Immigrant Children's Access to Public Health Insurance after CHIPRA-2009

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1 November 2016

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Abstract

Although Immigrant children represent approximately 3 percent of total U.S. child population, they remain the most vulnerable group in terms of access to public health insurance since the enactment of the "five-year-ban" for legal immigrants in the Personal Responsibility and Work Opportunity Reconciliation Act of 1996. Children Health Insurance Reauthorization Act (CHIPRA) of 2009 provided states an option to receive federal funds to expand eligibility for immigrant children regardless of their length of residency. In this paper, we utilize the cross-state variation in policy environment before and after the adoption of CHIPRA to compare the differences in access to public health insurance among the low-income immigrant children. We find that adoption immigrant child option of CHIPRA has resulted 8 percentage points increase in health coverage for the target group, almost entirely contributed by equal increase in coverage through public health insurance. Our measure of estimated treatment effect is lower than what existing literature reports. We attribute the difference to the existing state-funded programs to support immigrant children among majority of the CHIPRA states. Increase in coverage entirely comes from the ranks of previously uninsured children; no evidence of crowding out from the private insurance was found. We also verify the lack of crowding out by estimating the labor market response among mothers of immigrant children.

Key Words: Health Insurance, Medicaid, Immigrants

Introduction

Approximately one out of every four children in the United States lives with at least one immigrant parent. The majority of them, around 85 percent, are U.S. citizen by birth; another 2 percent have gained citizenship status through the naturalization process. The remaining 13 percent children in immigrant families, who represent approximately 4 percent of all children in U.S., are foreign-born and noncitizen (Borjas, 2011). Although citizen children living in immigrant families are eligible for public health insurance coverage in a manner similar to the U.S.-born children of native parents, disparities in health insurance coverage between children of immigrants and children of natives remain substantial. For example, in 2008, about 12 percent of native children were without any health insurance; about 20 percent of low-income children living with immigrant parents were without any health insurance. The share of uninsured among low-income immigrant children was alarmingly higher at about 39 percent, making this group as the most vulnerable group of children in terms of health risk[1].The immigrant population may have difficulty in understanding the complex administrative process to enroll for public health insurance because of the language barrier that is reflected in higher uninsured rate for this group. The stigma and fear of becoming a "public charge"– an immigrant who is primarily dependent on government support for subsistence – could also limit their participation (Bertrand, Luttmer, & Mullainathan, 1998). Most importantly, a number of policy reforms restricted the eligibility of this group for major public insurance programs like Medicaid or CHIP, which may have caused greater damage than other factors (Kaushal & Kaestner, 2005; Ku & Matani, 2001).

Most notably, the Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (PRWORA), also known as welfare reform, contained key provisions for legal immigrants which changed their eligibility for major public assistance programs in a non-trivial manner. PRWORA categorized some legal immigrants as unqualified for public assistance programs based on nativity, date of arrival into the country, and length of residency. Specifically, post enactment immigrants, those who entered the U.S. after August 22, 1996, will not qualify for public benefit programs during the first five years after their arrival into the country. Several studies examined the effect of immigrant provisions in welfare reform on health insurance status (Kaushal & Kaestner, 2005), and labor market response (Borjas, 2003) in the immigrant population. Evidence suggests that children in immigrant families, regardless of their citizenship status, has less coverage through public health insurance following the passage of welfare reform of 1996 (Kaushal &

[1] Author's calculation based on 2010 CPS March Supplement using appropriate replicate weight. We call the foreign-born non-citizen children living with immigrant parents as "immigrant children" throughout this paper; U.S-born citizen children of immigrant parents are called as "children of immigrants".

Kaestner, 2005; Ku & Matani, 2001, 2001; Lurie, 2008). The drop in health insurance coverage among eligible children living with immigrant parents after welfare reform, is called the "Chilling Effect" in the economic literature (Kaushal & Kaestner, 2005; Lurie, 2008; Watson, 2014).

After welfare reform, many states responded by instituting state-funded substitute programs to provide health insurance to legal immigrant children who are not eligible for federal health programs like Medicaid or CHIP (Fortuny & Chaudry, 2011; Zimmermann, 1999).[2] Bronchetti (2014) documents the higher degree take-up of public insurance, increased use of preventative care among first and second generation of immigrant children where the eligibility was expanded. However, the proportion of uninsured among low-income immigrant children remained very large in the states which did not have a substitute program (see Table 2). The Children Health Insurance Reauthorization Act (CHIPRA) of 2009 provided states option to receive federal funds to provide public health insurance to low-income immigrant children regardless their length of residency in the U.S. In other words, CHIPRA-2009 lifted the dreaded "five-year-ban" for the immigrant children to become eligible for public health insurance. As of 2010, 22 states adopted the CHIPRA option. Saloner et al (2014) provides early evidence of CHIPRA adoption on health insurance status of low-income immigrant children. Following the enactment of CHIPRA, immigrant children living in states that expanded eligibility experienced an approximate 14 percentage points increase in the probability of having any health insurance. Institution of substitute state-funded programs following welfare reform resulted a substantial degree of the cross-state variation in eligibility for public insurance between PRWORA and CHIPRA. Expanded eligibility results increased health coverage and healthcare utilization among the immigrant children (Bronchetti, 2014). It is important to acknowledge the differences in health coverage across states before the enactment of CHIPRA. By including pre-treatment period between 2000 through 2008 we account for the cross-state variation in availability of public health insurance for immigrant children before the enactment of CHIPRA.[3] We also include four years of post-treatment periods – from 2010 through 2013 – to measure the impact of CHIPRA more precisely.[4] Our study suggests that accounting for the cross-state variation in eligibility for public insurance prior to the enactment of CHIPRA is critical. We find that estimated of the effect of CHIPRA is smaller, yet substantial, than what Saloner et al (2014) reported. Our analysis suggests that existence of state-funded programs is also critical in the

[2] In some counties in Florida, substitute state-funded program provided coverage to undocumented immigrants as well. In other states, undocumented immigrants were not eligible for coverage.

[3] In comparison, Saloner et al (2014) includes only two years of pre-treatment period: 2003 and 2007, which may be insufficient to capture the long term effect of state-funded policies on immigrant children's access to public health insurance.

[4] This improves over Saloner et al (2014) which have one post-period (2011-12); while Bronchetti's (2014) study sample spans from 1998 to 2009 using restricted version of National Health Interview Survey.

successful adoption of CHIPRA. Citizen children living with immigrant parents in the CHIPRA states also experience increased coverage following the passage of CHIPRA. Since this group of children was unlikely to benefit from CHIPRA option, we may suggest that institution of state-funded programs and adoption of CHIPRA, may have reduced the so-called "chilling effect".

Rest of the paper is organized as follows: The next section describes the complex landscape of immigrant eligibility rules for public health insurance following the passage of PRWORA to the initiation of CHIPRA. After that, we synthesize related literature to motivate our research question. The next section describes the research design to evaluate the effect of CHIPRA on immigrant children's access to public health insurance. After a brief description of Data, we present summary statistics to differentiate some key demographic and socio-economic features of immigrant and native children living in different states. We then present and interpret regression results. The Discussion section explores the determinants of the success of CHIPRA adoption by highlighting the cross-states variation in administrative requirements in the program and the role of the state-funded programs following welfare reform.

PRWORA, CHIPRA and Immigrants' Access to Public Health Insurance

Throughout U.S. history, immigrants often were subject to discriminatory eligibility rules in accessing public assistance. For example, the Immigration Act of 1882 could deny foreign-born individuals' admission to the United States if they were considered at high risk of becoming "public charges"(Nam, 2011). Alien classification of foreign-born residents was designed to separate immigrants from citizens. The discriminatory regulations against immigrants was addressed, for the first time, when two states– Arizona and Pennsylvania– were challenged before the Supreme Court in the early 1970s for providing public assistance to citizens or permanent residents, 15 years after their entry to the country (Zimmermann, 1999). Later the Supreme Court declared these practices to be unconstitutional. Since then, legal permanent residents were generally eligible for public benefits in a manner similar to the U.S. citizens. The Personal Responsibility and Work Opportunity Act (PRWORA) of 1996 changed the landscape.

PRWORA was enacted to reduce fiscal burden by reducing welfare caseloads; and move recipients of welfare to the workforce as quickly as possible. It also instituted a lifetime time limits on welfare participation. A great deal of authority was granted to individual states to define eligibility rules for public benefits. Most importantly, PROWRA also contained few provisions applicable to legal immigrants' eligibility rules. According to the new definition, "qualified immigrants" were those who were lawful permanent residents entering the country before August 22. These group, pre-enactment immigrants, continued to be eligible for public benefits like SSI, Food Stamp or Medicaid. Humanitarian immigrants

were also included in this category regardless of their date of entry.[5] Post-enactment immigrants – those entering the country after August 22 –were not eligible for federal-funded public assistance during the first five years after arrival. This rule is commonly termed as "five-year-ban" in the literature. Undocumented immigrants and those who are legally present in the U.S – students, tourists, visitors – were included in the "unqualified" immigrant category. Eligibility criterion for the post-enactment immigrants was further modified as the income and assets of their sponsor were "deemed" to be part of immigrant's resources for up to 10 years. Legal immigrants, regardless of their length of residency, continued to be eligible for few public benefit programs: emergency Medicaid, School breakfast and lunch program, Supplemental Nutrition Program for Women, Infants and Children, also known as WIC (Broder & Blazer, 2011). In response, 17 states including the District of Columbia created substitute state-funded Medicaid programs to cater to the health needs of legal immigrants who are otherwise not eligible for federal-funded Medicaid as per immigrant provisions of PRWORA. Among these 17 states are some large immigrant states: New York, California, New Jersey, Illinois. Texas, despite containing a large immigrant population, did not created a substitute Medicaid program. Some counties in Florida provided health coverage to most immigrants (Fortuny & Chaudry, 2011). Following the passage of welfare reform, existence of these substitute state-funded programs for immigrants created substantial cross-state variation in eligibility and availability of public health insurance (Bronchetti, 2014).

