Laying Down the Welcome Mat: The Impact of the ACA Medicaid Expansion on Health Coverage for Previously Eligible Children*

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April 10, 2023

*The views presented are those of the author. This paper also uses data from the American Community Survey (ACS) and can be obtained directly from the Census Bureau File Transfer Protocol (FTP) site (https://www2.census.gov/programs-surveys/acs/data/pums/). I thank Timothy Halliday, Teresa Molina, Sang Hyop Lee, Ruben Juarez, Victoria Fan and participants at the UH Mānoa Applied Microeconomics Seminar for excellent comments and feedback that have contributed to the progress of this paper. I have not received any funding for this project. All errors are my own.

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Abstract

How effective was the Affordable Care Act (ACA) in enrolling children already eligible for Medicaid? Utilizing the American Community Survey (ACS) from 2012 to 2017, I adopt a difference-in-differences approach that measures the changes in public and private coverage for Medicaid and CHIP eligible children before and after the enactment of the ACA Medicaid expansion. I find that there are modest yet significant increases in public coverage for children who were previously eligible for Medicaid and CHIP prior to the expansion, providing evidence of a "welcome mat" effect. However, I see observe significant crowding out in employer-sponsored insurance for both previously eligible children and children who became newly eligible as a result of the new adjusted gross income (MAGI) thresholds established after 2014. My findings not only establish, under the ACA Medicaid expansion, clear evidence of a "welcome mat" effect for children across various age and income groups, but they may also suggest that parents favor fully subsidized public coverage over partially subsidized private insurance for their children.

Keywords: Medicaid, CHIP, ACA, Welcome Mat

JEL Classifications: I13, I38

1 Introduction

Medicaid and the Children's Health Insurance Program (CHIP) have been essential pathways for providing insurance to low-income children. With the introduction of CHIP as part of the Balanced Budget Act of 1997, states received federal funds to cover children and pregnant women who were uninsured but had incomes exceeding the existing thresholds set for Medicaid. Currently, the program provides health coverage to nearly 6.8 million individuals each month, with the majority of which are children (CMS 2021). Over the last few decades, Medicaid and CHIP have helped to significantly reduce the number of uninsured children by more than 60% (Dubay and Kenney 2018); however, nearly 6 in 10 uninsured children are eligible but are not currently enrolled (Haley et al. 2021).

The reduction in the number of uninsured children was attributed to the establishment of the Affordable Care Act (ACA) in 2010 that brought upon the largest reform of the United States healthcare system since the introduction of Medicaid and Medicare in 1965 (Georgetown University Center for Children and Families 2017). Arguably, the most significant component was the state-elected expansion of Medicaid to low-income adults. The expansion has resulted in significant and greater reductions in the rates of the number of uninsured residing in states that expanded Medicaid, relative to states that elected not to participate in the expansion (Courtemanche et al. 2017; Decker et al. 2017 ; Kaestner et al. 2017; Miller and Wherry 2017; Simon et al. 2017; Sommers et al. 2015; Wherry and Miller 2016).[1]

While the ACA expanded Medicaid eligibility for both parents and childless adults, increases for children were limited because Medicaid and CHIP eligibility were already generous prior to the ACA's implementation. This was largely a result of the maintenance of eligibility (MOE) provision that prohibited states from restricting children's eligibility limits and enrollment procedures.[2] Therefore, many of the children who enrolled in Medicaid after the expansion did so while being already eligible. This phenomenon, dubbed the "welcome mat" effect, involves gains in public coverage among people who were already eligible for Medicaid and CHIP. (Frean et al. 2017; Hudson and Moriya 2017). The "welcome mat" effect could be explained by a number of factors unrelated to the change in Medicaid and CHIP eligibility thresholds for children. The ACA's outreach and enrollment strategies promoted affordable options in insurance programs, informed families about penalties for failing to meet insurance coverage mandates, and reduced administrative barriers to enrollment. Other features of the ACA that assisted in improving eligibility determination for Medicaid include, but are not limited to, the reduction or elimination of waiting periods; real-time

[1] These estimates range between 2 to 15 percentage points in the literature for low-income adults (Courtemanche et al. 2017; Duggan et al. 2019; Frean et al. 2017; Leung and Mas 2018; Simon et al. 2017; Wherry and Miller 2016).

[2] This no longer applies to children with incomes above 300% FPL as of October 2019.

eligibility determination; adopting uniform measures in counting income; and shifting to modernized, technology-driven approaches for enrollment and renewal procedures. These co-occurring characteristics may have increased Medicaid coverage for children, in spite of that this group was not the primary target of the ACA Medicaid expansion.

In this paper, I estimate the impact of the 2014 ACA Medicaid expansion on health coverage for children who were eligible for Medicaid and CHIP prior to the expansion. I utilize national-level data from the American Community Survey (ACS) from 2012 to 2017, and adopt a difference-in-differences strategy that measures the changes in children's eligibility for Medicaid and CHIP on children's health coverage before and after the ACA Medicaid expansion. I construct children's' eligibility rates for Medicaid and CHIP using the state-age Modified Adjusted Gross Income (MAGI) thresholds available from the Kaiser Family Foundation (KFF).

I find a modest but statistically significant "welcome mat" effect ranging between 1.3 and 3.5 percentage points in public coverage for children who were previously eligible for Medicaid and CHIP. This is important given that a significant portion of my sample was already eligible for Medicaid and CHIP when states expanded Medicaid. Additionally, I find that there were significant increases in public coverage ranging between 1.8 and 7.9 percentage points for children who became eligible for Medicaid and CHIP after the expansion took place. Both sets of coefficients are robust with various specification checks, such as excluding states that expanded early and including controls for eligibility for premium subsidies in non-expansion states. When introducing a triple difference specification across states, time and expansion status, I find that increases for public coverage for both previous and newly eligible children are stronger in expansion states compared to non-expansion states. This potentially highlights the effectiveness in outreach and enrollment strategies in states that expanded Medicaid to adults.

I find significant evidence of crowd-out of private insurance, mainly employer sponsored insurance (ESI), for both the previously eligible and newly eligible children. This finding is interesting as one study that estimated the "welcome mat" effect for primarily adult populations found no evidence of crowding out (Frean et al. 2017). My findings are comparable to those from earlier studies that found crowd-out rates for low-income adults ranged from 23 to 33 percent as a result of the ACA expansion (Courtemanche et al., 2017; Kaestner et al., 2017). However, it is important to note that these estimates were statistically insignificant and, therefore, cannot be established as conclusive evidence of crowd-out. Given that much of the literature has found negligible effects of the ACA expansion on labor supply (Duggan et al., 2019; Garrett et al., 2017; Gooptu et al., 2016; Kaestner et al., 2017; Leung and Mas, 2018; Moriya et al., 2016), it is unlikely that crowd-out from employer sponsored insurance could likely be attributed to job leave. Instead, my findings could suggest that parents could prefer fully subsidized and comprehensive public coverage over limited and costly private coverage for their children.

Most studies that have examined the impacts of the ACA expansion on health coverage did not attempt to measure the "welcome mat" effect, as there are complexities associated with measuring income against Medicaid eligibility thresholds (Currie and Gruber 1996a; Currie and Gruber 1996b). Frean et al. (2017) measured the "welcome" effect concurrently with other ACA policy measures, such as the individual mandate and premium subsidies, for all individuals between zero and 64 years old. They found that the ACA led to significant decreases in the uninsured rate, with 29% of the decreases occurring among previously eligible individuals. However, they do not separately estimate the "welcome mat" effect for children, which is the main focus of this paper. Hudson and Moriya (2017) estimated the "welcome mat" effect for children, but utilized the parents' eligibility rates. They discovered evidence of the "welcome mat" impact among children whose parents had previously been eligible for Medicaid. However, parents' eligibility thresholds are much lower than those for children and, therefore, could understate the "welcome mat" effect for children. Furthermore, they excluded thresholds for separate CHIP and limited their sample to those below 138% FPL, both of which could significantly reduce the fraction of children eligible for Medicaid and CHIP. Lastly, they did not find any evidence of crowd-out for this population.

While it is clear that children's health coverage has improved, the mechanisms underlying this are not yet clear. This paper makes several contributions to this. First, this paper estimates the "welcome mat" effect strictly for children by using children's eligibility using their state-age MAGI thresholds and those for separate CHIP. Second, this study is the first to establish statistically significant estimates of the crowding-out of private insurance under the ACA's Medicaid expansion for children. Third, this paper is the first to document the heterogeneous "welcome mat" effects across race and ethnicity and by states' expansion status. Lastly, to the best of my knowledge, this is the first study to show statistically significant crowding out of private insurance for children in the context of the ACA Medicaid expansion.

The paper proceeds as follows. Section 2 provides background on the provisions of the ACA and its effects on Medicaid and CHIP. Section 3 describes my data and eligibility measurements. Section 4 provides my empirical methodology. Section 5 presents my findings. Section 6 discusses the implications and interpretations of my results. Section 7 concludes.

2 Background

The Children's Health Insurance Program (CHIP) was introduced under the Balanced Budget Act of 1997 and serves as an essential source of health insurance for children, covering millions of children each month. CHIP is a federal-state partnership that provides health coverage to uninsured children in families with incomes too high to qualify for Medicaid but too low to afford private

coverage. The financing model for CHIP includes enhanced federal support, where states receive federal matching funds based on the Medicaid formula for all children qualifying for CHIP (even if they are already covered by their Medicaid program). However, the degree of federal participation is greater than for Medicaid. Lastly, state governments can design their CHIP program in one of three ways: (1) a separate CHIP program, (2) through their Medicaid program, or (3) a combination of both.

Much of the growth in Medicaid and CHIP during recent years can be attributed to the policies introduced in the 2010 Affordable Care Act (ACA). The ACA was created for the purpose of achieving nearly universal coverage in the United States by introducing mandates, subsidizing premiums for private insurance purchases, expanding Medicaid, and reforming insurance markets and health insurance changes (Gruber 2011). Originally, the ACA proposed to expand Medicaid nationwide to all individuals with incomes below 138% of the federal poverty line (FPL), but was rejected by the Supreme Court in 2012.[3] However, in 2012, the Supreme Court ruled that states could voluntarily elect to participate in the expansion instead of being subjected to a mandate. Consequently, twenty-five states (including DC) adopted the Medicaid expansion on January 1st, 2014, with seven additional states following between 2014 and 2017. I map each state's expansion status from 2014–2017 in Figure 1. This resulted in the average eligibility threshold rate for all childless adults in expansion states increasing from 30% FPL in 2013 to 138% in 2014. However, compared to adults, the eligibility thresholds for children were relatively robust before and after the expansion. Since 2014, the median income eligibility level for CHIP has been roughly 255% of the FPL (Brooks et al. 2021).[4] Furthermore, as illustrated in Figure 2, there are minor differences in children's eligibility status based on states' expansion status across income levels.

In addition to expanding Medicaid, the ACA implemented an array of measures that could've potentially affected children's' enrollment into Medicaid and CHIP. First, the ACA redefined how financial eligibility is determined in Medicaid for non-disabled groups with the introduction of the Modified Adjusted Gross Income (MAGI) system. MAGI is calculated by applying various deductions to adjusted gross income (AGI). Moreover, the ACA required states to convert their eligibility criteria prior to its enactment to MAGI equivalent levels. This reduced the complexity in income-counting methods that were used prior to the ACA in determining eligibility across states (Brooks et al. 2021). The ACA also introduced the maintenance of effort (MOE) provision that required states to maintain Medicaid and CHIP income eligibility standards, preserve enrollment policies, and prohibit increases in premiums.[5] Together with the ACA Medicaid expansion, the

[3]The statutory cutoff for Medicaid eligibility in expansion states is 133% of the FPL, but the ACA requires states to apply a standard income disregard equivalent to 5% of the FPL, essentially raising the eligibility threshold to 138% of the FPL.

[4]The appendix provides several maps that summarize the changes in the eligibility thresholds before and after the expansion for several age groups and separate CHIP.

[5]This requirement was modified in 2018 under the Healthy Kids Act and only applies to families with

MOE provision greatly reduced uninsured rates for children to their lowest points (Georgetown University Center for Children and Families 2017).

