The Role of Marketplace Policy on Welcome Mat Effects for Children Eligible for Medicaid or the Children's Health Insurance Program

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Abstract

The Affordable Care Act (ACA) required coordination between Marketplaces, Medicaid, and the Children's Health Insurance Program (CHIP) in an effort to streamline application processes and improve enrollment. We use 2013-2018 data from the American Community Survey and difference-in-difference models to estimate the relationship between Marketplace policy and increases in Medicaid/CHIP coverage observed among pre-ACA eligible children after the implementation of the ACA ("welcome mat effects"). Our sample includes non-disabled, citizen children (0-18) at 139-250% FPL who were Medicaid-/CHIP-eligible before (and after) the implementation of the ACA. Marketplace policies studied include state-based versus federally-facilitated, and whether the Marketplace had authority to directly enroll Medicaid-/CHIP-eligible applicants into public coverage. Models also control for ACA adult Medicaid expansion policy and provide the first estimates in this literature for non-expansion states. Welcome mat effects were present among all Marketplace and expansion policy categories. However, public coverage increased more in states that empowered their Marketplace to enroll publicly-eligible applicants directly into Medicaid/CHIP and these results were driven by enrollment policy, not by choice of state-based versus federal based Marketplaces. Welcome mat effects were largest in expansion states (for most years) and among children whose parents did not hold employer-sponsored insurance coverage. Ranging from 9 to 13 percentage points, these estimates are larger than those found among other subgroups of children in the welcome mat literature. Although there is evidence of lagged effects for both welcome mat effects and the role of Marketplace policy in non-expansion states, by 2018 we find no differences in these measures by expansion policy.

Keywords

Marketplace, Medicaid, CHIP, ACA expansion, eligible but uninsured children

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What do we already know about this topic?
Research has shown pre-ACA publicly eligible children experienced increases in Medicaid/CHIP coverage under the ACA and that those increases were larger in expansion states and in families where parents gained eligibility for Medicaid.

How does your research contribute to the field?
Our results suggests first, that Marketplaces may have played a role in increasing public coverage for pre-ACA eligible children by attracting new families to engage with, and apply for public health insurance programs, thereby identifying eligible but unenrolled children, and also, that states requiring their Marketplace to directly enroll Medicaid-/CHIP-eligible applicants may have been more effective in increasing enrollment of previously eligible children.

What are your research's implications toward theory, practice, or policy?
Our research provides additional evidence of the positive effects seen from simplification and coordination between insurance support programs ("no wrong door" for Marketplace, Medicaid, CHIP) but also highlight that the removal of any ACA supports targeted toward adults (Medicaid adult expansion, Marketplace) may have negative spillover effects on their children if children's coverage gains experienced under the ACA are lost.

Introduction

Increases in health insurance coverage after the implementation of the Affordable Care Act (ACA) included "welcome mat" effects for public coverage among low-income children. Between 2013 and 2016, the percentage of children covered by public insurance in families with incomes below 100% and between 100% and 199% of the federal poverty level (FPL) increased by 1.9 and 5.5 percentage points (pp) respectively in the National Health Interview Survey (NHIS).[1] These gains occurred despite the fact that most children below 200% FPL were already eligible for Medicaid or the Children's Health Insurance Program (CHIP) in 2013 and faced few changes in eligibility when the ACA was implemented in 2014. Evidence in the literature suggests that state-level policy choices under the ACA may have played a role in the size of welcome mat effects. Post-ACA data trends have consistently identified greater increases in public coverage for low-income children in states that adopted the ACA's Medicaid expansion to adults (expansion states),[2-4] and one study found that welcome mat effects for Medicaid-eligible children were significantly larger among children whose parents gained Medicaid eligibility under the ACA.[5] By contrast, less is known about the role of ACA Marketplace policy in welcome mat effects for Medicaid/CHIP coverage among children.

Health insurance Marketplaces were created under the ACA to provide access to affordable insurance options for individuals below 400% FPL who were not eligible for Medicaid/CHIP and who did not have an affordable offer for employer-sponsored insurance (ESI) though a job. Marketplace rollout was associated with significant outreach to inform the public about the ACA insurance coverage mandate, to promote the benefits of enrolling in and maintaining health insurance coverage, and to encourage uninsured individuals to apply for coverage through the Marketplace. Combined, this messaging had the potential for spillover effects on health insurance coverage, both public and private. Although Medicaid-/CHIP-eligible children were not eligible for federal support (premium subsidies, cost-sharing) in the Marketplace, for many, their parents were squarely in the target population for such support (Medicaid ineligible adults with incomes between 100% and 400% FPL). As a result, parents of pre-ACA Medicaid-/CHIP-eligible children were likely to engage with the Marketplace. This was especially true for families with an uninsured parent (and/or child) or those without ESI private coverage.

For families that sought coverage through the Marketplace, ACA rules intended to simplify and streamline the application process may have also helped to increase take-up among Medicaid-/CHIP-eligible children. "No wrong door" policies required all applicants to be assessed for Marketplace, Medicaid, and CHIP eligibility regardless of where they initially applied for coverage. "This process was further aided by the adoption of Modified Adjusted Gross Income (MAGI) as the standard income counting method for all three programs." Because applications include information on all family members, children's eligibility for Medicaid/CHIP is assessed for any parent applying through the Marketplace. This could result in increased public coverage for eligible, but unenrolled children of a wide range of applicants, from parents who were previously unaware their children were eligible for Medicaid/CHIP to those who had purposely chosen not to apply or enroll due to stigma or personal preferences.

