Disappearing Medicaid Enrollment Disparities for US Citizen Children in Immigrant Families: State-Level Trends from 2008 to 2015

Eric E. Seiber, PhD; Evan V. Goldstein, MPP

From the Division of Health Services Management and Policy, College of Public Health, The Ohio State University, Columbus, Ohio
The authors have no conflicts of interest to disclose.
Address correspondence to Eric E. Seiber, PhD, Division of Health Services Management and Policy, The Ohio State University-College of Public Health, 210 Cunz Hall, Columbus, OH 43210 (e-mail: seiber.7@osu.edu).
Received for publication July 20, 2018; accepted January 16, 2019.

Abstract

Objective: Medicaid and the Children's Health Insurance Program (CHIP) provide health insurance to 38% of all children in the United States. Uninsured rates continued to fall over the past decade, and citizen children in immigrant families experienced the most dramatic gains. Our objective is to test whether states have managed to close Medicaid enrollment gaps between US citizen children in native and immigrant families.

Methods: We use the 2008 to 2015 American Community Surveys to compare uninsured rates for 2.4 million Medicaid-eligible citizen children in immigrant and native families. State fixed-effects probit models estimate the probability of children remaining uninsured when eligible for public coverage, excluding children covered by private insurance. We compare the states with the largest enrollment gains across differences in policies relevant to CHIP/Medicaid participation for all children, including CHIP Reauthorization Act (CHIPRA) enrollment simplification, Immigrant Children's Health Improvement Act, and Affordable Care Act (ACA) Medicaid expansion.

Results: Most states reduced their enrollment disparities by one half or even completely eliminated their enrollment differentials. However, the states with the largest gains did not adopt ACA and CHIPRA policy options that would have improved CHIP/Medicaid participation for children in their states—or implemented the policies long before the observed gains.

Conclusions: Rather than policy anchoring the gains, the improvements may be rooted in operational changes and outreach efforts during CHIPRA and ACA implementation. Absent a policy anchor, the large enrollment differentials of a decade ago may reappear for children in immigrant families, affect the wellbeing of children and their communities.

Keywords: disparities; health insurance; health policy; immigration; Medicaid

Academic Pediatrics 2019;19:333–341

What's New

Since 2008, numerous states completely eliminated their Medicaid enrollment disparities between children in immigrant and native families, while the average state reduced its enrollment disparity by one half. With no definitive policy anchor, will traditional barriers and enrollment disparities reappear?

Over the past decade, states have adopted initiatives streamlining enrollment and retention efforts in Medicaid and the Children's Health Insurance Program (CHIP). These efforts have produced dramatic reductions in uninsured rates for Medicaid-eligible, citizen children with both immigrant and native parents.[1] However, it is unclear whether the increasingly anti-immigration political climate in the United States will jeopardize these enrollment and retention gains among citizen children with immigrant parents. This paper examines enrollment trends and state-level Medicaid policy changes from 2008 to 2015 to ask whether enrollment gains among citizen children in immigrant families are vulnerable in the current immigration political environment.

Children in immigrant families remain a particularly vulnerable American subpopulation. Notably, children in immigrant families comprise 26% of the country's under-18 population. A total of 90% of all immigrant children are U.S. citizens, defined as citizen children born in the United States or abroad who have at least 1 parent who immigrated to the United States[2]; 88% are natural born citizens.[2] However, compared with native citizen children —defined as citizen children with native, nonimmigrant parents—citizen children in immigrant families remain disproportionately uninsured, with almost one half of all uninsured children living in an immigrant family.[3] Children with an immigrant parent are more likely to remain uninsured, even when eligible for Medicaid.[4-7] Lastly, immigrant children have less access to employer-sponsored private insurance than other children.[8]

All children face Medicaid enrollment barriers,[9,10] but children in immigrant families face unique enrollment difficulties not faced by native families. Despite policy

efforts to increase Medicaid enrollment for all children, local circumstances have long impacted the probability that immigrant parents enroll their children into public coverage. Enrollment barriers can include linguistic barriers in states that lack interpreters for limited English proficient parents; and cultural barriers, especially among immigrant subpopulations who may have moved to the United States after living in societies in which the health insurance bureaucracy may be unfamiliar.[8]

Many citizen children with immigrant parents live in mixed-status families in which one or both parents may be undocumented.[11] For these mixed-status families, fear of deportation and the "chilling effect" of local immigration attitudes and immigration enforcement activities can discourage enrollment for eligible children.[8,12-14] Mistrust of government entities among immigrant community members can spill over and deter overall enrollment efforts within immigrant communities, as CHIP/Medicaid enrollment depends on trust and community buy-in. Indeed, nearly one third of new CHIP enrollees report that a friend or family member was the most important source of information in deciding to apply for coverage, whereas only 10% of new CHIP enrollees stem from passive media outreach.[15] Moreover, Medicaid enrollment assistance provided by trusted individuals within the community is critical for enrollment success, especially among Latino community members.[16]

Both the Children's Health Insurance Program Reauthorization Act (CHIPRA) of 2009 and the Affordable Care Act (ACA) of 2010 helped states boost enrollment for children in both native and immigrant families. First, CHIPRA gave states additional resources and options to insure more children, leading numerous states to widen their income eligibility thresholds and target the enrollment of children from higher-income families. In response, 15 states increased their CHIP income eligibility thresholds between 2008 and 2012.[17] Second, CHIPRA established performance bonus payments to states as an incentive to simplify CHIP/Medicaid enrollment procedures and increase enrollment of eligible but unenrolled children into coverage. To qualify for the CHIPRA bonus payments, states had to 1) increase child Medicaid enrollment above an established enrollment goal, and 2) implement at least 5 of 8 specific enrollment and retention initiatives, including options like Express Lane Eligibility, presumptive eligibility, and 12-month continuous eligibility.[18] The performance bonus program was temporary and only active from fiscal year 2009 through fiscal year 2013. During the 5-year period, 27 states earned $1.1 billion in performance bonuses.[19]