3 Data

I utilize the American Community Survey (ACS) as the primary data source in my study. The American Community Survey (ACS), which the United States Census Bureau conducts every month, is the largest household survey in the nation, surveying almost 3 million people annually, or over 92 percent of the country's population. The ACS includes information on health insurance coverage, measures of poverty and income, individual demographics, employment and geographic location. Since the ACS is mandatory, issues arising from sample selection are less likely to occur. The survey identifies all 50 states (including DC) along with localities, or Public Use Microdata Areas (PUMAs). PUMAS are made up of approximately 2300 mutually exclusive areas, each with at least 100,000 people. Given that the implementation of the ACA Medicaid occurred mainly in 2014, I would ideally sample the data from 2010 to 2017 to construct a balanced panel. As the PUMA boundaries were revised using the Decennial Census after 2011, I am, however, unable to use data gathered before 2012. Therefore, my study samples the ACS from 2012 to 2017.

Given my focus on children, I restrict my sample to those ages 18 and under with at least one biological parent present and living in the same household. I exclude married minors, children with Medicare coverage, and non-U.S. citizens.[6] The ACS also identifies household members by disability status (hearing difficulties, physical difficulties, etc.). Due to the complexities of determining eligibility for this population, I also exclude them from the analysis. One study that estimated the "welcome mat" effect for children limited their sample to families with incomes below 138% of the FPL (Hudson and Moriya 2017). However, imposing this restriction would eliminate those eligible for separate CHIP programs at higher income levels. Therefore, I do not impose any income restrictions in my sample.

The ACS asks each respondent if they are covered by any of the following categories of health insurance: Medicaid, Medicare, employer-sponsored, non-group private, TRICARE or other military health care, Medical Assistance, government assistance programs for low-income or disabled individuals, or any unspecified. This allowed me to categorize health coverage into the following types: public (Medicaid), employer sponsored, non-group private, or uninsured, which serve as the variables of interest in this study. Although the Census uses the ACS as a reliable source to

incomes of less than 300% of the FPL.

[6]Non-US citizens are ineligible for Medicaid unless they meet the requirement of waiting at least 5 years to receive "qualified" immigration status before becoming eligible. Exemptions exist for some groups (refugees, asylees, and lawfully permanent residents who were formally refugees or asylees).

determine how many Americans have health insurance, it does have its limitations for determining Medicaid eligibility because it only asks respondents if they have ever received "Medicaid, Medical Assistance, or any type of government-assistance plan for low-income individuals or individuals with disabilities." This presents a potential issue, as respondents may misreport private coverage as public coverage and vice versa.[7]

I divide Medicaid and CHIP-eligible children into two mutually exclusive groups: those who were "previously eligible" and those who were "newly eligible". The first group is comprised of children who were eligible for Medicaid and CHIP prior to the 2014 ACA expansion. These children define the "welcome mat" population that may have enrolled due to reductions in administrative barriers, the individual mandate, outreach efforts and other provisions under the ACA (Aizer 2007). Identifying the take-up of Medicaid and CHIP is important for this population given that the income-related eligibility requirements for Medicaid and CHIP were relatively robust between 2012 and 2017. Therefore, any increases observed for this group would reflect the effectiveness of the policies or actions under the ACA that were unrelated to expanding income generosity in existing state programs. The newly eligible population represents children who became eligible under the new Medicaid and CHIP income thresholds set by the state after the 2014 ACA Medicaid expansion took place.

To measure eligibility status, I use ratios of family income to poverty thresholds for households provided in the ACS. The ACS calculates poverty status as a ratio of family income to the poverty threshold set based on family size and the number of related children under 18.[8] For example, the poverty threshold in 2015 for a 3-person family with one child under 18 was $19,708. Suppose the family's income for that year was $40,000. The family's poverty level is thus calculated to be roughly 2.03 or 203 percent above the federal poverty line (FPL). The thresholds are provided by the Current Population Survey (CPS), vary across years, and are set separately for Alaska and Hawai'i.

The Medicaid eligibility rates were constructed based on a set of MAGI-converted thresholds based on state and age obtained by the Centers for Medicare and Medicaid Services (CMS) and the Kaiser Family Foundation (KFF). I standardize the eligibility determinations using the 2013 state MAGI-converted thresholds for age group and separate CHIP.[9] I define a child in a given age group and state to be previously eligible for Medicaid and CHIP if their family income, measured as a percentage of the FPL, is below the state-age MAGI-converted threshold set before the 2014 ACA

[7] Mach and O'Hara (2011) found that the ACS typically overestimates non-group private coverage compared to other data sources.

[8] Measures not considered when calculating family income include non-cash benefits (e.g. food stamps and housing subsidies), capital gains or losses, and tax credits.

[9] I applied the ACA's statutory 5% income disregard to all MAGI-converted thresholds. As a robustness check, I standardized the thresholds using 2012 state MAGI-converted thresholds and found this to have negligible impact on my results.

Medicaid expansion. Similarly, I define a child to be newly eligible for Medicaid and CHIP if their family income, reported in the ACS and measured as a percentage of the FPL, is below the state-age MAGI-converted threshold set in either 2014, 2015, 2016 or 2017, but above the thresholds set prior to the expansion.[10,11]

3.1 Summary Statistics

Table 1 presents the summary statistics of the mutually exclusive eligibility measures and stratified by race and ethnicity. The sample statistics are weighted using ACS weights. Approximately 42% of children were eligible for Medicaid and CHIP prior to the expansion, with rates decreasing over time. This represents a growth in family income as most states either maintained or increased their MAGI-converted threshold limits. Following the expansion, approximately 9.6-10.2% of children became eligible for Medicaid and CHIP, depending on the year.[12] White children were significantly less likely than other racial/ethnic groups to be eligible for Medicaid and CHIP both before and after the expansion.

Table 2 shows the time trends in health coverage by race and ethnicity from 2012 to 2017. Public coverage grew steadily at a net increase of 2.2% in 2016, but fell in 2017. Up to 2016, gains in public coverage for Black and Hispanic children outpaced those for White children, with the former facing greater losses in 2017. Across race and ethnicity, declines in uninsured rates were greatest for Hispanic children (3.9%) and fewer for Black children (1.4%), and White children (1.2%). In aggregate, there were net decreases in uninsured rates of 1% in 2014, 2.1% in 2015, 2.4% in 2016, and 2.1% in 2017, compared to the 2012-2013 period. In 2017, there were trends of declining public insurance and rising uninsurance rates. This pattern is consistent with a previous report that documented the increases in the uninsured rate for children starting in 2017 (Alker and Corcoran, 2020).

[10]There are very few instances where a state's MAGI-converted threshold after the expansion becomes less generous than what it set prior to the expansion. An example of this is Arkansas, where the threshold for children ages 6-18 in 2016 was 147%, but 200% in 2013. As a robustness check, I omitted states where this occurs and found that this had little to no impact on my results.

[11]There are a few limitations concerning eligibility that are worth noting. First, one study argued that the income distribution across state-areas may be related to private insurance premiums, Medicaid expansion, and unobserved factors correlated with family income and preferences for insurance (Frean et al. 2017). Furthermore, they stated that the mapping of income reported by the ACS onto ACS-related eligibility is imprecise and biased toward the null. They addressed these issues by using a simulated measure of eligibility proposed in Currie and Gruber (1996a) and Currie and Gruber (1996b) as an instrument for Medicaid eligibility. Their results did not significantly differ from what was reported as the main result. Therefore, this provides some reassurance as this study adopts an empirical framework similar to theirs.

[12]In figures A1, A2, A3 and A4 of the appendix, I map out the changes in MAGI thresholds rates by state, age group, and program from 2013 to 2017.

4 Empirical Methodology

I adopt a difference in differences (DD) framework similar to Frean et al. (2017) that leverages the repeated cross-sectional design of the ACS. I estimate changes in health insurance coverage that resulted from changes in Medicaid and CHIP eligibility under the ACA Medicaid expansion. Given that the policies under the ACA may have evolved over time, I use 2012-2013 as the pre-ACA baseline period and estimate the policy effects separately for 2014, 2015, 2016, and 2017. I estimate the following model:

$$\begin{aligned} Y_{iat} = \beta_0 + \beta_1 PreviouslyEligible_{ia} \\ +\beta_2 NewlyEligible2014_{ia} + \beta_3 NewlyEligible2015_{ia} \\ +\beta_4 NewlyEligible2016_{ia} + \beta_5 NewlyEligible2017_{ia} \\ +\beta_6 PreviouslyEligible_{ia} * \theta_{2014} + \beta_7 PreviouslyEligible_{ia} * \theta_{2015} \\ +\beta_8 PreviouslyEligible_{ia} * \theta_{2016} + \beta_9 PreviouslyEligible_{ia} * \theta_{2017} \\ +\beta_{10} NewlyEligible2014_{ia} * \theta_{2014} + \beta_{11} NewlyEligible2015_{ia} * \theta_{2015} \\ +\beta_{12} NewlyEligible2016_{ia} * \theta_{2016} + \beta_{13} NewlyEligible2017_{ia} * \theta_{2017} \\ +\beta_x X_{iat} + \theta_t + \gamma_a + \omega_{ia} + \epsilon_{iat} \end{aligned} \tag{1}$$

where Y_{iat} is a binary indicator for either: Medicaid and CHIP, employer sponsored, non-group private, or no health coverage. The term $PreviouslyEligible_{ia}$ equals to 1 if child i observed in year t was eligible for Medicaid and CHIP under the 2013 age-year MAGI-converted thresholds set in PUMA a, and 0 otherwise. There are four eligibility parameters that indicate whether child i was newly eligible for Medicaid and CHIP under the age-year MAGI-converted thresholds set in PUMA a in year t. The term $NewlyEligible2014_{ia}$ equals 1 if child i observed in year t was eligible for Medicaid and CHIP under the 2014 age-year MAGI-converted thresholds set in PUMA a, but ineligible according to the 2013 MAGI-converted thresholds, and 0 otherwise. I define the remaining parameters for 2015 to 2017 in the same fashion. The coefficients β_1 through β_5 capture the policy parameters' baseline or pre-ACA effects. Each of the policy parameters is interacted with a post-ACA year fixed effect and captures the policy impacts of the ACA Medicaid expansion on health coverage for each year after the expansion took place. Therefore, β_6 through β_{13} serves as the main coefficients of interest.

The term X_{ijt} is a vector containing demographic characteristics of the mother: age, educational attainment, work status, marital status, disability status, number of children, and the child: gender, income group, age, and race and ethnicity.[13] I also include indicators for whether the child's

[13] I stratified the income into the following groups: 0-50% FPL, 50-100% FPL, 100-138% FPL, 138-200% FPL, 200-250% FPL, 250-300% FPL, 300-350% FPL, 350-400% FPL, 400-450% FPL, 450-500% FPL, and

father is present and control for the father's work status. I include year, θ_t, and PUMA, γ_a, fixed effects into the regression. Additionally, I adjust the model using annual county-level unemployment rates directly from the Bureau of Labor Statistics. I denote ϵ_{iat} as a random error term. All standards errors are clustered at the PUMA-level to account to serial correlation (Bertrand et al., 2004).

5 Results

5.1 Estimating the Welcome Mat Effect

In Table 3, I estimate the difference-in-differences model outlined in equation (1) to measure the effects of the ACA's increases in Medicaid and CHIP eligibility on various categories of health coverage for children. The summary statistics for the demographic controls can be found in Table (A1) of the appendix. The results reveal a significant positive relationship between public coverage and all eligibility measures. The coefficients show that the ACA expansion led to both modest and significant increases of roughly 1.3 (2014), 2.6 (2015), 3.1 (2016), and 3.5 (2017) percentage points in public coverage for children who were eligible for Medicaid and CHIP prior to the expansion. This provides evidence of a "welcome mat" effect that is steadily increasing over time, with the effect doubling from 2014 to 2015, but flattening in 2017. This suggests that non-income related features of the ACA may have been effective in driving the "welcome mat" effect.

