The effect of expanding Medicaid eligibility on Supplemental Security Income program participation

Marguerite Burns and Laura Dague

ABSTRACT

Low-income adults without dependent children have historically had few paths to obtain public health insurance unless they qualified for Supplemental Security Income (SSI) cash benefits because of a disability. However, in states that expand their Medicaid programs, childless adults may obtain Medicaid without undergoing an intensive SSI disability review process and with substantially higher income and assets than the SSI program allows. This expanded availability of Medicaid coverage, independent of SSI participation, creates an opportunity to increase earnings and savings without jeopardizing health insurance coverage. In this paper, we use the natural experiments created by state decisions to expand Medicaid to nondisabled, nonelderly adults without dependent children to study the effect of decoupling Medicaid eligibility and cash assistance using a difference-in-differences study design. We collected data on the income eligibility limits, enrollment caps, and coverage characteristics of state Medicaid expansions to childless adults from 2001-2013. We combine these data with the nationally representative American Community Survey to estimate the effects of state expansion on SSI participation. We find relative declines in SSI participation caused by Medicaid expansions of 0.17 percentage points, a 7% relative decrease; this finding suggests the potential for small but important efficiency gains from separating SSI and Medicaid eligibility.

Keywords: Health insurance, Medicaid, Disability Policy, Supplemental Security Income

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ACKNOWLEDGMENTS

The authors appreciate the excellent research assistance provided by Jessica Smith and Madeline Kasper at the University of Wisconsin– Madison. This paper is supported in part by a sub-grant awarded by the Institute for Research on Poverty at the University of Wisconsin–Madison that drew from grant number AE00102 from the U.S. Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation (ASPE), which was awarded by the Substance Abuse and Mental Health Services Administration (SAMHSA). Its contents are solely the responsibility of the author(s) and do not necessarily represent the official views of IRP, ASPE, or SAMHSA.

INTRODUCTION

The federal Supplemental Security Income (SSI) program provides cash assistance to poor adults with work-limiting disabilities who have few assets. Nationwide, 4.9 million non-elderly adults with disabilities receive SSI benefits totaling $34 billion per year in federal cash payments (Social Security Administration, 2015a) and an average of $9,250 per beneficiary per year in federal Medicaid expenditures (Congressional Budget Office, 2012). Historically, participation in the SSI program has also served as the primary route to Medicaid coverage for adults with disabilities (Medicaid and CHIP Payment and Access Commission, 2012).

Because determining disability status can be imprecise and subjective, changes in the absolute or relative value of program benefits may affect individual decisions to apply or continue their participation (Daly and Burkhauser, 2003). Such behavioral responses are important because they may increase program costs and decrease social welfare by distorting labor supply and asset accumulation decisions. Changes in the attributes of the disability program itself or those of related transfer programs may influence an individual's valuation of an SSI award and the decision to participate (Moffitt 1992). The availability of Medicaid coverage, that is independent of SSI program participation, provides a financial cushion to support the health care needs of potential or current SSI beneficiaries; it decreases the value of an SSI award to them. The purpose of this paper is to study how the availability of such stand-alone Medicaid coverage affects enrollment in SSI.

The Affordable Care Act (ACA) authorized and incentivized states to offer Medicaid coverage to adults with incomes at or below 138% of the federal poverty level (FPL), regardless of health, parental, or disability status. Prior to the ACA, coverage for non-disabled adults

without dependent children was less common, as it required a special waiver from the federal government to use Medicaid funds or an independent fully state-funded initiative. In states that choose to expand their programs, low-income adults with disabilities may obtain Medicaid coverage without pursuing the federal disability application process and with relatively higher income and assets than the SSI program allows. Decoupling Medicaid eligibility from SSI eligibility may decrease SSI participation if it reduces the transaction costs associated with obtaining Medicaid and decreases the relative value of an SSI award to a prospective or current beneficiary. Alternatively, SSI participation may increase to the extent that the greater availability of Medicaid improves access to the health care needed for a disability determination, or increases awareness and take-up of other welfare programs. Although not uniform in their findings, the few empirical studies that have considered the interactions between health insurance and SSI adult participation provide stronger support for the hypothesis that they are net substitutes (Yelowitz, 1998; Yelowitz, 2000; Baicker et al., 2013; Maestas, Mullen & Strand, 2014).

In this paper, we contribute to the literature on disability program participation by providing the first estimates of the effects of adult Medicaid expansions on SSI participation for a population we expect to be particularly affected by the separation of health insurance from cash benefits, nonelderly adults without dependent children ("childless adults.") We combine a new national dataset that characterizes state Medicaid expansions with the nationally representative American Community Survey (U.S. Census Bureau, 2014; Ruggles et al., 2015). Using a difference-in-differences design, we compare the changes in SSI program participation for low-income childless adults who resided in states that implemented a Medicaid expansion

for childless adults from 2001-2013 (prior to the implementation of ACA-incentivized expansions) to those in states without such expansions.

We find that on average introducing Medicaid coverage for childless adults decreases the proportion of non-elderly childless adults enrolled in SSI by approximately 0.17 percentage points, a relative decline of 7%. This finding is robust to several definitions of Medicaid coverage, adjustment for the presence of Medicaid enrollment caps or freezes, and a variety of alternative model specifications. Our findings offer a preview of the potential consequences of the ACA Medicaid expansions on participation in social welfare programs and provide insight into the relative value of health insurance coverage and cash benefits for low-income adults with disabilities.

BACKGROUND

The Supplemental Security Income program: Eligibility, benefits, and participation incentives

The Social Security Administration (SSA) administers the SSI program. This means-tested program provides income maintenance to several low-income populations including the elderly, children with disabilities, and the population of interest for this study, non-elderly adults with disabilities.[1] The SSA defines disability as the inability to engage in "substantial gainful activity" (SGA) because of a medical condition that is expected to result in death or last for at least 12 months.[2] In addition to a designation of disability, initial SSI eligibility requires

[1] For an excellent and comprehensive description of the SSI program, see Duggan, Kearney & Rennane (2015).
[2] The SSI program is distinct from the Supplemental Security Disability Insurance (SSDI) program. Both are federal disability cash assistance programs and share the same medical eligibility criteria. However, SSDI is a social insurance program available to any individual with a sufficient work history who meets the medical eligibility criteria. Thirty percent of nonelderly adult SSI beneficiaries also receive SSDI benefits (Social Security Administration 2014a). These "concurrent beneficiaries" have a sufficient work history to receive SSDI payments, yet their income and assets fall below the SSI maximum thresholds.

that the applicant's earnings fall below the federal indicator of SGA (i.e., $1090/month in 2015), and the applicant may possess no more than $2,000 in assets net of several exclusions (e.g., a home, a car, personal effects). The maximum federal cash benefit for adult SSI beneficiaries corresponds to an income of 75% of the federal poverty level (FPL) or $733/month in 2015. However, the average monthly federal payment is substantially less, about $550 (SSA, 2014a). Many states supplement the SSI federal cash benefits. In the most generous state, that supplement results in a total maximum monthly SSI income of 90% FPL (SSA, 2014b). In addition to monthly cash payments, an SSI award typically confers immediate Medicaid eligibility.[3] The Medicaid coverage available to SSI beneficiaries includes the full benefits specified in each state's Medicaid plan.