Children Health Insurance Program Reauthorization Act (CHIPRA) of 2009 incorporated a new option to allow states to receive federal funds for providing Medicaid or CHIP to lawfully residing immigrant children and pregnant women regardless of their date of entry or length of residency in the U.S. As of January 2010, 22 states adopted this option for providing coverage to immigrant children. Majority of the states, that previously provided health coverage to legal immigrant population using state-funded programs, adopted this new option. Another 20 states did not adopt CHIPRA option as of May 2014. CHIPRA also gave states option to provide coverage to immigrant pregnant women using the CHIP. Previously, pregnant women used to receive limited medical coverage under the "unborn child" option where the unborn child, who has no immigration status, is the recipient. This option is taken up by 6 states as of January 2012 (Trusts, 2014).

The complex interaction of immigrant eligibility rules and public policy reforms envisage a difficult scenario to measure the effects of these policies on immigrants' access to public health insurance. High fraction of immigrants and citizen children living with immigrant parents fail to receive health insurance coverage for which they are eligible. Children in immigrant families who are foreign-born and noncitizen

[5] Humanitarian Immigrant category includes Refugees, people granted asylum or parole or those withholding of deportation, survivors of human trafficking, certain abused immigrants and their children. Note that, this list is not exhaustive.

remain the group with least health coverage even in states that instituted substitute programs. Bertrand et al (1998) identified few barriers to explain the trend: difficulty in obtaining and understanding information related to programs and application process due to cultural and language differences. Stigma can also limit immigrants to participate in these programs. Another proposition, chilling hypothesis, explains that the icy policy climate may have contributed towards the lower take-up rates. Following the passage of welfare reform, there was disproportionate reduction in Medicaid participation among eligible immigrant and citizen children of immigrant parents – "chilling" hypothesis has received sizeable citation as a potential contributor (Kaushal & Kaestner, 2005). Federal immigration enforcement activity that was concurrently implemented along with welfare reform may have contributed to increasing the magnitude of "Chilling" effect (Broder & Blazer, 2011).

We are interested in measuring the effect on public health insurance coverage using Medicaid or CHIP among the immigrant children following the enactment of CHIPRA. Immigrant children, despite their length of stay in the country, are now eligible for public health insurance. As of 2010, 22 states chose the option to use federal funds to provide health insurance coverage using either Medicaid or CHIP to otherwise eligible legal immigrant children regardless of their length of residency in the U.S. We also investigate the changes in the proportion of uninsured among US-born children of immigrants parents in policy states. Since this group – U.S.-born children living with immigrant parents – are not the actual target of the policy change, any effect on their participation in the public insurance program may be interpreted as reduction in the "chilling effect" for immigrant population in the CHIPRA states.

Related Literature

Empirical evidence on the effects of changes in eligibility rules for immigrants in PRWORA are well documented. Findings from most studies confirm the decrease in health coverage for immigrants following welfare reform with few exceptions. Borjas (2003) investigated the effects of PROWRA and subsequent emergence of several state-funded Medicaid programs on the health insurance coverage of nonelderly immigrant population. This group of immigrants did not experience a reduction in health insurance coverage. He attributed this to the simultaneous increase in employer-sponsored insurance take-ups. To validate this claim, he provided empirical evidence of a statistically significant increase in labor supply among nonelderly immigrant population following welfare reform. Interestingly, according to Borjas (2003), State-funded Medicaid substitute programs may not have contributed to the imminent reduction in public health insurance coverage as Medicaid cutbacks were offset by the increase in employer-sponsored insurance. Kausal and Kaestner (2005) argued that non-elderly immigrant population may not be a suitable target group for impact analysis since only a small fraction of this group may be eligible for Medicaid.

Besides, determination of eligibility is not uniform across different sub-population among the larger nonelderly population. They argued that selection of nonelderly population as a reference for larger and diverse immigrant population in Borjas's (2003) study may have obscured some adverse effects of PRWORA on immigrants' public health coverage. On the contrary, unmarried single women and their children may be more vulnerable to changes in eligibility criterion. Kausal and Kaestner (2005) reports that low-educated, foreign-born, single women experience about 10 percentage point increase in the proportion of uninsured after welfare reform; US-born comparison group did not experience change in uninsured rate following welfare reform. They argue that the large increase in uninsurance among immigrant women population is an evidence of "chilling hypothesis" since provisions of PRWORA was binding on a small fraction of immigrants: mostly post-enactment immigrants which comprise a small group. Notably, the adverse effect on uninsurance was not statistically different between states with or without a state-funded Medicaid substitute program. The proportion of uninsured among US-born children of immigrants also increased by approximately 13 percentage points; citizen children of native parents had no statistically significant effect on health insurance coverage. Note that the eligibility criterion of U.S.-born children of immigrants is same as that of U.S-born children of natives; hence, drop in health coverage among this group lends support to the "chilling hypothesis". Increased federal immigration enforcement activities that occurred around the time of welfare reform may have created the "chilling effect" (Watson, 2014).

Most researchers rely on the Current Population Survey (CPS) for the empirical analysis of effects of welfare reform on immigrants' access to public health insurance (Borjas, 2003; Fix, Zimmermann, & Passel, 2001; Kaushal & Kaestner, 2005). CPS has one limitation: it cannot distinguish between the permanent (PR) and non-permanent residents (NPR); Survey of Income and Program Participation provides information about this status. Comparison between children of PRs with the children living with their non-permanent parents could provide another evidence in support of "chilling effect". Lurie (2008) , using data from SIPP, found that the proportion of uninsured children of non-permanent residents increased by about 10 percentage points relative to the children living with permanent resident parents. This finding also adds to the narrative of "chilling effect". Within the immigrant population, non-permanent immigrants may experience greater degree of fear and stigma to participate in public programs than those who are permanent residents.

Most studies highlight the reduction in health coverage among children of immigrants who should not have been affected since welfare reform did not change their eligibility. Very few studies talk about the reduced eligibility for children in immigrant families who themselves are foreign-born and noncitizen. They lost eligibility for public benefit based on nativity or length of residency. Few states instituted substitute programs using local funds to offset the adverse shock of welfare reform. Bronchetti (2014) uses restricted-

access micro data from National Health Interview Surveys (NHIS) for the years 1998 through 2009 to estimate the effect of cross-state variation in eligibility for public health insurance resulting from institution of substitute state-funded programs in some states after welfare reform. To overcome the endogeneity between health outcome variables and eligibility for public health insurance, she generates a simulated measure of eligibility for public insurance using the cross-state variation in the timing and extent of changes in the eligibility criterion. The simulated fraction eligible in a child's state-year-age cell is then used as an instrument to reflect child's individual eligibility in the second stage equation to measure effects on public insurance take-up or health care utilization. Findings of the study suggests a strong positive effect of expansion in eligibility on the likelihood of coverage using public health insurance among children in immigrant families: approximately an increase of 19.2 percentage points. Expanded eligibility also increases utilization of preventative care among children of immigrants.

Although there was a surge in literature to estimate the effect of PRWORA on immigrant population, to our knowledge, there exists one study that examined the effect of CHIPRA on immigrant children's access to public health insurance. Using 2003, 2007 and 2011-12 rounds of National Survey of Children's Health (NSCH), Saloner et al (2014) examined the effect of CHIPRA on 4,769 low-income immigrant children. They estimated a difference-in-difference-in-differences regression model where the U.S.-born children of native parents were included as the other comparison group to isolate effects of other concurrent policies. They found that low-income immigrant children living in the states that adopted CHIPRA, experienced a 14.9-percentatge-point increase in the probability of having any insurance largely contributed by increase in coverage through Medicaid or CHIP. Their findings suggest resounding success of CHIPRA.

In this study, we revisit the effect of CHIPRA on immigrant children's access to public health insurance by combining the Current Population Survey's March Supplement from 2000 through 2014. We hope to improve the finding of Saloner et al (2014) by explicitly accounting for the existence of a state-funded programs for majority of the CHIPRA states during the pre-treatment period. Immigrant children in the states where a state-funded program was available, used to be eligible for public insurance even before the adoption of CHIPRA; for these states, adoption of CHIPRA can be viewed as an expansion of the state-funded programs, albeit Medicaid or CHIP are regarded better than any state-funded programs. Any increase in the expansion of public health insurance among low-income immigrant children following CHIPRA, hence cannot be attributed to the adoption of CHIPRA alone. Only states without a state-funded program for immigrant children will reflect sharp increase in the eligibility for public insurance among immigrant children. In summary, we expect the combined effects of CHIPRA to be smaller. Difficulty lies in isolating the net effect of CHIPRA.

