



Published in final edited form as:

*Health Serv Res.* 2013 April ; 48(2 0 1): 519–538. doi:10.1111/j.1475-6773.2012.01467.x.

## Which states enroll their Medicaid eligible, citizen children with immigrant parents?

Eric E. Seiber

### Abstract

**Objective**—To identify which states achieve comparable enrollment rates for Medicaid eligible, citizen children with immigrant and non-immigrant parents.

**Data Source**—810,345 Medicaid eligible, citizen children drawn from the 2008–2010 American Community Survey.

**Study Design**—This study estimates a state fixed-effects probit model of uninsured status for Medicaid eligible, citizen children. State and immigrant family interaction variables test whether citizen children in immigrant families have a higher probability of remaining uninsured compared to children in non-immigrant families. Simulations predict the uninsured rates for Medicaid eligible children in immigrant and non-immigrant families and rank states by the differences between the two groups.

**Principal Findings**—While some states have insignificant and near zero differences in predicted uninsured rates, many states have enrollment disparities reaching 20% points between citizen children with immigrant and non-immigrant parents.

**Conclusions**—Many states have large differences in enrollment rates between their Medicaid eligible, citizen children with immigrant and non-immigrant parents. Addressing these enrollment disparities could improve the health status of citizen children in immigrant families and earn CHIPRA bonus payments for many states.

### Keywords

Immigrant children; Medicaid enrollment; Uninsured

---

While immigration remains a sensitive policy topic, over 24% of citizen children in the United States have at least one immigrant parent. These citizen children with immigrant parents are disproportionately uninsured even when they are eligible for Medicaid. In 2005, 15% of low-income citizen children in non-immigrant families were uninsured. In contrast, 24% of low-income citizen children in immigrant families and 48% of non-citizen children remained uninsured (Ku 2007). While children in immigrant families are more likely to be uninsured than children in native families (Huang, Yu, and Ledsky 2006), national estimates can mask important enrollment disparities in states that are not traditional immigration gateways. Contributing to these state differences is the fact that states enjoy broad discretion in the administration of their individual Medicaid programs. This paper examines which states successfully enroll their Medicaid eligible citizen children with immigrant parents.

---

Corresponding author: Eric E. Seiber, PhD, Division of Health Services Management and Policy, Ohio State University—College of Public Health, 210 Cunz Hall, 1841 Neil Ave., Columbus, OH 43210, Phone: 614-247-4471, seiber.7@osu.edu.

### Disclosure Statement:

The author is indebted to the reviewers for two exceptionally helpful reviews. No other disclosures.

A state's experience with immigration can greatly facilitate the Medicaid enrollment experience for citizen children with immigrant parents, but relatively few states have a long history of immigration. In 1990, almost 75% of immigrants lived in six states (California, New York, Florida, Texas, New Jersey, and Illinois). These *traditional gateway states* have comparatively well developed approaches for enrolling immigrant children in Medicaid, drawing on large, bilingual populations and well-established community organizations. However, more recent immigrants and their families have increasingly settled in states outside these traditional destinations. Between 1990 and 2005, the immigrant population doubled in the *new destination states*, defined as all states except the six traditional immigration gateways (CA, FL, IL, NJ, NY, and TX) (Frey 2006). Some of these new destination states have actively supported immigrants with English language classes and bilingual job markets, while other states have erected barriers by passing English-only laws and criminalizing immigration violations with local trespassing ordinances. Local regulations relating to immigration have no direct impact on a citizen child's Medicaid eligibility, but all of these circumstances have a direct impact on the probability that immigrant parents will go to a local government office to enroll their child.

Federal legislation encourages states to enroll Medicaid eligible children. Specifically, the Children's Health Insurance Program Reauthorization Act (CHIPRA) includes performance bonuses for states that successfully increase enrollment of Medicaid eligible children. The CHIPRA legislation allows for bonus payments to states that enroll more uninsured Medicaid eligible children. To qualify for a bonus, states must first implement program features to facilitate enrollment. With the new program features in place, states can then receive an enhanced federal match for if their Medicaid enrollment exceeds a baseline level set for their state (CMS 2009). Furthermore, the 2014 Medicaid expansions scheduled under the Affordably Care Act (ACA) can be expected to disproportionately increase enrollment for children in native families as native parents will now have the incentive to enroll both themselves and their children in Medicaid.

Children in immigrant families are not alone in remaining uninsured, with two-thirds of all uninsured children being eligible for Medicaid and CHIP (Hudson 2009, Cutler and Kenney 2007). Following the enactment of CHIP, all states increased the eligibility thresholds for children and efforts were made to simplify and improve enrollment and retention processes to reduce the number of eligible children who remain uninsured. Despite increased funding for outreach and enrollment efforts, Medicaid participation rates vary widely across states, ranging from 66% of eligible children enrolled in the Southern states to 80% of eligible children enrolled in the Northeast (Holahan et al. 2003). Similarly, maintaining coverage can be challenging, with up to 40% of Medicaid children in some states having a break in coverage (Fairbrother et al. 2007) or 50% in other states dropping out of Medicaid each year (Sommers 2007).

Many state-specific factors likely contribute to these differences in participation. These hurdles can include in-person applications at multiple locations, lengthy forms, and extensive documentation requirements (Ross and Hill 2003). States have implemented multiple strategies to facilitate enrollment in Medicaid, including expanding coverage to parents, extending time between renewals, eliminating asset tests, and streamlining verification requirements (Wolfe and Scrivner 2005, Kronebusch and Elbel 2004, Sommers 2006, Summer and Mann 2006). Estimates of Medicaid participation for children with immigrant parents are limited to the largest states. In large states, children with immigrant parents are disproportionately uninsured, even when eligible for Medicaid (Acevedo-Garcia and Stone 2008, Yu, Huang, and Kogan 2008). However, data limitations have prevented these studies from examining Medicaid enrollment for children in most of the new destination states.