Although SSI program eligibility is limited to adults who are unable and unexpected to work, the SSI review process for disability is inherently subjective because the disabling effect of many medical conditions is not straightforward (Strand, 2002; Daly & Burkhauser, 2003; Keiser, 2010). The uncertainty of an SSI award combined with the transaction costs of applying may reduce the desirability of SSI program participation and the incentive to apply for some individuals. An offer of Medicaid coverage independent of an SSI award may reduce SSI participation to the extent that Medicaid coverage alone is a substitute for Medicaid coverage plus a cash benefit for the marginal SSI applicant or beneficiary.

[3] All states must offer Medicaid coverage to poor adults with disabilities (Social Security Act Title XIX). The large majority of states satisfy this federal requirement by adopting the SSI eligibility criteria as their Medicaid criteria. In the remaining 11 states, the SSI award satisfies the disability eligibility criterion for Medicaid; however, the SSI beneficiary must also meet income and/or asset eligibility criteria that is typically lower than the federal SSI thresholds (Bruen, Wiener &Thomas, 2003).

Several considerations suggest the plausibility of Medicaid as a substitute for an SSI award for some applicants and beneficiaries: the relative value of Medicaid may be greater than the cash benefit; the transaction costs of obtaining/maintaining SSI eligibility may exceed the value of the cash award; and the applicant or beneficiary may have the capacity to earn or save income above the SSI maximum thresholds. There is some evidence that the Medicaid benefit may be more valuable than the cash benefit to a subset of potential or current SSI beneficiaries. The expected cumulative expenditures for a disabled adult from SSI program entry through the first six years of participation (or death) in 2012 dollars are just under $12,000 in cash benefits and $55,000 in Medicaid spending (Riley & Rupp, 2014). Additionally, the transaction costs of applying to the SSI program are non-trivial. At a minimum, the application process for disability-based benefits includes a review of medical records, an interview with the applicant, and substantial documentation of work history and education (Daly & Burkhauser, 2003). Throughout the application process, an applicant's income and assets may not exceed the SSI maximum thresholds without jeopardizing the possibility of an award.

The SSI program's stringent financial eligibility criteria create disincentives for prospective and current beneficiaries to work and accumulate assets. Daly and Burkhauser (2003) review the basic economic theory. These disincentives are operative for the SSI beneficiaries that have (or regain) the capacity to earn or save income beyond the SSI eligibility criteria. Approximately one-quarter of successful and unsuccessful SSI applicants had some positive earnings in the years preceding application to the program (Bound, Burkhauser & Nichols, 2003). According to the National Beneficiary Survey, about 19% of working age SSI beneficiaries expect to earn enough to leave the SSI program within 5 years (Livermore, 2011). This expectation signals a

widespread interest and orientation toward employment although SSI benefit suspension rates also suggest it is optimistic. Ben-Shalom and Stapleton (2015) find that SSI payments were suspended or terminated because of earnings that exceeded the maximum allowable amount during at least 1 month for almost 10% of working age SSI awardees from program entry through a seven year follow-up period. Empirical evidence suggests that SSI induces some moral hazard for at least a subset of beneficiaries (Neumark and Powers 1998, 2000, 2005; Kaushal, 2010); a large body of work on SSDI provides additional support for the idea that disability benefit programs can have work and asset disincentive effects (Gruber & Kubik, 1997; Black, Daniel, & Sanders, 2002; Autor & Duggan, 2003; Chen & van der Klaauw, 2008; Maestas, Mullen, & Strand, 2013; French & Song, 2014; Moore, 2015; Shu, 2015).

With a standard static consumption-leisure model in mind, there are two important elements of the potential effect of Medicaid expansion on SSI participation. First, since Medicaid income eligibility thresholds under expansions are typically higher than SSI income eligibility thresholds, the incentives behind the substitution effect for marginal SSI applicants (those close to the SSI income threshold) are reduced. Second, because marginal applicants can now qualify for Medicaid regardless of SSI status, the income effect of SSI is reduced. As pointed out by Autor and Duggan (2007), each of these effects is important for policy, because the substitution effect implies first-order deadweight losses while the income effect does not. Therefore, to the extent that Medicaid availability reduces the substitution effect, Medicaid expansion could actually increase efficiency for the SSI population.[4]

[4] While Medicaid coverage for childless adults may itself have labor supply disincentives (Dague, DeLeire, and Leininger, 2013; Garthwaite, Gross, and Notowidigdo 2014), the income thresholds are typically significantly higher

There are many potential impediments to gainful employment for prospective and current SSI beneficiaries that are refractory to the availability of Medicaid coverage (Bound, Burkhauser, & Nichols, 2003; Livermore, 2011). However, it is notable that the SSI program includes several provisions to support employment among beneficiaries that explicitly recognize the importance of Medicaid coverage to SSI beneficiaries. Once enrolled, an SSI beneficiary may continue to receive full Medicaid coverage after her earned income reaches the SGA threshold (roughly 111% FPL) if she continues to meet the asset and disability SSI eligibility criteria. The SSI cash benefit is reduced according to a marginal tax rate of 50% on earnings and 100% on other income after exclusion of a very modest amount. When her total income becomes too high to receive any SSI cash payment (approximately 150%FPL), she may retain Medicaid benefits if the disability persists, assets remain below the $2,000 eligibility threshold, the Medicaid coverage is needed to work, and gross earned income does not exceed a state-determined threshold (SSA, 2015b). Just under 3% of working age SSI beneficiaries participate in the latter two provisions (SSA, 2015a). Additionally, the Balanced Budget Act (1997) and the Ticket to Work and Work Incentives Improvement Act (1999) gave states additional flexibility to offer Medicaid coverage to adults with disabilities who rejoin the labor force by creating Medicaid Buy-in programs. However, SSI enrollees represent only 4% of "Buy-In" participants, or about 4,000 adults (Gimm et al., 2009). The recent adult Medicaid expansions represent a significant departure from these strategies to incentivize work and

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than those for SSI, so the marginal individuals for whom the substitution effect is salient are unlikely to be the same.

savings because they wholly sever the decision to participate in the SSI program from the decision to obtain or retain public health insurance.

State Medicaid Expansions for Adults without Dependent Children

Historically, Medicaid coverage for adults without dependent children was contingent upon a SSA determination of disability, low income and limited assets. The availability of Medicaid coverage for childless adults with or without disabilities began to significantly increase in the 2000's (Klein & Schwartz, 2008). As described in greater detail below, a total of 11 states introduced some type of Medicaid coverage to childless adults regardless of their disability status between 2001 – 2013. Because these Medicaid expansions focused on childless adults in general without regard to health status, no SSA disability award was required to enroll. Moreover, the maximum income thresholds were typically more generous than the income eligibility criterion for SSI participation (Dorn et al., 2004; Sommers, Kenney & Epstein, 2014; DeLeire et al., 2013). As such, in these states low-income childless adults could obtain Medicaid benefits without pursuing the SSI application process and with relatively higher income than the SSI program permits. In states without early adult Medicaid expansions, the paths to Medicaid coverage for childless adults who were not enrolled in the SSI program remained very limited.