We expect our result to be more reliable as it is estimated using the largest sample of low-income immigrant children (15,129); it also captures four years of post-treatment periods following the enactment of CHIPRA. To further illustrate the contribution of state-funded programs on the success of CHIPRA adoption, we compare the performance of individual states that adopted CHIPRA. Our analysis suggests that existence of state-funded programs is a pre-requisite for the success of CHIPRA adoption.

Research Design

As of 2010, 22 states adopted the CHIPRA option to provide public health insurance coverage to low-income noncitizen immigrant children regardless of their length of residency in the U.S. We call them CHIPRA states or policy states interchangeably. As of 2014, 20 states did not select the CHIPRA option for their immigrant children population (Trusts, 2014). Some states – Alaska, Florida– provides some for immigrant children using separate program, however scale of those programs are unknown. Together, these states are called non-CHIPRA states or non-policy states alternatively. Few other states, opted for CHIPRA option or got approved for the CHIPRA option between 2010 to 2013. In our analysis, we exclude this states. The main focus of the policy is to provide public health insurance to low-income noncitizen immigrant children. Our treatment group comprise the low-income immigrant children living in the states that adopted CHIPRA. Low-income immigrant children living in states that did not opted for CHIPRA option are considered as the comparison group.

We use the Difference-in-Differences (DD) method to evaluate the causal impact of CHIPRA on health insurance coverage for the immigrant children. DD method compares the average changes in the outcomes for treatment and control group before and after the policy change. Since, immigrant children living in non-CHIPRA states are unlikely to be affected by CHIPRA, any effect in the post period on this group will reflect effects of other individual or state-specific variables on the outcome of interest for this group. As we subtract the differences in mean outcome of the comparison group from the mean outcome of the treatment group before and after the enactment of CHIPRA, we obtain the causal impact of CHIPRA. This approach can be implemented using a simple regression framework:

$$Y_{ist} = \beta_1 + \beta_2 CHIPRA_{is} + \beta_3 Post_t + \beta_4 (CHIPRA * POST)_{ist} + \Gamma X_{ist} + \lambda_t + \lambda_s + \epsilon_{it}$$

We estimate this model for the low-income immigrant noncitizen living in either CHIPRA states or non-CHIPRA states. $CHIPRA$ represents a dummy variable equal to 1 for the states that adopted option to receive federal funding to provide Medicaid or CHIP to legal immigrant children regardless of their length of residency. The variable $Post$ is equal to 1 in the years following the enactment of CHIPRA. For all the states in our analysis, CHIPRA was adopted by the year 2010. Our post-period includes 2010-2013. In addition, we include vector of individual covariates like age, race, mother's education, log of family

income, employment status of the household reference person, years of residency in the United States. To account for variation in macroeconomic environment across states we include the state-unemployment rate. Other unobserved effects are adjusted by including the state and year fixed effects. Standard errors are clustered at the state level.

Here, β_1 represents the average value of the outcome variable in non-CHIPRA states prior to the enactment of CHIPRA. Coefficient on $CHIPRA$ dummy variable, β_2 reflects the difference in outcome between CHIPRA states and non-CHIPRA states in the pre-period. Any difference in outcome variable for the non-CHIPRA states between pre and post-period will be captured in the parameter β_3. Our parameter of interest is β_4, the coefficient on the interaction term between $CHIPRA$ and $Post$, gives the difference-in-differences estimate:

$$\hat{\beta}_4 = \left(Y_{CH}^{Post} - Y_{CH}^{Pre}\right) - \left(Y_{nCH}^{Post} - Y_{nCH}^{Pre}\right)$$

β_4 estimates the average effect of CHIPRA adoption on health insurance coverage of the immigrant children living in the CHIPRA states. Using the Immigrant children living in the non-CHIPRA states as a comparison group also has its disadvantages. For example, health infrastructure in those states could be systematically different than that in the CHIPRA states. As a solution, we may limit the sample to CHIPRA states only and use another group of children – U.S.-born children of natives parents – unlikely to be affected by the adoption of CHIPRA as a comparison group. It can also be argued that health outcome variable of U.S.-born children of native parents may disproportionately benefit from other policies compared to the immigrant children living in the same states. We also estimate difference-in-difference-in-differences (DDD) model to isolate the effect of CHIPRA adoption by including the second comparison group, U.S.-born children of natives, living in both states. The regression model for triple difference is the following:

$$Y_{ist} = \beta_1 + \beta_2 CHIPRA + \beta_3 Post + \beta_4 Nativity + \alpha_1 CHIPRA * Post + \alpha_2 CHIPRA * Nativity + \alpha_3 Nativity * Post + \alpha_4 CHIPRA * Post * Nativity + + \Gamma X_{it} + \lambda_t + \lambda_s + \epsilon_{it}$$

The coefficient of interest, α_4, the triple interaction term is essentially the difference between two DD model. The first DD model is same as designed earlier involving immigrant children living in different states with different policy environment. The second DD compares the U.S.-born children in CHIPRA states to their counterpart in non-CHIPRA states. This DD estimate should be zero since policy is not targeted at them. However, other provisions of CHIPRA may have some impact on their health insurance coverage. Thus, the difference of these DDs will present another measure of the effect of CHIPRA on immigrant children.

$$\alpha_4 = \left[\left(Y_{IMM}^{post} - Y_{IMM}^{pre}\right)_{CHIPRA} - \left(Y_{IMM}^{post} - Y_{IMM}^{pre}\right)_{non-CHIPRA}\right] - \left[\left(Y_{NB}^{post} - Y_{NB}^{pre}\right)_{CHIPRA} - \left(Y_{NB}^{post} - Y_{NB}^{pre}\right)_{non-CHIPRA}\right]$$

We are also interested to examine the health insurance coverage of another group of children: U.S.-born children of immigrants. This group is unlikely to be affected by adoption of CHIPRA directly. On the contrary, they are eligible for public health insurance like the U.S.-born children of native parents. Earlier literature found evidence that, despite their eligibility, disproportionately larger fraction of children of immigrant remain uninsured (Kaushal & Kaestner, 2005). However, decade long existence of these state-funded programs is expected to create a positive environment for the immigrant families. If children of immigrants in the CHIPRA states display differential public health coverage compared to the children of immigrants in the non-CHIPRA states, we may suggest that, state-funded programs may have reduced the dreaded "chilling effect".

One crucial identification strategy for the validity of DD estimate is the assumption of "common trends". This assumption implies that average change in the outcome variable would have been same for both treatment and comparison group in the absence of the policy. To test the common trend assumption, we can estimate the following regression model that limits the sample to pre-treatment periods and includes a trend variable to the regression. The coefficients of interaction terms between trend variable and treatment variable are expected to be zero or statistically insignificant when common trend assumption is satisfied.

$$Y_{ist} = \alpha + \sum_{t=2000}^{2008} \lambda_t \, Trend_t + \beta_0 \, CHIPRA + \sum_{t=2000}^{2008} \delta_t \, (Trend_t * CHIPRA) + \Gamma \, X_{ist} + \lambda_s + \epsilon_{ist}$$

Violation of the common-trend assumption will pose question about validity of the DD estimate. Presence of any differential time trends in the pre-treatment period may suggest that the estimate of DD may not reflect a causal effect on the outcome of interest. It also suggests that the policy environment may have been different between policy states and non-policy states even prior to the initiation of policy of interest. Many CHIPRA states had state-funded programs for immigrant children which make the test for common-trends more critical for this study.

We check whether results from the DD are robust by conducting several sensitivity analyses. First, we add observable individual and state-specific covariates in the regression specification to see if results are similar. To account for the serially correlated standard errors due to group structure of the data, we cluster standard errors around the state-level as prescribed by Angrist and Pischke (2009) . Standard errors may still remain correlated because of inclusion of multiple time points to estimate the pre-and post-intervention means (Bertrand, Duflo, & Mullainathan, 2002). Estimation of the DD using other groups which are unlikely to

be affected by the enactment of CHIPRA is another way to validate the DD findings. Average treatment effect from these models should not be different from zero. However, a non-zero DD estimate in the other model might suggest that the original DD estimate may not be unbiased. Finally, we estimate the DDD model which provides another test of sensitivity. Interestingly, several of our DD estimates can be algebraically obtained from the DDD model.

Data and Descriptive Statistics

For this study, we use the Current Population Survey (CPS) conducted by U.S. Census. The CPS is a nationwide survey that provides vital demographic, social and economic data for a large sample of American households on a monthly basis. Data on health insurance coverage is collected through the Annual Social and Economic Supplement (ASEC)[6]. Since 1976, ASEC is supplemented with an additional 6,500 Hispanic households. To improve the state estimate of Children's Health Insurance coverage, ASEC incorporated another sample expansion: a sample of 19,000 households known as CHIP sample. Total sample size for the ASEC is about 98,000 households. Data on birthplace of the individual and their parents and individual-level citizenship status allows us to allocate the children by their own nativity and that of their parents.

Our unit of analysis is the immigrant children living in a family where at least one of the parents is immigrant. [7] Some modifications are made to identify members of a family who are relevant for the analysis of health insurance coverage.[8] For example, Single adults, regardless of their relationship to the household reference person, living with no children of their own are assigned to a different family of their own, since their eligibility for public or private insurance is not a function of income or nativity of the household reference person. Similarly, parents or sibling of the household reference person are not included in the family unit since they cannot be considered for the private health coverage as a dependent through the household reference person.