Medicaid and CHIP eligibility for immigrant children varies widely across states. Both programs have always excluded undocumented immigrants, but the welfare reform (PRWORA) made immigrants who arrived after August 1996 ineligible for federally funded Medicaid until they reach five years of residency (Kaushal and Kaestner 2005). Multiple studies examine the “chilling effect” of PRWORA on insurance coverage for immigrant children and children with immigrant parents (Ku and Matani 2001, Kaushal N and Kaestner 2005, Pati and Danagoulain 2008). After PRWORA, twenty-one states, including the six traditional gateway states, maintained eligibility for immigrant children in their Medicaid and CHIP programs, choosing to fund their benefits from local budgets until they met the residency requirement to receive the federal contribution (Ku 2009). Only in 2009 with the passage of the *Children’s Health Insurance Program Reauthorization Act* was this exclusion of immigrant children removed, but the decision to cover non-citizen immigrant children remains optional based on the priorities of each individual state (Garner 2009). However, household surveys from the Census Bureau do not collect immigration status for non-citizens. Without information on whether a child is an undocumented alien, temporary resident, or permanent resident, it is not possible to identify Medicaid eligibility for non-citizens. Due to this limitation and the fact that 89% of children in immigrant families are U.S. citizens, this paper only examines citizen children who meet state income eligibility criteria.

This study will use the 2008, 2009, and 2010 American Community Survey (ACS) to examine public insurance take-up (Medicaid and the Children’s Health Insurance Program or CHIP) for eligible citizen children in immigrant families. A state fixed-effects probit model estimates the probability of any insurance coverage based on the new ACS insurance questions introduced in 2008. The regression model tests which states have achieved comparable enrollment rates for citizen children in immigrant and non-immigrant families. Policy simulations rank states to reveal which states are most successful at enrolling their citizen children with immigrant parents. Rather than the finding traditional gateway states leveraging their immigration experience, this paper finds gateway states among the most and least successful at enrolling their Medicaid eligible children with immigrant parents.

## Data and Methods

The large sample sizes in the U.S. Census Bureau’s 2008, 2009, and 2010 American Community Surveys (ACS) allow state level estimates of Medicaid and CHIP (jointly called “Medicaid” hereafter) enrollment for citizen children with immigrant parents. The ACS interviews over 2.8 million households annually and can be used to produce representative national and state level population estimates. Previous studies have been limited to national and large states due to limited sample sizes for immigrants outside of the traditional immigration states. With a multi-million household sample, the ACS collects data for over 40,000 children in immigrant families each year, allowing state level estimates for children in immigrant families in all but the smallest states.

The ACS added its first health insurance question in 2008, allowing state level estimates of Medicaid participation. In the ACS, the respondent indicates the health insurance coverage for each individual in the household by choosing “yes” or “no” for eight insurance options: (1) employer sponsored, (2) privately purchased, (3) Medicare, (4) Medicaid, (5) Tricare, (6) Veterans Administration, (7) Indian Health Service, and (8) Any Other Coverage. A detailed discussion of strengths and limitations related to the ACS insurance coverage estimates can be found in Plewes (2010). For this paper, individuals reporting coverage through the Indian Health Service were coded as uninsured (Kenney et al. 2010).

Respondents also indicate whether they and the children in the household are native born citizens, naturalized citizens, or non-citizens. Consistent with other Census Bureau surveys, the ACS does not ask about documentation for non-citizens. With this information, children living in immigrant families can be separated into three groups:

1. Non-citizen, first generation immigrant child
2. Naturalized, first generation immigrant child
3. Native born, child with at least one immigrant parent.

All children in the second and third groups are eligible for Medicaid if their family meets the income thresholds. I exclude the non-citizen children in the first group since the ACS does not indicate whether the children are undocumented immigrants and, therefore, not eligible for Medicaid. The naturalized and native-born children with immigrant parents in the second and third groups compose 24% of all citizen children in 2010.

The analysis sample only includes Medicaid eligible children, excluding (1) non-citizens and (2) children who are not income eligible for Medicaid. Modeling Medicaid eligibility can be problematic. States consider many criteria when determining Medicaid and CHIP eligibility, including household income, age of the applicant, household wealth, citizenship documentation, income disregards for some medical expenditures, and other criteria. Since the ACS does not measure all dimensions of Medicaid eligibility, studies typically use income-based criteria to estimate eligibility. This paper combines the respondent's age with the family income threshold in the state of residence for the relevant year to estimate eligibility (Seiber and Florence 2010). When a state has separate Medicaid and CHIP income eligibility thresholds, the model uses the higher CHIP threshold to determine joint Medicaid/CHIP eligibility. As described previously, non-citizen children are excluded since documentation status is unknown. Limiting the sample to Medicaid eligible, citizen children in the 2008 through 2010 ACS produces a final sample of 861,116 children, including 206,864 in immigrant families.

After dropping non-citizens and children exceeding the income eligibility thresholds for Medicaid, a state fixed-effects probit model estimates the probability that a child remains uninsured:

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

Where

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

$\text{Immigrant\_Family} = 1$  if the child has at least one immigrant parent

$\text{State}_j * \text{Immigrant\_Family} = 1$  if the child lives in state  $j$  and has at least one immigrant parent

In this model,  $\text{Uninsured} = 1$  if the child is uninsured and  $\text{Uninsured} = 0$  if the child is covered by any form of health insurance, including public (Medicaid or CHIP), employer-sponsored insurance, or privately purchased coverage. The state fixed-effects,  $\text{State}_j$ , control for all time invariant aspects of Medicaid enrollment in each state. Most importantly, these state fixed-effects capture the difficulty that *all* children in that state face when enrolling in Medicaid. The  $\text{Immigrant\_Family}$  dummy variable controls for unobserved determinants unique to immigrant families. Lastly, family and child specific control variables,  $\beta X$ , include the child's age, race, ethnicity, gender, family income, household structure, and survey year. The key variables in the model are the interaction variables,  $\text{State}_j * \text{Immigrant}$

Family, which test for differences in Medicaid enrollment between children in immigrant and non-immigrant families for each state.