CHIPRA also included the Legal Immigrant Children's Health Improvement Act (ICHIA), which allowed states the opportunity to expand federally funded Medicaid coverage to income-eligible children of immigrant families who established legal residence within the preceding 5 years. Before CHIPRA, only 12 states and the District of Columbia offered coverage to immigrant children within the 5-year exclusion period using state funds. Citizen children in immigrant families were not a specific focus of ICHIA. However, their participation may have improved due to greater enrollment efforts in ICHIA states, but previous authors have found no evidence of spillover improvements among citizen children in immigrant families.[8]

Finally, the ACA expanded Medicaid eligibility for adults in participating states, but it did not specifically target children's coverage. Previous expansions for adults have had the additional benefit of boosting enrollment from previously eligible children. Through this "welcome mat effect," Medicaid becomes whole family coverage as newly eligible adults enroll both themselves and their previously eligible but uninsured children. Nationwide, an estimated 710,000 children from low-income families gained coverage through ACA welcome mat effects.[20]

Although millions of uninsured children remain eligible for public insurance programs, the overall child uninsured rate continues to decline. However, it is not well understood whether children in immigrant families continue to remain disproportionately uninsured compared with nonimmigrant citizen children. To address this question, we examine data from the 2008 to 2015 American Community Surveys (ACS) to compare state-level CHIP/Medicaid participation rates for eligible citizen children in immigrant and native families. We then assess whether any of the policy or regulatory changes discussed previously can explain state-level differences in the estimated uninsured rates for Medicaid-eligible citizen children in immigrant and native families from 2008 to 2015.

Data and Methods

We use the 2008 to 2015 ACS from the Integrated Public Use Microdata Series project at the University of Minnesota Population Center.[21] The ACS does not ask respondents about health insurance before 2008. We limit the study sample to Medicaid-eligible, citizen children from the 2008 to 2015 ACS, yielding a final sample of 1.7 million children, including 465,000 children in immigrant families. Medicaid eligibility and citizenship status are defined as follows. In the analysis that follows, we show that private coverage has declined modestly over the study period. The multivariate analyses exclude privately insured children to focus exclusively on Medicaid and uninsured, Medicaid-eligible children.

Children in Immigrant Families

We use the terms "children in immigrant families" and "children with immigrant parents" interchangeably in this study. Both terms refer to citizen children born in the United States or abroad who have at least 1 parent who immigrated to the United States.[22] The ACS data indicate that 10% of children in immigrant families are not citizens; however, the ACS does not collect immigration status information (ie, legal resident vs undocumented). To minimize error in the Medicaid Eligibility model, we exclude noncitizens from the analysis since undocumented immigrants are ineligible for Medicaid in most states.

MEDICAID ELIGIBILITY

The ACS does not distinguish between CHIP and Medicaid enrollment, so we refer to both groups in the text as "Medicaid." The final study sample only includes Medicaid-eligible, citizen children, excluding both noncitizen children and children who are not income eligible for Medicaid. Maintaining consistency with the literature, we estimate Medicaid eligibility for all study respondents by combining respondent age with the respondent's corresponding household income threshold in the respondent's state of residence for each year.[9,23] Moreover, because the ACS definition of the family does not correspond with Medicaid eligibility, we analyze "health insurance units" instead of traditional families to determine Medicaid eligibility.[24] All tables include citizen children−ages 17 and younger−for the 50 states and District of Columbia. Puerto Rico is excluded.

STATISTICAL ANALYSIS

Our analysis extends a previously published approach.[7] We use state fixed-effects probit models to estimate the probability that a Medicaid-eligible child remains uninsured, conditional on key covariates. After dropping noncitizens, children exceeding the income eligibility thresholds for Medicaid, and children covered by private insurance, the model estimates the probability that a Medicaid eligible child remains uninsured:

$$\text{Uninsured} = \text{State}_{jt} + \text{Immigrant\_Family} + \text{State}_j * \text{ImmigrantFamily} + \beta X + \varepsilon$$

Where

$\text{State}_j = 1$ if the child is lives in state j

Immigrant_Family = 1 if the child has at least one immigrant parent

State_j*Immigrant Family = 1 if the child lives in state j and has at least one immigrant parent

The main outcome variable is a dichotomous measure of uninsured status. A child is coded as Y = 1 (uninsured) if the survey respondent reports no coverage for the child, whereas the child is coded as Y = 0 (Medicaid) if the respondent reports Medicaid coverage. Children with private coverage are excluded from the multivariate sample. The key explanatory variables in the model are interaction variables that test for differences in estimated Medicaid enrollment between children in immigrant families and children in nonimmigrant families for each state. State fixed-effects control for all time invariant aspects of Medicaid enrollment in each state, including all time invariant barriers to Medicaid enrollment. We also include family- and child-specific controls, including the child's age, race, ethnicity, sex, family income, household structure, and survey year. To account for clustering within households and the complex sample of the ACS, all analyses use the survey commands in STATA 14 (StataCorp LLC, College Station, Tex).

We estimate the probit model for 4 separate time periods: 2008 to 2009, 2010 to 2011, 2012 to 2013, and 2014 to 2015. Stratifying by time period allows us to identify enrollment differentials coinciding with the recent major health care reforms. First, the 2008 to 2009 period immediately precedes the passage and implementation of the CHIPRA in 2009. Second, 2010 to 2011 coincides with the passage and initial implementation of the ACA in 2010. Third, 2012 to 2013 immediately precedes the ACA's 2014 Medicaid expansions and the October 2013 Health Insurance Marketplaces implementation. Finally, 2014 to 2015 captures the years immediately following the full implementation of the ACA's 2014 coverage expansions. Table 1 provides summary statistics for the sample.

RESULTS

The Figure shows that Medicaid coverage rates have improved for citizen children in both native and immigrant families whereas private coverage has declined modestly. From 2008 to 2015, the percent of all eligible children who remained uninsured decreased from 12.3% in 2008 to 5.4% in 2015. The percent of uninsured, eligible children in native families was cut by one half, from 10.4% to 5.0%, but the largest improvements were for children in immigrant families. In 2008, 17.2% of Medicaid-eligible children in immigrant families remained uninsured, but this percent fell by almost two-thirds, with 6.4% remaining uninsured in 2015. A longer analysis using the Current Population Survey (CPS) found a similar pattern with uninsured rates dropping for all children from 2000 to 2008, but with the largest improvements from 2008 to 2013. The CPS changed insurance questions preventing trend analysis after 2013. Similarly, the much smaller sample in the CPS prevents state-level estimates and modeling.

