Latino national origin categories included Mexican, Puerto Rican, Cuban, Dominican, Central or South American, and other. Parent ethnicity was dichotomized to indicate that at least one parent was non-Latino. Language of

interview was dichotomized to indicate the interview was conducted entirely in English. Family structure was a categorical variable indicating that the child lived with: both biological/adoptive parents, one biological/adoptive parent and one step parent, biological/adoptive mother only, biological/adoptive father only, or other family structure. Number of children was calculated as the number of family members under age 18. Parent education indicated the highest education level of either parent: less than high school, high school diploma or GED, Associate degree, Bachelor's degree, or graduate or professional degree.

General health status was measured using the question, "Would you say [CHILD'S] health in general is excellent, very good, good, fair, or poor?" (National Center for Health Statistics, 2014, p. 137). Because less than 0.5% of children had poor health, fair and poor were combined. To measure health-related functional limitations, NHIS asked whether, "because of physical, mental or emotional problems" (National Center for Health Statistics, 2014, p. 21), the child was limited in any activities, and whether the child received special education services or used assistive devices. These items were combined into a dichotomous variable indicating that the child was limited in any way.

The percent income-to-poverty was provided by the National Center for Health Statistics (NCHS) based on family income for the previous calendar year. NCHS provided multiply-imputed family income (five imputations) when the respondent did not provide an exact income (22.8%).

Time was a count variable that started at zero in the first quarter (January—March, 2005), before passage of omnibus immigration laws, and counted each quarter through October—December 2014, for a total of 40 time periods. Time was included to model pre-existing trends in the outcome.

State-level variables

Information on omnibus immigration laws came from the National Conference of State Legislatures (2014). Omnibus immigration law was a time-varying dummy indicator of whether the state had passed an omnibus law before or during the quarter of interview. Because six states passed additional omnibus law(s) during the study period, we included a variable indicating passage of a second omnibus law. Because fewer children ($n=2,509$) were exposed to a second law, our analysis of second law passage is underpowered; we include this as a control variable but do not have adequate power to test its effects.

The percent of the state population who were Latino, the percent change in the Latino population since the previous year, and the percent of the Latino population who were noncitizens came from the US Census Bureau (2014). State median income came from the US Census Bureau (2015). State unemployment rate came from the US Bureau of Labor Statistics (2016). These variables were measured annually. State Medicaid/CHIP eligibility and enrollment policies in place on July 1 of each year (The Henry J. Kaiser Family Foundation, 2016) included whether the state had a separate CHIP program (vs. Medicaid expansion CHIP), used a joint application for both programs, required enrollment interviews, required asset tests, had express lane eligibility, had presumptive eligibility, had 12-month continuous eligibility, required families to undergo eligibility determination more

than once per year, covered recently-arrived immigrant children, covered undocumented immigrant children, or had an enrollment freeze during the quarter of interview. We also controlled for the duration of the waiting period for CHIP enrollment (in months) and the CHIP income limit (percent income-to-poverty; if the limit varied by age, we used the lowest limit).

All state-level measures were merged with the NHIS sample based on quarter-year of interview and state of residence.

Analysis

We used comparative interrupted time series (CITS)—one of the strongest quasi-experimental designs (Shadish et al., 2002)—to estimate trends in Medicaid/CHIP enrollment over time and test whether there were significant deviations from these trends after passage of an omnibus immigration law. By modeling trends in enrollment prior to passage, our model ruled out the possibility that changes in Medicaid/CHIP coverage were due to existing trends. Comparing outcomes in policy states to those in states that never implemented an omnibus law ruled out the possibility that the observed effect was due to other, concurrent events that affected all states equally.

The empirical model is as follows:

$$\text{logit}(\text{coverage}_{it}) = \beta_0 + \beta_1 \text{time}_t + \beta_2 \text{parent}(s) \text{ are noncitizen}_{it} + \beta_3 \text{omnibus law}_{ist} + \beta_4 \text{post- passage trend}_{ist} + \beta_5 (\text{parent}(s) \text{ are noncitizen}_{it} * \text{omnibus law}_{ist}) + \beta_6 (\text{parent}(s) \text{ are noncitizen}_{it} * \text{post- passage trend}_{ist}) + \beta_s \text{state}_s + \beta_i X_{ist} + \varepsilon_{ist}$$