## Results

Table 1 presents descriptive statistics for the Medicaid eligible, citizen children in the sample. The children in immigrant families are almost exclusively native born (98%) citizens, with only 2.4% obtaining citizenship through naturalization. Most (70%) children in immigrant families report Hispanic ethnicity. Income levels for the immigrant families are very similar to native born families (40% of each living under the poverty line), but more immigrant households report two or more workers in the household (44% for immigrant families vs. 33% for native families). Lastly, children in immigrant families are much more likely to live in two parent households (66% vs. 41%).

Table 2 shows the percent of Medicaid eligible children who remain uninsured in the new destination states, the traditional gateway states as a group, and each of the six traditional states. Columns 2 & 3 give the percent uninsured for children in immigrant families and children in non-immigrant families, respectively. Despite their having less experience enrolling immigrant children, the new destination states as a group show very little difference from the traditional states. For Medicaid eligible children in immigrant families, 15.2% remain uninsured in new destination states and 15.3% in traditional states. In contrast, the 10.7% of eligible immigrant children in traditional states remain uninsured compared to 8.8% for the new destination states.

While traditional and new destination states show few differences as a group, the subsequent rows indicates that not all traditional gateway states successfully use their immigrant experience to enroll their children with immigrant parents. The 15.3% uninsured in eligible immigrant families masks differences ranging from a low of 6.5% uninsured in eligible immigrant families in New York, increasing to the two highest states of 23.3% in Texas and Florida's 25.1% of Medicaid eligible children with immigrant parents remaining uninsured. Across all of these traditional gateway states, children with immigrant parents always have higher uninsured rates, but the states with the most uninsured immigrant children also have the most uninsured Medicaid eligible children with non-immigrant parents. This pattern suggests that in some states, Medicaid enrollment is difficult for all children, but these barriers are especially problematic for children with immigrant parents.

Table 3 presents the estimates from the state fixed-effects probit model with the nonlinear coefficients converted to marginal effects, including the standard error and significance of the marginal effect. The underlying probit coefficients are available from the author by request. These marginal effects in Table 3 represent the change in the probability of the Medicaid eligible child remaining uninsured for a one unit change of the independent variable, based on the mean values of the independent variables. Across all states, Medicaid eligible citizen children with at least one immigrant parent have a 2.2 percentage point higher probability of remaining uninsured ( $p=0.01$ ) than children in non-immigrant families. Similarly, naturalized citizen children have a 1.5 point ( $p=0.05$ ) higher uninsured rate than native born citizens while Hispanic children show no statistically significant difference after controlling for state of residence and the demographic controls.

Interpreting the state fixed-effects and the State\*Immigrant Family interaction variables in Table 3 is cumbersome. The state fixed-effects indicate how well each state enrolls all of its Medicaid eligible children compared to the excluded state of California. For example, the probability *any* Medicaid eligible child (immigrant or non-immigrant) remaining uninsured is 1.8 percentage points lower in Alabama compared to California ( $p=0.01$ ), while Arizona

would be 3.1% points higher than California ( $p=0.01$ ). Similarly, the State\*Immigrant Family interaction variables show the difference between immigrant and non-immigrant children for each state, compared to the excluded state, California. For the case of Colorado, children with immigrant parents have a 3.6% points higher difference in their probability of being uninsured than non-immigrant children, compared to the difference between the two groups in California ( $p=0.01$ ). The statistical significance and magnitude of the State\*Immigrant Family marginal effects vary across the sample so the values in Table 3 only provide preliminary evidence for disparities in Medicaid enrollment between children with immigrant and non-immigrant parents (Ai and Norton 2003). The predicted probabilities in Table 4 provide a more intuitive interpretation of the regression results.

Table 4 presents regression-adjusted predictions of uninsured rates based on predicted probabilities, and identifies where Medicaid eligible children in immigrant families are more likely to remain uninsured than non-immigrant families. These simulation results are produced by setting the immigrant family indicator variables to the values that coincide with each category. For example, to predict the rate of coverage for children with at least one immigrant parent who live in Alabama, I (1) set Immigrant Family= 1, Alabama= 1, Alabama\*Immigrant Family= 1, (2) all other variables retain their original values, and (3) predict the probability of the child remaining uninsured. To simulate the coverage rate for children with non-immigrant parents, I set Immigrant Family= 0 and Alabama\*Immigrant Family= 0 then recalculate. Other states are simulated by changing their state and immigration variable. 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, Norton, and Dowd (2012).

Table 4 presents the predicted uninsured rates for Medicaid eligible children in immigrant and non-immigrant families by state and includes a ranking of how the difference between the two groups compares to the other 50 states and District of Columbia. The second row presents the results for Alabama. In Alabama, 12.5% of Medicaid eligible children in immigrant families are uninsured compared to 7.8% for children in non-immigrant families. The third column is the immigrant family differential, or the difference between the immigrant and non-immigrant family results in columns 1 and 2, and the last column indicates whether the difference between the two groups is significant at the  $p=0.05$  level. Some states show large differences between groups but do not achieve statistical significance due to the limited number of immigrants in those states. The last column lists the number of immigrant children in the sample, allowing the reader to interpret the statistical power underlying each state's estimate.

Table 4 identifies which states have the largest differential in uninsured rates between Medicaid eligible children in immigrant and non-immigrant families. The state with the largest disparity between the two groups of children was Utah, with a 19.3% point higher uninsured rate for their Medicaid eligible citizen children living in immigrant families (31.8% uninsured in immigrant families compared to 12.5% for non-immigrant families). Following Utah in the rankings are Mississippi with a 16.6% point difference, Georgia (9.4% points), Virginia (8.5% points), and Nevada (8.3% points). Completing the top ten are Colorado, Idaho, Ohio, and Florida. Both West Virginia and New Hampshire have large differences between immigrant and non-immigrant families in the data, but both states have very few immigrants leading to very imprecise estimates (West Virginia's difference disappears if the 2010 data are excluded).