Finally, state-level choices on Marketplace policy could have contributed as a third factor in the eventual size of welcome mat effects. The ACA gave states flexibility to set up a stand-alone state-based Marketplace, to rely on the federal Marketplace, to use a state-federal partnership model, or to run a state-based Marketplace with federal information technology (IT) support. In the first year of the ACA, 13 states ran stand-alone state-based Marketplaces,[6] and for these states, the ACA requires the Marketplace to immediately enroll any applicants assessed as Medicaid-/CHIP-eligible directly into the state's Medicaid/CHIP program. Alternatively, in the 38 states using federal Marketplaces (including those adopting partnership or federal IT support)[6], states could choose whether (a) to empower the Marketplace to enroll applicants assessed as Medicaid-/CHIP-eligible directly into public coverage or, (b) to require the Marketplace to refer such applicants to the state's Medicaid/CHIP program(s) for final enrollment (and potential reassessment).[7] This could have resulted in depressed or delayed Medicaid/CHIP enrollment in the 24 states that chose the latter option.[6]

Two papers in the literature provide some evidence of a link between Marketplace policy and enrollment in public coverage in states that adopted the ACA Medicaid expansion to adults. Between 2013 and 2015, Medicaid enrollment of the non-elderly (0-64) population grew more in expansion states running a state-based Marketplace (vs federal Marketplace), and among expansion states adopting a federal Marketplace, enrollment grew more in states that empower the Marketplace to directly enroll Medicaid-/CHIP-eligible applicants.[8] In other work, 2013 to 2015

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growth in public coverage for Medicaid-/CHIP-eligible children and for parents below 400% FPL was smaller in expansion states where the Marketplace had no authority to enroll Medicaid-/CHIP-eligible applicants.[9] Although some of these findings (all ages, in expansion states) were likely driven by the large influx of newly Medicaid-eligible adults, they suggest the clear potential for Marketplace policy to play a role in Medicaid/CHIP enrollment among pre-ACA publicly eligible children. No research to date has published the relationship between Marketplace policy and public coverage in non-expansion states.

In this paper, we examine the role of Marketplace policy on welcome mat effects for publicly eligible children. We estimate the change in the percentage of Medicaid-/CHIP-eligible children enrolled in public coverage before and after the ACA, focusing on two important metrics: the potential for the Marketplace to reach out to and draw in families with eligible children, and the efficiency of Medicaid/CHIP enrollment through Marketplace policy. In the former, we estimate whether increases in take-up rates for Medicaid/CHIP were greater among publicly eligible children in families that were most likely to engage with the Marketplace. In the latter, we test whether the size of welcome mat effects for children in Medicaid/CHIP varied by state policies regarding Marketplace authority to directly enroll Medicaid-/CHIP-eligible applicants and the choice to adopt a state-based versus a federally-facilitated Marketplace. In addition, because the literature has consistently identified larger welcome mat effects among children living in expansion states, we observe whether the relationship between Marketplace policy and public coverage varies by state expansion policy. Our paper extends the existing literature by including three additional years of post-ACA data and is the first to observe Marketplace policy in non-expansion states. Quantifying the impact of Marketplace policy on public coverage contributes to a longstanding literature addressing eligible but unenrolled children in the US.[3,10-15] It also provides policy makers with additional tools to evaluate how multiple insurance programs (targeting different recipients) interact, and how/whether coordination efforts between such programs can improve coverage outcomes (for both recipients and non-recipients). Having a better understanding of the impact of ACA policies on low-income children's coverage is key, as policy makers continue to determine the future of US health policy.

Methods

Data Sample

We used 2013 to 2018 data from the American Community Survey (ACS), a nationally representative cross-sectional survey conducted by the Census Bureau. The ACS is the largest household survey in the United States, releases timely estimates, and contains rich information on individual- and family-level characteristics, including state of residence. The size of the ACS is key to our analysis, providing the large sample

sizes required to compare enrollment patterns of children over multiple policy relevant categories and within targeted income ranges. All results reported in the text were significant at the 5% level or higher; standard errors were calculated using ACS weights and balanced repeated replication (BRR).

Our sample included non-disabled, citizen children (0-18) who were eligible for public coverage via Medicaid or CHIP in both the pre- and post-ACA periods. These "already eligible" children faced no changes in their own eligibility for public coverage over the time period studied. Because a primary focus of our analysis was to measure the impact of Marketplace policy on children's Medicaid/CHIP coverage, we restricted our sample to children in families with incomes reflecting parental exposure to the Marketplace. Marketplace premium subsidies are available for families (without affordable access to ESI) with incomes at 100% to 400% FPL; we restricted our sample to 139% to 250% FPL for the following reasons. At the upper bound, only 12 states had Medicaid/CHIP eligibility thresholds for children set above 250% FPL; eligible children above this threshold may not be nationally representative. On the lower bound, parents below 139% FPL in expansion states gained Medicaid eligibility. Research has shown children in such families exhibit larger welcome mat effects under the ACA[5]; removing Medicaid-eligible parents allows us to focus our discussion on Marketplace policy and removes potential bias of expansion policy on our welcome mat effects. To further address this issue, we also removed a small number of children in families at 139% to 250% FPL whose parents were pre-ACA Medicaid-eligible. Finally, married minors, children with Medicare coverage, and children in households without a biological/adoptive parent were not included. This resulted in a pooled sample of 589,983 children over six years.