Summarizing the coefficients from the multivariate models is problematic. Each of the 3 models includes 50 state fixed effects, another 50 state*immigrant family interaction terms, and the control variables. Rather than condensing to a single table, we present the full set of estimates from the 3 models in an Online Appendix. The Online Appendix presents the average marginal effect for each coefficient based on the observed values of the independent variables, the standard error of the marginal effect, and the statistical significance of the marginal effect.

Table 2 depicts simulated uninsured rates of Medicaid-eligible, citizen children in both immigrant and nonimmigrant families for all states. We estimate the average predicated probabilities presented in Table 2 by setting all immigrant family indicator variables to their respective category values, ie, 1 if a citizen child has at least 1 immigrant parent, and 0 if not. All other variables retain their observed values, and we predict the probability of each child remaining uninsured in each state. This approach produces the average predicted probability of being uninsured for each state, incorporating the nonlinearity of the estimates. A detailed description can be found in Karaca-Mandic et al.[25] The first group of columns present the average predicted probabilities by state for 2008 to 2009,

Table 1. Descriptive Statistics for Medicaid Eligible Citizen Children: United States, 2008–2015

	Immigrant Families		Nonimmigrant Families		All Children	
	Mean	SE	Mean	SE	Mean	SE
Immigrant family	1.000	n/a	n/a	n/a	0.299	0.0007
Native family	n/a	n/a	1.000	n/a	0.701	0.0007
Native	0.979	0.0003	0.999	0.0000	0.993	0.0001
Naturalized citizen	0.021	0.0003	0.001	0.0000	0.007	0.0001
Hispanic	0.753	0.0012	0.176	0.0007	0.348	0.0007
American Indian	0.011	0.0003	0.038	0.0003	0.030	0.0002
Black	0.085	0.0008	0.336	0.0009	0.261	0.0007
Asian	0.092	0.0007	0.015	0.0002	0.038	0.0003
Other race	0.265	0.0013	0.050	0.0004	0.114	0.0005
White	0.583	0.0014	0.638	0.0009	0.622	0.0007
Age 0–2 y	0.206	0.0008	0.191	0.0005	0.195	0.0004
Age 3–5 y	0.203	0.0007	0.187	0.0005	0.192	0.0004
Age 6–8 y	0.181	0.0006	0.170	0.0004	0.173	0.0003
Age 9–11 y	0.158	0.0006	0.158	0.0004	0.158	0.0003
Age 12–15 y	0.177	0.0007	0.199	0.0005	0.192	0.0004
Age 16–17 y	0.076	0.0004	0.095	0.0003	0.089	0.0003
Male	0.511	0.0009	0.511	0.0006	0.511	0.0005
Female	0.489	0.0009	0.489	0.0006	0.489	0.0005
Poverty level						
0%–100% of poverty	0.484	0.0014	0.553	0.0009	0.532	0.0007
101%–200% of poverty	0.404	0.0014	0.342	0.0008	0.361	0.0007
>200% of poverty	0.111	0.0008	0.105	0.0005	0.107	0.0004
Household (HH) with:						
No HS graduates	0.267	0.0013	0.111	0.0006	0.157	0.0006
At least 1 HS graduate	0.733	0.0013	0.889	0.0006	0.843	0.0006
Zero workers in HH	0.125	0.0009	0.317	0.0008	0.260	0.0007
One worker in HH	0.533	0.0014	0.503	0.0009	0.512	0.0008
Two+ workers in HH	0.342	0.0013	0.180	0.0007	0.228	0.0006
Child with						
Neither parent in HH	0.000	n/a	0.057	0.0003	0.040	0.0002
Only father in HH	0.059	0.0007	0.065	0.0004	0.063	0.0004
Only mother in HH	0.240	0.0012	0.484	0.0009	0.411	0.0007
Two parents in HH	0.701	0.0013	0.394	0.0009	0.486	0.0008
Year = 2008	0.106	0.0008	0.114	0.0005	0.112	0.0005
Year = 2009	0.122	0.0009	0.126	0.0006	0.125	0.0005
Year = 2010	0.102	0.0008	0.111	0.0005	0.108	0.0004
Year = 2011	0.134	0.0010	0.134	0.0006	0.134	0.0005
Year = 2012	0.134	0.0009	0.135	0.0006	0.134	0.0005
Year = 2013	0.118	0.0009	0.114	0.0006	0.115	0.0005
Year = 2014	0.142	0.0010	0.134	0.0006	0.136	0.0005
Year = 2015	0.144	0.0010	0.132	0.0006	0.136	0.0005
Number of observations	465,911		1,287,683		1,753,594	

SE indicates standard error; n/a, not available; and HS, high school.

and subsequent column groups correspond to 2010 to 2011, 2012 to 2013, and 2014 to 2015. For each time period, the first column indicates the predicted percent uninsured for citizen children in native families, the second column lists the predicted percent uninsured for citizen children with an immigrant parent, and the third column is the difference between the 2 groups. A section symbol indicates whether the difference is statistically different from zero.

Despite its very large sample size, the ACS interviews few uninsured immigrant children in smaller states. These small sample sizes limit precision and can produce very large standard errors. In Table 2, we do not show the results for states with fewer than 200 Medicaid-eligible citizen children in immigrant families in every 2-year time period. All states are still included in the underlying regression model. The 200 immigrant child threshold excludes the District of Columbia and 10 states: Alaska, Delaware, Maine, Montana, New Hampshire, North Dakota, South Dakota, Vermont, West Virginia, and Wyoming. Delaware and Mississippi are the 2 states closest to the exclusion criteria. We do not include Delaware in the table (minimum n = 152 in 2010/2011, maximum n = 194 in 2014/2015) whereas Mississippi remains in the table (minimum n = 157 in 2008/09, maximum n = 249 in 2014/2015).