Table 4 also provides guidance for identifying states that minimize the difference between Medicaid enrollments for eligible children in immigrant and non-immigrant families, but interpretations of the results for states with the small differences should consider the

precision of the estimates. While the model estimates that Alaska has the smallest difference between the two groups, the confidence interval for immigrant children ranges from a lower bound of 0.6% uninsured to the upper bound of 19.2% uninsured in immigrant families (10.1% to 16.9% for native families). This large confidence interval stems from the few immigrant children in the Alaskan sample (134 children across the three years of data). North Dakota and South Dakota show even larger confidence intervals for their estimates (30 percentage points and 20 percentage points respectively) due to the few immigrant children in their samples.

## Discussion

The results in this paper discredit the original hypothesis that traditional gateway states would prove more successful at enrolling their citizen children with immigrant parents than the new destination states. Some traditional states do appear among the most successful at reaching immigrant families, with both New York and Illinois among the states with the smallest difference between children with immigrant and non-immigrant parents. However, two other traditional states are among the states with the largest differences in uninsured immigrant and non-immigrant families. Florida with its long history of immigration and a large immigrant population has one of the ten largest disparities between immigrant and non-immigrant uninsured Medicaid eligible children. While not among the ten largest, Texas had the 16th largest differences between the two groups of children.

The results suggest that Maine, Hawaii, Massachusetts, New York, and Illinois all hold potential as models for enrolling eligible children with immigrant parents. Maine and Hawaii both have a limited number of immigrant families, but they have managed to limit the uninsured difference between immigrant and non-immigrant children to between zero and no more than 2.8% points, the upper bound of the 95% confidence interval. Massachusetts has a larger population of immigrant children, and has an upper limit confidence interval of a 1.1% point difference. Two traditional immigration states also show small upper bounds for the difference between citizen children with immigrant and non-immigrant parents. New York has the smallest difference among the traditional gateway states, with no more than a 1.3% point difference between citizen children in immigrant families and non-immigrant families. Illinois follows with the second smallest with an upper bound difference estimate of 2.1% points.

Maine, Hawaii, Massachusetts, New York, and Illinois' successful enrollment policies may also interest states looking to increase their CHIPRA bonus payments. The Children's Health Insurance Program Reauthorization Act (CHIPRA) includes performance bonuses for states that successfully increase enrollment of Medicaid eligible children. To qualify for a bonus, states must first implement five of eight program features to facilitate enrollment. These new features designed to simplify enrollment range from 12 months of continuous coverage, elimination of face-to-face interviews, to presumptive eligibility. With the new program features in place, states become eligible for an enhanced federal match. If the state's Medicaid enrollment achieves a 100% – 110% of a baseline, they receive a higher match for the new enrollees. Exceeding 110% of the target earns an even higher match. These enhanced match rates are delivered to the state as a lump sum. (CMS 2009, Kaiser Family Foundation 2009).

The enrollment gaps between children in immigrant and native families present challenges for states implementing their Medicaid expansions under the Affordable Care Act (ACA). ACA will expand adult Medicaid eligibility to 138% of the federal poverty line in 2014. Previous authors have shown that allowing low-income parents to enroll in Medicaid is a particularly effective way to boost enrollment among eligible children (Ku and Broadus

2006), and a key advantage of the ACA Medicaid expansion will be its spillover effects on children's enrollment. This spillover enrollment can be expected to boost coverage for children in native families, but many parents in immigrant families will not be eligible due to their immigration status. State policy makers in states with large enrollment gaps between children in immigrant and native families can expect these gaps to grow larger with the implementation of the 2014 Medicaid expansions under ACA.

California's success and remaining challenge with enrolling its Medicaid eligible children holds lessons for other states. California is particularly interesting due to its very large immigrant population and due to the fact that previous authors have produced state level estimates relevant to immigrant families. California has made large investments in linguistic access to its Medicaid program with multilingual application procedures and many bilingual staff in many enrollment offices. The limited research on linguistic access and the barrier of English proficiency to Medicaid enrollment suggests that Medicaid agencies in few states meet the required standard of "meaningful access" (Lu and Waidmann 2003, Feinberg et al. 2002). In contrast, California has managed to mobilize its large, bilingual population and well-established community organizations, with recent research finding parent's English proficiency to be a statistically insignificant barrier to Medicaid enrollment (Kincheloe et al. 2007). Despite its success with linguistic access, eligible children with immigrant parents have a two percentage point higher uninsured rate than non-immigrant children. It is unknown whether this remaining enrollment disparity is due to uneven linguistic access within the state or whether another barrier drives the disparity between children with immigrant and non-immigrant parents.

Future research is necessary to identify why Medicaid eligible children with immigrant parents remain uninsured. While this paper identifies *where* citizen children with immigrant families manage to enroll in Medicaid, it does not answer *why*. Multiple explanations could underlie these enrollment disparities. First, linguistic barriers may prevent immigrant parents from enrolling their eligible children. If states lack interpreters on staff or face long delays in obtaining an outside interpreter, the time costs to enroll in Medicaid may prove too high for an immigrant parent with limited English proficiency to enroll a healthy child in an insurance program. Alternatively, immigrants are not a homogeneous population. While some states have predominantly Hispanic, economic migrants, others have sizeable refugee populations who may have moved to the United States after living their entire lives in tribal societies where health insurance and the Medicaid bureaucracy could be very alien concepts. Finally, these enrollment disparities may arise from a "chilling effect" from local immigration attitudes and police agencies' immigration enforcement activities. An immigrant family with any undocumented family members is unlikely to go to a Medicaid office located in a county government building that also houses a police station when a neighbor was deported after an encounter with local law enforcement.