Simulated Eligibility for Medicaid/CHIP

Eligibility for public insurance is not reported in the ACS, therefore, we simulated Medicaid/CHIP eligibility using ACS reported income and state-level income eligibility rules. Family income as a percent of FPL was constructed using parental income and family size, following a health insurance eligibility unit construct to identify family members. Medicaid/CHIP eligibility was calculated using family-level FPL and state-level rules. We used the 2013 state-reported MAGI-converted thresholds[16] (instead of 2013 pre-ACA rules with asset tests and income disregards)[17] to standardize eligibility determination and best reflect ACA eligibility rules over the sample period. Maintenance of effort requirements under the ACA prohibited states from becoming less generous over our sample period.

Marketplace Policy, Expansion Policy, and Parental Coverage

Medicaid-/CHIP-eligible children were categorized based on the Marketplace and Medicaid expansion policies in their state of residence in the sample year. Our primary Marketplace

indicator measured whether the state (1) adopted a Marketplace Determination policy, whereby the Marketplace enrolls any applicant assessed to be eligible for public coverage directly into Medicaid/CHIP, or (2) adopted a Marketplace Assessment policy, in which the Marketplace only assesses applicants' eligibility for public coverage but then final enrollment (and possible reassessment) is administered by the state's Medicaid/CHIP program(s). The Marketplace Determination category includes states with stand-alone state-based Marketplaces; these states were required to enroll publicly eligible applicants. By comparison, states using a federal Marketplace were given an option to choose Medicaid/CHIP enrollment policy. In our analyses, federal Marketplaces include state-federal partnerships and state-based Marketplaces with federal IT support because these states were also given the option to choose between Determination and Assessment policies. To account for potential differences in Determination structure (state-based vs federal), we also ran models using a triad of Marketplace policies: State-Based, Federal-Determination, and Federal-Assessment. Our expansion indicator measured whether the state adopted the ACA adult Medicaid expansion. Marketplace Determination and Assessment policies vary in both expansion and non-expansion states, however, state-based Marketplaces are found only in expansion states. In our sample of Medicaid-/CHIP-eligible children, 59% lived in states with Marketplace Determination (31% State-Based, 28% Federal Determination), 41% in states with Marketplace Assessment, and 51% and 49%, respectively in expansion and non-expansion states (Supplemental Appendix Table 1). Supplemental Appendix Table 2 presents a breakdown of Marketplace and expansion policies by state.[6,17,18-20]

We also categorize children by parental coverage. 63% of Medicaid-/CHIP-eligible children in our sample had at least one parent with ESI coverage, 37% lived in families where neither (or no) parent held private insurance through an employer (Supplemental Appendix Table 1). We hypothesize that all families were exposed to general ACA outreach efforts, but that families with no ESI coverage may have been more likely to engage with the Marketplace.

Pre-Trend Data 2009 to 2013

In addition to our sample data covering 2013 to 2018, we also constructed an ACS sample covering years 2009 to 2013 to test public coverage trends by policy before the implementation of the ACA. To ensure consistency in the pre-ACA and post-ACA data, state level Marketplace and expansion policies in the pre-trend data were coded to reflect the policy in place in the initial year of the ACA (2014) and Medicaid/CHIP eligibility was calculated using the 2013 MAGI-converted thresholds. We only use the ACS data for 2009 to 2012 for pre-trend tests; they are not included in our primary analyzes because state-reported MAGI-converted Medicaid/CHIP eligibility thresholds were created specifically for 2013 in preparation for the ACA transition in 2014 and may not accurately reflect eligibility in years preceding 2013

when state eligibility policies and income counting rules varied widely.

Model

We used difference-in-difference linear probability models to identify welcome mat effects, observing public coverage among Medicaid-/CHIP-eligible children before and after the implementation of the ACA across Marketplace policies. Triple difference models allowed us to further identify whether the relationship between Marketplace policy and welcome mat effects differed across expansion and non-expansion states, and whether the impacts for Marketplace policy varied by parental ESI coverage. Results were derived using a single model pooling all sample years (2013-2018) and included either a dichotomous post-ACA indicator to obtain average post-ACA effects or a post-ACA measure that varied by year to observe changes in policy effects over time. All models controlled for state-fixed effects and control for the following characteristics: (child) age, sex, race, Hispanic origin, (parent) married, education, employment, citizenship, military, and (family) non-English language spoken in home. Health insurance coverage in the ACS is collected at the time of the interview; respondents can list multiple sources, both private and public. We created mutually exclusive, dichotomous insurance measures using the following hierarchical order: any public coverage, only private coverage, uninsured. Sample characteristics are available in Supplemental Appendix Table 1. We ran specification tests to check for pre-ACA trends in public coverage by Marketplace policy, to account for measurement error in income (samples 150%-250% FPL and 175%-250% FPL) and insurance reporting (child uninsured), to observe a broader income range (100%-250% FPL) in Non-Expansion states, and to observe patterns in non-group private (Marketplace) insurance coverage among sample children's parents by Determination/Assessment policy. We also ran all models with standard errors clustered at the state level as an alternative to BRR.