Table 2 lists the states in order from those with the largest difference in uninsured rates between eligible children in native and immigrant families to the states with the smallest difference between the 2 groups at baseline. For example, 25.4% of all Medicaid-eligible native citizen children in Utah remained uninsured in 2008 to 2009. However, 49.6% of Medicaid-eligible children in immigrant families in Utah remained uninsured, yielding a statistically significant

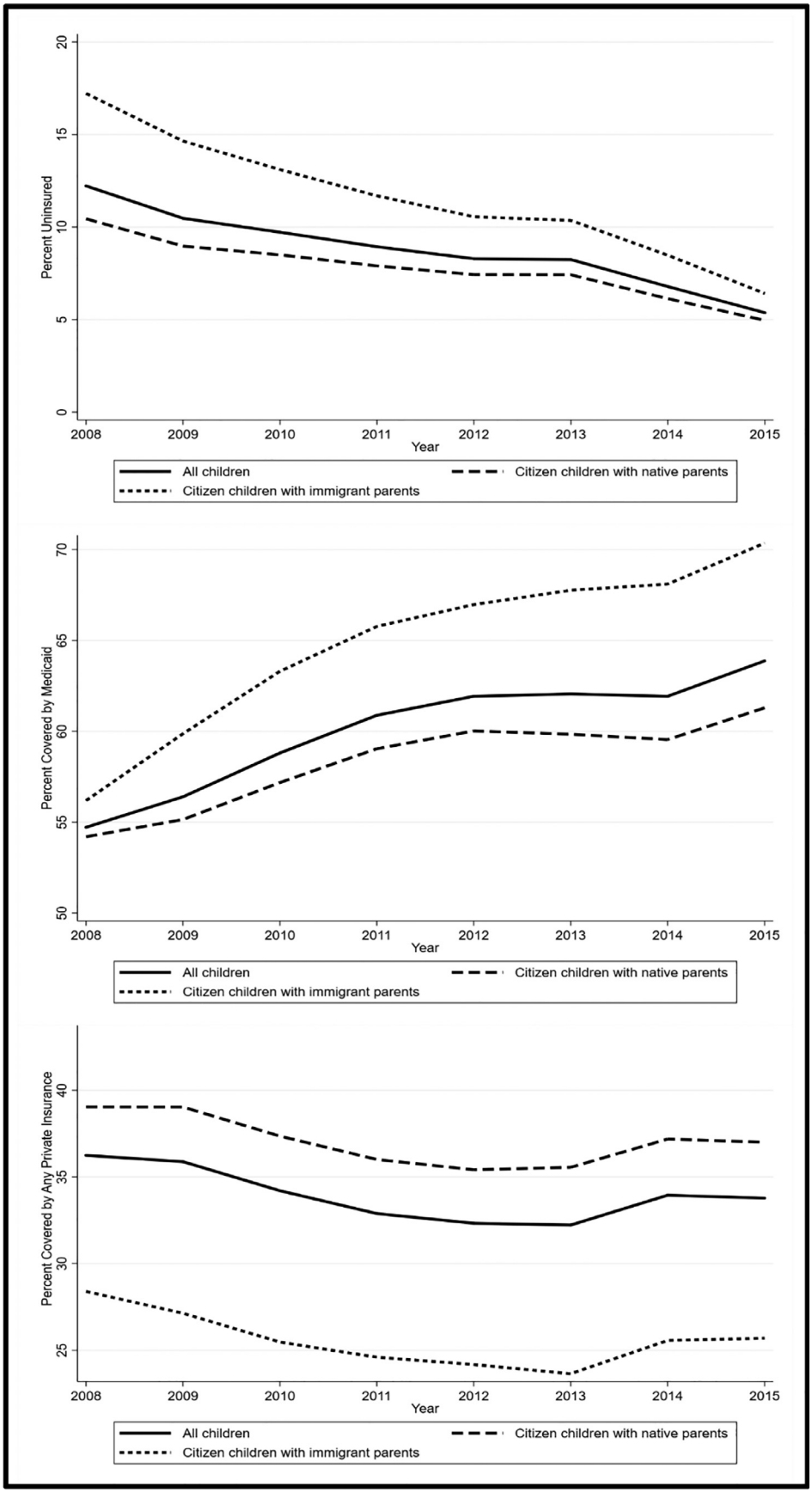

Figure. *Percent uninsured and insured among Medicaid-eligible citizen children, ages 0 to 17 years: United States, 2008 to 2015. Source: Authors calculations from the 2008 to 2015 American Community Surveys.*

Table 2. Average Predicted Probability of Remaining Uninsured When Medicaid Eligible, for Citizen Children in Native and Immigrant Families: United States, 2008–2015*