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[6] ASEC is also referred as March Supplement since initially, it was added to the CPS in March each year. Since 2001, ASEC had been expanded from February through April. Persons, 15 years old or over, residing in sample households — Individuals, regardless of their interrelationship, residing in a physical address make up Household units — are interviewed. Information is also collected for the children living in these housing units. A monthly CPS file contains approximately 150,000 records.

[7] The US Census Bureau define "family or a family household" as consisting of a householder and all those persons living in the household unit who are related by marriage, birth or adoption. According to the Official poverty guidelines, primary family and related subfamilies within a given household as one family. This family's income is compared with the appropriate poverty threshold to compute poverty status of the given family.

[8] Recent developments in this area argues that Health Insurance Unit (HIU) is regarded as a better unit of analysis than a family because conventional family unit may not be consistent with the definition of a family unit relevant for private or public insurance programs. IPUMS now provides a separate identification for the Health Insurance Unit (HIU). There is considerable overlap between the construction of HIU and the census definition of a family unit – HIU reflects the complicated interrelationship within a family that is relevant for public and private insurance coverage.

The immigrant children comprise a small fraction of total child population – approximately 3 percent. However, in states that have adopted CHIPRA option, immigrant children represent 5.7 percent of child population living below 300 percent of federal poverty line. Share of low-income immigrant children in states that did not adopt CHIPRA is about 3.2 percent at baseline.[9] To overcome the small sample size we pool CPS-ASEC supplements between 2000 to 2008 for pre-treatment. For post-treatment period, we combine data from 2010-2014.[10]The main variable of interest is the status of health insurance coverage and its sources. In CPS, respondents are asked about their health insurance coverage for the previous year. Hence our, pre-treatment period spans from 1999 through 2008; post-treatment years cover between 2010-2013. This improves the findings of Saloner et al (2014) which included only one post-treatment period (2011) and two pre-treatment period (2003, 2007). In Table 2, we compare demographic and socio-economic characteristics of immigrant population living in CHIPRA states and non-CHIPRA states. About 64 percent of the immigrant child in CHIPRA states are Hispanic; In non-CHIPRA states about 72 percent are Hispanic. In non-CHIPRA states, mothers of immigrant are more educated than mothers of immigrant children in CHIPRA states. More immigrant children in non-CHIPRA states live below poverty: about 45 percent; average family income is also lower in non-CHIPRA states. Although, they are more vulnerable in terms of economic means, share of uninsured at baseline is about 16 percent higher than immigrant children in CHIPRA states. Coverage through private insurance are not very different among immigrant children in these groups, but the share of children with public insurance in CHIPRA states is about 27 percentage point higher at baseline. This reflects the effect of the state-funded programs in most CHIPRA states. As a comparison group, in Table 3, we compare the characteristics of U.S.-born children of native parents living in policy state and non-policy state. Health insurance coverage among native children are very similar. It suggests that, there is lack of support in the non-CHIPRA states for the low-income immigrant children.

Regression Results

Immigrant Children

We observed in the previous section that low-income immigrant children living in the states that adopted CHIPRA option have better health insurance coverage at baseline. In this section, we present the estimated effect of CHIPRA adoption on the health insurance coverage of low-income immigrant children using

[9] The estimates are author's calculation of weighted mean for the year 2008.

[10] Another option could have been American Community Survey (ACS) which contains a large sample. ACS could provide sizeable sample of immigrant children from the CHIPRA states which are not the traditional gateways states. However, the information about health insurance coverage is included since 2008 which limits our pre-treatment period. So, we do not use ACS for this study.

Difference-in-Differences model. Simple linear probability model is estimated that has the specification to test pre- and post-period test using a comparison group. Three measure of health insurance status is examined: 1. whether the child has any health insurance coverage, 2. Whether the child is covered by any pubic health insurance, and 3. Whether the child has health insurance through private insurance including employer sponsored health insurance. All the regression model controls for age, race, education level of the mother, employment status of the household reference person, total number of children in the family. State unemployment rate, state fixed effects and year fixed effects are also included in the regression model. Standard errors are clustered at state level. To implement the Difference-in-Differences design each DD regression includes a Post dummy equal to 1 for the post periods. The indicator variable CHIPRA is equal to 1 if the target children lives in one of the CHIPRA states.

Before each DD regression we test for the common-trend assumption in the regression framework. For example, Table 4 presents regression results for the test for common-trend for our key DD models. Each column presents the regression result for the common trend for the specific outcome of interest. It shows that in most cases, there is no difference in time-trends in the pre-period between treatment group and comparison group. There are cells are statistically different from zero in the common-test regression for public health insurance coverage among immigrant children, just prior to the enactment of CHIPRA. This may suggest anticipation prior to the policy change. The other plausible explanation is that public health insurance coverage increased in the CHIPRA states prior to the enactment of CHIPRA because of the existence of state-funded programs to support the immigrant children. It should also be noted that, U.S. economy was suffering from the economic recession which may have disproportionately affected the immigrant population. Since these states had programs to provide health coverage to immigrant children, take-up rate increased in these states as parents of immigrant children may have been displaced from work. On the contrary, most non-policy states did not have a state-funded programs to support immigrant children. In the wake of economic downturn, immigrant children's will not be able to find coverage in these states. This may have resulted some degree of common trend in year 2007 and 2008. One potential solution to overcome the common trend and obtain causal effect of the policy, we may exclude the years that had economic recession by limiting pre-treatment period between 2000 to 2006. This exercise, provides evidence that there is no evidence of differential time trend between treatment and control group of children before the policy was adopted.

In Table 5, the regression estimates from various the DD models are presented. For example, for the first DD model the treatment group is the low-income immigrant children living in policy states. The comparison group for this model is the group of low-income immigrant children living on non-policy states. Estimates from this model suggests that for the low-income immigrant children living in the policy states, probability

of being uninsured reduced by about a statistically significant 8 percentage points. The reduction in uninsurance can be attributed to the increase in the probability of being covered using public insurance. Column 2 in Table 5 shows that following the passage of CHIPRA, probability of having a public health insurance coverage for the low-income immigrant children in policy states increased by about 7 percentage points. No evidence of crowding out has been found, since the coefficient on the interaction term in the third regression is statistically insignificant. Similar results can be obtained when we restrict the pre-treatment period between 2000-2006 to remove the years that suffered the economic recession. In summary, estimate in the difference-in-differences regression in the first DD model suggests that adoption of CHIPRA have benefited the most vulnerable group of children – low-income immigrant children living in the policy states. When we accounted for pre-treatment period between 2000 to 2008, our measure of average treatment effect of CHIPRA is approximately half of what Saloner et al. (2014) reported. This may be attributed to our inclusion of longer pre-treatment period when most CHIPRA states had substitute programs for immigrant children suing local funds.

Children of Immigrants

In this section we present the regression result that examines the effect of CHIPRA on the U.S.-born children of immigrants (See Table 5, column 5 through 7). Although this group may not benefit directly from the adoption of CHIPRA, assessment of their health insurance status reveals about the positive spillover effect of CHIPRA adoption. When we estimate similar regression to compare children of natives in CHIPRA states to the outcomes of children of natives in non-CHIPRA states, we observe that no effects of CHIPRA on children of natives, which is expected (Table 5 column 8 through 10) .

We estimate several DD regression models for this group. First, we compare the health insurance status of the low-income U.S.-born children of immigrants in policy states with a similar group in non-policy states. This result is exhibited in Table 5 which suggests that following the passage of CHIPRA, children of immigrants in policy states did not show any change compared to the comparison group. Then, we compare the health insurance status of the children of immigrants in policy states with that of U.S. born children of native parents living in the same states. Note that both the groups are not the actual target of the new policy; however, both groups may benefit from other provisions of CHIPRA. Results of the regression is presented in Table 6. Note that the treatment group in this regression is $Nativity$, which equals 1 for children of immigrants, 0 for children of natives. This result suggests that children of immigrants benefit from the CHIPRA adoption. The probability of not having any health insurance has decreased by 4 percentage points for the children of immigrants. The reduction can be associated with a simultaneous increase in the likelihood of having coverage through public insurance. Some evidence of crowding out can be observed in this regression. Another model where we compare the children of immigrants in non-CHIPRA states

with health coverage to the children of natives in non-CHIPRA states (Table 6 column 5 through 7) we observe no difference in health insurance status after the passage of CHIPRA.

How do we then interpret the differential outcome for children of immigrants in policy states compared to the native children? We may suggest that other provisions of CHIPRA may have benefited the children of immigrants more than the native children. Another interpretation can be made: adoption of CHIPRA is indicative of the accommodative policy environment in these policy states. Existence of state-funded programs to support the vulnerable immigrant children adds to this explanation. Kausal and Kaestner (2005) argued for the existence of "Chilling effect" by estimating the reduction in health insurance among children of immigrants despite the existence of state-funded substitute program. We would like to infer that existence of state-funded programs over the decade following the passage of PROWRA, have created an accommodative environment or reduction in the "chilling effect" for the immigrant population. Disparity in health coverage remains high among children of immigrants compared to the children of natives in non-CHIPRA states.