where *time_t* is a linear time trend, mean-centered at time point 21, and including a quadratic transformation of *time*. *Parents are noncitizen_{it}* is a dichotomous variable indicating that the child had only noncitizen parent(s). *Omnibus law_{ist}* is a dummy variable that switches from zero to one in the quarter that the omnibus law passed and remains one throughout the study period. *Omnibus law_{ist}* would return to zero if the law was repealed in full, but this did not occur for any state. *Post-passage trend_{ist}* is a discrete variable that begins counting at 1 in the quarter after passage and continues counting each quarter until the end of the study. Models also included quadratic and cubic transformations of *post-passage trend*. State fixed effects, *state_s*, control for all time-invariant state characteristics. *X_{ist}* consists of state and individual-level control variables described above.

The key identifying assumption in CITS is that no unmeasured factor changed in a state at the same time the omnibus law passed. Laws were passed in 10 different states at different times, which makes it less likely—but does not exclude the possibility—that unmeasured, concurrent changes in policy states explain our findings. For example, many of the laws passed during the 2007–2009 recession, which also caused rapid increases in Medicaid/CHIP enrollment for children in all racial/ethnic groups (The Henry J. Kaiser Family Foundation, 2011). We attempt to reduce the possibility that the recession is confounding our results by controlling for state median income and unemployment and by running sensitivity analyses on non-Latino White and Black children, who should be affected by the

recession but not by omnibus laws. The analysis also assumes that, in the absence of an omnibus law, trends in Medicaid/CHIP coverage in both policy and non-policy states would have been the same over the entire study period. Although this assumption cannot be tested, we confirmed that pre-policy trends in the outcome were parallel between policy and non-policy states.

Models were estimated using logistic regression in Stata 14. To facilitate interpretation of policy effects, we calculated predicted probabilities, setting all except key variables at their means. All analyses used survey design variables and sampling weights (Parsons et al., 2014) and svy commands. Multiple imputation commands were used to conduct analyses with multiply-imputed income-to-poverty variables. Analyses were conducted on individual-level data, with state-level variables treated as characteristics of individual i in state s at time t .

This study received human subjects approval from the University of Tennessee, Knoxville Institutional Review Board, the University of Wisconsin—Madison Institutional Review Board, and the NCHS Research Data Center Review Committee.

Results

Descriptive statistics

As Table 2 shows, 7,019 children (10% of the sample) lived in policy states. Compared to children in non-policy states, children in policy states were slightly younger, were more likely to be Mexican-American, had lower family income, were less likely to report fair/poor health, and were more likely to have been interviewed in English. Children in policy states were more likely to have only noncitizen parent(s); however, among those with citizen parent(s), children in policy states were more likely to have a non-Latino parent. There were no differences in any other individual-level variables. Additional comparison of state-level characteristics for children in policy vs. non-policy states is available in appendix Table 2.

We compared the composition of the sample in the policy states in the years before and after law passage to examine whether the sample composition changed after passage (see appendix Table 3). Post-passage, the sample was slightly younger, with a higher proportion of males, and with slightly higher parent education. After passage, Medicaid/CHIP enrollment was higher, consistent with nationwide trends toward increasing enrollment. There were no changes in other individual-level variables, including the proportion of the sample who had only noncitizen parent(s). However, this comparison of weighted proportions adjusts the sample composition to match the nearest decennial Census and potentially masks changes in nonresponse or changes in misreporting of citizenship status. A comparison of unweighted proportions suggests that there was likely a small decrease in the proportion of children in policy states who had noncitizen parent(s) (40.4% before passage vs. 37.6% after passage, $p=0.05$).

Multivariable results

Table 3 shows key coefficients from the multivariable model. Results for all covariates are available in appendix Table 4. Model 1 includes time, parent citizenship, and omnibus law

variables; Model 2 adds all covariates except state fixed effects; and Model 3 adds state fixed effects. Results are consistent across model specifications.

In the absence of an omnibus law, Medicaid/CHIP coverage was higher among children with only noncitizen parents, compared to children with at least one citizen parent (OR 1.55 (95% CI 1.43 – 1.69)). Children with only noncitizen parent(s) experienced a small and nonsignificant decrease in coverage (OR 0.82, 95% CI (0.49 – 1.39)) after omnibus law passage. As shown in Figure 1, Panel A, this translates to a small change in the predicted probability of having coverage, from 0.54 in the quarter prior to passage to 0.48 in the quarter of passage. The trend in public health insurance coverage did not change.