The ACS data introduce a key limitation to the study. The primary strength of the ACS data is its very large sample size which allows estimates for children with immigrant parents even in states with low levels of immigration. However, the ACS includes just a single health insurance question. In that question, the ACS identifies Medicaid and CHIP coverage as "Medicaid, Medical Assistance, or any kind of government-assistance plan for those with low incomes or a disability", but it does not include an additional confirmatory question. Most importantly, it does not include state-specific names for Medicaid or CHIP. State specific information became available in 2009 for telephone interviews, but over half of responses are conducted solely through the mail (Plewes 2010). The econometric specification used in the model should limit the impact of this limitation. As long as the question is not interpreted differently by immigrant and native families, the individual state



fixed-effects should capture state specific differences in how the respondents interpret the insurance question.

## Conclusion

In 2010, 24% of citizen children in the United States have at least one immigrant parent. This study found that a few states such as New York and Massachusetts do achieve near zero differences in predicted uninsured rates for Medicaid eligible children with immigrant and non-immigrant parents, many states have large enrollment disparities reaching up to 20% points between the two populations. Addressing this enrollment disparity could earn CHIPRA bonus payments for many states. Similarly, states can expect this enrollment gap to grow as more low income native parents gain Medicaid eligibility under ACA.

## Acknowledgments

### Joint Acknowledgement

This research was supported by the Foundation for Child Development and in part by R24-HD058484 from the Eunice Kennedy Shriver National Institute of Child Health & Human Development awarded to the Ohio State University Initiative in Population Research.

## References

- Acevedo-Garcia D, Stone LC. State variation in health insurance coverage for U.S. citizen children of immigrants. *Health Affairs*. 2008; 27(2):434–46. [PubMed: 18332500]
- Ai C, Norton EC. Interaction terms in logit and probit models. *Economic Letters*. 2003; 80:123–129.
- Centers for Medicare and Medicaid Services . [Accessed on November 10, 2011] SHO #09-015, CHIPRA #10 – Re: CHIPRA Performance Bonus Payments. 2009. Available at: <https://www.cms.gov/smdl/downloads/SHO09015.pdf>
- Cutler L, Kenney GM. State Children’s Health Insurance Program and pediatrics: background, policy challenges, and role in child health care delivery. *Archives of Pediatric Adolescent Medicine*. 2007; 161(7):630–633.
- Fairbrother GL, Emerson HP, Partridge L. How stable is Medicaid coverage for children? *Health Affairs*. 2007; 26(2):520–528. [PubMed: 17339682]
- Federal Register. Executive Order 13166: Improving Access to Services for Persons with Limited English Proficiency. *Federal Register*. 2000; 65(159)
- Federal Register. Department of Health and Human Services: Guidance to Federal financial assistance recipients regarding Title VI prohibition against national origin discrimination affecting limited English proficiency persons. *Federal Register*. 2003; 68(153)
- Feinberg E, Swartz K, Zaslavsky AM, Gardner J, Walker DK. Language Proficiency and the enrollment of Medicaid-eligible children in publicly funded health insurance programs. *Maternal and Child Health Journal*. 2002; 6(1):5–18. [PubMed: 11926255]
- Frey WH. Proximity breeds conflict. *Miliken Institute Review*. 2006 Jun.:6–7.
- Garner, J. Children’s Health Insurance Reauthorization Act (CHIPRA) Overview SHO. Centers for Medicaid and Medicare Services; 2009. Available at: <http://www.cms.hhs.gov/SMDL/downloads/SHO041709.pdf> [Accessed on Sept 9, 2009]
- Holahan J, Dubay L, Kenney GM. Which children are still uninsured and why? *Future of Children*. 2003; 13(1):55–79. [PubMed: 14503454]
- Huang ZJ, Yu SM, Ledsky R. Health status and health service access and use among children in U.S. immigrant families. *American Journal of Public Health*. 2006; 96(4):634–40. [PubMed: 16507736]
- Hudson J. Families with Mixed Eligibility for Public Coverage: Navigating Medicaid, CHIP, and Uninsurance. *Health Affairs*. 2009:w697–w709. v(Web Exclusive). [PubMed: 19549628]