Labor Market Response for the Mothers of Immigrant Children

Expansion of eligibility in the public health insurance program has been linked to labor market effects in the literature. Increase in coverage through public health insurance is often associated with a reduction in coverage through private insurance. Negative labor market response is often identified as the mechanism through which the crowding out takes place. Economic literature contains many studies that examined the effect of public insurance eligibility expansion on labor market outcomes of mothers (Dave, Decker, Kaestner, & Simon, 2015; Tomohara & Lee, 2007). In this study, we provide the effect of CHIPRA adoption on the labor market response of single mothers and married mothers of the immigrant children (Table 8). Most mothers of immigrant children are themselves foreign-born, noncitizen. By construction, analytic sample includes families below 300% federal poverty line. As a comparison group citizen mothers of U.S.-born children are selected. Using a difference-in-differences approach, we found that adoption of CHIPRA that provides public health insurance to low-income immigrant children, has no effect on the labor supply decisions of the mothers of immigrant children. This finding is consistent with our finding that CHIPRA adoption does not cause crowding-out of private health coverage. We cannot extend the analysis for the group of mothers whose income is close to the income eligibility threshold since majority of the immigrant families live below 300 percent of the federal poverty line. Public benefit for the immigrant population remains limited following the passage of PRWORA. As a group they are more vulnerable and negative labor market response is not expected even after the availability of public health insurance for their children.

Sensitivity Analysis

We conduct several modifications to the regression specification for DD model to find that the average treatment effect remains unchanged. When standard errors are clustered at the state level, t-statistics became less inflated, but estimate was statistically significant. Estimation of DD model with group of children unlikely to be affected by the adoption of CHIPRA provides a test of sensitivity. The estimated treatment effect for this DD model is expected to be zero or statistically insignificant. When we compared U.S.-born children of native parents living in policy states to a similar group of children living in non-policy states, we found that there was no difference in their health insurance status after the passage of CHIPRA. Finally, we estimated the Difference-in-Difference-in-Differences model (DDD) by including U.S.-born children of native parents for isolating another source of variation and check the robustness of DD models (see Table 7). Although, the DD involving U.S.-born children of native parents was zero, the results of DDD model give expected sign, but they are not statistically significant. The DD estimates can be obtained algebraically from the DDD model. We suspect that addition of second control group may have inflated the standard errors of the DDD model. Another possibility is that the U.S.-born children of native parents may not be a good candidate to compare health insurance outcomes of low-income immigrant children following the passage of CHIPRA. Since CHIPRA may have other provisions that are relevant for the U.S.-born children of natives.

Discussion:

Immigrant provisions included in PROWRA has been well documented to limit access to public health insurance for low-income immigrant children. Early evidence suggested a reduction in health insurance coverage for children of immigrant to the magnitude of about 10 percentage points (Kaushal & Kaestner, 2005). Surprisingly, the take-up rate of the public health insurance among eligible U.S.-born children of immigrant parents also showed a decline by the same magnitude. This should not have happened since these group of children are not restricted by the immigrant provision of welfare reform. Economists termed this as "chilling effect". Many states instituted state-funded programs to provide health insurance coverage to immigrant children who are deemed ineligible by the PROWRA. Long term effects of instituting the state-funded programs for immigrant children has been examined in the literature only recently by Bronchetti (2014). It is expected that these programs will not only provide health coverage to the low-income immigrant children but will also create a positive environment for the immigrant families. In 2009, Children's Health Insurance Reauthorization Act included a option for states to receive federal funds to provide public health insurance coverage to low-income immigrant children regardless of their length of

residency in the United States. 22 states, as if 2010, adopted the new option. Among them, 15 states, had substitute state-funded programs.

Evaluation of the adoption of CHIPRA also shows the long term effect of these state-funded programs. Even before the adoption of CHIPRA, these states had lower uninsured rate among low-income immigrant children compared to our comparison group, low-income immigrant children which did not opted for the CHIPRA option. Increase in take-up rate of public insurance following CHIPRA should be interpreted cautiously since the effect is a combined effect of state-funded programs and additional federal funds for opting for CHIPRA immigrant child option. As a evidence, we explicitly test for the common-trend and cannot rule out the evidence of common-trend in some pre-treatment years, between 2007 to 2008. When we restrict our pre-treatment sample between 2000-2006, we replicate similar result as of Saloner et al (2014). The evidence of common-trend in the years 2007 to 2008 may also be explained through the existence of state-funded program in most CHIPRA states. When U.S. economy was going through economic recession, immigrant population may have been displaced from jobs at a higher rate. State-funded programs then provided coverage for low-income immigrant children. Since most non-CHIPRA states did not have a substitute state-funded program for immigrant children, uninsured rate among these group increased, resulting in statistically different trend in the public insurance coverage. Excluding time periods with economic turmoil then removes the existence of common-trend. In summary, the estimated effect of CHIPRA can be called a causal effect on the increase in public insurance coverage among low-income immigrant children.

We also observe that adoption of CHIPRA has not created desired outcome for many states. Considerable state variation in the take-up rates exists following the passage of CHIPRA. We do some exploratory analysis among the gateway immigrant states: California, New York, New Jersey, Texas, Florida and Illinois. Bulk of immigrant population lives in these states. Among these states, California, New York, New Jersey and Illinois adopted the CHIPRA option and had a state-funded programs after welfare reform. Florida, in some counties, provide health insurance coverage using state-funded program, but did not adopt CHIPRA option. Texas did not have a state-funded program but adopted CHIPRA option. We can see from Figure 1 that, uninsured rate among immigrant children in Texas is the highest even after CHIRPA was adopted. On the contrary, average uninsured rate among immigrant children in states with state-funded programs is considerably lower, even before the adoption of. This may suggest the role of state-funded substitute program following the passage of PROWRA is a prerequisite for success of CHIPRA adoption.

We also look into other measure of administrative features: income eligibility threshold, presumptive eligibility, Express Lane eligibility, that may contribute to differential success of CHIPRA. Information about out-reach programs is not available in this study. Success of programs for immigrant population often

depends on increased resources in out-reach programs and reduction in administrative requirement(Aizer, 2003; Wolfe & Scrivner, 2005). CHIPRA states vary considerably in terms of administrative requirement which may explain the variation in the success of CHIPRA. However, this study does not implement any regression model to ascertain the determinants of the success of CHIRPA.

Like other studies regarding the immigrant population, we do not have information if a respondent in our sample is an undocumented immigrant. Undocumented immigrants do not qualify for any public assistance. If a state has large share of undocumented immigrants, then adoption of CHIPRA may not be as successful as desired since large share of immigrant population will not qualify for the coverage. Specially, child outcome is subject to large fluctuation if parents are undocumented immigrant. On the other hand, humanitarian immigrants are also unidentified. This group qualify for all the public assistance. If any state, has large share of humanitarian immigrants, then they will have higher take-ups regardless of adoption of specific policy, like CHIPRA.

Conclusion

This study presents the estimates of the effects of CHIPRA adoption on the health insurance status of low-income immigrant children. Our findings suggest that adoption of CHIPRA increases the take-up of public insurance by about 7 percentage points; we find a proportionate decline in the share of uninsured children among low-income immigrant children in policy states. No evidence of crowding out from private insurance suggests that take-up of public insurance is coming from those who had been previously uninsured. We estimate the labor market response among the mothers of immigrant children and find no evidence of negative labor market response which is consistent with the no crowding out effect on the private insurance.

Our study also finds the effect of state-funded programs to provide health insurance to the immigrant children has profound effect on the success of CHIPRA adoption. Some states that did not have a substitute state-funded program during the passage of welfare reform, performed poorly even after CHIPRA option was adopted. When we account for the existence of these state-funded programs in most CHIRPA states, we interpret the effect of CHIRPA on the increased health insurance coverage as a result of both policies. Future research could isolate the states that adopted CHIPRA but did not have a state-funded program and compare the outcome to a group of states that neither adopted CHIPRA nor have a substitute program. Since immigrant population is highly concentrated among few states, this identification is difficult because of limited number of immigrant children in these states.

Another observation emerges from this study: U.S.-born children of immigrants have better coverage in CHIRPA states, specially states that had state-funded programs for immigrant children. Since U.S.-born children was unlikely to be affected by the CHIPRA option directly, this observation could suggest two

possible explanations: CHIPRA has positive spill-over effect on the U.S.-born children of immigrants. Else we may suggest that states that adopted CHIPRA and instituted state-funded programs provides an accommodative environment for the immigrant population. In other words, existence of state-funded programs for immigrant children have reduced the "chilling effect" in these states.