Results

Children's Coverage Trends by Marketplace Policy

Figure 1 presents 2009 to 2018 trends in public coverage among Medicaid-/CHIP-eligible children by Marketplace policy. In the years before the implementation of ACA Marketplaces (2009-2013, dashed lines), there were little differences in coverage by (eventual) Marketplace policy. Children in Marketplace Determination states displayed higher rates of public coverage, but the magnitudes were small (on average, 1.2pp) and the growth in public coverage was not significantly different when compared to children in Marketplace Assessment states. By contrast, during the post-ACA period (2014-2018, solid lines), states adopting Marketplace Determination had higher rates of public coverage among children and coverage grew at a faster
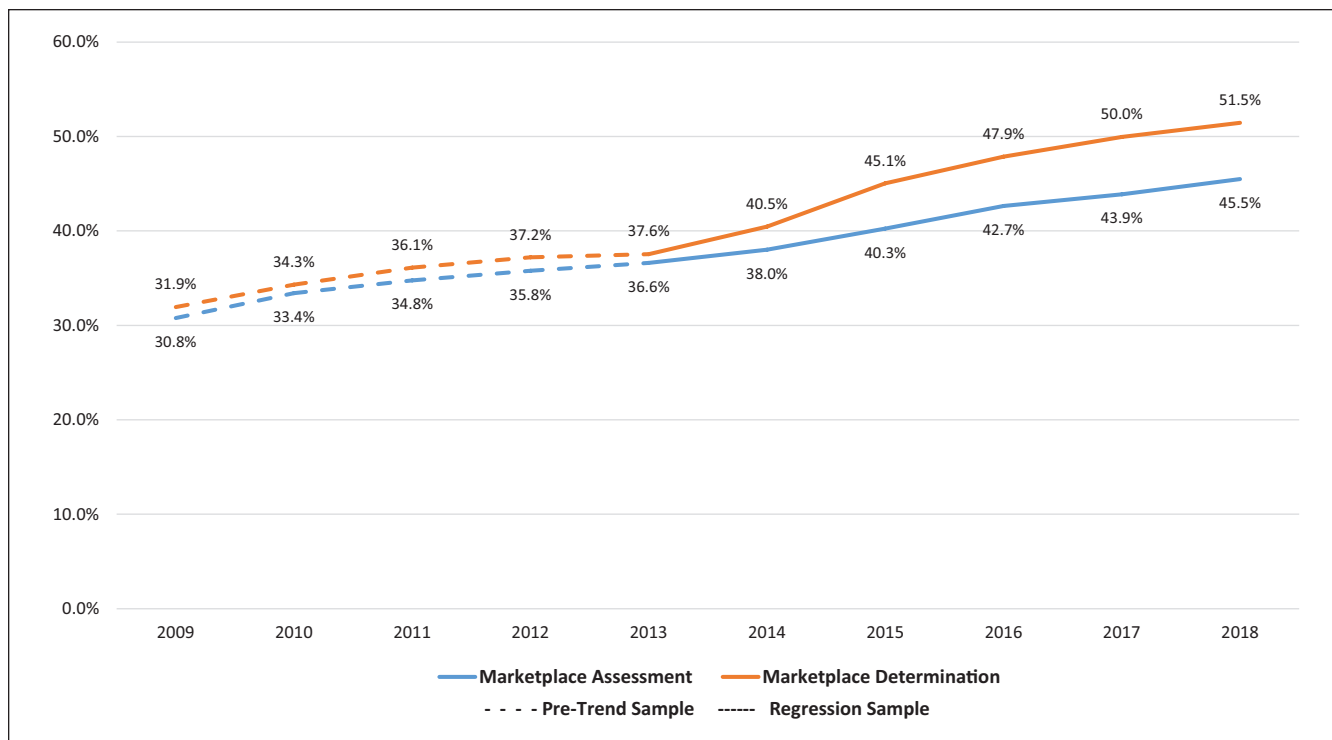
Figure 1. Percent of pre-ACA Medicaid-/CHIP-eligible children enrolled in Medicaid/CHIP by marketplace policy, children in families at 139% to 250% FPL, 2009 to 2018.

Note. Data: American Community Survey 2009 to 2018. Non-disabled, citizen children in families 139% to 250% FPL who are simulated to be Medicaid-/CHIP-eligible using 2013 MAGI-converted income eligibility thresholds. Dashed line represents the Pre-trend Sample (2009-2013) and solid line represents the Regression Sample (2013-2018). Marketplace policy is coded by state and year in the regression sample, 2014 Marketplace policy is used for pre-trend period. Public coverage is measured as any public coverage at the time of the interview. Within year differences across Marketplace policy and annual growth within Marketplace policy are significant at the 5% level or higher in all years except for the change public coverage between 2012 and 2013 for Marketplace Determination. Full data available in Supplemental Appendix Table 3.

rate. In the first year of the ACA (2014), the difference in public coverage rates across Marketplace policy had more than doubled, from 0.9pp in 2013 to 2.4pp, and by 2018 it was more than six-fold (6.0pp). Overall, children experienced significant post-ACA growth (welcome mat effects) regardless of policy; public coverage grew by 13.9pp in states with Marketplace Determination (from 37.6% to 51.5%) and by 8.9pp in Marketplace Assessment states (from 36.6% to 45.5%).

Post-ACA Difference-in-Difference and Triple-Difference Estimates of Children's Coverage by Marketplace Policy

Table 1 contains results from our difference-in-difference and triple-difference models on public coverage for children. Marginal effects in the top panel represent the average increase in public coverage observed over entire the post-ACA period (2014-2018) when compared to 2013 and are listed separately by Marketplace policy. Differences in marginal effects in the bottom panel identify whether growth in the post-ACA period was significantly larger for one Marketplace policy than the other (Determination growth-Assessment growth).