	2008–2009				2010–2011			2012–2013			2014–2015			
	Immigr. Families	Native Families	Diff.†	2008 Rank‡	Immigr. Families	Native Families	Diff.†	Immigr. Families	Native Families	Diff.†	Immigr. Families	Native Families	Diff.†	2015 Rank‡
AL	16.9%	13.6%	3.3	26	17.1%	8.7%	8.4	10.2%	7.7%	2.5	6.9%	5.5%	1.4	19
AR	12.9%	8.4%	4.4	20	6.2%	6.4%	−0.2	4.5%	6.2%	−1.6	6.4%	5.7%	0.7	25
AZ	23.5%	19.8%	3.6	24	23.0%	16.9%	6.2§	13.9%	12.5%	1.4	13.6%	12.2%	1.4	20
CA	18.2%	17.7%	0.5	34	13.5%	13.9%	−0.3	11.9%	13.7%	−1.8§	6.4%	7.5%	−1.1§	35
CO	34.2%	22.4%	11.8§	6	23.6%	18.0%	5.6	16.8%	14.4%	2.5	9.9%	7.8%	2.1§	12
CT	16.8%	8.8%	8.1§	11	6.1%	5.1%	1.1	10.1%	4.6%	5.5§	9.2%	4.3%	4.9§	5
FL	33.2%	25.3%	7.9§	12	20.4%	15.7%	4.7§	17.7%	13.0%	4.8§	13.1%	9.9%	3.2§	10
GA	27.6%	17.1%	10.5§	8	22.5%	14.4%	8.1§	18.8%	13.8%	5.0§	14.9%	10.7%	4.2§	7
HI	9.3%	8.0%	1.2	33	9.2%	10.9%	−1.7	7.6%	8.2%	−0.6	4.2%	3.1%	1.1	23
IA	10.6%	11.4%	−0.8	39	16.8%	9.8%	7.0	13.9%	9.2%	4.6	6.6%	7.0%	−0.4	30
ID	34.5%	19.3%	15.3§	4	13.5%	16.3%	−2.8	15.0%	12.0%	3.0	9.3%	9.5%	−0.2	27
IL	9.2%	9.1%	0.2	35	5.5%	7.1%	−1.6	4.4%	6.7%	−2.3§	5.0%	6.1%	−1.1	34
IN	26.2%	19.4%	6.8§	13	15.8%	16.4%	−0.6	18.4%	15.4%	3.0	15.5%	13.5%	2.0	14
KS	23.3%	17.8%	5.4	16	12.2%	15.6%	−3.4	13.2%	13.7%	−0.5	13.6%	11.5%	2.0	13
KY	14.3%	10.0%	4.3	21	14.9%	8.1%	6.8	14.6%	9.0%	5.6	10.1%	6.0%	4.1	8
LA	12.5%	10.6%	1.9	29	13.6%	7.6%	6.0	8.6%	7.0%	1.6	7.9%	6.4%	1.5	18
MA	4.1%	4.6%	−0.5	38	2.4%	3.7%	−1.3	1.9%	3.1%	−1.2	2.5%	2.9%	−0.3	28
MD	12.5%	11.0%	1.5	32	8.9%	9.2%	−0.4	8.9%	7.4%	1.5	6.3%	6.7%	−0.4	31
MI	10.2%	8.6%	1.6	30	10.4%	6.3%	4.1	6.1%	7.4%	−1.3	3.9%	6.3%	−2.4§	39
MN	23.7%	19.8%	4.0	23	16.8%	14.8%	2.1	15.2%	16.3%	−1.2	10.5%	6.8%	3.7	9
MO	20.2%	15.3%	4.9	17	16.2%	13.2%	3.0	18.7%	14.6%	4.1	22.0%	13.9%	8.1§	2
MS	36.3%	17.0%	19.4§	2	17.3%	10.1%	7.2	17.9%	9.9%	8.0	7.0%	5.8%	1.1	21
NC	18.4%	12.7%	5.7§	14	14.5%	9.9%	4.6§	10.8%	8.9%	1.9	7.1%	6.8%	0.3	26
NE	17.2%	12.4%	4.9	19	16.2%	10.0%	6.2	13.3%	11.3%	2.0	10.4%	12.4%	−2.0	38
NJ	19.1%	15.9%	3.2	27	11.7%	12.7%	−1.0	10.5%	11.4%	−0.9	8.7%	7.6%	1.0	24
NM	19.2%	15.2%	4.0	22	11.8%	9.8%	2.0	7.1%	11.2%	−4.0	5.8%	6.9%	−1.1	33
NV	52.3%	35.1%	17.2§	3	35.7%	29.3%	6.4	32.4%	26.1%	6.3	14.5%	12.8%	1.7	16
NY	9.1%	11.6%	−2.6§	40	7.8%	9.6%	−1.9§	6.7%	8.6%	−1.8§	5.1%	5.8%	−0.7	32
OH	24.8%	13.5%	11.3§	7	16.7%	9.6%	7.1§	9.2%	8.9%	0.2	9.0%	7.8%	1.1	22
OK	18.2%	15.4%	2.8	28	17.0%	12.3%	4.7	10.6%	14.1%	−3.5	8.7%	13.3%	−4.5	40
OR	25.1%	25.2%	0.0	36	11.5%	14.5%	−3.0	11.4%	10.1%	1.4	6.2%	6.6%	−0.4	29
PA	16.1%	12.6%	3.5	25	10.4%	11.0%	−0.6	10.0%	10.6%	−0.6	9.1%	10.5%	−1.5	36
RI	11.0%	11.2%	−0.2	37	5.4%	9.4%	−4.1	10.2%	8.2%	2.0	6.4%	4.8%	1.6	17
SC	26.3%	17.9%	8.4	10	21.0%	12.7%	8.3§	12.7%	10.8%	1.9	11.3%	6.1%	5.3	3
TN	20.2%	11.1%	9.1§	9	11.5%	8.7%	2.8	13.7%	8.4%	5.3§	11.9%	6.7%	5.2§	4
TX	27.7%	22.9%	4.9§	18	18.2%	16.6%	1.6	15.4%	15.0%	0.4	14.6%	12.9%	1.7§	15
UT	49.6%	25.4%	24.2§	1	39.6%	20.5%	19.1§	35.2%	20.5%	14.7§	29.5%	18.7%	10.8§	1
VA	28.6%	15.3%	13.3§	5	13.3%	11.9%	1.3	15.3%	11.0%	4.3	14.5%	9.9%	4.6	6
WA	19.6%	14.1%	5.5§	15	12.7%	10.3%	2.4	10.9%	11.8%	−0.9	5.2%	7.1%	−1.9	37
WI	13.0%	11.4%	1.6	31	14.0%	9.5%	4.5	13.3%	9.6%	3.7	12.1%	9.3%	2.8	11
		Ave	5.8				3.0			1.9			1.4	
		Med	4.3				2.6			1.7			1.3	

*Excludes states with fewer than 200 Medicaid eligible citizen children in immigrant families, including Alaska, Delaware, the District of Columbia, Maine, Montana, New Hampshire, North Dakota, South Dakota, Vermont, West Virginia, and Wyoming.

†Differences represent percentage point differences in the average predicted probability of remaining uninsured when Medicaid eligible between immigrant and native families.

‡The *2008 Rank* and *2015 Rank* columns rank states in ascending order from those with the largest difference in uninsured rates between eligible children in native and immigrant families to the states with the smallest difference between the 2 groups.

§$P < .05$.

difference of 24.2 percentage points between the 2 groups ($P = .05$). In contrast, Massachusetts had one of the smallest differences, where 4.1% of children in native families remained uninsured and 4.6% of children in immigrant families remained uninsured.