In contrast, omnibus law passage doubled the odds of having Medicaid/CHIP coverage for children with at least one citizen parent (OR 2.11 (95% CI 1.19 – 3.75)). The predicted probability of having coverage increased from 0.42 in the quarter prior to passage to 0.61 in the quarter of passage (Figure 1, Panel B). This immediate increase in coverage dissipated over time (OR on post-passage trend 0.82 (95% CI 0.70 – 0.97)).

Several sensitivity analyses were conducted to test the robustness of these findings. Although the coefficients for children of citizen parent(s) are not statistically significant in some specifications, likely because of lower power, the substantive results are similar across all sensitivity analyses. Results of key sensitivity analyses are shown in Table 4; additional sensitivity analyses are available in online Appendix files.

First, to determine whether our findings for children of citizens were an artifact of the Great Recession, we ran our models on US citizen, non-Latino White and Black children. Passage of an omnibus law was not associated with Medicaid/CHIP enrollment for either group (see Table 4 and online Appendix Table 5).

Second, we confirmed that our findings were robust across alternate specifications of time (see Table 4 and online Appendix Table 6): (1) year rather than quarter-year as the time unit; (2) time as a series of dummy variables (i.e., imposing no assumptions on the functional form of the relationship between time and enrollment); and (3) allowing preexisting trends to be different for children of noncitizens and children with at least one citizen parent.

Third, we tested alternate specifications of the policy variables (see online Appendix Table 7). To check whether our findings were driven by a single state, we excluded one policy state at a time; findings were robust to the exclusion of each state. We also examined whether there was an effect at the time when laws were scheduled to be implemented. Most of the laws were not implemented immediately, but were scheduled to take effect at a later date (the effective date). Although many of the laws were not implemented as scheduled, we estimated whether there were any incremental changes in Medicaid/CHIP coverage occurring at the effective date, over and above the changes at passage. We found no evidence that there were additional changes in enrollment at the effective date.

For the main analysis, we did not restrict the sample to children who were income-eligible for Medicaid/CHIP because family income and Medicaid/CHIP enrollment were measured for different time periods. However, we conducted sensitivity analyses limiting the sample to

children who would have been income-eligible, based on previous year's income (79% of the sample). We also restricted the sample to Mexican-origin children (68% of the sample), who are the most likely to have undocumented parents (Barreto et al., 2009). To rule out the possibility that our findings were biased by intra-household correlation among children in the same household, we limited the sample to one randomly-selected child per household. In all cases, findings were similar to those for the full sample, with temporary increases in coverage for children with at least one citizen parent and no change in coverage for children with noncitizen parents (see online Appendix Table 8).

Finally, we conducted sensitivity analyses based on parent citizenship (see online Appendix Table 9). We ran models with three groups of children: children with only citizen parents, children with one citizen and one noncitizen parent, and children with only noncitizen parents. Children with mixed-status parents experienced similar policy effects to children with only citizen parents, with a temporary increase in enrollment that dissipated over time. This confirmed our decision in our main analyses to combine these children into a single group. In addition, because the literature indicates that, for foreign-born US residents, reporting of birthplace is more accurate than reporting of citizenship, we ran models replacing parent citizenship with birthplace (child has only foreign-born parents vs. at least one US-born parent). Findings were similar to those for citizenship, although the effect of law passage on children with US-born parents was slightly smaller than that for citizen parents and was only marginally significant (OR on first omnibus law 1.85, 95% CI (0.91 – 3.79), $p=.09$).

Discussion

This study examines the effect of the passage of state omnibus immigration laws on Medicaid/CHIP enrollment for Latino children who are US citizens. These laws created comprehensive state immigration policy regimes that were intended to discourage and penalize undocumented immigration. Few of these laws were implemented in full due to legal challenges; the focus of this study was on whether *passage* of the laws had immediate and/or long-term effects on Latino children's enrollment in Medicaid/CHIP.