The first column presents a difference-in-difference model that compares changes in public coverage by Marketplace policy for the entire sample. Public coverage increased significantly for children regardless of policy; the average post-ACA increase was 7pp in Marketplace Determination states and 5pp in Marketplace Assessment states. The 2pp difference was also statistically significant, identifying that children in Marketplace Determination states experienced larger growth in public coverage after the implementation of the ACA, and thus, experienced larger welcome mat effects than children in Marketplace Assessment states. The second and third columns present the results from a triple-difference model that further tests whether the relationship between Marketplace policy and public coverage varied by state policy on the ACA adult Medicaid expansion (Expansion, Non-Expansion). Mirroring results from our DD model, public coverage increased significantly for all children in the post-ACA period regardless of Marketplace policy. Increases also occurred in both expansion and non-expansion states but the magnitude of welcome mat effects varied. In expansion states, welcome mat effects in Marketplace Determination and Assessment states were 9pp and 4pp, respectively, and the 5pp difference was statistically significant. These estimates follow the same pattern as our DD model but are

Table 1. Post-ACA Change in Any Public Coverage Among Pre-ACA Medicaid-/CHIP-Eligible Children in Families 139% to 250% FPL by State Marketplace and Expansion Policy, 2013 to 2018.

	All states[1]		Expansion states[2]		Non-expansion states[2]	
	Marginal Effect (std error)		Marginal Effect (std error)		Marginal Effect (std error)	
Post-ACA marginal effect by marketplace policy						
Marketplace determination	0.07**	(0.00)	0.09**$	(0.00)	0.03**	(0.01)
Marketplace structure: state based or federal determination						
Marketplace assessment	0.05**	(0.00)	0.04**	(0.01)	0.05**	(0.01)
Marketplace structure: federal assessment						
Difference in differences across marketplace policy						
Determination vs assessment	0.02**	(0.01)	0.05**$	(0.01)	−0.01	(0.01)

Note. American Community Survey 2013 to 2018. Non-disabled, citizen children in families 139% to 250% FPL simulated to be eligible for Medicaid/CHIP using 2013 Modified Adjusted Gross Income-converted thresholds and with parents ineligible for Medicaid (in any year). Dependent variable is a 1/0 indicator for public coverage measured at the time of the interview. Marketplace policy and Expansion policy entered by year using data from Kaiser Family Foundation. Marginal effects from (1) Difference in Differences model with Post-ACA and Marketplace Authority to Enroll and (2) Triple difference model with Post-ACA, Marketplace Authority to Enroll, and Expansion Policy. Both models control for child and parent characteristics, state fixed effects and use balance repeated replications to calculate standard error. Marginal Estimates represent the average change in public coverage over all Post-ACA years (average over 5 year period 2014-2018) compared to Pre-ACA year 2013. Estimates significantly different from zero at **1%, *5% levels. Significant difference between Expansion and Non-Expansion estimate at $1% level. Full model results with coefficients are available in Supplemental Appendix Tables 10 and 11.

larger in magnitude. In non-expansion states, welcome mat effects in Marketplace Determination and Assessment states were 3pp and 5pp respectively, but the difference was not significantly different than 0pp. When comparing expansion and non-expansion states, welcome mat effects for children in Marketplace Determination states are significantly larger in expansion states (9pp vs 3pp) but there was no significant difference in welcome mat effects by expansion policy for children in Marketplace Assessment states (4pp vs 5pp).

Triple Difference Estimates over Time

Table 2 presents the triple-difference model (from Table 1, columns 2 and 3) using a specification that allows us to observe patterns for welcome mat effects over time. Marginal effects in this model represent the cumulative change in public coverage between 2013 and each year in the post-ACA period. Overall, welcome mat effects grew over time for each of the Marketplace and expansion policy categories, but the size and timing of significant results varied. In expansion states, public coverage in Market Determination states increased by 4pp in the first year of the ACA, and by 2018 was 13pp larger than it had been in 2013. By comparison, in expansion states with Marketplace Assessment, significant welcome mat effects were not observed until the second year of the ACA and then grew from 3pp in 2015 to 7pp in 2018. Although the timing of welcome mat effects varied in expansion states by Marketplace policy, the growth rates over time were similar; difference estimates were significant in all years and were consistently in the 4pp to 6pp range. Growth for public

coverage also increased over time in non-expansion states, and while our average post-ACA model (Table 1, column 3) found no significant differences in welcome mat effects by Marketplace policy, the annual model shows significant differences between Marketplace Determination and Assessment states starting in the fourth year of the ACA. By 2017 and 2018, public coverage in non-expansion states had grown more under Marketplace Determination policies (10pp, 11pp) than Marketplace Assessment policies (7pp, 8pp).

The Role of State-Based Marketplaces

Table 3 presents an alternative specification to our base models (in Table 1) that accounts for potential differences in Marketplace Determination states based on whether they established a stand-alone state-based Marketplace or relied on federal Marketplace with Determination. Before accounting for expansion policy (column 1), welcome mat effects were the largest in states using a state-based Marketplace (9pp) and there were no differences in welcome mat effects among states adopting a federal Marketplace with Determination (5pp) versus Assessment (5pp). However, state-based Marketplaces exist only in Expansion states. Once we accounted for expansion policy (columns 2 and 3), there were no differences in welcome mat effects when comparing State-Based and Federal Determination states, and both were significantly larger than states with Federal Assessment. In non-expansion states, marginal effects remained significant for all federal Marketplaces and displayed no differences by Determination/Assessment policy.

Table 2. Post-ACA Change in Any Public Coverage by Year (cumulative) Among Pre-ACA Medicaid-/CHIP-Eligible Children in Families 139% to 250% FPL by State Marketplace and Expansion Policy, 2013 to 2018.