Between 2008 and 2015, Table 2 shows that enrollment improved for all children, but the larger gains for children in immigrant families produced a dramatic convergence between the 2 groups. For example, Utah began and ended with the largest enrollment differential, but the difference fell by 55% from 24.2 percentage points in 2008 to 2009 to 10.8 percentage points in 2014 to 2015. Mississippi began with the second-largest differential of 19.4 percentage points, but Mississippi eliminated its enrollment differential to a nonsignificant 1.1%-point difference in 2014 to 2015. In 2008 to 2009, uninsured rates for Medicaid-eligible children in immigrant families were 3.5 percentage points or greater than uninsured rates for native citizen children in 25 states. By 2014 to 2015, the enrollment differentials fell by one-half or even disappeared in all

states, with differences over 3.5 percentage points remaining in just 9 states. Similarly, the average (median) enrollment differential declined from 5.8 percentage points (4.3 percentage points) in 2008 to 2009 to 1.5 percentage points (1.3 percentage points) in 2014 to 2015.

Table 3[8,17,26–28] shows the 10 states with the greatest reductions in their enrollment disparities. All reductions are based on the point estimates at the beginning and end of the study period. Mississippi achieved the largest enrollment improvement for its immigrant children, an 18-point improvement that eliminated its enrollment disparity. It should be noted that the small number of immigrant children in the Mississippi sample produces 1 of the 2 largest confidence intervals of all 10 states. Idaho and Nevada had the second-largest improvement at 15.5 percentage points, followed by Utah (13.4 percentage points) and Ohio (10.2 percentage points). The states with the next 5 largest improvements ranged from 6 to 10 percentage point drops in their enrollment differentials.

Table 3 also compares reductions in enrollment disparities to states' participation in major health care reform elements from 2008 to 2015. While CHIPRA prompted several states to widen their income eligibility thresholds and target the enrollment of children from greater-income families, only 3 states in Table 3 (Colorado, Nebraska, and Washington) expanded Medicaid eligibility through CHIPRA. Similarly, only 4 of the states in Table 3 participated in the ACA Medicaid expansion. However, these expansions occurred in 2014, well after many states had improved their enrollment differentials, which raises doubts about whether the reduced disparities can be attributed to a welcome mat effect. Table 3 also suggests little link between

Table 3. Policy Adoption by States with the 10 Largest Reductions in Enrollment Disparities: United States, 2008–2015

	2008 Enrollment Disparity*	2015 Enrollment Disparity*	Change in Enrollment Disparity*	CHIPRA Medicaid Expansion 2008-2012†	ACA Adult Medicaid Expansion 2014-2015‡	CHIPRA'S ICHIA Option§,‖	CHIPRA Bonus Payments¶	Joint Medicaid/CHIP Application#
Mississippi	19.4	1.1	−18.3	No	No	No	No	Yes, 2000
Idaho	15.3	−0.2	−15.5	No	No	No	2010–2013	Yes, 2004
Nevada	17.2	1.7	−15.5	No	Yes	No	No	Yes, 2002; No, 2005
Utah	24.2	10.8	−13.4	No	No	No	2012–2013	Yes, 2009
Ohio	11.3	1.1	−10.2	No	Yes	Yes, 2014	2010–2013	N/A
Colorado	11.8	2.1	−9.7	Yes	Yes	Yes, 2015	2010–2013	Yes, 2000
Virginia	13.3	4.6	−8.8	No	No	Yes, 2009**	2011–2013	Yes, 2000
Washington	5.5	−1.9	−7.4	Yes	Yes	Yes, 2009††	2009–2013	Yes, 2000
Oklahoma	2.8	−4.5	−7.3	No	No	No	2011	N/A
Nebraska	4.8	−2.0	−6.9	Yes	No	Yes, 2010	No	N/A

	Asset Test Eliminated	Presumptive Eligibility for Children	No Face-to-Face Interview at Enrollment	No Face-to-Face Interview at Renewal	12-Month Continuous Eligibility	Express Lane Eligibility
Mississippi	Yes, 2000	Yes, 2000; No, 2003	Yes, 2000; No, 2005	Yes, 2000; No, 2004	Yes, 2000	No
Idaho	$5000 cap, 2005; Yes, 2006	Yes, 2015	Yes, 2000	Yes, 2000	Yes, 2000	No
Nevada	Yes, 2000‡‡; Yes, 2004	No	Yes, 2000	Yes, 2000	Yes, 2000‡‡	No
Utah	Yes, 2000‡‡; Yes, 2005	Yes, 2013	Yes, 2009	Yes, 2000	Yes, 2000‡‡	No
Ohio	Yes, 2000	Yes, 2011	Yes, 2000	Yes, 2000	Yes, 2010	No
Colorado	Yes, 2000‡‡	Yes, 2008	Yes, 2000	Yes, 2000	Yes, 2000‡‡	Yes, 2013
Virginia	Yes, 2000	No	Yes, 2000	Yes, 2000	Yes, 2004‡‡	No
Washington	Yes, 2000	No	Yes, 2000	Yes, 2000	Yes, 2000; No, 2004; Yes, 2005	No
Oklahoma	Yes, 2000	No	Yes, 2000	Yes, 2000	No	No
Nebraska	Yes, 2000	Yes, 2000; No, 2004	Yes, 2000	Yes, 2000	Yes, 2000; No, 2003	No

CHIPRA indicates CHIP Reauthorization Act; ACA, Affordable Care Act; ICHIA, Legal Immigrant Children's Health Improvement Act; CHIP, Children's Health Insurance Program; and N/A, not available.

*Denotes percentage point difference.

†Source: Goldstein et al.[17]

‡Source: Kaiser Family Foundation.[27]

§Source: Saloner et al.[8]

‖Source: Kaiser Commission on Medicaid and the Uninsured.[26]

¶Source: MACStats.[28]

#Current as of 2013. Joint application status data not reported after 2013.

**Virginia received approval to extend CHIP coverage to lawfully residing immigrant children in 2012. Previously, they were covered only in Medicaid.[26]

††State previously covered immigrant children who had been legally residing in the United States for less than 5 years using state funds.[26]

‡‡Only for separate CHIP program.

ICHIA and improved enrollment differentials. Five of the 10 states did adopt ICHIA, but Washington already covered noncitizen children with state funds, whereas Virginia only covered legal residents through Medicaid until 2012. The remaining 3 states—Nebraska, Ohio, and Colorado—adopted ICHIA in 2010, 2014, and 2015, respectively, also after their enrollment differentials began to disappear. To that end, though, it remains plausible that other states that previously covered all children regardless of immigration status (eg, New York or Illinois) were able to more quickly reduce their enrollment disparities.