- Kaiser Family Foundation. CHIP Timps: Medicaid Performance Bonus. The Kaiser Family Foundation; 2009. Available at <http://www.kff.org/medicaid/upload/7884.pdf> [Accessed March 16, 2012]
- Kaiser Family Foundation. Health Coverage of Children: The Role of Medicaid and SCHIP. The Kaiser Family Foundation; 2008. Available at <http://www.kff.org/uninsured/upload/7698.pdf> [Accessed Sept 9, 2009]
- Karaca-Mandic P, Norton EC, Dowd B. Interaction Terms in Nonlinear Models. *Health Services Research*. 2012; 47(1 Part 1):255–274. [PubMed: 22091735]
- Kaushal N, Kaestner R. Welfare reform and health insurance of immigrants. *Health Services Research*. 2005; 40(3):697–721. [PubMed: 15960687]
- Kenney GM, Lynch V, Cook A, Phong S. Who And Where Are The Children Yet To Enroll In Medicaid And The Children’s Health Insurance Program? *Health Affairs*. 2010; 29:1920–1929. [PubMed: 20817690]
- Kincheloe J, Frates J, Brown ER. Determinants of children’s participation in California’s Medicaid and SCHIP programs. *Health Services Research*. 2007; 42(2):847–566. [PubMed: 17362221]
- Kronebusch K, Elbel E. Simplifying Children’s Medicaid and SCHIP: What helps? What hurts? What’s next for the states? *Health Affairs*. 2004; 23(3):233–246. [PubMed: 15160822]
- Ku L. Improving Health Insurance and Access to Care for Children in Immigrant Families. *Ambulatory Pediatrics*. 2007; 7(6):412–420. [PubMed: 17996834]
- Ku, L. [Accessed Sept 3, 2009] Restoring Medicaid and SCHIP Coverage to Legal Immigrant Children and Pregnant Women: Implications for Community Health and Health Care for Tomorrow’s Citizens. Geiger Gibson/RCHS Community Health Foundation Research Collaborative Policy Research Brief No. 7. 2009. [http://gwumc.edu/sphhs/departments/healthpolicy/dhp\\_publications/pub\\_uploads/dhpPublication\\_A61E7016-5056-9D20-3DB38C7EC7B0B408.pdf](http://gwumc.edu/sphhs/departments/healthpolicy/dhp_publications/pub_uploads/dhpPublication_A61E7016-5056-9D20-3DB38C7EC7B0B408.pdf)
- Ku, L.; Broaddus, M. Coverage of Parents Helps Children, Too. [Internet]. Washington (DC): Center on Budget and Policy Priorities; 2006. [2012 cited on Feb 12]. Available from: <http://www.cbpp.org/cms/?fa=view&id=754>
- Ku L, Matani S. Left Out: Immigrants’ access to health care and insurance. *Health Affairs*. 2001; 20(1):247–256. [PubMed: 11194848]
- Ku, L.; Waidmann, T. Kaiser Commission on Medicaid and the Uninsured. 2003. How race/ethnicity, immigration status, and language affect health insurance coverage, access to, and quality of care among the low-income population.
- Office for Civil Rights Department of Health and Human Services . Title VI prohibition against national origin discrimination as it affects persons with limited-English proficiency. Office of Civil Rights policy guidance memorandum; 2002. Available at <http://www.hhs.gov/ocr/lep/preamble.html> [Accessed February 12, 2008]
- Pati S, Danagoulouian S. Immigrant children’s reliance on public health insurance in the wake of immigration reform. *American Journal of Public Health*. 2008; 98(11):2004–10. [PubMed: 18799772]
- Pleues, TJ. Databases for Estimating Health Insurance for Children. Washington, DC: National Academies Press; 2010.
- Ross DC, Hill IT. Enrolling eligible children and keeping them enrolled. *Future of Children*. 2003; 13(1):81–97. [PubMed: 14503455]
- Seiber EE, Florence CS. SCHIP’s Role in the Small Group Health Insurance Market. *Health Services Research*. 2010; 45(1):230–245. [PubMed: 19840135]
- Sommers BD. Insuring Children or Insuring Families: Do Parental and Sibling Coverage Lead to Improved Retention of Children in Medicaid and CHIP? *Journal of Health Economics*. 2006; 25(6):1154–1169. [PubMed: 16753234]
- Sommers BD. Why millions of children eligible for Medicaid and SCHIP are uninsured: Poor retention versus poor take-up. *Health Affairs*. 2007; 5:w560–w567. [PubMed: 17656394]
- Summer, L.; Mann, C. Instability of Public Health Insurance Coverage for Children and Their Families: Causes, Consequences, and Remedies. The Commonwealth Fund; 2006.

- Wolfe B, Scrivner S. The Devil May Be in the Details: How the Characteristics of SCHIP Programs Affect Take-Up. *Journal of Policy Analysis and Management*. 2005; 24(3):499–522. [PubMed: 15973794]
- Yu SM, Huang ZJ, Kogan MD. State-level health care access and use among children in US immigrant families. *American Journal of Public Health* 2008. 2008 Nov; 98(11):1996–2003.

Table 1

Descriptive Statistics for Medicaid Eligible, Citizen Children

	Immigrant Families		Non-immigrant Families		All Children	
	Mean	Std. Err.	Mean	Std. Err.	Mean	Std. Err.
Immigrant Family	100.0%	0.00%	0.0%	0.00%	26.5%	0.09%
Naturalized Citizen	2.4%	0.05%	0.1%	0.01%	0.7%	0.01%
Native Born Citizen	97.6%	0.05%	99.9%	0.01%	99.3%	0.01%
Hispanic	70.4%	0.18%	15.5%	0.09%	30.0%	0.10%
American Indian	1.0%	0.04%	3.0%	0.04%	2.5%	0.03%
Black	8.8%	0.12%	28.0%	0.11%	22.9%	0.09%
Asian	11.7%	0.12%	1.5%	0.03%	4.2%	0.04%
Other Race	26.0%	0.18%	4.8%	0.05%	10.4%	0.07%
White	56.2%	0.20%	68.9%	0.12%	65.6%	0.10%
Age 0-2	20.6%	0.11%	18.5%	0.06%	19.0%	0.06%
Age 3-5	19.8%	0.10%	17.8%	0.06%	18.4%	0.05%
Age 6-8	17.4%	0.09%	16.7%	0.05%	16.9%	0.05%
Age 9-11	15.4%	0.09%	16.3%	0.05%	16.1%	0.05%
Age 12-15	18.5%	0.10%	20.8%	0.06%	20.1%	0.05%
Age 16-17	8.4%	0.07%	9.8%	0.05%	9.4%	0.04%
Male	51.2%	0.13%	51.1%	0.08%	51.1%	0.07%
Poverty Level						
0% - 100% of Poverty	39.7%	0.21%	40.3%	0.12%	40.1%	0.11%
101% - 200% of Poverty	46.5%	0.21%	43.8%	0.12%	44.5%	0.10%
Over 200% of Poverty	13.8%	0.13%	16.0%	0.08%	15.4%	0.07%
Household (HH) with:						
No High School Graduates	29.0%	0.19%	9.6%	0.08%	14.7%	0.08%
One or more HS Graduates	71.0%	0.19%	90.4%	0.08%	85.3%	0.08%
Zero workers in HH	6.4%	0.11%	13.2%	0.09%	11.4%	0.07%
One worker in HH	49.7%	0.21%	53.9%	0.12%	52.8%	0.11%
Two or more workers	43.8%	0.20%	33.0%	0.11%	35.8%	0.10%