	Expansion states				
	2014	**2015**	**2016**	**2017**	**2018**
	Marginal Effect (std error)	Marginal Effect (std error)	Marginal Effect (std error)	Marginal Effect (std error)	Marginal Effect (std error)
Post-ACA marginal effect by marketplace policy					
Marketplace determination	0.04** (0.01)	0.08** (0.01)	0.10** (0.01)	0.12** (0.01)	0.13** (0.01)
Structure: state based or federal determination					
Marketplace assessment	0.00 (0.01)	0.03* (0.01)	0.05** (0.01)	0.05** (0.01)	0.07** (0.01)
Structure: federal assessment					
Difference in differences across marketplace policy					
Determination vs assessment	0.04** (0.01)	0.05** (0.01)	0.05** (0.01)	0.06** (0.01)	0.05** (0.01)
	Non-expansion states				
	2014	**2015**	**2016**	**2017**	**2018**
	Marginal Effect (std error)	Marginal Effect (std error)	Marginal Effect (std error)	Marginal Effect (std error)	Marginal Effect (std error)
Post-ACA marginal effect by marketplace structure					
Marketplace determination	0.01 (0.01)	0.03** (0.01)	0.07** (0.01)	0.10** (0.01)	0.11** (0.01)
Structure: state based or federal determination					
Marketplace assessment	0.02* (0.01)	0.04** (0.01)	0.06** (0.01)	0.07* (0.01)	0.08** (0.01)
Structure: federal assessment					
Difference in differences across marketplace structures					
Determination vs assessment	−0.01 (0.01)	−0.01 (0.02)	0.02 (0.02)	0.03* (0.01)	0.03* (0.01)

Note. American Community Survey 2013 to 2018. Non-disabled, citizen children in families 139% to 250% FPL simulated to be eligible for Medicaid/CHIP using 2013 Modified Adjusted Gross Income-converted thresholds and with parents ineligible for Medicaid (in any year). Dependent variable is a 1/0 indicator for public coverage measured at the time of the interview. Marketplace policy and Expansion policy entered by year using data from Kaiser Family Foundation. Marginal effects from Triple Difference model with Year, Marketplace Authority to Enroll, and Expansion Policy. Estimates represent total change public coverage between 2013 and end year (not incremental from 1 year to the next). Model controls for child and parent characteristics, state fixed effects and uses balance repeated replications to calculate standard error. Estimates significantly different from zero at **1%, *5% levels. Full model results with coefficients are available in Supplemental Appendix Tables 12.

Table 3. Post-ACA Change in Any Public Coverage Among Pre-ACA Medicaid-/CHIP-Eligible Children in Families 139% to 250% FPL by Detailed Marketplace Policy and Expansion Policy, 2013 to 2018.

	All states[1]	Expansion states[2]	Non-expansion states[2]
	Marginal Effect (std error)	Marginal Effect (std error)	Marginal Effect (std error)
Post-ACA marginal effect by marketplace structure and policy			
State based marketplace	0.09** (0.01)	0.09** (0.01)	NA
Determination (required)			
Federal based marketplace			
Determination	0.05** (0.01)	0.10** $ (0.01)	0.03 ** (0.01)
Assessment	0.05** (0.00)	0.04** (0.01)	0.05 ** (0.01)
Difference in differences across marketplace structure and policy			
State-based vs federal determination	0.04** (0.01)	−0.01 (0.01)	NA
State-based vs federal assessment	0.04** (0.01)	0.05** (0.01)	NA
Federal determination vs federal assessment	0.00 (0.01)	0.05** $ (0.02)	−0.02 (0.01)

Note. American Community Survey 2013 to 2018. Non-disabled, citizen children in families 139% to 250% FPL simulated to be eligible for Medicaid/CHIP using 2013 Modified Adjusted Gross Income-converted thresholds and with parents ineligible for Medicaid (in any year). Dependent variable is a 1/0 indicator for public coverage measured at the time of the interview. Marketplace policy and Expansion policy entered by year using data from Kaiser Family Foundation. Marginal effects from (1) Difference in Differences model with Post-ACA and Marketplace Authority to Enroll and (2) Triple difference model with Post-ACA, Marketplace Authority to Enroll, and Expansion Policy. Both models control for child and parent characteristics, state fixed effects and use balance repeated replications to calculate standard error. Marginal Estimates represent the average change in public coverage over all Post-ACA years (average over 5 year period 2014-2018) compared to Pre-ACA year 2013. Estimates significantly different from zero at **1%, *5% levels. Significant difference between Expansion and Non-Expansion estimate at $1% level. Full model results with coefficients are available in Supplemental Appendix Tables 13 and 14.

Welcome Mat Effects by Parental Coverage

We hypothesize that welcome mat effects could be larger in families where parents were more likely to engage in the Marketplace. In order to test this, we run a triple difference model with Marketplace policy and parental ESI coverage on the population of children in expansion states (children in these states displayed clear evidence of varied welcome mat effects by Marketplace policy in Table 1, column 2). We find significant differences in our results by parental coverage. In

families where no parent held private insurance through an employer, public coverage among children increased by 13pp for children in Marketplace Determination states, by 4pp in Marketplace Assessment states, and the difference of 9pp was significantly different from zero. By comparison, children who had at least one parent with ESI coverage exhibited welcome mat effects of 2pp and 3pp for Determination and Assessment respectively, with no significant difference across Marketplace policy.