Previous Research on SSI and Health Insurance

There is a large literature that examines economic, epidemiological, and demographic determinants of adult SSI participation (e.g., Rupp & Stapleton, 1995; Rupp, 2012; Schmidt, 2012; Black, Kermit & Sanders, 2002; Aizer, Gordon & Kearney, 2013), as well as the impact of welfare program attributes and changes on SSI participation among children and single mothers

(Garrett & Glied, 2000; Schmidt & Sevak, 2004). However, the empirical research on the interactions between Medicaid and SSI program participation is relatively limited. Yelowitz (1998) found that the rising value of Medicaid coverage, defined as average Medicaid expenditures for blind SSI beneficiaries, explained 13-20% of the SSI caseload growth for adults with disabilities between 1987-1993. Coe and Rupp (2013) observed a positive association between the generosity of Medicaid availability in a state and earnings among SSI beneficiaries, a potential signal of transitioning out of the SSI program. However, because the study data included only SSI and SSDI beneficiaries, the authors were unable to evaluate the relationship between Medicaid availability and SSI participation at the extensive margin.

Only three studies directly consider the effect of expanded health insurance eligibility on SSI participation. Yelowitz (2000) evaluated the introduction of the Qualified Medicare Beneficiary (QMB) program in the early 1990's on SSI participation among elderly, non-disabled adults. The QMB program increased the income eligibility limit for Medicaid and offered this coverage to eligible seniors without the need to participate in the SSI program. SSI participation among elderly adults declined after the introduction of the Qualified Medicare Beneficiary (QMB) program. More recently, Baicker et al. (2014) assessed the effects of the Oregon Health Insurance Experiment on participation in a variety of social welfare programs including SSI. The Oregon Medicaid program randomly allocated a limited number of openings for an adult Medicaid expansion to low-income adults that were not already eligible for Medicaid. The authors did not anticipate an effect on SSI participation because individuals who were eligible for Medicaid through other eligibility categories such as SSI were excluded from the lottery-allocated spots. Consistent with their expectations, one-year after the lottery, there

were no significant differences in SSI participation among adults who were and were not allocated to the Medicaid expansion.

Finally, in the study that most closely resembles our own, Maestas et al. (2014) evaluated the effects of the 2006 Massachusetts (MA) expansion of public and private health insurance on the SSI application rate among non-elderly adults, including concurrent applications to SSI and SSDI and applications to SSI-alone. On average, they found no substantial change in SSI application rates between MA and the comparator states. However, in counties with low (high) insurance rates pre-expansion, the SSI application rate decreased (increased) following the insurance expansion. The decreased rate of SSI applications in low-insurance counties is consistent with a decline in the relative value of SSI as new paths to health insurance became available. The increased applications within high-insurance counties may reflect a release from job lock among those with greater attachment to the labor force, concurrent SSI/SSDI applicants.

We conclude from the previous research that the introduction of Medicaid coverage, independent of SSI eligibility, reduced age-related SSI participation among seniors and has had mixed effects on SSI participation among working age adults. The current study builds upon and extends this research. We estimate the effects on SSI participation of childless adult Medicaid expansions in nearly a dozen states over 13 years, increasing the generalizability of findings beyond a single state or time period. We focus exclusively on the childless adult population, the population that we expect to be most affected by the decoupling of Medicaid coverage from SSI eligibility because of their previously limited access to Medicaid coverage. Finally, we examine Medicaid expansions that preceded the majority of the ACA-induced

changes to the private health insurance market strengthening our capacity to identify the consequences of the Medicaid expansions on SSI participation apart from simultaneous changes in the private health insurance market.

METHODOLOGY

Data Sources

We combine nationally representative survey data, the American Community Survey (ACS) with a new comprehensive primary data source on state Medicaid programs for adults without dependent children, the Medicaid Waiver Dataset (MWD). We describe each in turn as well as how we construct the variables of interest and the sample for analysis.

The ACS is an annual cross-sectional national household survey that collects detailed housing and population characteristics (U.S. Census Bureau, 2014; Ruggles et al., 2015). Beginning in 2001, these data have supported yearly national and state estimates that are representative of the U.S. non-institutionalized population. The annual sample size from 2001-2005 ranged from approximately 513,000 to 602,000 housing units. In 2005, the U.S. Census bureau substantially increased the ACS sample sizes and added individuals who resided in group quarters (i.e., nursing facilities, college residence halls, and correctional facilities). These modifications resulted in annual sample sizes of 1.9 – 2.3 million housing units, made possible sub-state area estimates, and the capacity to generalize survey results to the full U.S. population. The ACS is part of the decennial census, and response is mandatory. The annual response rate is well above 90% each year. For this study, we pool data from 2001-2013 and restrict our sample to the non-institutionalized population.

There is currently no centralized and publicly available resource that synthesizes state Medicaid programs for childless adults. Our Medicaid Waiver Dataset (MWD) is intended to address that gap. The dataset characterizes the presence and attributes of childless adult Medicaid coverage for each state and the District of Columbia from 1996 through 2014. It includes coverage authorized and funded through state-only initiatives, Section 1115 waiver programs, and State Medicaid Plans. We constructed this dataset through a systematic review of multiple sources including state and federal Medicaid documents, research publications, state news, and onsite data collection at the Centers for Medicare and Medicaid Services. The documentation for this dataset including information regarding its public availability is included in Appendix A.