In contrast with our expectations, we found that passage of omnibus laws did not reduce enrollment in Medicaid/CHIP for citizen Latino children with noncitizen parents. Moreover, passage resulted in temporary *increases* in enrollment among Latino children with at least one citizen parent. These findings are surprising given two bodies of research: 1) qualitative studies in which parents reported increased barriers to enrolling their children in public benefits after omnibus law passage (Koralek et al., 2009; Quiroga et al., 2014, White et al., 2014b), and 2) studies showing negative effects of local immigration enforcement on public benefits enrollment for children of noncitizens (Potochnick et al., 2016; Vargas and Pirog, 2016; Watson, 2014).

One potential explanation for these surprising findings is that community-based organizations (CBOs), immigrant rights coalitions, and Spanish-language radio and television advocated on behalf of immigrant and Latino communities, disseminated information about the laws and about means-tested benefit eligibility, and encouraged or

assisted parents to enroll their children in public benefits (Benjamin-Alvarado et al., 2009; Jiménez, 2011). Ethnic-based CBOs are often seen as “safe spaces” (Crosnoe et al., 2012, p. 5) where immigrants can get information about benefits and services without fear of detection by immigration authorities. In anticipation of and in response to omnibus immigration laws, CBOs and immigrant rights coalitions conducted outreach in Latino communities to inform immigrants about their rights and to enroll and retain eligible children in public benefits programs (Alabama Coalition for Immigrant Justice, 2014; Koralek et al., 2009; Lawrence, 2011; ONE Arizona, 2010). For children with citizen parent(s), this period of heightened community outreach and advocacy could have resulted in the temporary increase observed. Similarly, for children with only noncitizen parent(s), the observed nonsignificant decrease in enrollment might have been considerably larger without efforts by local CBOs.

This potential explanation is consistent with the social movements and political mobilization literatures, which show that Latinos increase their political participation in response to restrictive immigration laws. For example, California’s passage of Proposition 187—the precursor to the omnibus immigration laws studied here—spurred increased naturalizations among Latino immigrants and increased voter turnout among naturalized Latinos (Pantoja et al., 2001). In response to county-level immigration enforcement laws implemented between 2006 and 2010, immigrant rights groups intensified their voter mobilization efforts, and Latino voter turnout increased (White, 2016). For Latinos, a confluence of racially charged immigration laws and grass-roots community organizing by CBOs is a particularly potent driver of political mobilization and resistance (Barreto et al., 2009; Benjamin-Alvarado et al., 2009; Pedraza and Zhu, 2013). Both of these factors were present when omnibus laws passed (Jiménez, 2011; Koralek et al., 2009; Quiroga et al., 2014). In the case of our findings, parents may have moved to enroll their children in Medicaid/CHIP in reaction to passage of an omnibus law as a form of resistance, out of fear that it may become harder to enroll once the law was implemented, or because CBOs increased their awareness of benefits they had not previously known their children were eligible for. It is hard to know whether citizen parents were more responsive to this activism than non-citizen parents or whether the null finding for citizen parents would have been a strong negative effect in the absence of this activism.

This study has a few limitations. First, because NHIS does not measure immigration status, we cannot speak to possible differential effects between documented and undocumented noncitizens. Because omnibus immigration laws specifically targeted undocumented immigrants, we would expect families with undocumented members to be most negatively affected. In fact, it is possible that the null findings for children of noncitizens obscure differential effects by noncitizen parents’ legal status; if children of legally-present immigrants experienced increases in coverage similar to those experienced by children of citizens, combining these groups may cancel out negative effects on children of undocumented immigrants.

Second, because data are cross-sectional at the individual level, results could be biased if, after passage, the composition of the sample changed on unmeasured characteristics such that the Latinos leaving the sample differed systematically from those who stayed in ways

correlated with Medicaid/CHIP enrollment. This could happen if, after law passage, fewer undocumented Latino parents responded to the NHIS, or if they misreported their birthplace or citizenship at higher rates than before passage.

There is some evidence that, during the study period, both the recession (Ellis et al., 2014a) and state and local immigration laws (Ellis et al., 2016, 2014b; Watson, 2013) influenced where immigrants settled within the US. Low-skilled immigrants—those most likely to be undocumented—disproportionately relocated to states with less restrictive laws after omnibus law passage (Bohn et al., 2014; Ellis et al., 2016, 2014b). If this occurred in our sample, the composition of the state's Latino population would have shifted toward a smaller proportion of children in policy states with undocumented parents, which could bias the results for children of noncitizen parents toward zero. Indeed, outmigration of undocumented parents is a likely explanation for our null findings for children of noncitizens, and studies that distinguish undocumented immigrants from legally-present noncitizens are an important next step. In contrast, if high-skilled Latinos moved out of policy states, leaving a higher concentration of low-skilled and low-income parents, this could explain why we see an increase in enrollment among the remaining children of citizens.