Specification Tests

Our results were supported via several specification tests available in the Supplemental Appendix. To test potential measurement error in income, we restrict samples to 150% to 250%FPL and 175% to 250% FPL to decrease the chances that our results are driven by erroneous inclusion of children whose parents were income-eligible for the ACA adult Medicaid expansion (below 139% FPL). Our results were robust when using these alternative income samples (Supplemental Appendix Tables 4 and 5). In a different income test, we focus on non-expansion states and extend our income sample to 100% to 250%FPL to more fully observe Marketplace-eligible families in these states. Using the broader range of families in non-expansion states, we find that Marketplace policy effects more closely resemble those observed in expansion states. Welcome mat effects remained smaller in magnitude when compared to expansion states, but were present regardless of policy (5pp for Determination, 2pp for Assessment) with significantly larger growth in states with Determination policy (2pp) (Supplemental Appendix Table 6). To account for potential reporting errors in type of insurance coverage in the ACS, we ran models that used Uninsured for children's coverage. These models displayed the same patterns as our public coverage outcome with larger decreases in the percent of children uninsured in states adopting Marketplace Determination policies and the size of the effect was greater in magnitude among children whose parents did not hold ESI coverage. (Supplemental Appendix Table 7). To further test the role parental coverage, we considered changes in non-group private insurance (non-ESI private) over time for parents of children in our sample; this ACS insurance coverage category best captures Marketplace coverage. Difference-in-difference models show Marketplace coverage increased among parents in the post-ACA period and was larger among parents with no-ESI coverage. Unlike the results for children, however, Marketplace coverage among parents did not vary by Marketplace Determination policy (Supplemental Appendix Table 8). To test the difference-in-differences assumption of parallel trends in the pre-ACA period, we ran regression models using the 2009 to 2013 ACS data; these results mirrored the data displayed in Figure 1 and showed no significant differences in trends by Marketplace policy before the passage of the ACA (Supplemental Appendix Table 9). Finally, all findings remain consistent when running model specifications with clustered standard errors at the state level as an alternative to BRR

(Supplemental Appendix Tables 10–15 contain full results from Tables 2–4).

Limitations

Our paper has several limitations. First, eligibility for public programs was simulated and, therefore, contains measurement error. Second, we could not fully simulate Marketplace eligibility for parents because ACS does not collect whether individuals have an ESI offer from their employer. Instead, we hypothesize that Marketplace income-eligibility (100%-400% FPL) combined with no ESI coverage is a strong predictor of whether a parent might apply for Marketplace coverage. Third, the use of difference-in-difference models means that we are unable to determine whether year effects measured additional factors that occurred contemporaneously with the implementation of the ACA. However, we are able to address this to some extent by presenting results by state expansion policy. Finally, prior research using ACS data to study the ACA raised concerns that some ACS respondents may misreport public coverage as private.[21] To address this, we also included results for uninsured, thought to be a more reliable ACS measure, and relied on consistent patterns of reporting of public/private coverage in the ACS during our sample period 2013 to 2018.

Discussion

In this analysis we provide estimates of the relationship between Marketplace policy and take-up of public coverage among Medicaid-/CHIP-eligible children. Our results suggest that Marketplaces may have played a role under the ACA in attracting new families to engage with and apply for public health insurance programs, and that states empowering their Marketplace to directly enroll Medicaid-/CHIP-eligible applicants may have been more effective in increasing enrollment of previously eligible children.

Welcome mat effects were significant throughout our results, regardless of state policy, a potential testament to "no wrong door" policies that welcomed families to seek insurance coverage through any of the ACA's insurance support pathways and would have been highly relevant for families with a mix of Medicaid-/CHIP-eligible children and Marketplace-eligible parents. Streamlining also likely played a role; standardized income rules simplified eligibility determination in all programs. Our research supports existing literature[8,9] that has shown enrollment grew more in states that chose to further streamline coverage by tasking their Marketplace authorities to enroll any publicly-eligible applicants directly into Medicaid/CHIP. The effectiveness of this policy was evident in the first year of the ACA, as public coverage in expansion states grew by 4pp in Marketplace Determination states (vs 0pp in Assessment states) and continued to grow over time. By the last year of our sample (2018), public coverage had increased by 8pp to 13pp and growth was

Table 4. Post-ACA Change in Any Public Coverage Among Pre-ACA Medicaid-/CHIP-Eligible Children in Families 139% to 250% FPL living in Expansion States by State Marketplace Policy and Parental ESI Coverage Status, 2013 to 2018.

	Expansion states		
	All[1]	**No parent with ESI coverage[2]**	**At least 1 parent with ESI coverage[2]**
	Marginal Effect (std error)	Marginal Effect (std error)	Marginal Effect (std error)
Post-ACA marginal effect by marketplace policy			
Marketplace determination	0.09** (0.00)	0.13** $ (0.01)	0.02** (0.00)
Marketplace structure: state based or federal determination			
Marketplace assessment	0.04** (0.01)	0.04** (0.01)	0.03** (0.01)
Marketplace structure: federal assessment			
Difference in differences across marketplace policy			
Determination vs assessment	0.05** (0.01)	0.09** $ (0.01)	0.00 (0.01)

Note. American Community Survey 2013 to 2018. Non-disabled, citizen children in families 139% to 250% FPL living in expansion states and simulated to be eligible for Medicaid/CHIP using 2013 Modified Adjusted Gross Income-converted thresholds and with parents ineligible for Medicaid (in any year). Dependent variable is a 1/0 indicator for public coverage measured at the time of the interview. Parental coverage indicates whether at least 1 parent in the family holds employer sponsored private insurance (ESI) or whether no parent holds ESI. Marketplace policy and Expansion policy entered by year using data from Kaiser Family Foundation. Marginal Effects from (1) Triple difference model with Post-ACA, Marketplace Authority to Enroll, and Expansion Policy and (2) Triple difference model with Post-ACA, Marketplace Authority to Enroll, and Parental ESI status. Both models control for child and parent characteristics, state fixed effects and use balance repeated replications to calculate standard error. Marginal Estimates represent the average change in public coverage over all Post-ACA years (average over 5 year period 2014-2018) compared to Pre-ACA year 2013. Estimates significantly different from zero at **1%, *5% levels. Significant difference between Non-ESI and ESI estimate at $1% level. Full model results with coefficients are available in Supplemental Appendix Tables 11 and 15.

universally larger in Marketplace Determination states. We estimate 1.1 million additional children were enrolled, representing a 27% increase in public coverage overall (not shown).