Finally, CHIPRA established temporary performance bonus payments to states as an incentive to simplify Medicaid enrollment procedures and increase enrollment of eligible but unenrolled children into coverage. To qualify for the CHIPRA bonus payments, states had to 1) increase child Medicaid enrollment above an established enrollment goal, and 2) implement at least 5 of 8 specific enrollment and retention initiatives, including options like Express Lane Eligibility, presumptive eligibility, and 12-month continuous eligibility.[18] Notably, 7 of 10 states in Table 3 did qualify for CHIPRA bonus payments. However, the adoption of the underlying enrollment initiatives predates the observed improvements by up to a decade. Table 3 includes the initiatives tracked in public surveys along with the year of adoption.[26] Table 3 shows that most states adopted the simplification procedures as early as 2000, and no clear pattern emerges for the few changes near or during the 2008 to 2015 study period. Most importantly, Mississippi showed the largest improvements, but they adopted their last changes in 2000 and implemented restrictions in 2003 to 2005.

Discussion

This paper shows that Medicaid enrollment improved and uninsured rates dropped for all eligible children from 2008 to 2015, but citizen children in immigrant families experienced the largest gains. The gains for immigrant children reduced the average enrollment disparity by one half and allowed some states to completely eliminate their enrollment disparity. However, no clear policy aligns with the observed gains. The states with the largest gains did not participate in most ACA and CHIPRA policy options. However, states showing the most improvement did earn CHIPRA bonus payments, but the required simplification initiatives occurred up to a decade before the dramatic gains from 2008 to 2015. No change was adopted by all states, and the state with the largest gains, Mississippi, did not adopt any of the changes after 2000.

Rather than a specific policy change, improved enrollment disparities may stem from a maturation of earlier policy changes combined with proactive outreach and education efforts and hands-on, personalized consumer enrollment assistance. Our models lack local measures to control for the ACA's large-scale marketing efforts and community-based outreach and enrollment grants. The ACA authorized U.S. Department of Health and Human Services funding for large-scale marketing efforts and significant community-focused outreach, education, and enrollment initiatives, including community enrollment navigators and Medicaid enrollment assistance administered by Federally Qualified Health Centers located in underserved areas. Entities like Enroll America and state- and local-level community and religious organizations augmented federal outreach efforts, specifically targeting underserved, racial and ethnic, and immigrant communities.[29] As previous studies have shown, having trusted enrollment professionals within the community is critical for Medicaid enrollment success.[16] That said, the observed improvements may represent the benefits of multiple spillover effects converging, even if states did not enact certain policies.

With the current political climate turning against both Medicaid and immigration, the enrollment gains for children in immigrant families may prove temporary. This study could not find a specific policy anchoring the enrollment gains. Furthermore, the funding for the ACA's outreach and enrollment grants has been severely diminished,[30] and the 2018 CHIP funding reauthorization does not include an extension of CHIPRA's enrollment bonus payments.[31] Additionally, the push for Medicaid work requirements is likely to reduce parental enrollment and suppress children's Medicaid enrollment. Finally, the policy debate around immigration has taken a more punitive tone compared with 2008 to 2015. Most recently, the current administration proposed to alter the federal definition of a "public charge" in relation to immigration status. The proposed rule would allow federal officials to consider many forms of non-cash government assistance and services during the immigration process, notably including health insurance subsidies and Medicaid coverage for citizen children.[32,33] These changes could reinvigorate the "chilling effect" from immigration enforcement activity and jeopardize enrollment and retention efforts among children in immigrant families. In turn, an increasingly anti-immigration policy climate could ultimately jeopardize the health of immigrant children,[34] as previous studies demonstrate significant relationships between unfavorable immigration policy and greater perceived health problems among adults and children alike.[35,36]

Conclusions

Between 2008 and 2015, the average state reduced its Medicaid enrollment disparity by one-half, and some states completely eliminated their enrollment disparities between children in native and immigrant families. However, no clear policy aligned with the observed enrollment gains. With no clear legislative or policy anchor, these enrollment gains are more easily reversed. If enrollment barriers increase under the current administration, we can expect more uninsured children in both native and immigrant families, and the large enrollment disparities of a decade ago may well reappear for citizen children in immigrant families.

Acknowledgments

Financial disclosure: Our previous research on this topic was funded by the Foundation for Child Development.

SUPPLEMENTARY DATA

Supplementary data related to this article can be found online at https://doi.org/10.1016/j.acap.2019.01.003.