Third, our results could be biased if something else changed in policy states at the same time as law passage that was also associated with Medicaid/CHIP enrollment among Latino citizen children. The most likely candidates are the Great Recession and the 2009 passage of the Children's Health Insurance Program Reauthorization Act (CHIPRA). We control for state economic conditions, as well as the major changes in Medicaid/CHIP policy embedded in CHIPRA, and we find no policy effects on White or Black children. However, our results could be confounded if there were other, unmeasured changes occurring in policy states that disproportionately affected Latinos.

Finally, because of sample size limitations, we were unable to examine whether the effects of omnibus immigration laws on Medicaid/CHIP differed across states or across Latino subgroups, and we were not able to examine whether there were additional effects when states passed more than one omnibus law during the 10-year period.

Despite these limitations, this rigorous quasi-experimental study provides the strongest evidence yet for the effect of restrictive omnibus immigration laws on Latino citizen children's Medicaid/CHIP enrollment. This study contributes to a growing literature examining the effects of immigration laws at the local, state, and federal levels. We find that omnibus laws did not impact Medicaid/CHIP enrollment for citizen children with noncitizen parents, and led to temporary increases in coverage for citizen children with at least one citizen parent.

Our findings point to directions for future work. First, our findings underscore the importance of stratifying Latino children based on parents' citizenship status(es) when estimating the effects of immigration laws. Future studies should go one step further by using methods that impute legal status for noncitizens (Van Hook et al., 2015) to examine

whether policy effects differ for children of undocumented parents compared to children whose noncitizen parents are legally present in the US.

Second, there is a need for studies that examine the effects of immigration-related policies and practices at different levels, from the city or county (e.g., local 287(g) agreements and sanctuary policies) to the state (e.g., omnibus laws) and the federal (the Deferred Action for Childhood Arrivals program). For example, does passage of state immigration laws have different effects based on the federal immigration enforcement climate? Do local sanctuary policies buffer the effects of state and federal immigration policies?

Finally, we argue that our understanding of the impacts of immigration policy on children's and families' wellbeing would be advanced by drawing on the large social movements and political mobilization literatures that describe when and how Latinos and immigrants push back against restrictive immigration laws. Studies should build on this literature to systematically document the responses of communities and community organizations to passage of restrictive immigration laws, and determine which CBO activities are most effective at protecting immigrant families. In this way, we can continue to limit the potential harmful effects of restrictive immigration laws on children in immigrant families.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Highlights

- Adds to the growing evidence on the effects of immigration laws on Latino children.
- Examines the effects of restrictive state immigration laws on Medicaid/CHIP access.
- Uses multidisciplinary theories of symbolic policies and health care disparities.
- Suggests that community organizations may buffer the effects of restrictive laws.
- Argues for research on the intersection of laws at local, state, & federal levels.

Figure 1. Predicted probability of having Medicaid or CHIP coverage before and after passage of an omnibus immigration law^a

^aTo calculate predicted probabilities, all variables except time, parent citizenship, and policy variables were set to their means. Time was centered around omnibus law passage for each policy state; for non-policy states, time was centered around the mean time of omnibus law passage (quarter 3 of 2007).

Table 1

Common provisions across omnibus immigration laws

	Provision	Number of states with this provision in at least one omnibus law
Enforcement	Prohibits sanctuary policies	9
	Authorizes law enforcement to verify legal status of any person involved in a legal stop	5
	Requires law enforcement to verify the legal status of any person booked into jail	8
	Allows law enforcement to make an arrest without a warrant when there is suspicion the person is an immigrant who has committed a crime	3
	Requires state to seek federal-state 287(g) agreement	5
	Creates criminal penalties for being present in the state without immigration documents	3
	Creates criminal penalties for transporting, harboring, concealing, or shielding an undocumented immigrant	7
Employment	Requires employers to use E-Verify	9
	Creates criminal penalties for applying for work if not legally present	2
	Creates civil or criminal penalties for making or using false documents	6
	Other employment regulations	10
Public benefits, education, and licenses	Requires agencies to verify legal status for applicants for public benefits.	10
	Limits access to identification documents, such as driver's licenses	5
	Limits access to postsecondary education.	5