Other policy dimensions were also relevant in our analyzes. Although previous research found that welcome mat effects were larger in states adopting a state-based Marketplace[8] (vs federal), we found no such differences once we accounted for expansion policy. Our findings suggest that the driving force in Marketplace policy for welcome mat effects was not the choice between state and federal Marketplaces, but instead, whether the Marketplace had the authority to enroll applicants into Medicaid/CHIP. Consistent with the literature, we found that welcome mat effects were typically larger in expansion states. However, our research provides a first look at Marketplace policy in non-expansion states and in models that account for growth over time, we find evidence of a delayed effect in non-expansion states. For these states, welcome mat effects were present in all years, but did not vary by Marketplace policy until the fourth year of the ACA (2017). By 2018, welcome mat effects in Determination states outpaced those in Assessment states in both expansion and non-expansion states, and with no significant difference in size by expansion policy. In addition, in models that observe a broader range of families with mixed Marketplace and Medicaid/CHIP eligibility in non-expansion states (100%-250%FPL), we find Determination policies were associated with greater welcome mat effects.

The magnitude of our average post-ACA welcome mat effects ranged from 2pp to 13pp. The lower range (2pp to 5pp) applied to children whose parents held ESI coverage

and to children in non-expansion states. These are consistent with welcome mat estimates from earlier ACA studies covering publicly eligible children with lower incomes (below 138% FPL)[5] and among the broader US non-elderly population.[21] These estimates also align with welcome mat effects measured for low-income children in California counties that opted for early adoption of the ACA Medicaid expansion to adults[22] and for children under earlier Medicaid expansions to parents between 1995 and 2002.[23]

By contrast, welcome mat estimates at our upper bound were significantly larger than ACA welcome mat effects measured for children thus far in the literature. At 9pp to 13pp percentage points, they were also many times larger than our own estimates for children whose parents held ESI. One explanation could lie in pre-ACA insurance coverage rates observed among eligible children at 139% to 250% FPL whose parents lacked ESI coverage. Using 2013 ACS data (not shown), these children were far more likely to be uninsured (19%) when compared to children at the same income level whose parents held ESI (4%), and to children at lower incomes (below 138% FPL, 6%-10%)[5]. Their lack of insurance coverage in 2013, despite eligibility for public coverage, indicates insurance initiatives (both private and public) had failed to reach them on the eve of the ACA. They may have been ripe for new coverage efforts under the ACA, even if those efforts were intended to reach adults.

Post-ACA trends in Marketplace coverage among parents also inform our results. Not surprisingly, models show a significant increase in parental non-group private in the

post-ACA period. But in contrast to public coverage trends for their children, parental non-group private coverage did not vary by Marketplace policy. In other words, the state policy regarding Marketplace authority to enroll Medicaid-/CHIP-eligible applicants had no differential effect on whether parents enrolled in Marketplace coverage, but did have an effect on whether their publicly eligible children were enrolled in Medicaid/CHIP.

Conclusion

Our findings are highly relevant for children's health policy. They provide new evidence of how eligible but unenrolled children can be reached through policies that include outreach, simplification of application/enrollment procedures, and coordination across programs. They also speak to the importance of family-level decision making in children's coverage. Previous research found that children had larger welcome mat effects under the ACA when their parent was also eligible for Medicaid[5] and our results suggest that Marketplace outreach may have played a similar role, increasing Medicaid/CHIP enrollment for children by attracting parents to apply for subsidized private coverage through the Marketplace.

Changes on a broad spectrum of health policies make it unclear whether the gains observed in our work will continue beyond 2018. Shortened open-enrollment periods and cutbacks in navigator funds used for outreach and enrollment could affect the role of Marketplaces in attracting families of Medicaid-/CHIP-eligible children to apply for insurance coverage. In questionnaires concerning cuts of Navigator funds, over one-third of states responded that they were likely to curtail services related to Medicaid/CHIP coverage. For example, states may opt to pre-screen consumers seeking help through Navigator programs and ask those who are likely to be Medicaid-/CHIP-eligible (versus Marketplace subsidy eligible) to return at a later date.[20,24] Furthermore, proposed Medicaid restrictions including work requirements, time limits, drug testing, and behavioral health could both dampen new enrollment and decrease retainment rates for currently enrolled.[25-27] And, the removal of tax penalties associated with the insurance mandate could decrease insurance coverage across all sources. These challenges exist even if the ACA escapes pressures of a full repeal. It will be important for researchers to continue the work we present here, to study the role of Marketplace policy and other insurance support programs (ACA and non-ACA) on coverage for low-income children. As policy makers determine the future of the ACA, or alternative plans to replace it, this line of research provides information needed to understand how multiple programs are intertwined, that coordination and simplification across programs may lead to improved enrollment, and that removal of current programs targeted to adults could possibly result in lower coverage outcomes for their children.

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Supplemental Material

Supplemental material for this article is available online.

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