My results exhibit trends similar to Frean et al. (2017), but at a smaller magnitude, with the authors modeling for all individuals between 0-64 years old and including multiple policy variables such as coverage mandates and private insurance subsidies. Additionally, Hudson and Moriya (2017) found that the "welcome mat" effect was decreasing over time, where the opposite occurs in my findings. This demonstrates that modeling children's eligibility after those for parents presents a new perspective on the "welcome mat" effects of children's enrollment in Medicaid.[14] The next set of coefficients measures the impact on health coverage of children who became eligible for Medicaid and CHIP under the ACA expansion. The coefficients show that the ACA expansion led to statistically significant increases of roughly 1.8 (2014), 5.2 (2015), 7.9 (2016), and 7.3 (2017) percentage points in public coverage for children who became newly eligible for Medicaid and CHIP after 2014. These patterns are consistent with Table 2, where public coverage increased between

greater than 500% FPL.

[14]It is important to note the authors restricted their sample to children whose family incomes were below 138% of the FPL and did not model for CHIP. This approach is infeasible in my analysis as the MAGI-converted income thresholds for children are well above 138%, preventing me from differentiating between those who were previously eligible and newly eligible for Medicaid and CHIP.

2014 to 2016, but decreased in 2017.

Using the eligibility means from Table 1 and the coefficients from Table 3, I estimate that in 2014, the ACA Medicaid expansion to the portion of those eligible prior to the expansion (41.1%) led to an increase in public coverage of 0.54 percentage points.[15] The effects of the expansion to the newly eligible population (8.1%) led to an increase of 0.17 percentage points in public coverage. These amounts sum to a 0.71 percentage increase in public coverage in 2014. The total increases in public coverage sum up to 1.55 percentage points in 2015, 2.0 percentage points in 2016, and 2.05 percentage points in 2017. In 2014, 76 percent of the public coverage gains may be attributed to the "welcome mat," compared to 67 percent in 2015, 60 percent in 2016, and 63 percent in 2017. These estimates suggest that the increasing enrollment of children in Medicaid and CHIP following the ACA Medicaid expansion was mostly credited to the "welcome mat" effect, even as more children acquired eligibility for the programs.

Starting in 2015, I observed small but significant estimates of crowd-out in employer sponsored insurance for both the previously eligible and newly eligible population. This is an important finding as it presents new evidence of private insurance crowd-out introduced in the ACA and has not been conclusively established in the literature for children. Sommers et al. (2015) leveraged the variation of early expansions across counties in California and found no evidence of crowd-out among already eligible children. However, their sample was limited to 2014, when crowd-out only occurred in 2015 in my results. Frean et al. (2017) found no crowd-out in their results when leveraging the variation in MAGI thresholds across households and age groups. However, it is important to note that the authors incorporated other policy elements of the ACA into their analysis, such as subsidies for non-group private insurance and tax penalties under the individual mandate. Additionally, they did not extend their sample past 2015 or restrict their analysis exclusively to children. Hamersma et al. (2019) modeled children's eligibility after that for parents and found some evidence of crowd-out, but only for some persistently disadvantaged subgroups. Other studies have documented some degree of crowd-out in private insurance but used states' expansion status instead of MAGI thresholds as a proxy for eligibility into Medicaid and did not limit their focus to children (Courtemanche et al., 2017; Kaestner et al., 2017 and Duggan et al., 2019). Most importantly, only Duggan et al. (2019) found statistically significantly effects. Therefore, the main contribution of my results not only establishes evidence of crowd-out of private insurance for children, but it also adds to the limited findings that were documented in the context of the ACA Medicaid expansion.

My findings for private insurance support a 2013 report that predicted enrollment in employer-sponsored insurance would decrease as a result of the ACA (Gallen and Mulligan 2013). However, it is uncertain whether the crowding out of employer-sponsored insurance can be attributed to

[15]This is derived by multiplying the percentage of the previously eligible population in 2014 in Table 1 with its corresponding coefficient from Table 3, i.e., 0.013 * 41.1 = 0.54.

job leave. Past literature has been inconclusive in finding any causal effects of the ACA Medicaid expansion on labor supply (Duggan et al., 2019; Garrett et al., 2017; Gooptu et al., 2016; Kaestner et al., 2017; Leung and Mas, 2018; Moriya et al., 2016). Other studies found that in response to employer mandates, some employers opted out of providing health insurance to part-time workers, forcing employees to obtain coverage through other means (Batkins et al. 2014 and Mulligan 2020). My findings could suggest that parents, especially in low-income households, may prefer fully subsidized and comprehensive public coverage for their children over restrictive and costly private coverage. This is plausible given the significant costs parents‘ incur when investing in their children's health care.[16] However, more research in this area is needed because this paper makes no attempt to support this argument.

5.2 Heterogeneous Effects by Race and Ethnicity

Seeing that several studies have documented racial and ethnic disparities in acquiring public coverage, I estimate equation (1) by race and ethnicity and report my results in Table 4.[17] Overall there was a strong "welcome mat" effect for White children as public coverage increased by 1.7 to 5.3 percentage points, depending on the year. The "welcome mat" effect Black children was insignificant and close to zero, suggesting that Black children were more likely than White children to have already been enrolled in Medicaid prior to the expansion. This is consistent with Table 2 showing that public coverage is significantly higher for Black children compared to White children. An alternative explanation is that that the poverty rate for Black households is nearly three times higher than the poverty rate observed for White households (DeNavas-Walt et al., 2013), making it easier for Black children to enroll prior to the expansion. I observed a small but significant "welcome mat" effect in public coverage for Hispanic children, but only for 2015. This supports previous studies have cited barriers relating to fear, confusion, and language related to the process of applying for health coverage and disproportionately affecting the Hispanic population (Stuber et al., 2000) and (Kaiser Family Foundation, 2021).

Of those who were previously eligible for Medicaid/CHIP, White children exhibited statistically significant crowding out in private insurance in 2016 and 2017, while Black and Hispanic children displayed minimal and statistically insignificant impacts. Among children who became newly eligible for Medicaid/CHIP after the expansion, gains in public coverage for Black and Hispanic children exceeded those for White children in 2014 and 2015. However, this pattern reverses starting in 2016. This is consistent with the health coverage trends outlined in Table 2, where

[16] According to a 2015 report from the United States Department of Agriculture, roughly 9% of expenses for children between ages 0 and 17 went to health care (Lino et al. 2017). Additionally, the report found that the average cost of raising a child from birth to age 17 was $233,610 (in 2015 dollars).

[17] For a more extensive review of the literature, see Medicaid et al. (2021).

public coverage gains were greatest for Hispanic and Black children from 2012 to 2015, but then experienced greater decreases relative to White children. However, although public coverage gains amongst the newly eligible population were strong for White children, the net losses in uninsured rate were significant and stronger for Black and Hispanic children, providing evidence that the ACA did assist in reducing racial disparities in health coverage for newly eligible children.

5.3 Welcome Mat Effects by State Expansion Status

Figure 2 demonstrates that across a range of income levels, children were generally more eligible for Medicaid and CHIP in expansion states than in non-expansion states. It is possible that efforts in outreach and the implementation of enrollment strategies were more effectively made in states that participated in the Medicaid expansion versus states that did not. This would spur greater increases in public coverage among previously eligible children, thus resulting in higher incidences of the "welcome mat" effect. Additionally, it is possible that parents could be indcued to enroll their children into Medicaid and CHIP once they themselves became eligible from the ACA expansion that effective in expansion states. To test this, I employ a triple difference model that exploits the variation across eligibility status, year, and states' expansion status on health coverage. I estimate the following model:

$$
\begin{aligned}
Y_{iat} = \beta_0 + \beta_1 Expand_{ia} + \beta_2 PreviouslyEligible_{ia} \\
+\beta_3 NewlyEligible2014_{ia} + \beta_4 NewlyEligible2015_{ia} \\
+\beta_5 NewlyEligible2016_{ia} + \beta_6 NewlyEligible2017_{ia} \\
+\beta_7 PreviouslyEligible_{ia} * Expand_{ia} \\
+\beta_8 NewlyEligible2014_{ia} * Expand_{ia} + \beta_9 NewlyEligible2015_{ia} * Expand_{ia} \\
+\beta_{10} NewlyEligible2016_{ia} * Expand_{ia} + \beta_{11} NewlyEligible2017_{ia} * Expand_{ia} \\
+\beta_{12} PreviouslyEligible_{ia} * \theta_{2014} + \beta_{13} PreviouslyEligible_{ia} * \theta_{2015} \\
+\beta_{14} PreviouslyEligible_{ia} * \theta_{2016} + \beta_{15} PreviouslyEligible_{ia} * \theta_{2017} \\
+\beta_{16} NewlyEligible2014_{ia} * \theta_{2014} + \beta_{17} NewlyEligible2015_{ia} * \theta_{2015} \\
+\beta_{18} NewlyEligible2016_{ia} * \theta_{2016} + \beta_{19} NewlyEligible2017_{ia} * \theta_{2017} \\
+\beta_{20} PreviouslyEligible_{ia} * \theta_{2014} * Expand_{ia} + \beta_{21} PreviouslyEligible_{ia} * \theta_{2015} * Expand_{ia} \\
+\beta_{22} PreviouslyEligible_{ia} * \theta_{2016} * Expand_{ia} + \beta_{23} PreviouslyEligible_{ia} * \theta_{2017} * Expand_{ia} \\
+\beta_{24} NewlyEligible2014_{ia} * \theta_{2014} * Expand_{ia} + \beta_{25} NewlyEligible2015_{ia} * \theta_{2015} * Expand_{ia} \\
+\beta_{26} NewlyEligible2016_{ia} * \theta_{2016} * Expand_{ia} + \beta_{27} NewlyEligible2017_{ia} * \theta_{2017} * Expand_{ia} \\
+\beta_x X_{iat} + \theta_t + \gamma_a + \omega_{ia} + \epsilon_{iat}
\end{aligned}
\tag{4}
$$

where $Expand_{ia}$ is a treatment variable that equals 1 if individual i resided in a state containing PUMA a that expanded Medicaid at time t, and 0 otherwise. As some states expanded later in the year or in succeeding years, this term is activated the year after it was adopted. Therefore, $Expand_{ia}$ reflects the variation in the timing of states' decisions to expand Medicaid eligibility. I define a state to have expanded in the current year if they have done so on or prior to July 1st[18]

In Table 5, I observe that for all years, the "welcome mat" effect is more pronounced in expansion states than in non-expansion states. From 2015 to 2017, I observe significant and positive increases in public coverage for the newly eligible population in expansion states compared to non-expansion states. This demonstrates that while Medicaid enrollment was somewhat delayed in the first year of the ACA's Medicaid expansion, the policies under the ACA were more successful at enrolling children in Medicaid who had previously been eligible and who resided expansion states.

I find significant crowding-out in ESI coverage for expansion states vs. non-expansion states in the previous eligible population. However, in the same population, changes in the uninsured rate are small and insignificant, except in 2014, where the estimate is negligible. These estimates suggests that rather than acquiring brand new coverage, parents are dropping private insurance in favor of Medicaid for their children. This supports the notion that parents prefer fully subsidized public insurance over costly private insurance for their children, as it would considerably help families with lower incomes. Lastly, I find significant decreases in non-group private insurance for new eligible children by state expansion status. However, this result is bolstered by the fact that residents of non-expansion states were given access to subsidies for private insurance purchased in the ACA Marketplace. Therefore, I do not attribute this effect as crowding-out.

6 Robustness Checks

6.1 Early Expansion States

Before the ACA Medicaid expansion was implemented, there were six states (CA, CT, DC, MN, NJ, and WA) that expanded public coverage prior to 2014, between 2011 and 2013. The early expansion of Medicaid in these states was mainly targeted towards low-income childless adults and parents, but had little to no impact on children's MAGI-converted thresholds. However, it is possible that parents who qualified for Medicaid prior to the expansion may have been motivated to enroll their children as well. In the literature, it has been demonstrated that parental eligibility

[18]There are 6 states: AK, IN, LA, MT, NH and PA that expanded Medicaid after July 1st, 2014. I define states PA (January 1, 2015), IN (February 1, 2015), and NH (August 15, 2014) to have expanded in 2015. I define the remaining states AK (September 1, 2015), MT (January 1, 2016), and LA (July 1, 2016) as having expanded in 2016.

and child health care utilization are positively correlated. One study found that when parents became ineligible for Medicaid, there was a significant decline in inpatient use and ER visits for their children despite them still qualifying for Medicaid (Halliday and Akee 2020).