Table 2

Weighted descriptive statistics, Latino citizen children in the NHIS, 2005—2014

	Children in states that never passed omnibus law, all years n=63,168 ^a	Children in states that passed omnibus law, all years n=7,019 ^a
Age, in years (range 0 – 17)	7.8 (6.4) ***	7.2 (5.9)
Male	50.9%	50.8%
Latino subgroup		
Mexican	67.0% ***	79.5%
Puerto Rican	10.2%	4.4%
Cuban	2.0%	0.7%
Dominican	2.8%	0.6%
Central or South American	11.6%	7.8%
Other Latino	6.4%	6.9%
Has only noncitizen parent(s)	30.5% **	35.1%
Has one or more non-Latino parent(s)	17.6% ***	25.2%
Interview conducted only in English	64.2% ***	70.0%
Family structure		
Both biological/adoptive parents	61.8%	61.1%
One biological/adoptive, one step	4.8%	5.2%
Biological/adoptive mother only	26.8%	25.9%
Biological/adoptive father only	2.5%	2.9%
Other	4.0%	4.9%
Number of children in family (range 1 – 12)	2.6 (1.6)	2.6 (1.5)
Highest parent education		
Less than high school	33.0%	34.6%
High school diploma or GED	42.9%	42.1%
Associate degree	9.9%	10.3%
Bachelor's degree	9.6%	8.7%
Graduate or professional degree	4.6%	4.3%
Parent-rated general health status		
Fair/poor	2.7% ***	2.2%
Good	22.2%	16.4%
Very good	27.0%	30.4%
Excellent	48.0%	50.9%
Any health-related functional limitations	6.7%	6.6%
Income-to-poverty ratio (range 0 – 13.21)	2.0 (2.1) **	1.8 (1.8)
Covered by Medicaid or CHIP	51.9%	54.2%

^aUnweighted sample sizes shown.

Proportion or mean (standard deviation) shown.

*
p<.05,

**
p<.01,

p<.001

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Table 3Results of multivariable regression of Medicaid/CHIP coverage on omnibus law passage^a

	Model A	Model B	Model C
	OR (95% CI)	OR (95% CI)	OR (95% CI)
Time (centered at 21)	1.02 (1.01 – 1.02) ***	1.02 (1.01 – 1.03) ***	1.01 (1.00 – 1.03)
Time squared	1.00 (1.00 – 1.00)	1.00 (1.00 – 1.00)	1.00 (1.00 – 1.00)
Noncitizen parent(s)	3.48 (3.24 – 3.73) ***	1.55 (1.43 – 1.68) ***	1.55 (1.43 – 1.69) ***
Effects for children with only noncitizen parents: ^b			
first omnibus law passage	0.78 (0.48 – 1.24)	0.93 (0.58 – 1.50)	0.82 (0.49 – 1.39)
first law, post-passage trend	1.07 (0.91 – 1.26)	1.02 (0.86 – 1.22)	1.00 (0.83 – 1.20)
first law, post-passage trend squared	1.00 (0.98 – 1.01)	1.00 (0.98 – 1.01)	1.00 (0.99 – 1.02)
first law, post-passage trend cubed	1.00 (1.00 – 1.00)	1.00 (1.00 – 1.00)	1.00 (1.00 – 1.00)
Effects for children with at least one citizen parent:			
first omnibus law passage	1.67 (1.15 – 2.41) **	2.25 (1.24 – 4.06) **	2.11 (1.19 – 3.75) *
first law, post-passage trend	0.87 (0.79 – 0.96) **	0.84 (0.71 – 0.98) *	0.82 (0.70 – 0.97) *
first law, post-passage trend squared	1.01 (1.00 – 1.02) *	1.01 (1.00 – 1.02) *	1.01 (1.00 – 1.02) *
first law, post-passage trend cubed	1.00 (1.00 – 1.00) *	1.00 (1.00 – 1.00)	1.00 (1.00 – 1.00)
Unweighted sample size	70,187	70,187	70,187
F-test	F(19, 586.0)=82.43 ***	F(66, 585.3)=118.71 ***	F(115, 584.7)=83.75 ***

^aModel A includes time (centered), time-squared, a dummy variable for noncitizen parents, and policy variables. Model B adds all individual- and state-level covariates described in the methods section. Model C adds state fixed effects.