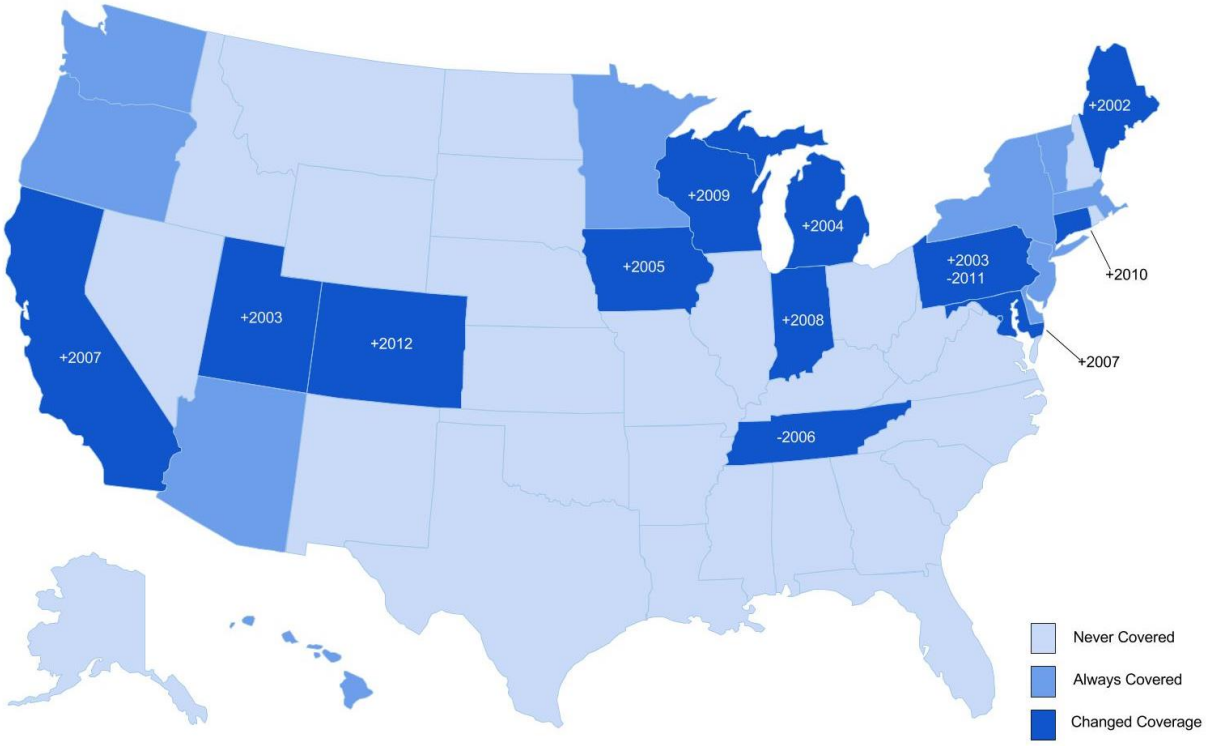
Defining Medicaid Coverage

There is significant variation across states and years regarding the type and generosity of Medicaid program assistance with health care for non-disabled, childless adults ranging from traditional Medicaid enrollment and benefits to very limited assistance with private insurance premiums for employers. Because we are interested in identifying those states in which non-SSI Medicaid would be a true substitute for a marginal applicant, we only considered a state to have childless adult Medicaid coverage for purposes of this paper if the program was similar in covered services and structure to the type of traditional Medicaid coverage available to SSI beneficiaries. In particular, we exclude programs that offered only premium assistance and programs in which the state funded select facilities to subsidize care delivery to poor adults. Within the state-years in which Medicaid coverage for childless adults was present according to our definition, we identified two program characteristics that may influence the relative costs

and benefits to the individual of pursuing Medicaid coverage independent of SSI participation. These include the maximum income eligibility threshold for childless adult Medicaid coverage, and the presence of enrollment ceilings, wait lists, or freezes for childless adult Medicaid coverage.

After determining the childless adult Medicaid coverage status for each state-year in the dataset, we identified the treatment group for this study as those states that implemented and/or discontinued childless adult Medicaid coverage between 2001-2013. We refer to this group as our "change states." These include the following: ten states that introduced and maintained Medicaid coverage for childless adults, CA, CO, CT, IN, IA, ME, MD, MI, UT, WI; one state that introduced and discontinued childless adult coverage, PA; and one state that discontinued Medicaid coverage for childless adults that had been introduced before 2001, TN. The comparison group includes eleven states that offered some Medicaid childless adult coverage throughout the study period (AZ, DE, DC HI, MA, MN, NJ, NY, OR, VT, WA) and twenty-eight states that never offered Medicaid coverage to childless adults during the study period (AL, AK, AR, FL, GA, ID, IL, KS, KY, LA, MS, MO, MT, NE, NV, NH, NM, NC, ND, OH, OK, RI, SC, SD, TX, VA, WV, WY). Figure 1 illustrates the timing of Medicaid coverage changes for childless adults by state. The maximum income eligibility threshold in most states and years was at or below 200% FPL while the use of enrollment caps or freezes became increasingly common over the study period as summarized in Figure 2. In 2013, half of states with Medicaid coverage for childless adults had an enrollment cap or ceiling.

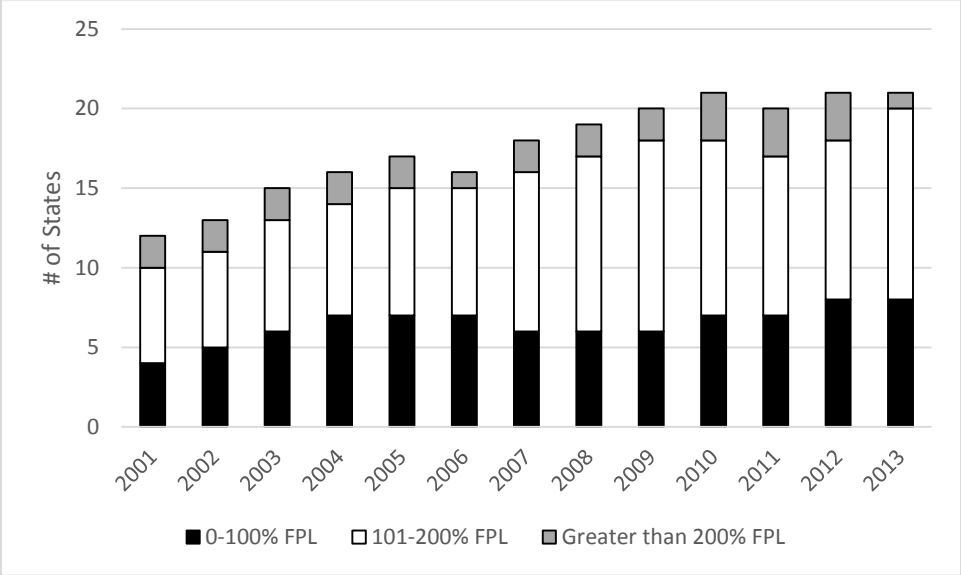
Figure 1. Summary Map of Medicaid Coverage for Childless Adults, 2001 – 2013



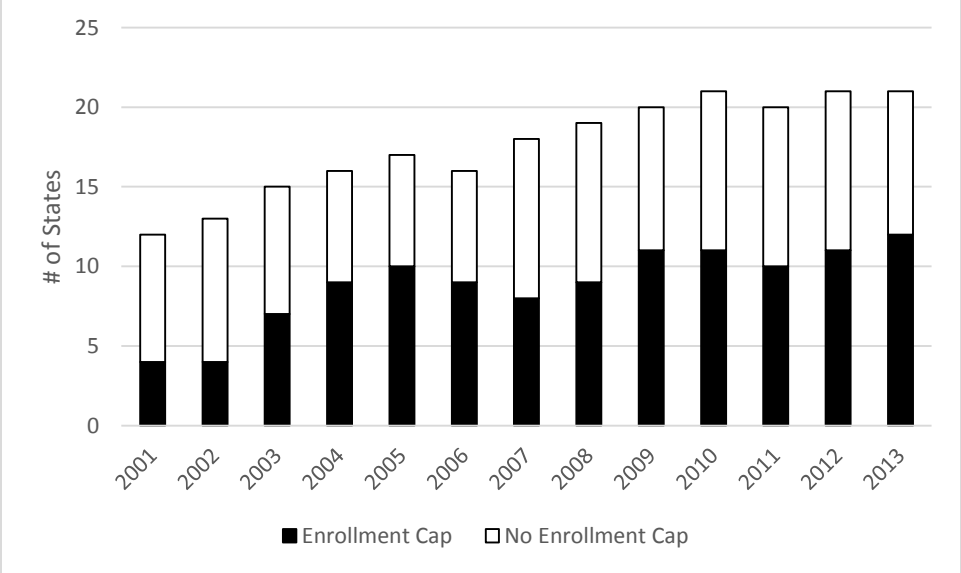
Notes: Authors' calculations using the Medicaid Waiver Dataset. "Always covered" states provided continuous Medicaid coverage for some childless adults between 2001 - 2013. "Changed coverage" states expanded or eliminated Medicaid coverage for childless adults between 2001 - 2013. "Never covered" states did not offer Medicaid coverage for childless adults from 2001 - 2013.