Therefore, I follow Frean et al. (2017) and Kaestner et al. (2017) by sorting these states into a mutually exclusive category called $EarlyExpansionEligible_{ia}$. I modify equation (3) and redefine my model below

$$\begin{aligned} Y_{iat} = \beta_0 + \beta_1 PreviouslyEligible_{ia} + \beta_2 EarlyExpansionEligible_{ia} \\ +\beta_3 NewlyEligible2014_{ia} + \beta_4 NewlyEligible2015_{ia} \\ +\beta_5 NewlyEligible2016_{ia} + \beta_6 NewlyEligible2017_{ia} \\ +\beta_7 PreviouslyEligible_{ia} * \theta_{2014} + \beta_8 PreviouslyEligible_{ia} * \theta_{2015} \\ +\beta_9 PreviouslyEligible_{ia} * \theta_{2016} + \beta_{10} PreviouslyEligible_{ia} * \theta_{2017} \\ +\beta_{11} EarlyExpansionEligible_{ia} * \theta_{2014} + \beta_{12} EarlyExpansionEligible_{ia} * \theta_{2015} \\ +\beta_{13} EarlyExpansionEligible_{ia} * \theta_{2016} + \beta_{14} EarlyExpansionEligible_{ia} * \theta_{2017} \\ +\beta_{15} NewlyEligible2014_{ia} * \theta_{2014} + \beta_{16} NewlyEligible2015_{ia} * \theta_{2015} \\ +\beta_{17} NewlyEligible2016_{ia} * \theta_{2016} + \beta_{18} NewlyEligible2017_{ia} * \theta_{2017} \\ +\beta_x X_{iat} + \theta_t + \gamma_a + \omega_{ia} + \epsilon_{iat} \end{aligned} \tag{2}$$

where $EarlyExpansionEligible_{ia}$ equals 1 if child i, who resides in an early expansion state, is eligible for Medicaid and CHIP based on the 2013 age-year MAGI-converted thresholds in PUMA a and 0 otherwise.

Compared to Table 3, the coefficients for public coverage in the previously eligible population are slightly smaller in magnitude, but remain positive and significant. However, the coefficients for all health insurance variables in the newly eligible population are virtually unaffected. Among children in states that expanded Medicaid early, gains in public coverage amounted to 2.4 percentage points in 2014, 5.1 percentage points in 2015, 5.5 percentage points in 2016, and 5.3 percentage points in 2017. There is some degree of private insurance crowd-out, but the sizes of the coefficients are relatively small and are either insignificant or on the edge of significance. Overall, my estimates are relatively robust under this specification.

6.2 Eligibility for Premium Subsidies

Under the ACA, those with incomes between 100-400% of the FPL and residing in non-expansion states were eligible for subsidies to purchase non-group private insurance in ACA Marketplace. However, these subsidies were unavailable to individuals that received an offer to acquire

ESI from their employer. Unfortunately, the ACS does not gather data on whether an individual declined their employer's offer of ESI. Therefore, I follow Hudson and Moriya (2017) and define a child as being "subsidy eligible" if they did not have ESI, resided in a non-expansion state, and had an income of between 100-400% FPL. I modify the equation (1) by including an additional parameter that indicates whether a child's parents were eligible for subsidies for non-group private insurance.

$$
\begin{aligned}
Y_{iat} = \beta_0 + \beta_1 PreviouslyEligible_{ia} + \beta_2 SubsidyEligible_{ia} \\
+\beta_3 NewlyEligible2014_{ia} + \beta_4 NewlyEligible2015_{ia} \\
+\beta_5 NewlyEligible2016_{ia} + \beta_6 NewlyEligible2017_{ia} \\
+\beta_7 PreviouslyEligible_{ia} * \theta_{2014} + \beta_8 PreviouslyEligible_{ia} * \theta_{2015} \\
+\beta_9 PreviouslyEligible_{ia} * \theta_{2016} + \beta_{10} PreviouslyEligible_{ia} * \theta_{2017} \\
+\beta_{11} NewlyEligible2014_{ia} * \theta_{2014} + \beta_{12} NewlyEligible2015_{ia} * \theta_{2015} \\
+\beta_{13} NewlyEligible2016_{ia} * \theta_{2016} + \beta_{14} NewlyEligible2017_{ia} * \theta_{2017} \\
+\beta_{15} SubsidyEligible_{ia} * \theta_{2014} + \beta_{16} SubsidyEligible_{ia} * \theta_{2015} \\
+\beta_{17} SubsidyEligible_{ia} * \theta_{2016} + \beta_{18} SubsidyEligible_{ia} * \theta_{2017} \\
+\beta_x X_{iat} + \theta_t + \gamma_a + \omega_{ia} + \epsilon_{iat}
\end{aligned}
\tag{3}
$$

The term $SubsidyEligible_{ia}$ equals 1 if a child was eligible for the subsidy based on the criteria summarized above and 0 otherwise.[19] This will enable me to determine whether receiving premium subsidies has any effect on my results.

The coefficients for those previously eligible and newly eligible are relatively unchanged from what was reported in the main result, showing my estimates are robust to this specification. Among children who were eligible for subsidies for non-group private insurance, there is a great degree of crowd-out from public insurance to private insurance. The coefficients for ESI are all positive and significant from 2014 to 2017. However, this could be a result of the effects of the employer mandate that was more effective in non-expansion states. This may also be a product of measurement error of private insurance as the wording of the ACS may influence respondents to misreport Medicaid or employer sponsored insurance as non-group private insurance (Pascale et al., 2016). This is supported by the fact that the ACS typically reports overestimates of non-group private coverage compared to other data sources (Mach and O'Hara, 2011). Lastly, the coefficients for non-group private coverage are significant starting in 2014 and highest in 2015, but start decreasing where they become negative and insignificant in 2017. A possible explanation for this could be the result of the temporary risk corridor program implemented under the ACA for 2014–2016. The program

[19] Note that this term is not mutually exclusive from the other eligibility terms due to children still having MAGI thresholds that deemed them eligible for Medicaid and CHIP coverage in non-expansion states.

was to assist insurers in covering the unpredictable costs of enrollees with various health conditions. Ultimately, the Human Health Services (HHS) was unable to pay out the claims of the insurers. This resulted in an unexpected negative shock to revenues and the large exit of insurers such as Aetna and United from the Marketplaces in 2016 and 2017 (Layton et al., 2018).

7 Policy Implications and Conclusion

Since the implementation of the ACA Medicaid expansion, there have been significant gains in Medicaid and CHIP coverage for not only newly eligible recipients, but for those who were already eligible for Medicaid and CHIP prior to the expansion. Children, who had already had generally generous rates prior to and after the expansion, are an important but frequently overlooked group. Using children's MAGI threshold rates, I find significant "welcome mat" effects in public coverage for already eligible children. These effects persisted and increased across years until 2017. In addition, I find significant increases in public coverage for children who became eligible for Medicaid and CHIP. Evaluating by race and ethnicity, White children from both eligibility groups were disproportionately more likely to have benefited from the expansion. This indicates that the ACA had heterogeneous impacts on health coverage for different racial/ethnic groups. Comparing by state expansion status, both increases in Medicaid/CHIP coverage for the previously and newly eligible population was stronger in expansion states, highlighting the effectiveness of various procedures under the ACA that were adopted in these states. My results were robust to a number of specifications, including modeling for early expansion states and eligibility for private insurance subsidies. Overall, my findings show that the ACA Medicaid expansion was effective in providing public assistance to a population that otherwise should have seen minimal effects.

I also find evidence of crowding out in ESI for both previously eligible and newly eligible children from 2015 and onward. This effect was strongest for White children and in states that expanded Medicaid. To the best of my knowledge, this is the first study to prove statistically significant crowding out of private insurance for children in the setting of the ACA Medicaid expansion. This study also adds to the few studies that have established evidence of crowd-out from the ACA. This study is unique as it models for both Medicaid and CHIP eligibility rates solely children and it is inclusive of those with higher incomes. Given that previous research found only minimal effects of the ACA expansion on labor supply (Duggan et al., 2019; Garrett et al., 2017; Gooptu et al., 2016; Kaestner et al., 2017; Leung and Mas, 2018; Moriya et al., 2016), decreases in ESI coverage observed during the ACA expansion are unlikely to be attributed to changes in labor supply. Instead, my findings could reflect parental preferences for fully subsidized public coverage in lieu of costly private coverage. However, this paper is limited in that it did not seek to substantiate this claim.

The results of this paper have very important policy implications moving forward. There have been several challenges in maintaining funds for CHIP during recent years. On May 8, 2018, the Trump Administration submitted to Congress a proposal requesting a reduction of over $7 billion for the annual Children's Health Insurance Program. The proposal would have rescinded over $5.1 billion in the amounts made available by the Medicaid CHIP Reauthorization Act of 2015 to accompany the 2017 national allotments to states. This comprised $2 billion in recoveries as of May 7, 2018, and $3.1 billion in unobligated balances that were available as of October 1, 2017. The proposal would also rescind nearly $1.9 billion in amounts available for the CHIP Contingency Fund. The Contingency Fund provides payments to states that experience issues with over enrollment. Currently, Congress has extended annual funding for CHIP until September 30, 2027. However, the future of CHIP funding is unknown given the uncertainty of the political landscape moving forward. Important provisions like the MOE requirement and temporary increases in federal CHIP matching rates that are essential for delivering and maintaining continuous coverage could be eliminated if sufficient appropriations for CHIP is not secured.

This is the first paper to estimate the "welcome mat" effects of the ACA Medicaid expansions solely for children through the use of children's MAGI threshold rates. The establishment of a "welcome mat" effect highlights the importance of provisions that are currently protected in the ACA and mainly intended for children, such as the maintenance of effort (MOE) provision and enhanced federal matching funds for CHIP. However, as the appropriations for CHIP funding ends in 2027, many of these components that have protected children's eligibility for Medicaid and CHIP could cease, forcing millions of parents to find alternative sources of health coverage for their children. Therefore, this paper contributes to a narrow literature on evaluating the "welcome mat" effect for children and has important implications for policymakers, who have the potential to shape the future of CHIP.

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Table 1: Time Trends of Medicaid and CHIP Eligibility Variables 2012-2017

	2012		2013		2014		2015		2016		2017	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
All												
Previously Eligible	41.8%	(49.3%)	41.5%	(49.3%)	41.1%	(49.2%)	39.8%	(49.0%)	38.5%	(48.6%)	37.1%	(48.3%)
Newly Eligible	-	-	-	-	9.6%	(29.5%)	9.8%	(29.7%)	10.1%	(30.1%)	10.2%	(30.2%)
White												
Previously Eligible	32.7%	(46.9%)	32.2%	(46.7%)	31.6%	(46.5%)	30.6%	(46.1%)	29.0%	(45.4%)	28.0%	(44.9%)
Newly Eligible	-	-	-	-	6.7%	(25.0%)	6.5%	(24.7%)	6.8%	(25.3%)	6.9%	(25.3%)
Black												
Previously Eligible	62.3%	(48.5%)	62.3%	(48.5%)	62.1%	(48.5%)	60.4%	(48.9%)	58.5%	(49.3%)	56.6%	(49.6%)
Newly Eligible	-	-	-	-	8.9%	(28.5%)	9.5%	(29.3%)	9.7%	(29.6%)	10.6%	(30.8%)
Hispanic												
Previously Eligible	54.3%	(49.8%)	53.9%	(49.8%)	53.6%	(49.9%)	51.9%	(50.0%)	50.7%	(50.0%)	48.5%	(50.0%)
Newly Eligible	-	-	-	-	17.1%	(37.6%)	17.7%	(38.2%)	17.8%	(38.3%)	17.7%	(38.1%)

Notes: Table presents weighted means, with standard deviations in parentheses, for children ages 0-18 years old with a biological mother present. Data is sourced from the ACS for the years 2012-2017. All eligibility variables are constructed by comparing income-to-poverty thresholds from the ACS to MAGI-converted thresholds available by state-year and taken directly from the Kaiser Family Foundation and Medicaid.gov. The measure "Previously Eligible" was constructed based on 2013 state eligibility criteria.