	Immigrant Families		Non-immigrant Families		All Children	
	Mean	Std. Err.	Mean	Std. Err.	Mean	Std. Err.
Child with						
Neither parent in HH	1.2%	0.04%	1.3%	0.02%	1.3%	0.02%
Only father in HH	8.0%	0.11%	9.1%	0.07%	8.8%	0.06%
Only mother in HH	24.6%	0.17%	48.6%	0.12%	42.2%	0.10%
Two parents in HH	66.1%	0.19%	41.1%	0.12%	47.7%	0.10%
Year = 2008	30.4%	0.19%	30.5%	0.11%	30.5%	0.10%
Year = 2009	34.3%	0.20%	34.0%	0.11%	34.1%	0.10%
Year = 2010	35.3%	0.20%	35.5%	0.12%	35.4%	0.10%
Number of Observations	206,864		654,252		861,116	

Source: Authors' estimates from the American Community Surveys (2008, 2009, 2010)

Estimates weighted with the ACS survey weights.

**Table 2**

Percent of Medicaid eligible citizen children remaining uninsured

	<b>Immigrant Families</b>	<b>Non-immigrant Families</b>
New Destination States	15.2%	8.8%
Traditional Gateway States	15.3%	10.7%
California	14.0%	9.8%
Florida	25.1%	16.6%
Illinois	8.3%	6.2%
New Jersey	10.8%	6.6%
New York	6.5%	5.5%
Texas	23.3%	15.7%

Source: Authors' estimates from the American Community Surveys (2008, 2009, 2010)

Estimates weighted with the ACS survey weights.

**Table 3**

Probit Estimates of the Marginal Effect on Probability of Remaining Uninsured for Medicaid Eligible Citizen Children, 2008–2010

	Marginal Effect	Std. Err.	
Immigrant Family	0.022	0.0035	***
Naturalized Citizen	0.015	0.0054	***
Hispanic	-0.002	0.0018	
American Indian	0.053	0.0045	***
Black	-0.017	0.0016	***
Asian	-0.017	0.0028	***
Other Race	0.002	0.0021	
Age 3–5	0.014	0.0014	***
Age 6–8	0.021	0.0016	***
Age 9–11	0.029	0.0017	***
Age 12–15	0.045	0.0017	***
Age 16–17	0.077	0.0023	***
Male	-0.001	0.0008	
Poverty Level			
0 – 100 Pct of Poverty	0.029	0.0023	***
101 – 200 Pct of Poverty	0.032	0.0020	***
Household (HH) with:			
No high school grads	0.025	0.0021	***
Zero workers in HH	-0.034	0.0020	***
One worker in HH	-0.009	0.0014	***
Child with			
Neither parent in HH	0.028	0.0044	***
Only father in HH	0.025	0.0023	***
Only mother in HH	-0.014	0.0015	***
Year = 2009	-0.024	0.0014	***
Year = 2010	-0.033	0.0014	***
Immigrant Family*State Interactions:			
AL*Immigrant Family	0.028	0.0209	
AK*Immigrant Family	-0.044	0.0315	
AZ*Immigrant Family	0.010	0.0084	
AR*Immigrant Family	0.006	0.0205	
CO*Immigrant Family	0.036	0.0128	***
CT*Immigrant Family	0.049	0.0199	**
DE*Immigrant Family	0.021	0.0420	
DC*Immigrant Family	0.004	0.0399	
FL*Immigrant Family	0.025	0.0065	***

	<b>Marginal Effect</b>	<b>Std. Err.</b>	
GA*Immigrant Family	0.058	0.0105	***
HI*Immigrant Family	-0.021	0.0205	
ID*Immigrant Family	0.038	0.0246	
IL*Immigrant Family	-0.010	0.0081	
IN*Immigrant Family	0.010	0.0129	
IA*Immigrant Family	-0.010	0.0204	
KS*Immigrant Family	-0.006	0.0153	
KY*Immigrant Family	0.005	0.0206	
LA*Immigrant Family	0.003	0.0218	
ME*Immigrant Family	-0.045	0.0255	*
MD*Immigrant Family	0.004	0.0114	
MA*Immigrant Family	-0.018	0.0118	
MI*Immigrant Family	0.008	0.0152	
MN*Immigrant Family	0.017	0.0165	
MS*Immigrant Family	0.112	0.0443	**
MO*Immigrant Family	0.021	0.0160	
MT*Immigrant Family	0.006	0.0433	
NE*Immigrant Family	0.057	0.0320	*
NV*Immigrant Family	0.025	0.0130	*
NH*Immigrant Family	0.059	0.0495	
NJ*Immigrant Family	0.021	0.0089	**
NM*Immigrant Family	0.009	0.0159	
NY*Immigrant Family	-0.013	0.0053	**
NC*Immigrant Family	0.017	0.0102	*
ND*Immigrant Family	-0.032	0.0542	
OH*Immigrant Family	0.048	0.0183	***
OK*Immigrant Family	-0.002	0.0146	
OR*Immigrant Family	-0.011	0.0111	
PA*Immigrant Family	0.005	0.0115	
RI*Immigrant Family	-0.013	0.0202	
SC*Immigrant Family	0.033	0.0187	*
SD*Immigrant Family	-0.023	0.0426	
TN*Immigrant Family	0.040	0.0164	**
TX*Immigrant Family	0.013	0.0050	**
UT*Immigrant Family	0.134	0.0236	***
VT*Immigrant Family	0.065	0.1311	
VA*Immigrant Family	0.060	0.0170	***
WA*Immigrant Family	0.017	0.0106	
WV*Immigrant Family	0.191	0.1198	