Table 1 : Policy Landscape before and after CHIPRA-2009

	State-Funded Policy after PRWORA	CHIPRA Immigrant Option	CHIPRA Effective Date		State-Funded Policy after PRWORA	CHIPRA Immigrant Option	CHIPRA Effective Date
Alabama				Nevada			
Alaska	Yes			New Hampshire			
Arizona				New Jersey	Yes	Yes	1-Apr-09
Arkansas				New Mexico	Yes	Yes	1-Nov-09
California	Yes	Yes	1-Apr-09	New York	Yes	Yes	1-Apr-09
Colorado		Yes		North Carolina		Yes	
Connecticut		Yes	1-Apr-09	North Dakota			
Delaware	Yes	Yes		Ohio			
District of Columbia	Yes	Yes	1-Jul-09	Oklahoma			
Florida				Oregon		Yes	
Georgia				Pennsylvania	Yes		
Hawaii	Yes	Yes	1-Apr-09	Rhode Island		Yes	1-Jul-09
Idaho				South Carolina			
Illinois	Yes	Yes	1-Apr-09	South Dakota			
Indiana				Tennessee			
Iowa		Yes	1-Jul-09	Texas		Yes	Jul-10
Kansas				Utah			
Kentucky				Vermont			
Louisiana				Virginia	Yes	Yes	1-Apr-09
Maine		Yes	1-Jul-09	Washington	Yes	Yes	1-Apr-09
Maryland		Yes	1-Dec-09	West Virginia			
Massachusetts	Yes	Yes	29-Aug-09	Wisconsin		Yes	1-Oct-09
Michigan				Wyoming			
Minnesota	Yes	Yes	1-Jul-10				
Mississippi							
Missouri							
Montana		Yes					

Table 2: Summary Statistics at Baseline (2008) for Immigrant Children

	Immigrant Children			
	CHIPRA States		Non-CHIPRA States	
	Mean	SE	Mean	SE
Age Group (0 to 5)	0.117	0.014	0.148	0.028
Age Group (6 to 12)	0.385	0.020	0.397	0.026
Age Group (13 to 18)	0.497	0.021	0.455	0.032
White Non-Hispanic	0.114	0.021	0.089	0.020
Hispanic	0.644	0.029	0.715	0.041
Black	0.081	0.019	0.105	0.033
Asian	0.149	0.018	0.091	0.029
Family Income	29,839	1111.08	25,839	1841.55
Mother's Education (High-School or Above)	0.504	0.029	0.552	0.047
Below Poverty	0.379	0.029	0.454	0.044
Uninsured Rate	0.311	0.027	0.574	0.044
Public Insurance	0.465	0.028	0.193	0.035
Employer Provided Insurance	0.222	0.020	0.197	0.032
Private Insurance	0.261	0.023	0.240	0.039
N	**785**		**352**	

Table 3: Summary Statistics at Baseline (2008) for Native Children

	U.S.-Born Children of Native Parents			
	CHIPRA States		Non-CHIPRA States	
	Mean	SE	Mean	SE
Age Group (0 to 5)	0.317	0.007	0.344	0.006
Age Group (6 to 12)	0.367	0.006	0.369	0.005
Age Group (13 to 18)	0.316	0.006	0.287	0.005
White Non-Hispanic	0.563	0.008	0.601	0.008
Hispanic	0.169	0.008	0.068	0.005
Black	0.210	0.007	0.281	0.006
Asian	0.007	0.001	0.001	0.000
Family Income	33,422	430.55	32,383	436.09
Mother's Education (High-School or Above)	0.752	0.009	0.744	0.009
Below Poverty	0.279	0.009	0.308	0.010
Uninsured Rate	0.094	0.006	0.121	0.006
Public Insurance	0.452	0.011	0.465	0.010
Employer Provided Insurance	0.421	0.010	0.429	0.010
Private Insurance	0.479	0.009	0.456	0.009
N	**8950**		**8930**	

Figure 1: Time Trends Comparison of Uninsured Rate among Immigrant Children living in CHIPRA or Non-CHIPRA States

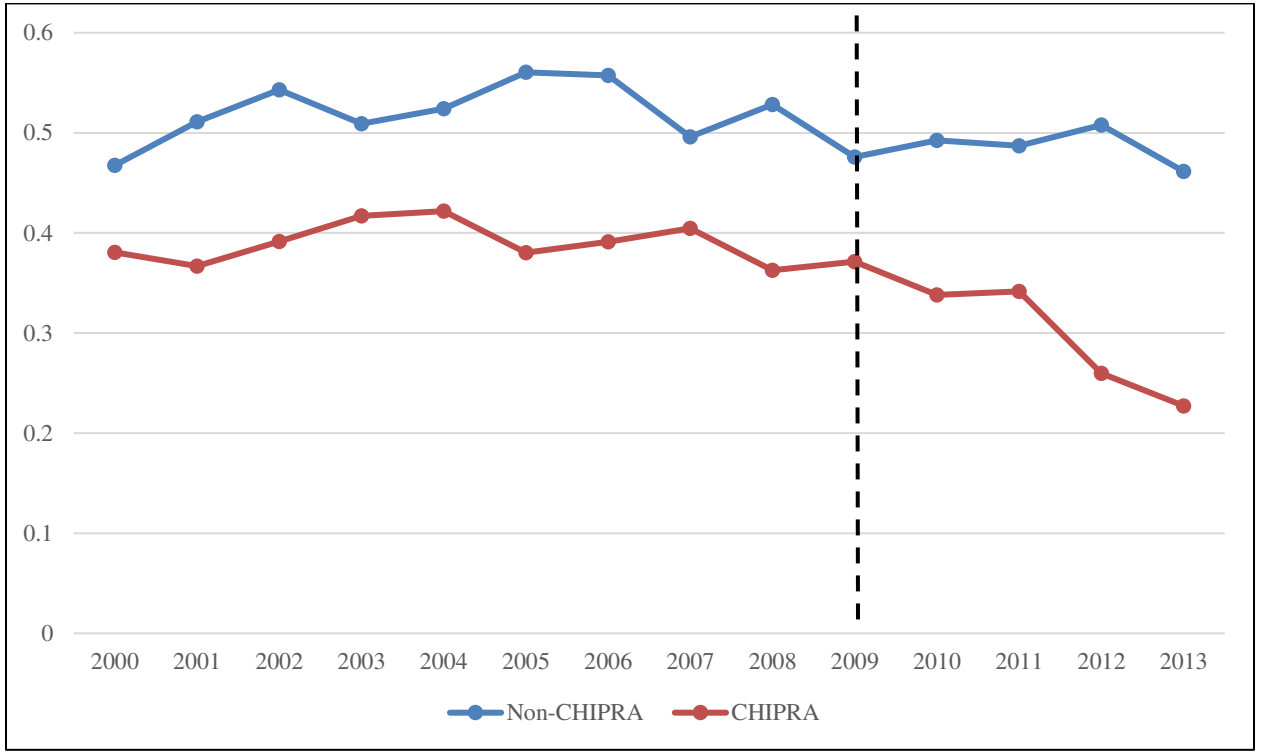

Table 4: Common-Trend Regressions for various DD Models

	Common Trend Regression for Model 1			Common Trend Regression for Model 2			Common Trend Regression for Model 3		
	Uninsurance	Public Insurance	Private Insurance	Uninsurance	Public Insurance	Private Insurance	Uninsurance	Public Insurance	Private Insurance
CHIPRA # TREND=2	-0.0471	0.0503	0.00724	-0.0112	-0.0198	0.0335	-0.00439	-0.00143	-0.0140
	(-1.03)	(1.17)	(0.18)	(-0.29)	(-0.75)	(0.79)	(-0.31)	(-0.08)	(-0.85)
CHIPRA # TREND=3	-0.0193	0.00574	-0.0276	-0.0236	-0.0498	0.0718	-0.0121	0.00370	-0.00901
	(-0.25)	(0.14)	(-0.38)	(-0.76)	(-1.47)	(1.74)	(-0.82)	(0.17)	(-0.44)
CHIPRA # TREND=4	-0.0456	0.0545	-0.00995	0.0198	-0.0263	0.0162	-0.00949	0.0146	-0.00764
	(-0.54)	(0.97)	(-0.17)	(0.45)	(-0.74)	(0.40)	(-0.63)	(0.63)	(-0.34)
CHIPRA # TREND=5	-0.0301	0.0389	0.00463	-0.0321	-0.0519	0.0816	0.00584	-0.000852	-0.0180
	(-0.37)	(0.73)	(0.08)	(-0.63)	(-1.56)	(1.62)	(0.38)	(-0.03)	(-0.82)
CHIPRA # TREND=6	-0.140*	0.0394	0.109*	-0.0325	-0.0353	0.0595	0.00455	-0.00370	-0.00530
	(-2.05)	(0.74)	(2.52)	(-0.82)	(-0.90)	(1.43)	(0.28)	(-0.17)	(-0.24)
CHIPRA # TREND=7	-0.0933	0.137*	-0.00598	-0.0112	-0.0253	0.0394	0.000999	-0.0194	0.00249
	(-1.11)	(2.16)	(-0.12)	(-0.33)	(-0.77)	(0.95)	(0.06)	(-0.92)	(0.11)
CHIPRA # TREND=8	-0.0263	0.106	-0.0882	-0.0553	-0.0101	0.0650	-0.00770	0.00455	-0.0153
	(-0.28)	(1.89)	(-1.45)	(-1.21)	(-0.24)	(1.36)	(-0.49)	(0.21)	(-0.77)
CHIPRA # TREND=9	-0.107	0.153*	-0.0136	-0.0541	0.00432	0.0540	-0.0110	-0.00306	0.0107
	(-1.10)	(2.58)	(-0.23)	(-1.23)	(0.10)	(1.47)	(-0.57)	(-0.12)	(0.44)
Observations	11266	11266	11266	50235	50235	50235	156233	156233	156233
Adjusted R^2	0.135	0.127	0.100	0.053	0.103	0.146	0.031	0.115	0.142

t statistics in parentheses; * p<0.05, ** p<0.01, *** p<0.001

Note: Model 1: Treatment Group: Immigrant Children living in CHIPRA States; Control Group: Immigrant Children living in non-CHIPRA States

Model 2: Treatment Group: Children of Immigrants living in CHIPRA States; Control Group: Children of Immigrants living in non-CHIPRA States

Model 3: Treatment Group: Children of Natives living in CHIPRA States; Control Group: Children of Natives living in non-CHIPRA States

We only reported the coefficients on the interaction term between Treatment state and Trend terms. All the model has standard specifications. Sample restricted for the years between 2000 and 2008. Other covariates include: Treatment indicator, Trend Variable, individual characteristics like age, race, family income, mother's education, employment status of the household reference person, state fixed effects. Standard errors are clustered at state level.