^bCoefficients on policy variables for children of noncitizen parents were calculated from interaction terms using multiple imputation nlcom commands.

OR=Odds Ratio, CI = Confidence Interval,

*
p<.05,

**
p<.01,

p<.001

Table 4Results of key sensitivity analyses^a

	Model A Non-Latino White ^b	Model B Non-Latino Black ^c	Model C Year fixed effects ^d
	OR (95% CI)	OR (95% CI)	OR (95% CI)
Time (centered at 21)	1.00 (0.99 – 1.01)	1.02 (1.00 – 1.04) [*]	
Time squared	1.00 (1.00 – 1.00)	1.00 (1.00 – 1.00)	
Year fixed effects			
2005			ref.
2006			0.85 (0.67 – 1.08)
2007			0.70 (0.47 – 1.04)
2008			0.52 (0.29 – 0.91) [*]
2009			0.61 (0.33 – 1.11)
2010			0.73 (0.39 – 1.38)
2011			0.71 (0.37 – 1.36)
2012			0.79 (0.39 – 1.60)
2013			0.75 (0.33 – 1.69)
2014			0.77 (0.33 – 1.80)
Noncitizen parent(s)			1.55 (1.43 – 1.69) ^{***}
Effects for children with only noncitizen parents: ^e			
first omnibus law passage			0.85 (0.48 – 1.49)
first law, post-passage year fixed effects			
post-passage year 1			0.96 (0.37 – 2.47)
post-passage year 2			1.00 (0.54 – 1.86)
post-passage year 3			5.14 (1.85 – 14.30) ^{**}
post-passage year 4			1.34 (0.61 – 2.94)
post-passage year 5			0.62 (0.18 – 2.17)
post-passage year 6			2.14 (0.74 – 6.19)
post-passage year 7			1.75 (0.50 – 6.09)
post-passage year 8			2.56 (0.53 – 12.45)
Effects for children with at least one citizen parent:			
first omnibus law passage			1.50 (0.98 – 2.31)
first law, post-passage trend fixed effects			
post-passage year 1			1.08 (0.57 – 2.03)
post-passage year 2			0.45 (0.24 – 0.82) [*]
post-passage year 3			0.76 (0.27 – 2.11)
post-passage year 4			0.89 (0.40 – 1.95)
post-passage year 5			0.86 (0.32 – 2.27)
post-passage year 6			0.62 (0.21 – 1.78)
post-passage year 7			0.74 (0.38 – 1.45)

	Model A	Model B	Model C
	Non-Latino White ^b	Non-Latino Black ^c	Year fixed effects ^d
	OR (95% CI)	OR (95% CI)	OR (95% CI)
post-passage year 8			0.63 (0.23 – 1.70)
Effects for non-Latino White or Black children:			
first omnibus law passage	0.80 (0.56 – 1.14)	0.93 (0.63 – 1.37)	
first law, post-passage trend	1.09 (0.99 – 1.19)	0.89 (0.78 – 1.02)	
first law, post-passage trend squared	0.99 (0.99 – 1.00)	1.01 (1.00 – 1.02)	
first law, post-passage trend cubed	1.00 (1.00 – 1.00)	1.00 (1.00 – 1.00)	
Unweighted sample size	n=102,765	n=37,761	n=70,187
F-test	F(99, 601.7)=103.12 ***	F(100, 460.6)=524.66 ***	F(137, 584.0)=84.36 ***

^a Models include all covariates described in the methods section.

^b The sample for Model A includes all White children in NHIS, age 0–17, who were US citizens and had US-citizen parents.

^c The sample for Model B includes all Black children in NHIS, age 0–17, who were US citizens and had US-citizen parents.

^d Model C uses year, rather than quarter-year, as the time unit for existing time trends and for post-passage trends. These are treated as a series of dummy variables (fixed effects).

^e Coefficients on policy variables for children of noncitizen parents were calculated from interaction terms using multiple imputation nlcom commands.

OR=Odds Ratio, CI = Confidence Interval,

*
p<.05,

**
p<.01,

p<.001