	<b>Marginal Effect</b>	<b>Std. Err.</b>	
WI*Immigrant Family	0.016	0.0185	
WY*Immigrant Family	0.021	0.0818	
State Fixed-effects:			
AL	-0.018	0.0046	***
AK	0.010	0.0148	
AZ	0.031	0.0064	***
AR	-0.037	0.0050	***
CO	0.039	0.0073	***
CT	-0.054	0.0048	***
DE	-0.026	0.0127	**
DC	-0.071	0.0062	***
FL	0.065	0.0052	***
GA	0.012	0.0046	**
HI	-0.048	0.0082	***
ID	0.017	0.0095	*
IL	-0.037	0.0039	***
IN	0.018	0.0053	***
IA	-0.037	0.0062	***
KS	0.010	0.0082	
KY	-0.029	0.0047	***
LA	-0.021	0.0048	***
ME	-0.042	0.0080	***
MD	-0.037	0.0044	***
MA	-0.074	0.0026	***
MI	-0.043	0.0032	***
MN	-0.005	0.0058	
MS	0.028	0.0075	***
MO	-0.015	0.0043	***
MT	0.055	0.0131	***
NE	-0.041	0.0064	***
NV	0.106	0.0124	***
NH	-0.031	0.0083	***
NJ	-0.027	0.0042	***
NM	-0.008	0.0071	
NY	-0.041	0.0028	***
NC	-0.009	0.0043	**
ND	0.019	0.0206	
OH	-0.013	0.0042	***
OK	0.000	0.0063	

	Marginal Effect	Std. Err.	
OR	0.026	0.0073	***
PA	-0.028	0.0034	***
RI	-0.033	0.0107	***
SC	0.030	0.0067	***
SD	-0.005	0.0140	
TN	-0.033	0.0036	***
TX	0.053	0.0044	***
UT	0.014	0.0080	*
VT	-0.061	0.0073	***
VA	-0.012	0.0053	**
WA	-0.019	0.0046	***
WV	-0.042	0.0056	***
WI	-0.039	0.0045	***
WY	-0.013	0.0152	
Number of Observations	861,116		

Source: Authors' estimates from the American Community Surveys (2008, 2009, 2010)

\*  
p<0.1,

\*\*  
p<0.05,

\*\*\*  
p<0.01

**Table 4**  
 Predicted Percentage of Uninsured Medicaid Eligible, Citizen Children Living in Immigrant and Non-immigrant Families, 2008–2010

	Immigrant Families	Non-immigrant Families	Immigrant Family Differential	Rank <sup>+</sup> : Largest to Smallest Difference	Sample Size: Immigrant Families
AL	12.5%	7.8%	4.7% *	17	877
AK	9.9%	13.5%	-3.6%	51	134
AR	8.9%	6.6%	2.3%	34	893
AZ	19.2%	14.8%	4.4% *	20	6,241
CA	13.2%	10.8%	2.4% *	31	63,875
CO	23.0%	14.8%	8.2% *	7	2,847
CT	8.9%	4.4%	4.5% *	19	1,855
DC	3.2%	2.3%	0.9%	41	206
DE	11.4%	7.6%	3.9%	26	265
FL	24.2%	16.9%	7.2% *	10	11,955
GA	20.2%	10.8%	9.4% *	4	5,252
HI	4.3%	4.4%	-0.1%	47	980
IA	7.0%	6.2%	0.8%	43	742
ID	20.8%	12.9%	7.9% *	8	761
IL	7.4%	6.6%	0.8%	42	6,788
IN	15.9%	12.0%	3.9% *	25	1,791
KS	13.3%	11.5%	1.9%	39	1,023
KY	9.8%	7.4%	2.4%	32	569
LA	9.6%	7.4%	2.2%	37	703
MA	2.5%	2.4%	0.1%	46	3,753
MD	7.6%	5.7%	1.9%	38	2,965
ME	4.2%	6.3%	-2.1%	50	122
MI	8.2%	5.9%	2.3%	36	2,191
MIN	13.9%	9.7%	4.2%	22	1,780
MO	12.7%	8.5%	4.2% *	21	1,295
MS	29.0%	12.4%	16.6% *	3	276
MT	21.1%	16.9%	4.2%	23	97

	Immigrant Families	Non- immigrant Families	Immigrant Family Differential	Rank <sup>†</sup> : Largest to Smallest Difference	Sample Size: Immigrant Families
NC	13.4%	9.3%	4.1% *	24	4,129
ND	12.1%	14.0%	-1.9%	49	30
NE	13.1%	6.5%	6.7% *	13	568
NH	14.1%	6.9%	7.1%	11	221
NJ	10.4%	6.8%	3.6% *	28	7,804
NM	14.0%	10.6%	3.4%	29	1,435
NV	30.4%	22.2%	8.3% *	6	2,652
NY	6.2%	5.7%	0.6%	45	19,266
OH	16.3%	9.0%	7.3% *	9	1,440
OK	13.8%	11.5%	2.3%	35	1,207
OR	14.2%	12.9%	1.2%	40	2,426
PA	9.4%	7.1%	2.3%	33	2,872
RI	7.3%	6.7%	0.6%	44	702
SC	19.9%	12.8%	7.1% *	12	1,047
SD	11.6%	12.0%	-0.4%	48	87
TN	11.9%	6.6%	5.3% *	14	1,752
TX	21.8%	16.6%	5.2% *	16	28,751
UT	31.8%	12.5%	19.3% *	1	1,417
VA	17.3%	8.8%	8.5% *	5	2,070
VT	9.3%	4.0%	5.3%	15	66
WA	12.1%	8.3%	3.8% *	27	5,112
WI	9.0%	6.1%	2.9%	30	1,427
WV	24.1%	6.0%	18.1%	2	75
WY	14.6%	10.0%	4.7%	18	72

Source: Authors' estimates from the American Community Surveys (2008, 2009, 2010)

<sup>†</sup> State ranking for the Immigrant Family Differential, from largest difference to smallest

\* p<0.05