Table 5: Results from various Difference-in-Differences Regression Models

	Regression Results of DD Model 1			Regression Results of DD Model 1			Regression Results of DD Model 1		
	Uninsurance	Public Insurance	Private Insurance	Uninsurance	Public Insurance	Private Insurance	Uninsurance	Public Insurance	Private Insurance
CHIPRA	-0.190***	0.107***	0.0609***	-0.0233*	0.0490**	0.00247	-0.00813**	-0.00728	0.0480***
	(-26.17)	(11.65)	(7.80)	(-2.64)	(3.51)	(0.29)	(-3.03)	(-1.46)	(12.30)
POST	-0.00828	0.209***	-0.190***	-0.115***	0.306***	-0.172***	-0.0425**	0.179***	-0.112***
	(-0.15)	(3.62)	(-4.11)	(-5.06)	(7.80)	(-5.26)	(-3.18)	(9.20)	(-7.30)
CHIPRA*POST	-0.0834**	0.0704*	0.0254	-0.0246	0.0271	0.000139	-0.00745	0.0175	-0.00177
	(-2.79)	(2.19)	(0.89)	(-1.32)	(0.87)	(0.01)	(-1.00)	(1.23)	(-0.17)
CONSTANT	0.727***	0.210***	0.112*	0.268***	0.691***	0.0738	0.280***	0.987***	-0.254***
	(18.53)	(4.45)	(2.48)	(8.44)	(26.29)	(1.96)	(24.68)	(49.43)	(-12.17)
Year Fixed Effect	Y	Y	Y	Y	Y	Y	Y	Y	Y
State Fixed Effect	Y	Y	Y	Y	Y	Y	Y	Y	Y
Observations	15,313	15,313	15,313	77,165	77,165	77,165	222,578	222,578	222,578
Adjusted R^2	0.151	0.136	0.107	0.048	0.122	0.147	0.027	0.123	0.147

t statistics in parentheses; * p<0.05, ** p<0.01, *** p<0.001

Note: DD Model 1: Treatment Group: Immigrant Children living in CHIPRA States; Control Group: Immigrant Children living in non-CHIPRA States
DD Model 2: Treatment Group: Children of Immigrants living in CHIPRA States; Control Group: Children of Immigrants living in non-CHIPRA States
DD Model 3: Treatment Group: Children of Natives living in CHIPRA States; Control Group: Children of Natives living in non-CHIPRA States
We only reported the coefficients on the interaction term between Treatment state and Trend terms. All the model has standard specifications. Sample is restricted for families with income below 300 percent of federal poverty line. Other covariates include: Treatment indicator, Trend Variable, individual characteristics like age, race, family income, mother's education, employment status of the household reference person, state fixed effects. Standard errors are clustered at state level.

Table 6: US-Born Children of Immigrants compared to Native Children

	CHIPRA States			Non-CHIPRA States		
	Uninsurance	Public Insurance	Private Insurance	Uninsurance	Public Insurance	Private Insurance
NATIVITY	0.0574***	-0.000856	-0.0690***	0.0710***	-0.0415**	-0.0537***
	(5.19)	(-0.07)	(-4.52)	(4.77)	(-2.91)	(-4.61)
POST	-0.0629***	0.214***	-0.120***	-0.0514**	0.200***	-0.123***
	(-4.09)	(11.03)	(-7.58)	(-2.94)	(7.45)	(-5.88)
NATIVITY*POST	-0.0428***	0.0542***	-0.0237**	-0.0294	0.0466	-0.0193
	(-5.16)	(8.07)	(-3.06)	(-1.43)	(1.62)	(-1.26)
Constant	0.280***	0.844***	-0.112**	0.286***	0.992***	-0.255***
	(10.34)	(35.64)	(-3.40)	(19.07)	(37.94)	(-8.60)
Observations	178,740	178,740	178,740	121,003	121,003	121,003
Adjusted R^2	0.043	0.124	0.168	0.041	0.123	0.163

t statistics in parentheses; * p<0.05, ** p<0.01, *** p<0.001

Note:

CHIPRA States Model: Treatment Group: Children of Immigrants living in CHIPRA States; Control Group: Children of Natives living in CHIPRA States

Non-CHIPRA States Model: Treatment Group: Children of Immigrants living in Non-CHIPRA States; Control Group: Children of Natives living in Non-CHIPRA States

We only reported the coefficients on the interaction term between Treatment state and Trend terms. All the model has standard specifications. Sample is restricted for families with income below 300 percent of federal poverty line. Other covariates include: Treatment indicator, Trend Variable, individual characteristics like age, race, family income, mother's education, employment status of the household reference person, state fixed effects. Standard errors are clustered at state level.

Table 7: Difference-in-Difference-Differences Regression Result

	Uninsurance	Public Insurance	Private Insurance
CHIPRA	-0.00807**	-0.0124*	0.0523***
	(-3.12)	(-2.44)	(13.47)
POST	-0.0418**	0.183***	-0.117***
	(-3.19)	(9.99)	(-7.70)
NATIVITY	0.355***	-0.186***	-0.199***
	(13.99)	(-6.15)	(-13.81)
CHIPRA*POST	-0.00824	0.0177	-0.00104
	(-1.11)	(1.24)	(-0.10)
CHIPRA*NATIVITY	-0.114**	0.103	0.0135
	(-2.82)	(1.96)	(0.59)
NATIVITY*POST	-0.0116	0.00361	-0.00213
	(-0.46)	(0.14)	(-0.08)
CHIPRA*NATIVITY*POST	-0.0593	0.0294	0.0293
	(-1.84)	(0.89)	(0.94)
CONSTANT	0.286***	0.945***	-0.217***
	(23.63)	(48.80)	(-10.16)
Year Fixed Effect	Y	Y	Y
State Fixed Effect	Y	Y	Y
N	237,891	237,891	237,891
Adjusted R^2	0.085	0.117	0.160

t statistics in parentheses; * p<0.05, ** p<0.01, *** p<0.001

Table 8: Labor Market Effects on Mothers of Immigrant

	Single Mother	Married Mothers	All Mothers
CHIPRA	0.0472	0.0404**	0.0496***
	(1.28)	(3.32)	(5.91)
POST	-0.0575	-0.0675*	-0.0653*
	(-0.86)	(-2.10)	(-2.25)
CHIPRA*POST	-0.0224	0.0166	0.00501
	(-0.70)	(0.56)	(0.28)
Age	0.000777	-0.0000889	0.000220
	(1.24)	(-0.13)	(0.42)
Hispanic	0.0368	-0.0209	-0.00311
	(1.35)	(-1.35)	(-0.22)
Black Non-Hispanic	0.0132	-0.0429	-0.0259
	(0.44)	(-1.60)	(-1.15)
Asian-Non-Hispanic	0.00910	0.0208	0.0194
	(0.24)	(0.85)	(0.80)
Other Non-Hispanic	0.0929*	-0.151	-0.101
	(2.56)	(-2.01)	(-1.58)
Total Children in the Family	-0.0171*	-0.00250	-0.00664
	(-2.42)	(-0.62)	(-2.00)
Log of Family Income	0.0303***	0.0376***	0.0329***
	(4.67)	(4.20)	(6.78)
Education	0.0597***	0.0286**	0.0390***
	(5.48)	(2.97)	(4.92)
State Unemployment Rate	-0.0142	-0.00912	-0.0106*
	(-1.33)	(-1.80)	(-2.54)
SINGLE MOM			0.0475***
			(5.30)
Constant	0.755***	0.518***	0.594***
	(8.06)	(5.27)	(9.44)
Year Fixed Effect	Y	Y	Y
State Fixed Effect	Y	Y	Y
N	2,203	4,389	6,589
Adjusted R^2	0.167	0.130	0.140

t statistics in parentheses; * p<0.05, ** p<0.01, *** p<0.001

Note: Dependent Variable in each regression model is "Employed" a Binary variable, equal to 1 if the individual is employed and 0 if individual is not employed. Linear Probability Model is estimated where our main variable of interest is the interaction term between CHIPRA (takes a value of 1 if the mother of immigrant lives in CHIPRA states) and POST (equal to 1 for each post treatment period).