Table 2: Time Trends of Health Insurance Variables 2012-2017

	2012		2013		2014		2015		2016		2017	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
All												
Public Coverage	32.5%	(46.9%)	32.8%	(46.9%)	33.6%	(47.2%)	34.8%	(47.6%)	34.8%	(47.6%)	34.3%	(47.5%)
Employed Sponsored	56.5%	(49.6%)	55.9%	(49.6%)	56.1%	(49.6%)	55.8%	(49.7%)	56.2%	(49.6%)	57.0%	(49.5%)
Non-Group Private	7.6%	(26.5%)	7.0%	(25.5%)	7.2%	(25.9%)	7.7%	(26.6%)	7.7%	(26.7%)	7.3%	(26.0%)
Uninsured	6.2%	(24.1%)	6.4%	(24.4%)	5.3%	(22.3%)	4.2%	(20.1%)	3.9%	(19.4%)	4.2%	(20.0%)
White												
Public Coverage	20.4%	(40.3%)	20.5%	(40.4%)	21.1%	(40.8%)	22.1%	(41.5%)	22.1%	(41.5%)	21.7%	(41.2%)
Employed Sponsored	68.4%	(46.5%)	67.8%	(46.7%)	68.0%	(46.6%)	67.6%	(46.8%)	67.9%	(46.7%)	68.8%	(46.3%)
Non-Group Private	9.2%	(28.8%)	8.6%	(28.2%)	8.7%	(28.2%)	9.1%	(28.8%)	9.2%	(28.9%)	8.4%	(27.7%)
Uninsured	4.8%	(21.4%)	5.1%	(21.9%)	4.3%	(20.4%)	3.6%	(18.7%)	3.3%	(17.9%)	3.6%	(18.6%)
Black												
Public Coverage	52.4%	(49.9%)	52.7%	(49.9%)	54.2%	(49.8%)	54.6%	(49.8%)	54.2%	(49.8%)	53.0%	(49.9%)
Employed Sponsored	40.5%	(49.1%)	40.0%	(49.0%)	39.2%	(48.8%)	39.7%	(48.9%)	40.7%	(49.1%)	42.1%	(49.4%)
Non-Group Private	4.7%	(21.1%)	4.1%	(19.9%)	4.3%	(20.3%)	4.7%	(21.3%)	5.0%	(21.8%)	4.7%	(21.2%)
Uninsured	5.4%	(22.7%)	5.5%	(22.8%)	4.4%	(20.5%)	3.6%	(18.7%)	3.0%	(17.2%)	3.6%	(18.6%)
Hispanic												
Public Coverage	52.3%	(49.9%)	52.7%	(49.9%)	52.9%	(49.9%)	55.2%	(49.7%)	55.0%	(49.8%)	53.9%	(49.9%)
Employed Sponsored	35.8%	(47.9%)	35.2%	(47.8%)	36.5%	(48.1%)	35.9%	(48.0%)	36.6%	(48.2)	37.6%	(48.4%)
Non-Group Private	5.0%	(21.7%)	4.2%	(20.0%)	4.8%	(21.3%)	5.3%	(22.4%)	5.3%	(22.4%)	5.6%	(22.9%)
Uninsured	10.0%	(30.0%)	9.9%	(29.9%)	8.1%	(27.2%)	6.1%	(23.9%)	6.0%	(23.7%)	6.1%	(23.9%)

Notes: Table presents weighted means, with standard deviations in parentheses, for children ages 0-18 years old with at least one biological parent present. Data is sourced from the ACS for the years 2012-2017.

Table 3: Difference-in-Differences Results of the Effects of ACA Expansion on Health Coverage for Children

	(1) Public	(2) ESI	(3) Non-Group	(4) Uninsured
Medicaid Eligibility (Previous)				
Previously Eligible 2014 * Yr 2014	0.013***	-0.004	0.004**	-0.010***
	(0.002)	(0.003)	(0.002)	(0.001)
Previously Eligible 2015 * Yr 2015	0.026***	-0.008***	0.003*	-0.016***
	(0.002)	(0.003)	(0.002)	(0.001)
Previously Eligible 2016 * Yr 2016	0.031***	-0.009***	0.003	-0.021***
	(0.002)	(0.003)	(0.002)	(0.001)
Previously Eligible 2017 * Yr 2017	0.035***	-0.016***	0.007***	-0.020***
	(0.003)	(0.003)	(0.002)	(0.002)
Medicaid Eligibility (New)				
Newly Eligible 2014 * Yr 2014	0.018***	-0.001	-0.001	-0.017***
	(0.005)	(0.005)	(0.003)	(0.003)
Newly Eligible 2015 * Yr 2015	0.052***	-0.016***	-0.001	-0.037***
	(0.005)	(0.005)	(0.003)	(0.003)
Newly Eligible 2016 * Yr 2016	0.079***	-0.029***	-0.005**	-0.039***
	(0.005)	(0.005)	(0.002)	(0.003)
Newly Eligible 2017 * Yr 2017	0.073***	-0.029***	0.001	-0.040***
	(0.005)	(0.005)	(0.003)	(0.003)
Policy Controls				
Previously Eligible	0.022***	-0.018***	-0.004**	0.002
	(0.003)	(0.003)	(0.002)	(0.002)
Newly Eligible 2014	0.010	-0.036**	0.013	0.006
	(0.018)	(0.017)	(0.009)	(0.007)
Newly Eligible 2015	0.033*	-0.024	-0.012	0.009
	(0.019)	(0.018)	(0.009)	(0.008)
Newly Eligible 2016	-0.044	0.066*	0.038*	-0.065**
	(0.035)	(0.040)	(0.021)	(0.027)
Newly Eligible 2017	0.012	-0.027	-0.042**	0.066**
	(0.034)	(0.039)	(0.021)	(0.027)
Observations	3,248,152	3,248,152	3,248,152	3,248,152

Notes: *** p<0.01, ** p<0.05, * p<0.10. Standard errors in parentheses and clustered at the PUMA level.The solid line separates the pre- and post-treatment event study coefficients. The sample is restricted to childless adults age 26-34 with incomes below 138% FPL. Controls include sex, race, educational attainment, age group, work status, marital status, foreign-born status, and citizenship status. All estimates were weighted using ACS weights.

Table 4: Difference-in-Differences Results of the Effects of ACA Expansion on Health Coverage for Children by Race/Ethnicity

	White				Black				Hispanic			
	Public	ESI	Non-Group	Uninsured	Public	ESI	Non-Group	Uninsured	Public	ESI	Non-Group	Uninsured
Medicaid Eligibility (Previous)												
Previously Eligible 2014 * Yr 2014	0.016***	-0.006*	0.003	-0.011***	0.003	0.006	0.006	-0.006	0.007	-0.003	0.002	-0.006
	(0.003)	(0.004)	(0.002)	(0.002)	(0.006)	(0.007)	(0.004)	(0.004)	(0.006)	(0.006)	(0.003)	(0.004)
Previously Eligible 2015 * Yr 2015	0.037***	-0.016***	0.004*	-0.017***	-0.001	0.012	0.000	-0.006	0.015***	-0.006	-0.003	-0.007**
	(0.003)	(0.004)	(0.002)	(0.002)	(0.007)	(0.008)	(0.004)	(0.004)	(0.005)	(0.006)	(0.004)	(0.004)
Previously Eligible 2016 * Yr 2016	0.047***	-0.023***	0.001	-0.022***	-0.003	0.019**	-0.000	-0.012***	0.009	0.001	0.001	-0.012***
	(0.004)	(0.004)	(0.002)	(0.002)	(0.007)	(0.008)	(0.004)	(0.003)	(0.006)	(0.006)	(0.004)	(0.004)
Previously Eligible 2017 * Yr 2017	0.050***	-0.029***	0.005**	-0.020***	-0.001	0.008	0.006	-0.007**	0.009	0.001	0.004	-0.013***
	(0.004)	(0.004)	(0.002)	(0.002)	(0.007)	(0.008)	(0.004)	(0.004)	(0.006)	(0.006)	(0.004)	(0.004)
Medicaid Eligibility (New)												
Newly Eligible 2014 * Yr 2014	0.015**	0.001	-0.001	-0.012***	0.029**	-0.001	-0.000	-0.020***	0.014*	-0.004	-0.002	-0.016***
	(0.007)	(0.007)	(0.005)	(0.004)	(0.014)	(0.014)	(0.007)	(0.007)	(0.008)	(0.009)	(0.004)	(0.006)
Newly Eligible 2015 * Yr 2015	0.039***	-0.013*	0.001	-0.023***	0.037**	-0.014	0.003	-0.027***	0.055***	-0.017**	-0.008*	-0.037***
	(0.007)	(0.007)	(0.005)	(0.004)	(0.014)	(0.014)	(0.007)	(0.007)	(0.008)	(0.009)	(0.004)	(0.005)
Newly Eligible 2016 * Yr 2016	0.073***	-0.032***	-0.001	-0.025***	0.061***	-0.025*	-0.010*	-0.034***	0.071***	-0.025***	-0.007	-0.037***
	(0.007)	(0.007)	(0.004)	(0.004)	(0.013)	(0.013)	(0.006)	(0.006)	(0.008)	(0.008)	(0.004)	(0.005)
Newly Eligible 2017 * Yr 2017	0.064***	-0.028***	0.001	-0.027***	0.035**	-0.011	0.003	-0.024***	0.069***	-0.025***	-0.003	-0.044***
	(0.007)	(0.007)	(0.004)	(0.004)	(0.014)	(0.013)	(0.006)	(0.007)	(0.009)	(0.009)	(0.004)	(0.005)
Policy Controls												
Previously Eligible	0.015***	-0.014***	-0.004*	0.003*	0.026***	-0.026***	-0.009**	0.005	0.046***	-0.029***	-0.003	-0.008**
	(0.003)	(0.003)	(0.002)	(0.002)	(0.007)	(0.008)	(0.004)	(0.004)	(0.006)	(0.006)	(0.003)	(0.004)
Newly Eligible 2014	-0.002	-0.036*	0.009	0.010	-0.008	0.067	0.001	0.008	-0.022	-0.028	0.029	0.004
	(0.021)	(0.020)	(0.012)	(0.006)	(0.042)	(0.070)	(0.027)	(0.013)	(0.039)	(0.038)	(0.023)	(0.025)
Newly Eligible 2015	0.028	-0.007	-0.006	0.002	0.068	-0.136*	0.007	-0.007	0.006	0.017	-0.021	0.019
	(0.023)	(0.021)	(0.012)	(0.007)	(0.044)	(0.071)	(0.027)	(0.015)	(0.045)	(0.044)	(0.022)	(0.026)
Newly Eligible 2016	-0.026	0.049	0.067*	-0.087**	-0.111	0.228	-0.057	-0.100	-0.008	0.033	0.010	-0.047
	(0.043)	(0.057)	(0.036)	(0.034)	(0.121)	(0.140)	(0.075)	(0.096)	(0.065)	(0.068)	(0.033)	(0.052)
Newly Eligible 2017	0.012	-0.025	-0.070**	0.084**	0.050	-0.173	0.044	0.121	0.042	-0.042	-0.018	0.032
	(0.041)	(0.057)	(0.035)	(0.033)	(0.120)	(0.140)	(0.075)	(0.096)	(0.061)	(0.065)	(0.033)	(0.052)
Observations	1,976,144	1,976,144	1,976,144	1,976,144	362,743	362,743	362,743	362,743	632,904	632,904	632,904	632,904