Figure 2. Characteristics of Medicaid coverage for childless adults among states that offered coverage between 2001 – 2013

a) Maximum Income Eligibility



b) Presence of an enrollment cap or freeze

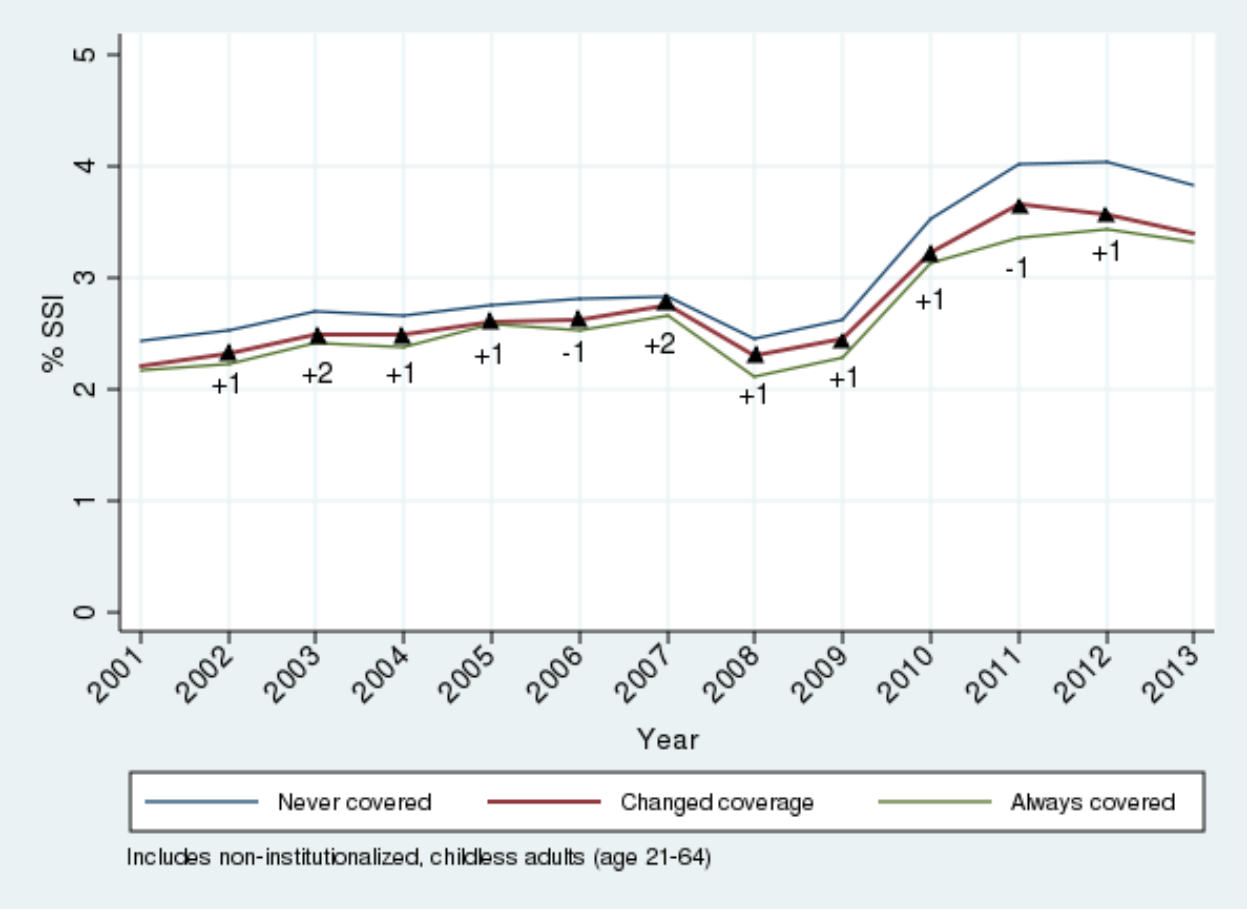


Notes: Authors' calculations using the Medicaid Waiver Dataset. See Appendix A for documentation.

Defining SSI Participation

The study's outcome of interest is SSI participation. In the ACS, respondents are asked to report annual income from a variety of sources including the SSI program. We define SSI participation as a binary variable in which 1 indicates receipt of any SSI income during the past 12 months (Schmidt & Sevak, 2004). In Figure 3, we illustrate the trend in SSI participation among working age, non-institutionalized childless adults from 2001-2013. We plot this trend for three mutually exclusive groups of states: states that never offered Medicaid coverage to childless adults during this time period; states that changed Medicaid coverage for childless adults during this time period; and states that provided Medicaid coverage to some childless adults continuously from 2001-2013. Additionally, we indicate the number of states (if any) that introduced or eliminated coverage for childless adults by year. Overall the proportion of working age adults with SSI benefits is low at 2 – 3.5% and rising over time in each of the state groups similar to published estimates for the working-age SSI population more generally during this time period (Duggan, Kearney, & Rennane, 2015). Consistent with the notion that offering Medicaid coverage apart from an SSI award reduces the relative value of the SSI award, we see relatively lower rates of SSI participation in states with childless adult Medicaid coverage.

Figure 3. Annual SSI Participation rates by state Medicaid coverage status for childless adults



Notes: Authors' calculations using the American Community Survey for SSI participation data. Analyses are weighted to represent the non-institutionalized working age population of the United States. The Medicaid Waiver Dataset was used to identify state Medicaid coverage status for childless adults. The number of states that introduced or eliminated childless adult coverage in each year (if any) is indicated.

Analytic Sample

We select non-institutionalized adults ages 21-64 without dependent children from the ACS. Table 1 shows the weighted means and standard errors calculated across states for several relevant sample demographic characteristics. Standard errors are clustered at the state-level. Table 1 uses only data from the 2001 ACS in order to capture any differences at the baseline period. The table groups states together according to the same 3 categories described

above: states that introduced or stopped covering childless adults at some point during the study period; states that never covered childless adults during the study period; and states that covered childless adults throughout the study period. The table also includes the results of t-tests for the difference in means for always- and never- covered states relative to states that changed coverage status. For the most part, average state characteristics at baseline are very similar regardless of childless adult coverage status. Just over half of the sample is male for all three state groupings, and 15-18% are of non-white race across the three types. The average age of a person in the sample is just over 40 years old. The vast majority report speaking English well and were born in the United States. The t-test results show that the education levels are slightly lower (86% with at least a high school diploma or GED) in states that never had a childless adult program than those that changed status (88%), and slightly higher in states that always had a childless adult program (90%). None of these differences are particularly large or concerning, but as discussed below our preferred specification includes controls for all of these observable characteristics. We additionally compared the average state unemployment rate for adults aged 16 and older across the 3 groups of states (data not shown). These 2001 rates were similar across states that changed coverage status (3.47%), never offered coverage (3.56%), and always offered some coverage to childless adults (3.48%). We constructed this state-level measure from the ACS based on respondents' employment status in order to describe the macroeconomic conditions in the state. We excluded childless adult respondents (i.e., our analytic sample) in the construction of this measure because SSI participation is a determinant of employment status.