Figure 2: Comparative Performance Across CHIPRA States

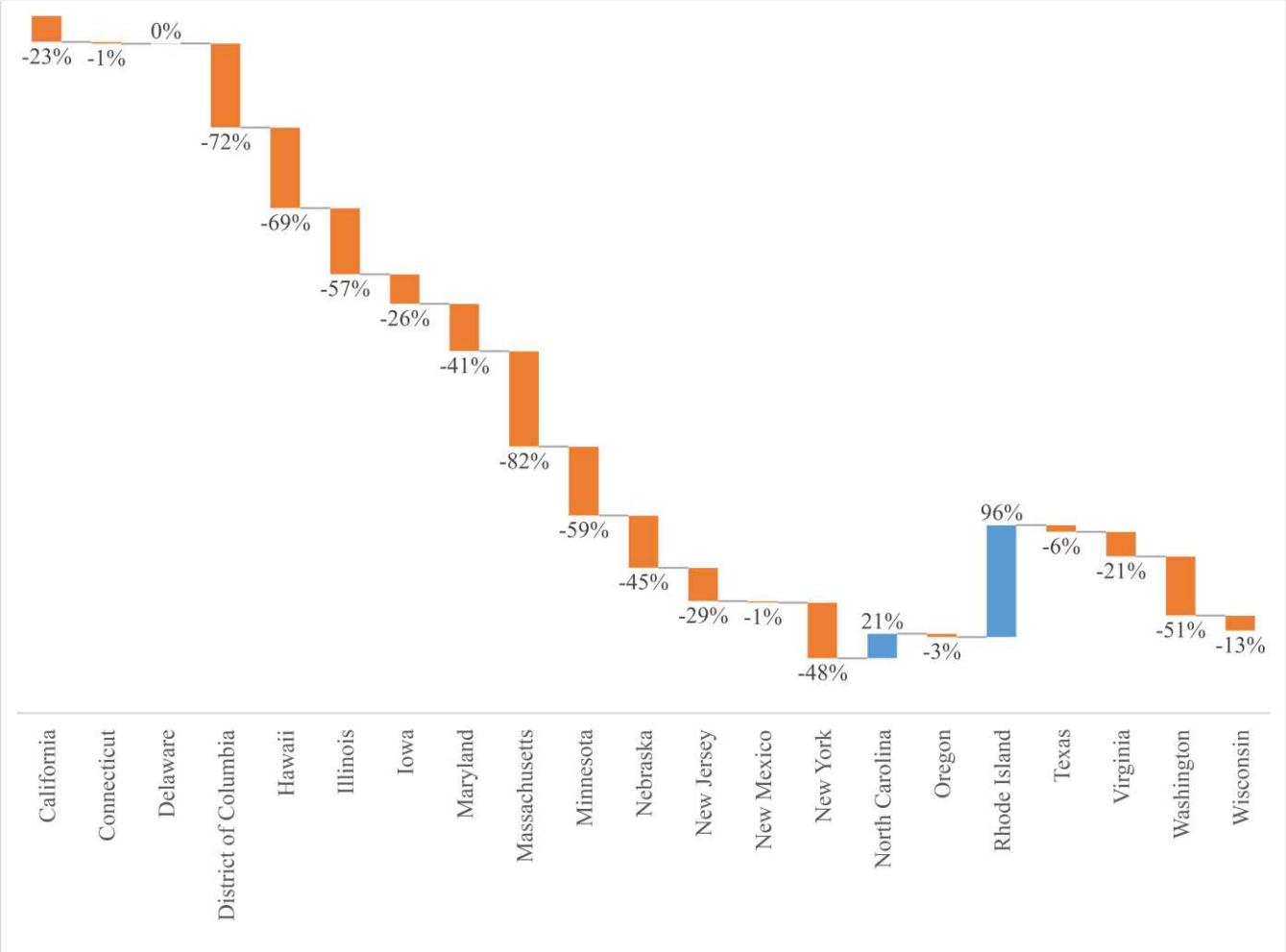

Figure 3: Uninsured Rate after CHIPRA across States

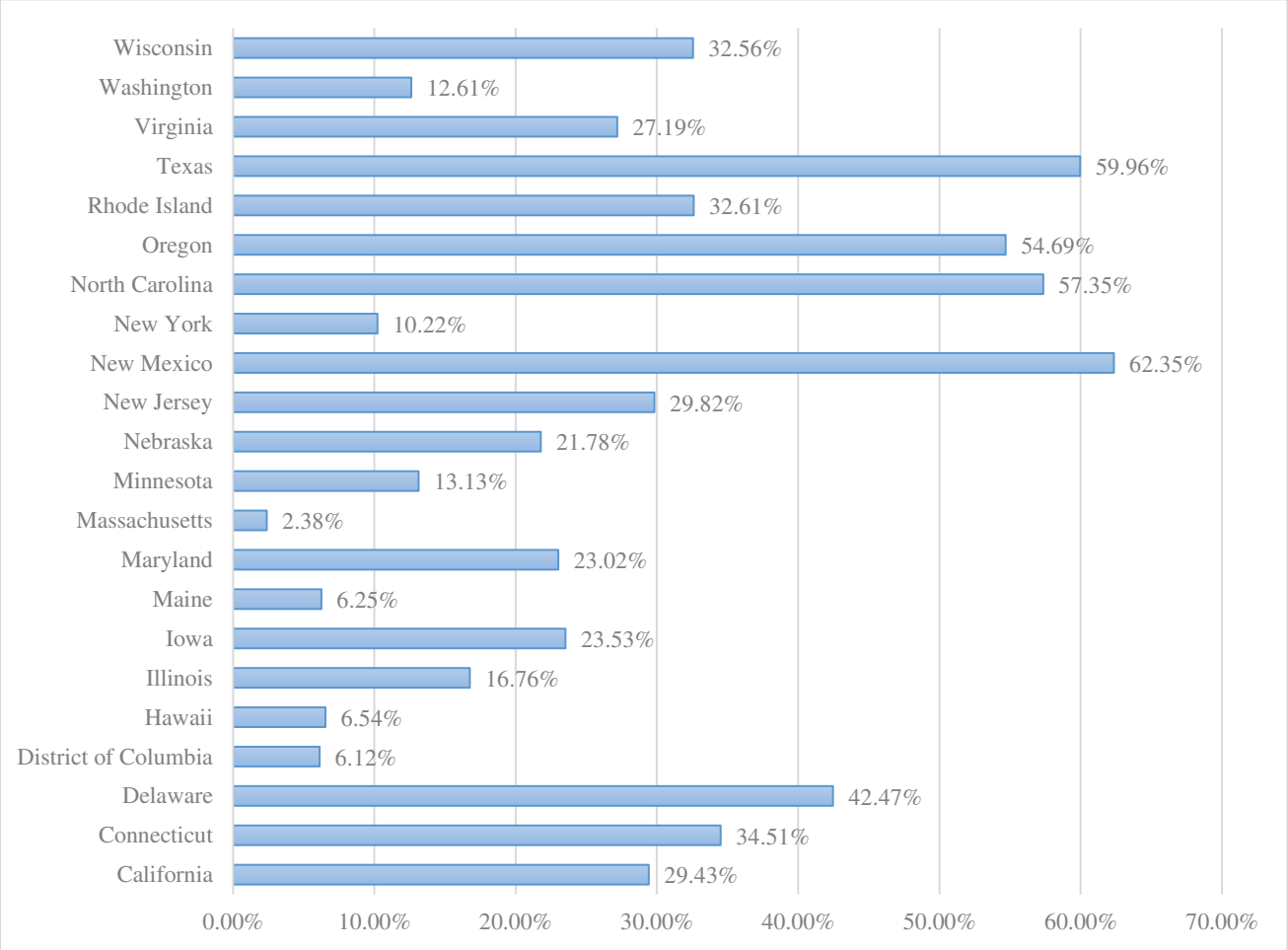

Table 9 : Variation in State Characteristics among CHIPRA States

	Presumptive Eligibility		Express Lane Eligibility for Children at Enrollment		12-Month Continuous Eligibility for Children		Premium/Enrollment Required		Income Eligibility for Children as a Percent of FPL	Share of Unauthorized Immigrants
	Medicaid	CHIP	Medicaid	CHIP	Medicaid	CHIP	Medicaid	CHIP		
California	Yes	N/A	No	N/A	Yes	N/A	Yes	N/A	250	27.42
Colorado	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	205	1.48
Connecticut	Yes	Yes	No	No	No	No	No	Yes	300	0.95
Delaware	No	No	No	No	No	Yes	No	Yes	200	0.21
District of Columbia	No	N/A	No	N/A	No	N/A	No	N/A	300	0.25
Hawaii	No	N/A	No	N/A	No	N/A	No	N/A	300	0.19
Illinois	Yes	Yes	No	No	Yes	Yes	No	Yes	200	4.71
Iowa	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	200	0.33
Maine	No	No	No	No	Yes	Yes	No	Yes	200	0.05
Maryland	No	N/A	No	N/A	No	N/A	Yes	N/A	300	2.30
Massachusetts	No	No	No	No	No	No	No	Yes	300	1.57
Minnesota	No	N/A	No	N/A	No	N/A	No	N/A	280	0.77
Montana	Yes	Yes	No	No	Yes	Yes	No	No	175	
New Jersey	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	350	4.52
New Mexico	Yes	N/A	No	N/A	Yes	N/A	No	N/A	235	0.62
New York	Yes	Yes	Yes	No	Yes	Yes	No	Yes	400	7.72
North Carolina	No	No	No	No	Yes	Yes	No	Yes	200	3.07
Oregon	No	No	No	No	Yes	Yes	No	No	185	1.05
Rhode Island	No	N/A	No	N/A	No	N/A	No	N/A	250	0.26
Texas	No	No	No	No	No	Yes	No	Yes	200	13.35
Virginia	No	No	No	No	No	No	No	No	200	2.47
Washington	No	No	No	No	Yes	Yes	No	Yes	250	1.99
Wisconsin	Yes	No	No	No	No	No	No	Yes	300	0.64

Source: Various Policy Notes published by KFF. Income Eligibility threshold is that of year 2009.

The share of undocumented immigrants across states is calculated from (Capps, Bachmeier, Fix, & Van Hook, 2013)