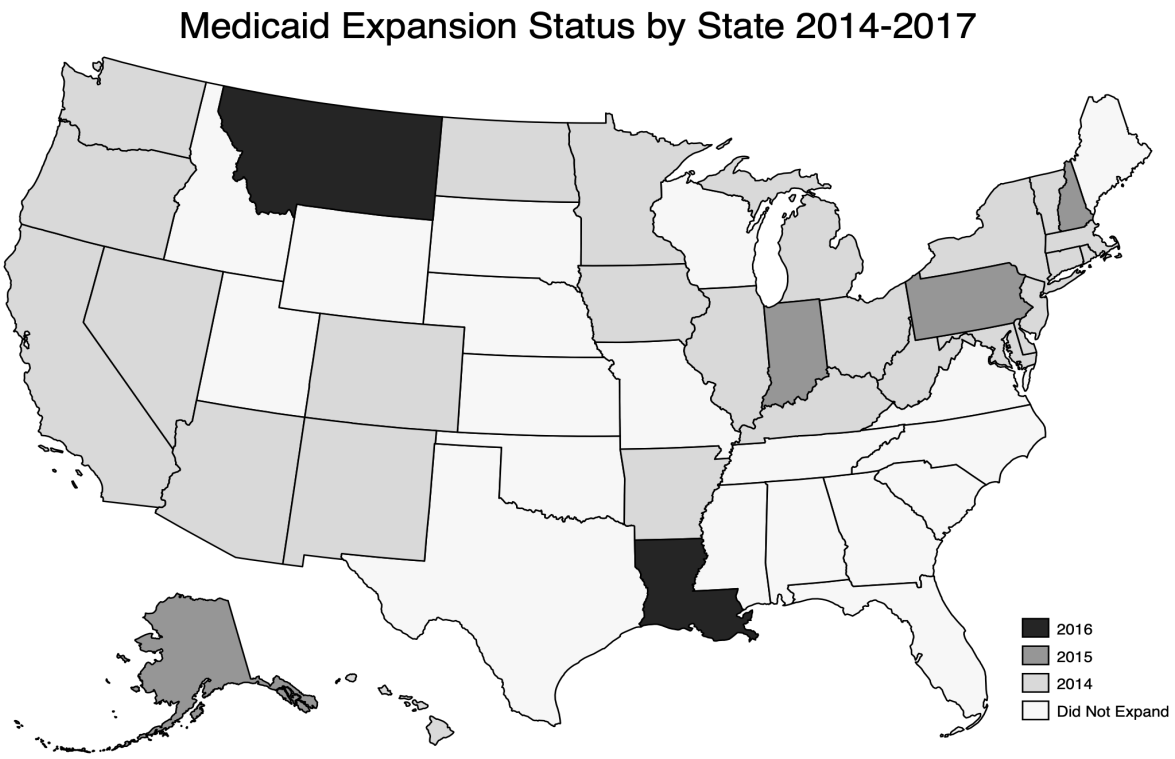
Notes: *** p<0.01, ** p<0.05, * p<0.10. Standard errors in parentheses and clustered at the PUMA level.The solid line separates the pre- and post-treatment event study coefficients. The sample is restricted to childless adults age 26-34 with incomes below 138% FPL. Controls include sex, race, educational attainment, age group, work status, marital status, foreign-born status, and citizenship status. All estimates were weighted using ACS weights.

Table 5: Triple Difference-in-Differences Results of the Effects of ACA Expansion on Health Coverage for Children by States' Expansion Status

	(1) Public	(2) ESI	(3) Non-Group	(4) Uninsured
Medicaid Eligibility (Previous) * Expand				
Previously Eligible 2014 * Yr 2014 * Expand	0.012**	-0.006	0.002	-0.009***
	(0.005)	(0.005)	(0.003)	(0.003)
Previously Eligible 2015 * Yr 2015 * Expand	0.018***	-0.015***	0.003	-0.003
	(0.005)	(0.005)	(0.003)	(0.003)
Previously Eligible 2016 * Yr 2016 * Expand	0.017***	-0.025***	0.005	0.004
	(0.005)	(0.005)	(0.003)	(0.003)
Previously Eligible 2017 * Yr 2017 * Expand	0.010*	-0.013**	0.000	0.002
	(0.005)	(0.005)	(0.003)	(0.003)
Medicaid Eligibility (New) * Expand				
Newly Eligible 2014 * Yr 2014 * Expand	0.015	0.002	0.002	-0.022***
	(0.010)	(0.010)	(0.005)	(0.006)
Newly Eligible 2015 * Yr 2015 * Expand	0.023**	0.012	-0.012**	-0.017***
	(0.010)	(0.010)	(0.005)	(0.006)
Newly Eligible 2016 * Yr 2016 * Expand	0.034***	-0.008	-0.010**	-0.011**
	(0.010)	(0.010)	(0.005)	(0.006)
Newly Eligible 2017 * Yr 2017 * Expand	0.028***	-0.005	-0.011**	-0.015***
	(0.010)	(0.010)	(0.005)	(0.006)
Medicaid Eligibility (Previous)				
Previously Eligible 2014 * Yr 2014	0.007*	-0.001	0.002	-0.006**
	(0.003)	(0.004)	(0.002)	(0.002)
Previously Eligible 2015 * Yr 2015	0.014***	0.002	0.000	-0.014***
	(0.004)	(0.004)	(0.002)	(0.002)
Previously Eligible 2016 * Yr 2016	0.020***	0.006	-0.001	-0.024***
	(0.004)	(0.004)	(0.002)	(0.002)
Previously Eligible 2017 * Yr 2017	0.028***	-0.007*	0.006**	-0.021***
	(0.004)	(0.004)	(0.002)	(0.003)
Medicaid Eligibility (New)				
Newly Eligible 2014 * Yr 2014	0.009	-0.003	-0.002	-0.003
	(0.008)	(0.008)	(0.004)	(0.005)
Newly Eligible 2015 * Yr 2015	0.036***	-0.023***	0.007*	-0.026***
	(0.008)	(0.008)	(0.004)	(0.005)
Newly Eligible 2016 * Yr 2016	0.055***	-0.023***	0.001	-0.031***
	(0.008)	(0.008)	(0.004)	(0.005)
Newly Eligible 2017 * Yr 2017	0.053***	-0.024***	0.008*	-0.029***
	(0.008)	(0.008)	(0.004)	(0.005)
Observations	3,248,152	3,248,152	3,248,152	3,248,152

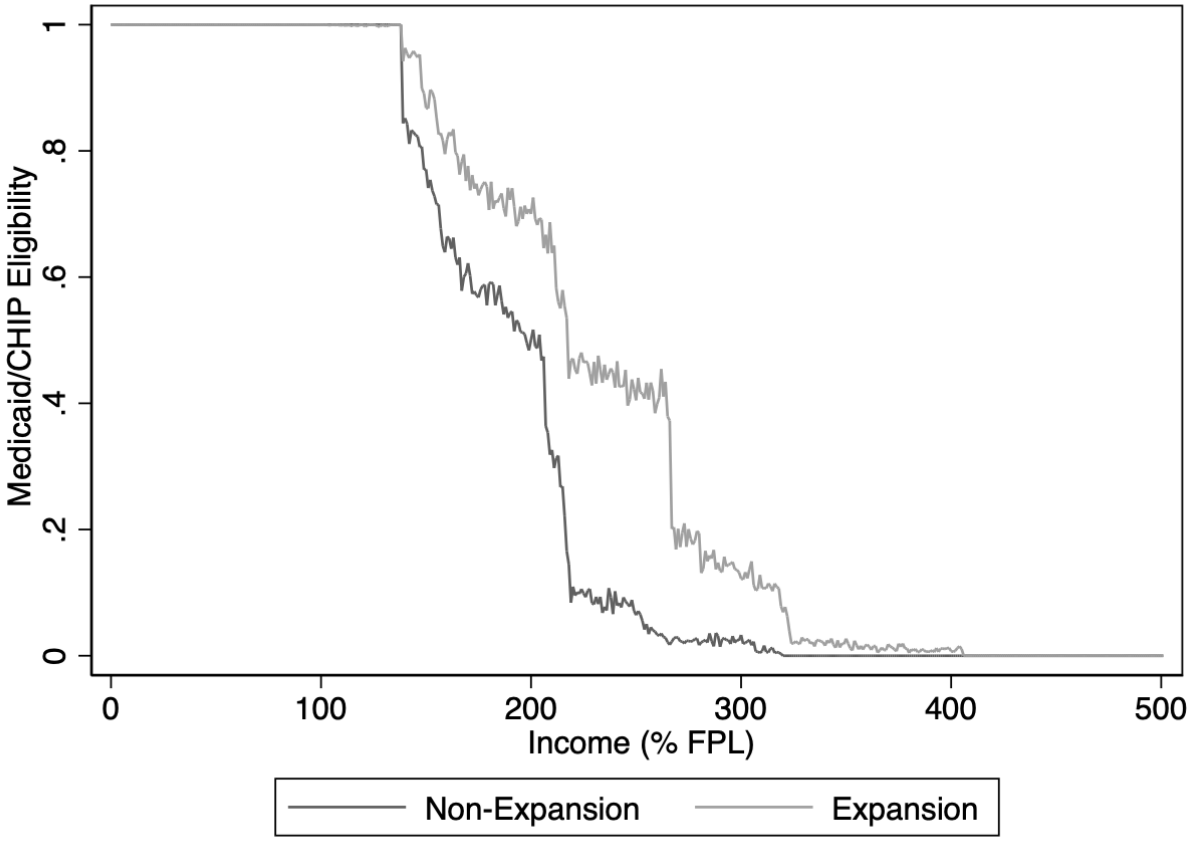
Notes: *** p<0.01, ** p<0.05, * p<0.10. Standard errors in parentheses and clustered at the PUMA level.The solid line separates the pre- and post-treatment event study coefficients. The sample is restricted to childless adults age 26-34 with incomes below 138% FPL. Controls include sex, race, educational attainment, age group, work status, marital status, foreign-born status, and citizenship status. All estimates were weighted using ACS weights.

Figure 1: ACA Medicaid Expansion Status (2014-2017)



Note: Figure was created by author using information on states' expansion status from the Kaiser Family Foundation (KFF).

Figure 2: Mean Medicaid/CHIP Eligibility by Income (% FPL): Ages 0-18



Note: Figure was created by author using information on states' Medicaid thresholds from the Kaiser Family Foundation (KFF).

Table A1: Summary Statistics for Control Variables

	Mean	SD
Child's Demographics		
Female	0.49	0.50
Age	9.02	5.36
Has Disability	0.04	0.20
Race/Ethnicity: Non-Hispanic White	0.54	0.50
Race/Ethnicity: Non-Hispanic Black	0.15	0.36
Race/Ethnicity: Hispanic	0.23	0.42
Household Income (% of the FPL)	273.04	167.64
Number of Related Children in Household	2.34	1.24
Mother's Demographics		
Age	38.01	7.87
Married	0.73	0.44
Education: No High School Degree	0.12	0.32
Education: High School Degree	0.21	0.41
Education: Some College	0.33	0.47
Education: College Degree or More	0.34	0.48
Work Status: Doesn't Work	0.28	0.45
Work Status: Part-Time	0.21	0.41
Work Status: Full-Time	0.51	0.50
Father's Demographics		
Age	40.63	8.44
Married	0.90	0.30
Educational Attainment (Less than Highschool)	0.13	0.33
Educational Attainment (At Least Highschool)	0.24	0.43
Educational Attainment (Some College)	0.22	0.42
Educational Attainment (College or More)	0.49	0.50
Work Status (No Work)	0.06	0.23
Work Status (Part Time)	0.06	0.24
Work Status (Full Time)	0.91	0.29
Observations	3,386,074	

Notes: *** p<0.01, ** p<0.05, * p<0.10. Standard errors in parentheses and clustered at the PUMA level. The solid line separates the pre- and post-treatment event study coefficients. The sample is restricted to childless adults age 26-34 with incomes below 138% FPL. Controls include sex, race, educational attainment, age group, work status, marital status, foreign-born status, and citizenship status. All estimates were weighted using ACS weights.