Table 1. State population characteristics at baseline according to Medicaid coverage status for childless adults between 2001 - 2013

	Change States	Comparison States	
		Never	Always
SSI Participation Rate (%)	**2.204**	**2.419**	**2.160**
	(0.134)	(0.195)	(0.153)
Male (%)	**51.33**	**51.03**	**51.07**
	(0.298)	(0.104)	(0.232)
Non-white (%)	**15.33**	**15.23**	**18.24**
	(3.669)	(1.439)	(3.202)
Age	**42.89**	**43.83**	**42.41**
	(0.580)	(0.219)	(0.276)
Speaks Eng. Well (%)	**97.09**	**97.96**	**97.13**
	(1.262)	(0.464)	(0.450)
Born in US (%)	**88.05**	**92.16**	**86.03**
	(4.675)	(1.400)	(2.068)
Married (%)	**46.85**	**50.94**	**43.25**
	(2.151)	(0.744)	(1.746)
HS Dip. or GED (%)	**88.32**	**86.10***	**90.22***
	(0.675)	(0.684)	(0.687)
Unweighted sample (N)	**110,806**	**181,098**	**74,228**
State (N)	**12**	**28**	**11**

Notes: Table reports the 2001 mean and standard error for each of the listed characteristics for non-institutionalized childless adults ages 21-64 in the American Community Survey. Each column represents a group of states defined by the availability of Medicaid childless adult coverage between 2001-2013: "Change" refers to states that expanded and/or eliminated Medicaid childless adult coverage; "Never" refers to states that never had childless adult Medicaid coverage; and "Always" refers to states that had Medicaid childless adult coverage throughout the study period. The reference group for t-test comparisons of means is the "Change" ** p-value < 0.01; * p-value <0.05.

Empirical Model

We use a difference-in-differences design in order to estimate the effect of Medicaid coverage expansions for childless adults on SSI participation rates. In particular, we compare SSI participation in states that changed Medicaid coverage for adults without dependent children relative to those that did not, before and after the change occurred. In most cases these

changes were expansions as described above. The following equation describes the basic model:

$$(1) \quad y_{ist} = \alpha_t + \beta_s + \boldsymbol{M_{st}\delta} + \boldsymbol{X_{ist}\theta} + \boldsymbol{Z_{st}\sigma} + \mu_{ist}$$

In this equation, *i* indexes individual, *s* state, and *t* year. The outcome of interest, SSI participation, is represented by y_{ist}. A full set of year effects (α_t) that control for differences over time common to all states and state effects (β_s) that control for differences across states that are constant over time are included. The vector $\boldsymbol{M_{st}}$ is a set of one or more Medicaid policy variables (described further below) that are defined for the states and years during which the relevant policies were in place, making $\boldsymbol{\delta}$ the coefficient(s) of interest. The vector $\boldsymbol{X_{ist}}$ is a set of individual-specific covariates that vary over time and may affect SSI participation including sex, race, age, marital status, born in the U.S., English proficiency, and educational achievement. However, since the policy variables vary only at state-year level, the inclusion or exclusion of these covariates should not affect the estimated treatment effect. While the empirical literature has identified disability status as a determinant of SSI participation, we do not include disability measures in our analyses. In a cross-sectional survey, we cannot distinguish whether these variables reflect the propensity to participate in SSI or a consequence of participation. The vector $\boldsymbol{Z_{st}}$ is a set of state-specific covariates that vary over time and may affect SSI participation; we focus on the role of fluctuations in state economies and so include the change in state unemployment rates and the level of the lagged unemployment rate**.** As described above, state unemployment variables represent unemployment among adults aged 16 years and older excluding childless adults. Unobserved individual-specific errors are represented by μ_{ist}.

We specify the potential set of Medicaid policy variables ($\boldsymbol{M_{st}}$) as follows: $CACov_{st}$, a dummy variable that is equal to one if a state has childless adult coverage in a particular year and zero otherwise; $Threshold_{st}$, a continuous variable that represents the size of the income threshold in %FPL for a state in a particular year; and Cap_{st}, a continuous measure that that represents the fraction of income eligible childless adults who may enroll when an enrollment cap or freeze is in place. For example, a 10% cap indicates Medicaid coverage is available to approximately 10% of the income-eligible childless adult population in the state. We are most interested in how the presence of an expansion influences SSI participation and so focus on $CACov_{st}$ for the majority of the analysis, but we also include specifications that consider only $Threshold_{st}$ to understand the role of higher income thresholds and specifications that include both $CACov_{st}$ and Cap_{st} to understand the role of enrollment closures.

We estimate the model using Ordinary Least Squares regression techniques. Since we are interested in the causal effect of Medicaid coverage changes and the data are not oversampled in a way that might bias the results, we follow the recommendation of Solon, Haider, and Wooldridge (2015) and estimate our preferred models without the ACS sample weights. Because of the possibility of correlation of individual observations within states over time, we estimate cluster-robust standard errors at the state level (Bertrand, Duflo, & Mullainathan, 2004). All estimation was performed in Stata 14 (StataCorp, College Station, TX).

We use two different sets of states to estimate the model. First, we provide estimates that include all states in the analysis including those that never implement a policy change, those that had some childless adult coverage in place throughout, and those that introduced or discontinued childless adult coverage at some point during the study period. Identification in

this model comes from both the within-state, over time variation and the across-state, within-year variation introduced by the Medicaid coverage changes for childless adults. Second, we provide estimates that limit the analysis to those 12 states that introduced or eliminated coverage for childless adults. In these specifications, the source of identification across states is only among those states that changed childless adult coverage, as they may serve as a more precise set of controls for one another. The downside of using this set of states is a loss of sample size. If the assumptions of the model are satisfied, we would expect similar results across these two sets of states.

We note that the use of a simulated eligibility measure is common in analyses studying the effects of Medicaid eligibility, dating from Currie and Gruber (1996). Simulated measures of eligibility are a response to the problem that unobserved factors (e.g., economic recession) that may determine both an individual's Medicaid eligibility and a study outcome (e.g., low birth weight) make it difficult to attribute the finding to the hypothesized cause, an individual's Medicaid eligibility. Operationally, the simulated measure isolates the extent to which *Medicaid policy or rules* influence an individual's eligibility from the influence of unobserved factors that affect a person's eligibility and her outcome. In doing so, this strategy reduces the threat of omitted variables bias in the resulting estimate of Medicaid eligibility's effects on a given outcome. In this study, however, the independent variable *is* a Medicaid policy, the state's introduction/elimination of coverage for childless adults, rather than an individual's eligibility for Medicaid. As such, there is no concern about the endogeneity of the independent variable and individual characteristics as there would be in an analysis that tries to link an individual's

Medicaid eligibility to SSI participation. Endogeneity of the independent variable and state characteristics is a concern that we address in our discussion of robustness checks below.