REFERENCES

1. Kenney GM, Haley JM, Pan C, et al. Children's coverage climb continues: uninsurance and Medicaid/CHIP eligibility and participation under the ACA: Robert Wood Johnson Foundation and the Urban Institute. 2016. Available at: https://www.urban.org/sites/default/files/publication/80536/2000787-Childrens-Coverage-Climb-Continues-Uninsurance-and-Medicaid-CHIP-Eligibility-and-Participation-Under-the-ACA.pdf. Accessed February 10, 2018.
2. United States Census Bureau. "Summary File." American Community Survey, 2016. U.S. Census Bureau's American Community Survey Office.
3. Seiber EE. Covering the remaining uninsured children—almost half of uninsured children live in immigrant families. *Med Care*. 2014;52:202.
4. Jarlenski M, Baller J, Borrero S, et al. Trends in disparities in low-income children's health insurance coverage and access to care by family immigration status. *Acad Pediatr*. 2016;16:208–215.
5. Ku L. Improving health insurance and access to care for children in immigrant families. *Ambul Pediatr*. 2007;7:412–420.
6. Huang ZJ, Yu SM, Ledsky R, et al. Health status and health service access and use among children in U.S. immigrant families. *Am J Public Health*. 2006;96:634–640.
7. Seiber EE. Which states enroll their Medicaid eligible, citizen children with immigrant parents? *Health Serv Res*. 2013;48:519–538.
8. Saloner B, Koyawala N, Kenney GM. Coverage for low-income immigrant children increased 24.5 percent in states that expanded CHIPRA eligibility. *Health Aff (Millwood)*. 2014;33:832–839.
9. Kenney GM, Haley JM, Anderson N, et al. Children eligible for Medicaid or CHIP: who remains uninsured, and why? *Acad Pediatr*. 2015;15:S36–S43.
10. Kenney G, Haley JM. Why Aren't More Uninsured Children Enrolled in Medicaid or SCHIP? Washington, DC: The Urban Institute; 2001. Available at: https://www.urban.org/sites/default/files/publication/61216/310217-Why-Aren-t-More-Uninsured-Children-Enrolled-in-Medicaid-or-SCHIP-.PDF. Accessed February 10, 2018.
11. Passel JS, Cohn DV. Children of unauthorized immigrants represent rising share of K-12 students. Washington, DC: Pew Research Center; 2016. Available at: http://www.pewresearch.org/fact-tank/2016/11/17/children-of-unauthorized-immigrants-represent-rising-share-of-k-12-students/. Accessed February 10, 2018.
12. Watson T. Inside the refrigerator: immigration enforcement and chilling effects in Medicaid participation. *Am Econ J Econ Policy*. 2014;6:313–338.
13. Pati S, Danagoulian S. Immigrant children's reliance on public health insurance in the wake of immigration reform. *Am J Public Health*. 2008;98:2004–2010.
14. Vargas ED. Immigration enforcement and mixed-status families: the effects of risk of deportation on Medicaid use. *Children Youth Services Rev*. 2015;57:83–89.
15. Trenholm C, Harrington M, Dye C. Enrollment and disenrollment experiences of families covered by CHIP. *Acad Pediatr*. 2015;5:S44–S49.
16. Flores G, et al. A randomized, controlled trial of the effectiveness of community-based case management in insuring uninsured Latino children. *Pediatrics*. 2005;116:1433–1441.
17. Goldstein IM, Kostova D, Foltz JL, et al. The impact of recent CHIP eligibility expansions on children's insurance coverage, 2008-2012. *Health Aff (Millwood)*. 2014;30:1861–1867.
18. Herbert L. CHIPRA Bonus Payments. MACPAC; 2014. Available at: https://www.macpac.gov/wp-content/uploads/2015/01/2014AprilSession9.pdf. Accessed November 18, 2018.
19. Brooks T. Medicaid and CHIP Know How to Do Enrollment; Performance Bonuses Offer Model for Future Program Improvements. Washington, DC: Georgetown Center for Children and Families; 2014. Available at: https://ccf.georgetown.edu/2014/01/06/medicaid-and-chip-know-how-to-do-enrollment-performance-bonuses-offer-model-for-future-program-improvements/. Accessed November 18, 2018.
20. Hudson JL, Moriya AS. Medicaid expansion for adults had measurable 'welcome mat' effects on their children. *Health Aff (Millwood)*. 2017;36:1643–1651.
21. Ruggles S, Alexander JT, Genadek K, et al. Integrated Public Use Microdata Series: Version 5.0. 2016. Available at: https://www.ipums.org/doi/D010.V6.0.shtml. Accessed November 18, 2018.
22. Passel JS. Demography of immigrant youth: past, present, and future. *Future Child*. 2011;21:19–41.
23. Cutler D, Gruber J. Does public health insurance crowd out private insurance. *Q J Econ*. 1996;111:391–430.
24. Defining "family" for studies of health insurance coverage. 2012. Available at: http://www.shadac.org/files/shadac/publications/SHADAC_Brief27.pdf. Accessed November 18, 2018.
25. Karaca-Mandic P, Norton EC, Dowd B. Interaction terms in nonlinear models. *Health Serv Res*. 2012;47:255–274.
26. The Kaiser Commission on Medicaid and the Uninsured. Annual Updates on Eligibility Rules, Enrollment and Renewal Procedures, and Cost-Sharing Practices in Medicaid and CHIP. 2013. Available at: https://www.kff.org/medicaid/report/annual-updates-on-eligibility-rules-enrollment-and/. Accessed February 26, 2018.
27. Kaiser Family Foundation. Status of State Action on the Medicaid Expansion Decision. Available at: https://www.kff.org/health-reform/state-indicator/state-activity-around-expanding-medicaid-under-the-affordable-care-act/?currentTimeframe=0&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D. Accessed February 16, 2018.
28. MACStats. Medicaid and CHIP Program Statistics. Table 22 - Federal CHIPRA Bonus Payments. 2014. Available at: https://www.macpac.gov/wp-content/uploads/2015/01/Table-22.-Federal-CHIPRA-Bonus-Payments.pdf. Accessed February 16, 2018.
29. Shinkman R. Getting underserved groups to seek health insurance. *NEJM Catalyst*. May 16, 2016. Available at: https://catalyst.nejm.org/getting-underserved-groups-to-seek-health-insurance/. Accessed January 4, 2018.
30. Jost T. CMS cuts ACA advertising by 90 percent amid other cuts to enrollment outreach. *Health Affairs Blog*. August 31, 2017. Available at: https://www.healthaffairs.org/do/10.1377/hblog20170901.061790/full/. Accessed February 26, 2018.
31. Brooks T. CHIP funding has been extended, what's next for children's health coverage? *Health Affairs Blog*. January 30, 2018. Available at: https://www.healthaffairs.org/do/10.1377/hblog20180130.116879/full/. Accessed February 26, 2018.
32. Kaiser Family Foundation. Proposed changes to 'public charge' policies for immigrants: implications for health coverage. Available at: https://www.kff.org/disparities-policy/fact-sheet/proposed-changes-to-public-charge-policies-for-immigrants-implications-for-health-coverage/. Accessed February 19, 2018.
33. Torbati Y. Trump administration may target immigrants who use food aid, other benefits. *Reuters*. February 8, 2018. Available at: https://www.kff.org/disparities-policy/fact-sheet/proposed-changes-to-public-charge-policies-for-immigrants-implications-for-health-coverage/. Accessed February 19, 2018.
34. Parmet WE. The health impact of the proposed public charge rules. *Health Affairs Blog*. September 27, 2018. Available at: https://www.healthaffairs.org/do/10.1377/hblog20180927.100295/full/. Accessed October 17, 2018.
35. Vargas ED, Sanchez GR, Juárez M. Fear by association: perceptions of anti-immigrant policy and health outcomes. *J Health Polit Policy Law*. 2017;42:459–483.
36. Vargas ED, Ybarra VD. US citizen children of undocumented parents: the link between state immigration policy and the health of Latino children. *J Immigrant Minority Health*. 2017;19:913–920.