Table A2: Difference-in-Differences Results of the Effects of ACA Expansion on Health Coverage for Children, Including Early Expansion States

	(1) Public	(2) ESI	(3) Non-Group	(4) Uninsured
Medicaid Eligibility (Previous)				
Previously Eligible 2014 * Yr 2014	0.010***	-0.004	0.004**	-0.009***
	(0.003)	(0.003)	(0.002)	(0.002)
Previously Eligible 2015 * Yr 2015	0.021***	-0.006**	0.004**	-0.014***
	(0.003)	(0.003)	(0.002)	(0.002)
Previously Eligible 2016 * Yr 2016	0.026***	-0.009***	0.004**	-0.020***
	(0.003)	(0.003)	(0.002)	(0.002)
Previously Eligible 2017 * Yr 2017	0.031***	-0.016***	0.009***	-0.018***
	(0.003)	(0.003)	(0.002)	(0.002)
Medicaid Eligibility (Early)				
Early Eligible 2014 * Yr 2014	0.024***	-0.005	0.001	-0.018***
	(0.005)	(0.005)	(0.003)	(0.003)
Early Eligible 2015 * Yr 2015	0.051***	-0.016***	-0.002	-0.028***
	(0.005)	(0.005)	(0.003)	(0.003)
Early Eligible 2016 * Yr 2016	0.055***	-0.014***	-0.006	-0.030***
	(0.006)	(0.005)	(0.004)	(0.003)
Early Eligible 2017 * Yr 2017	0.053***	-0.016***	-0.001	-0.029***
	(0.006)	(0.005)	(0.004)	(0.003)
Medicaid Eligibility (New)				
Newly Eligible 2014 * Yr 2014	0.018***	-0.001	-0.001	-0.017***
	(0.005)	(0.005)	(0.003)	(0.003)
Newly Eligible 2015 * Yr 2015	0.052***	-0.016***	-0.001	-0.037***
	(0.005)	(0.005)	(0.003)	(0.003)
Newly Eligible 2016 * Yr 2016	0.079***	-0.029***	-0.005**	-0.039***
	(0.005)	(0.005)	(0.002)	(0.003)
Newly Eligible 2017 * Yr 2017	0.073***	-0.029***	0.001	-0.040***
	(0.005)	(0.005)	(0.003)	(0.003)
Policy Controls				
Previously Eligible	0.024***	-0.018***	-0.005***	0.001
	(0.003)	(0.003)	(0.002)	(0.002)
Early Eligible	0.010**	-0.019***	0.004	0.002
	(0.005)	(0.004)	(0.003)	(0.003)
Newly Eligible 2014	0.009	-0.036**	0.013	0.008
	(0.018)	(0.017)	(0.009)	(0.007)
Newly Eligible 2015	0.034*	-0.025	-0.011	0.007
	(0.019)	(0.018)	(0.009)	(0.008)
Newly Eligible 2016	-0.045	0.066*	0.037*	-0.064**
	(0.035)	(0.040)	(0.021)	(0.027)
Newly Eligible 2017	0.013	-0.028	-0.041**	0.065**
	(0.034)	(0.039)	(0.021)	(0.027)
Observations	3,248,152	3,248,152	3,248,152	3,248,152

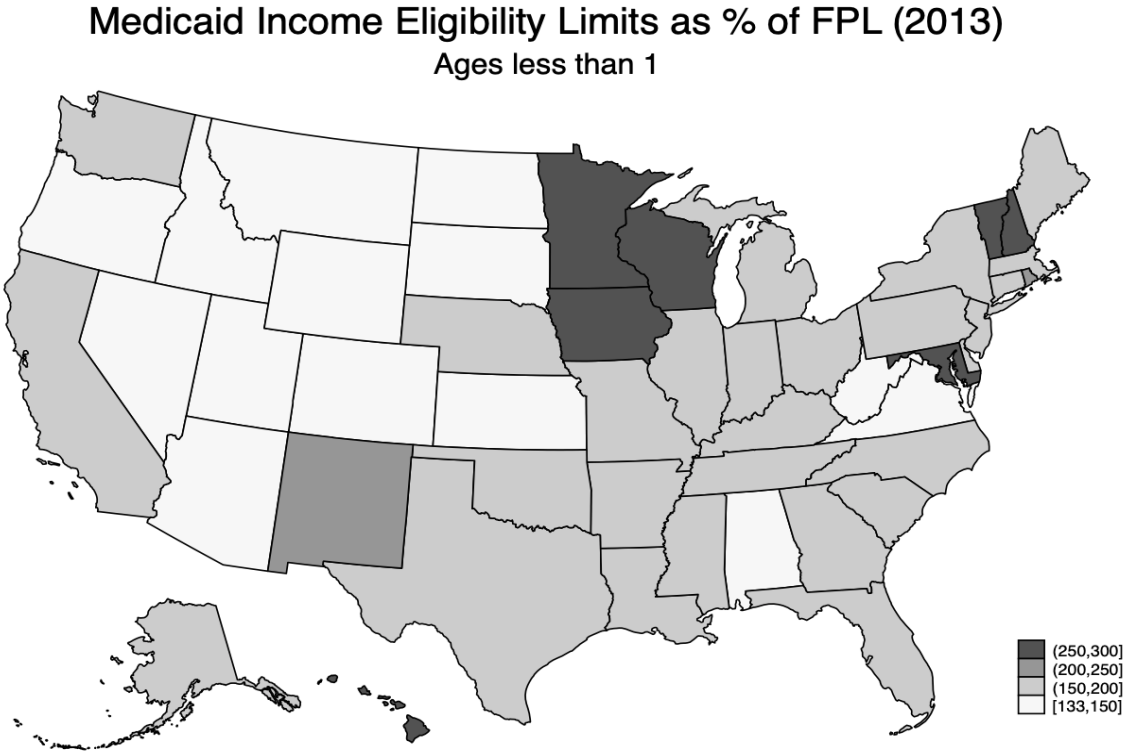
Notes: *** p<0.01, ** p<0.05, * p<0.10. Standard errors in parentheses and clustered at the PUMA level.The solid line separates the pre- and post-treatment event study coefficients. The sample is restricted to childless adults age 26-34 with incomes below 138% FPL. Controls include sex, race, educational attainment, age group, work status, marital status, foreign-born status, and citizenship status. All estimates were weighted using ACS weights.

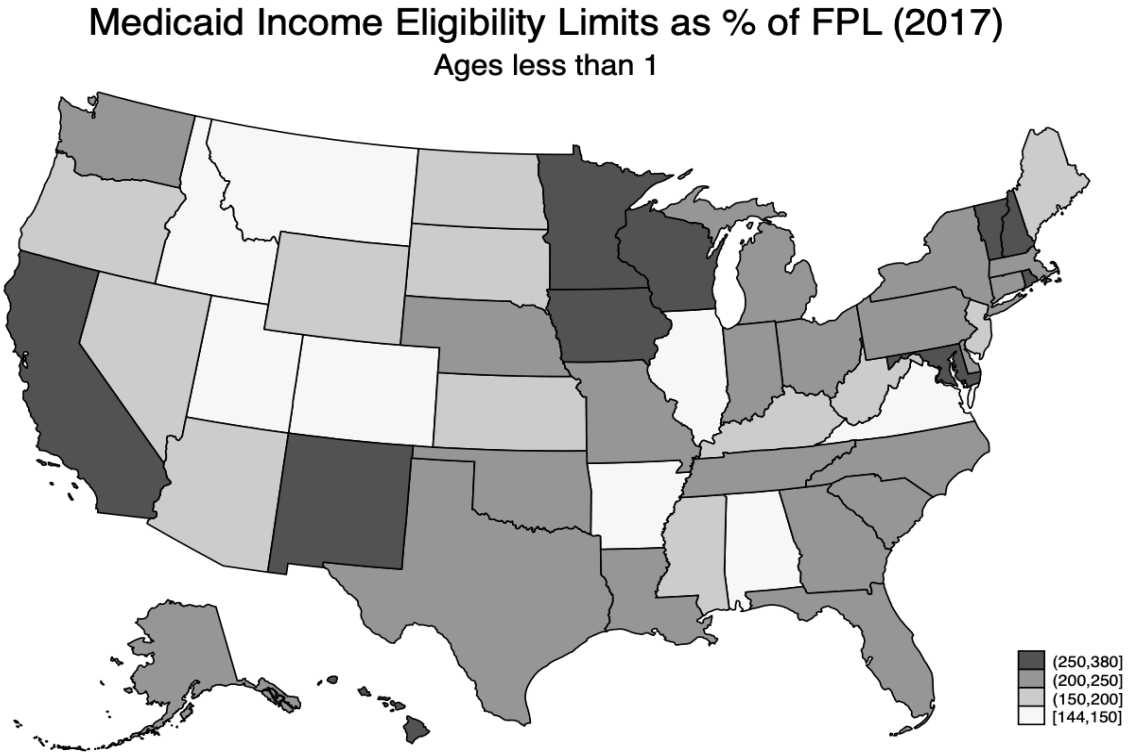
Table A3: Difference-in-Differences Results of the Effects of ACA Expansion on Health Coverage for Children, Including Eligibility for Marketplace Subsidies

	(1) Public	(2) ESI	(3) Non-Group	(4) Uninsured
Medicaid Eligibility (Previous)				
Previously Eligible 2014 * Yr 2014	0.013***	-0.004*	0.004***	-0.011***
	(0.002)	(0.003)	(0.001)	(0.001)
Previously Eligible 2015 * Yr 2015	0.026***	-0.004*	0.002	-0.018***
	(0.002)	(0.002)	(0.002)	(0.001)
Previously Eligible 2016 * Yr 2016	0.031***	-0.006**	0.002	-0.023***
	(0.003)	(0.003)	(0.002)	(0.001)
Previously Eligible 2017 * Yr 2017	0.034***	-0.011***	0.004**	-0.021***
	(0.003)	(0.003)	(0.002)	(0.001)
Medicaid Eligibility (New)				
Newly Eligible 2014 * Yr 2014	0.018***	-0.001	-0.000	-0.017***
	(0.005)	(0.005)	(0.003)	(0.003)
Newly Eligible 2015 * Yr 2015	0.051***	-0.013***	-0.001	-0.038***
	(0.005)	(0.005)	(0.003)	(0.003)
Newly Eligible 2016 * Yr 2016	0.078***	-0.026***	-0.006**	-0.040***
	(0.005)	(0.005)	(0.002)	(0.003)
Newly Eligible 2017 * Yr 2017	0.072***	-0.024***	-0.002	-0.041***
	(0.005)	(0.005)	(0.003)	(0.003)
Subsidy Eligibility				
Subsidy Eligible * Yr 2014	-0.004*	0.000	0.019*	-0.019**
	(0.002)	(0.003)	(0.010)	(0.008)
Subsidy Eligible * Yr 2015	-0.014***	0.013***	0.035***	-0.045***
	(0.002)	(0.003)	(0.010)	(0.008)
Subsidy Eligible * Yr 2016	-0.019***	0.013***	0.025**	-0.034***
	(0.002)	(0.003)	(0.011)	(0.008)
Subsidy Eligible * Yr 2017	-0.020***	0.015***	-0.011	-0.000
	(0.002)	(0.003)	(0.011)	(0.009)
Policy Impacts				
Previously Eligible	0.023***	0.000	-0.016***	-0.001
	(0.003)	(0.003)	(0.002)	(0.002)
Newly Eligible 2014	0.010	-0.034**	0.012	0.006
	(0.018)	(0.017)	(0.009)	(0.007)
Newly Eligible 2015	0.034*	-0.019	-0.016*	0.008
	(0.019)	(0.018)	(0.009)	(0.008)
Newly Eligible 2016	-0.045	0.057	0.043**	-0.064**
	(0.035)	(0.040)	(0.021)	(0.027)
Newly Eligible 2017	0.014	-0.008	-0.054**	0.063**
	(0.034)	(0.039)	(0.021)	(0.027)
Subsidy Eligible	-0.036***	-0.888***	0.556***	0.178***
	(0.002)	(0.003)	(0.010)	(0.006)
Observations	3,248,152	3,248,152	3,248,152	3,248,152

Notes: *** p<0.01, ** p<0.05, * p<0.10. Standard errors in parentheses and clustered at the PUMA level.The solid line separates the pre- and post-treatment event study coefficients. The sample is restricted to childless adults age 26-34 with incomes below 138% FPL. Controls include sex, race, educational attainment, age group, work status, marital status, foreign-born status, and citizenship status. All estimates were weighted using ACS weights.