Although not necessary for identification, for purposes of consistency with a large literature that adopts simulated measures of eligibility and to provide an additional continuous measure of the size of a Medicaid policy change, we include specifications that feature $SimElig_{st}$ as the independent variable of interest. This variable takes on a value of 0 for all state-years in the comparison group. In the group of 12 states that expanded or eliminated Medicaid coverage for childless adults, the variable takes on a value of 0 in each year that Medicaid coverage is not available to childless adults. For the years in which such coverage is available, we derived the state-specific value of *SimElig* by applying each state's income eligibility criteria for childless adult coverage to a common sample of 2001 ACS respondents. This common sample included working age, non-institutionalized adults without dependent children who resided in any of the 28 states that did not offer Medicaid coverage for childless adults continuously from 2001-2013 (i.e., the "Never" states). The resulting values, the percentage of childless adults in 2001 that would have been eligible for Medicaid under the income criteria of each change state, populated the *SimElig* variable in the 12 change states during the years that they provided Medicaid benefits to childless adults.

RESULTS

Table 2 shows strong evidence that when states expand Medicaid to childless adults, SSI participation rates decrease. The table reports the results from several specifications of the difference-in-differences model in Equation (1), including data from all 50 states and the District

of Columbia. Each specification includes only one of the independent Medicaid policy variables as the variable of interest, and the table reports the estimated coefficient and standard error. Column (1) is a base model that includes only state and year fixed effects in addition to the policy variable of interest. Column (2) includes state unemployment variables in addition to state and year fixed effects. We focus on Column (3), which adds individual characteristics to the Column (2) model as the main specification. Regardless of the particular policy variable, the results are overwhelmingly negative and statistically different from zero, supporting the hypothesis that separating Medicaid eligibility from SSI eligibility reduces the number of people who use SSI benefits.

For our main policy variable of interest, $CACov_{st}$, the base model (Column 1) indicates that going from no childless adult Medicaid program to having one causes a .13 percentage point decrease in SSI participation. Adding state unemployment variables results in a similar decrease. Our preferred specification in Column (3), which incorporates individual characteristics in addition to the controls in Columns (1) and (2), shows that a childless adult Medicaid program results in a .17 percentage point decrease in SSI participation. Relative to a baseline of 2.42% in states that were never covered (Table 1), this is a 7% decrease.

The policy variable $Threshold_{st}$ is scaled so that the coefficient represents the change in SSI participation resulting from a 100-percentage point increase in the maximum FPL eligibility limit. The values of the variable ranges from 0 to 4. Results from our preferred specification in Column (3) show that increasing the income threshold in a childless adult Medicaid program, for example from 0 to 100% FPL, results in a .06 percentage point decline in SSI participation. This estimate is statistically significant at the 10% level. Relative to baseline SSI participation of

2.42, this is a 2.5% decrease, consistent with the $CACov_{st}$ results. The smaller effect size is sensible given the scale of the $Threshold_{st}$ in contrast to the $CACov_{st}$ variable that captures the average change in SSI participation for Medicaid expansions with variable maximum income thresholds (e.g. 0 to 400% FPL).

The Simulated Eligibility measure, $SimElig_{st}$ is scaled so that the estimated coefficient represents the change in SSI participation resulting from a 10 percentage point increase in the *portion* of childless adults eligible for Medicaid coverage. This measure ranges from 0 to 5.2 where 5.2 reflects a state in which, 52% of the working age, non-institutionalized childless adult sample was eligible for Medicaid coverage. Results from our preferred specification in Column (3) indicate that a 10 percentage point increase in the proportion of childless adults eligible for Medicaid coverage, for example from 0 to 10% of the population, results in a .06 percentage point decline in SSI participation; this is a 2.5% decrease which is statistically significant at the 5% level. Although not directly comparable, this result is consistent with the result from the $Threshold_{st}$ variable. Specifically, roughly 10% of the non-institutionalized childless adult sample is at or below 100% FPL suggesting that we should observe similar effect sizes for a Medicaid policy change that increases the proportion of childless adults affected from 0 to 10%.

Table 2. Difference-in-Differences estimates of the effect of Medicaid coverage for childless adults on SSI Participation, 2001 - 2013

Independent Variable	(1)	(2)	(3)	(4)	(5)
Childless Adult Coverage *(CACov)*	-0.00131**	-0.00137**	-0.00165***	-0.00188***	-0.00184***
	(0.000583)	(0.000553)	(0.000549)	(0.000455)	(0.000416)
Maximum Income Threshold *(Threshold)*	-0.000440	-0.000424	-0.000579*	-0.000722*	-0.000715*
	(0.000303)	(0.000284)	(0.000293)	(0.000380)	(0.000359)
Simulated Eligibility *(SimElig)*	-0.000448	-0.000444*	-0.000581**	-0.000559	-0.000547
	(0.000272)	(0.000253)	(0.000263)	(0.000390)	(0.000370)
N (individuals)	9804351	9438219	9438219	9804351	9804351
N (states)	51	51	51	51	51
Individual characteristics			X		X
Lagged unemployment		X	X		
Absolute change in unemployment		X	X		
State fixed effects	X	X	X	X	X
Year fixed effects	X	X	X		
Quadratic time trend				X	X
State-specific time linear trend				X	X

Notes: Table reports the coefficients of interest and standard errors (in parentheses) from unweighted Ordinary Least Squares regression analyses of different versions of the model using American Community Survey data and the Medicaid Waiver Dataset. Each independent variable and column combination is the result of a separate regression. Standard errors clustered at state level. *** indicates statistical significance at 1% level; ** at 5% level; * at 10% level.

Table 3 focuses attention on only those 12 states that either implemented new childless adult programs or eliminated their programs. These states are the main source of identifying variation for the estimates, and so we would expect similar results as found in Table 2. The estimated coefficients are always negative and nearly identical to those in Table 3, with slightly smaller magnitudes for some estimates and slightly larger magnitudes for others. In no case are the differences between the Table 2 and Table 3 coefficients statistically different from one another. The results in Table 3 should also ameliorate concerns about our classification of states. If, for example, we wrongly classified states as never having coverage when in fact that had expanded childless adult coverage (as defined above) we would expect to observe larger effect sizes in Table 3 relative to Table 2. However, the Table 3 results show that our estimates are nearly identical to those presented in Table 2 when we restrict the analysis to states that we identified as having expansions that are likely to be true substitutes for the version of Medicaid an SSI recipient would receive.