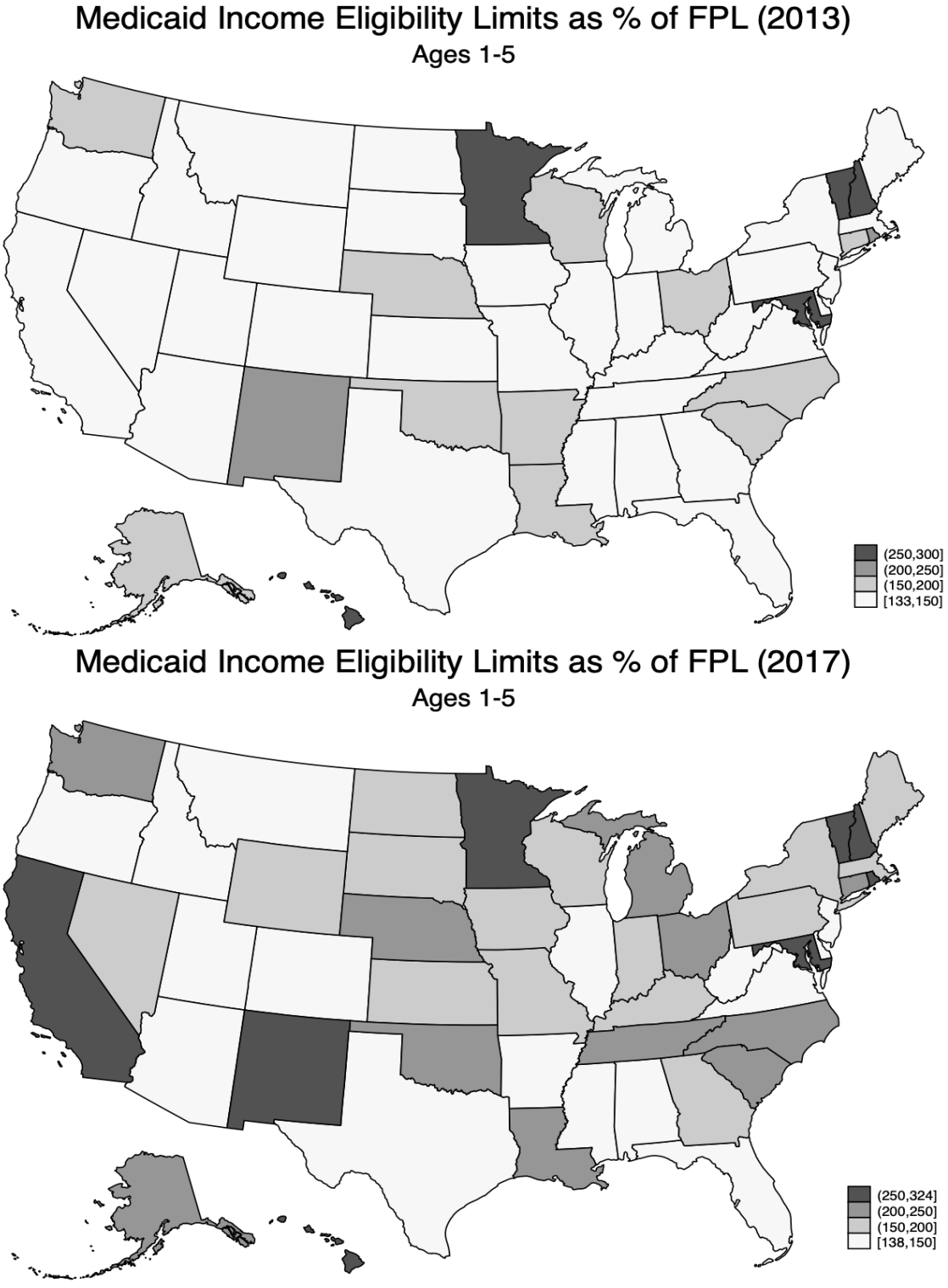
Figure A1: Medicaid Income Eligibility Limits as % of FPL (2013-2017): Ages < 1





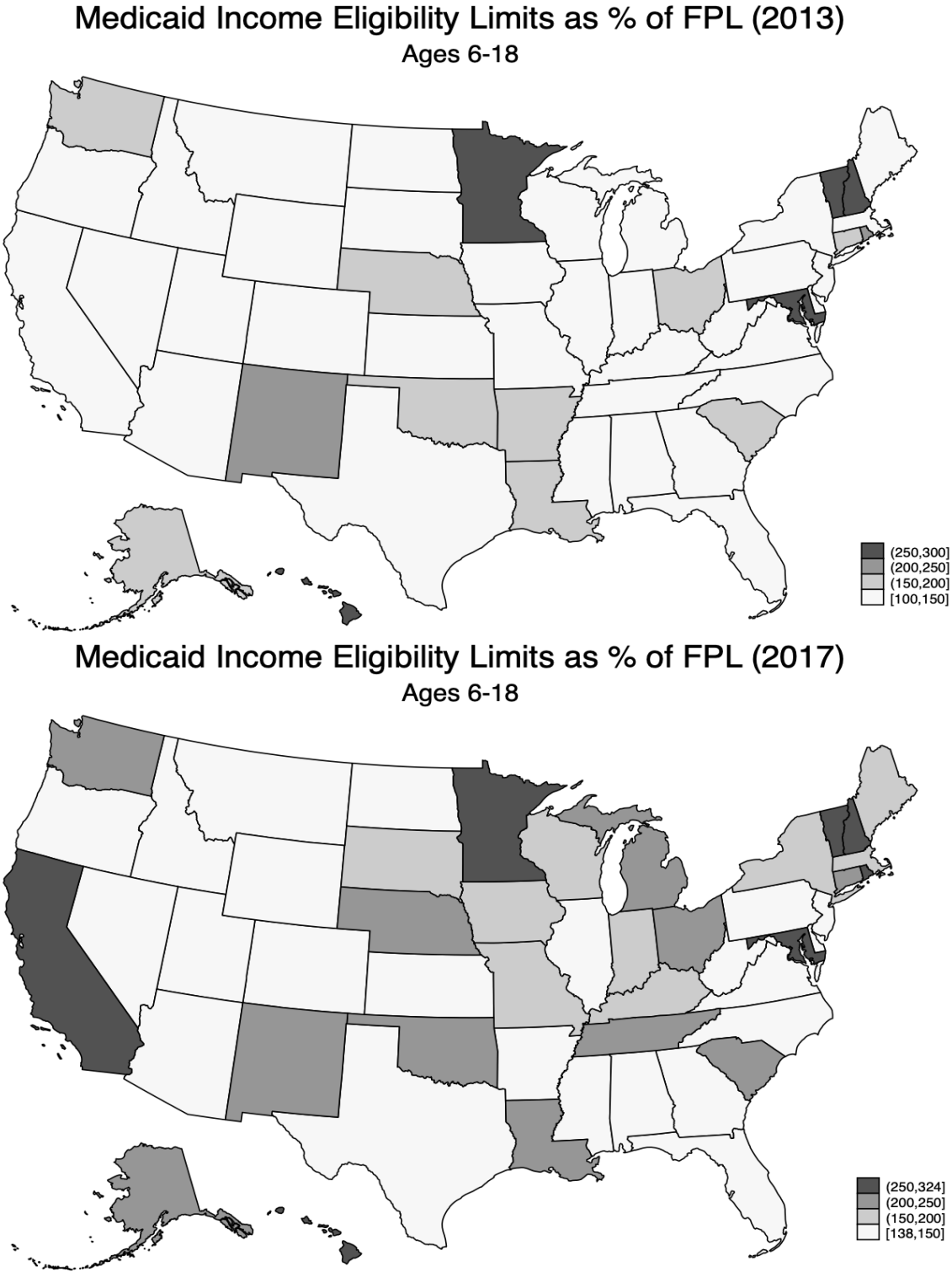
Note: Figure was created by author using information on states' Medicaid eligibility thresholds rates from the Kaiser Family Foundation (KFF).

Figure A2: Medicaid Income Eligibility Limits as % of FPL (2013-2017): Ages 1-5



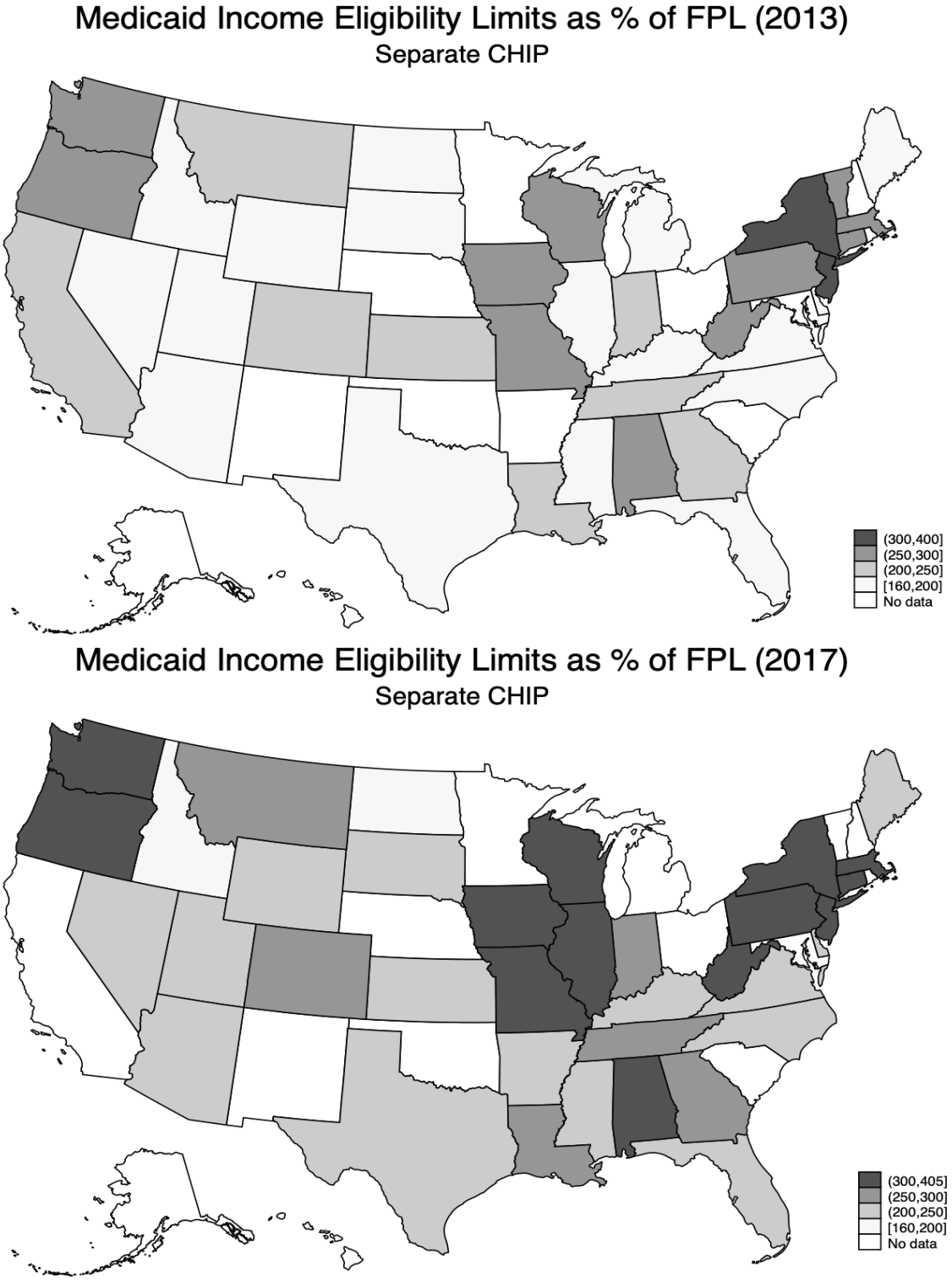
Note: Figure was created by author using information on states' Medicaid eligibility thresholds rates from the Kaiser Family Foundation (KFF).

Figure A3: Medicaid Income Eligibility Limits as % of FPL (2013-2017): Ages 6-18



Note: Figure was created by author using information on states' Medicaid eligibility thresholds rates from the Kaiser Family Foundation (KFF).

Figure A4: Medicaid Income Eligibility Limits as % of FPL (2013-2017): Separate CHIP



Note: Figure was created by author using information on states' Medicaid eligibility thresholds rates from the Kaiser Family Foundation (KFF).