In Figure 4 we present results that capture the influence of an enrollment cap or freeze on SSI participation. This analysis includes only the subset of our treatment states for which we had sufficient detail regarding the presence and magnitude of enrollment caps or closures: CO; CT; IN; IA; ME; MD; MI; UT; and WI. We would expect that when caps are present or relatively more binding, the effect of a Medicaid expansion for childless adults on SSI participation would be diminished because the cap reduces the likelihood of obtaining coverage outside of SSI participation. We re-estimated our preferred specification including the independent variable for the presence of childless adult coverage (*CACov*), and a second independent variable that reflects the presence and magnitude of a cap (*Cap*) as described above. Using these regression

Table 3. Difference-in-Differences estimates of the effect of Medicaid coverage for childless adults on SSI Participation among states that changed coverage status, 2001 – 2013

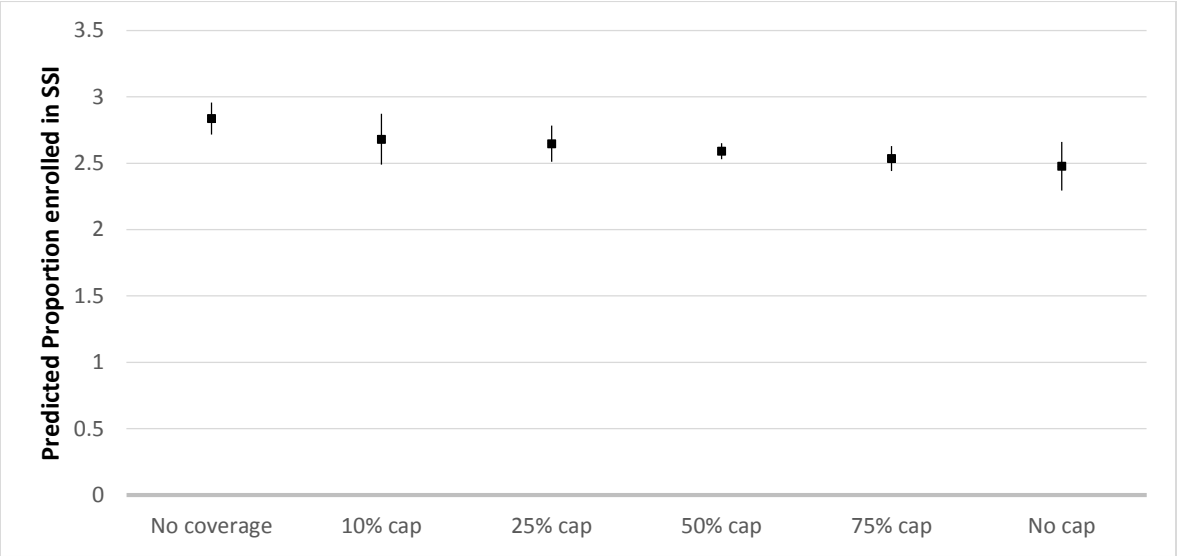
Independent Variable	(1)	(2)	(3)	(4)	(5)
Childless Adult Coverage *(CACov)*	-0.00129**	-0.00116**	-0.00147***	-0.00227***	-0.00222***
	(0.000478)	(0.000466)	(0.000406)	(0.000648)	(0.000594)
Maximum Income Threshold *(Threshold)*	-0.000519*	-0.000446*	-0.000598**	-0.000836	-0.000815
	(0.000287)	(0.000244)	(0.000232)	(0.000553)	(0.000524)
Simulated Eligibility *(SimElig)*	-0.000427	-0.000369	-0.000500**	-0.000665	-0.000649
	(0.000250)	(0.000210)	(0.000204)	(0.000528)	(0.000502)
N (individuals)	3121298	3010492	3010492	3121298	3121298
N (states)	12	12	12	12	12
Individual characteristics			X		X
Lagged unemployment		X	X		
Absolute change in unemployment		X	X		
State fixed effects	X	X	X	X	X
Year fixed effects	X	X	X		
Quadratic time trend				X	X
State-specific time linear trend				X	X

Notes: Table reports the coefficients of interest and standard errors (in parentheses) from unweighted Ordinary Least Squares regression analyses of different versions of the model using American Community Survey data and the Medicaid Waiver Dataset. Each independent variable and column combination is the result of a separate regression. Only states that changed (implemented or eliminated) their childless adult programs are included. Standard errors clustered at state level. *** indicates statistical significance at 1% level; ** at 5% level; * at 10% level.

estimates, we predicted the SSI participation rate for non-institutionalized childless adults under several scenarios ranging from no childless adult coverage to childless adult coverage with no enrollment cap or freeze. The intermediate possibilities range from a 10% to a 75% cap. For example, in a state with childless adult coverage and a 50% enrollment cap, 50% of the income-eligible population may enroll before the enrollment cap is met. The visual trend supports the idea of a dose-response relationship in which greater Medicaid availability leads to larger reductions in SSI participation. With no coverage available, approximately 2.84% of participate in the SSI program. As anticipated, that estimate declines when coverage is made available and enrollment caps become less restrictive: 2.68% of the childless adult population participates in SSI with a 10% cap in place; 2.53% of the childless adult participates in SSI with a 75% cap; and 2.47% participate in SSI with childless adult coverage and no cap present. The difference between the predicted participation rates under no coverage relative to 50% and 75% caps as well as no cap were statistically significant at the 5% level. There were no statistically significant differences between having no childless adult coverage and the presence of more restrictive caps.

Overall we find that the implementation of Medicaid coverage for childless adults results in an average reduction in SSI participation of 5% - 9% relative to no such coverage. These effect sizes are broadly consistent with available previous estimates for a working age population. Specifically, among counties with low rates of health insurance at baseline Maestas et al., (2014) observed decreases of 3.8% - 6% in SSI application rates after the Massachusetts expansion of private and public health insurance.

Figure 4. Predicted proportion of childless adults in SSI according to the presence and magnitude of Medicaid enrollment caps or freezes. Point estimates and 95% confidence intervals.



Notes: The predicted proportion of SSI enrollment is estimated from regression results that include individual characteristics, the absolute change in unemployment, lagged unemployment, state and year fixed effects. The sample includes the 9 states that changed Medicaid coverage between 2001-2013 for which detailed information was available regarding the presence and magnitude of the enrollment caps or freezes: CO; CT; IN; IA; ME; MD; MI; UT; WI. The "no coverage" point estimate reflects the predicted proportion of childless adults enrolled in SSI when there is no Medicaid coverage specific to childless adults. The 10% cap estimate is the predicted proportion of childless adults enrolled in SSI when Medicaid coverage is available to 10% of the income eligible childless adults. The "no cap" point estimate represents the predicted proportion of childless adults enrolled in SSI when Medicaid coverage is available to 100% of the income eligible childless adults

The delinking of Medicaid and SSI eligibility is reminiscent of the severing of Medicaid and the Aid to Families with Dependent Children program (AFDC) eligibility in the late 1980's and early 1990's as states raised Medicaid maximum income thresholds for children and pregnant women above AFDC criteria (Hakim, Boben, & Bonney, 2000). Concurrent changes during that period in AFDC eligibility, welfare benefit generosity, and the U.S. tax code have made it challenging to isolate the effect of the expanded Medicaid eligibility on participation in the AFDC cash assistance program. Early estimates reported a marked decrease in AFDC

participation among single mothers (Yelowitz, 1995); however, this finding has not been demonstrated in subsequent research (Ham Shore-Sheppard, 2005; Meyer and Rosenbaum, 2001). One interpretation that follows from these null findings is that an offer of Medicaid coverage – apart from AFDC eligibility—was an insufficient incentive to alter AFDC participation. That our results suggest a different response to a Medicaid expansion is not altogether surprising as SSI beneficiaries and applicants have significant health impairments that may increase the value that they place on health insurance coverage relative to cash benefits.

Robustness Tests

The key assumption behind the difference-in-differences analysis is that of parallel trends: states that did not expand (or had not yet expanded) Medicaid are assumed to have had similar trends in SSI participation (conditional on observables included in the model) as those that did expand, so that those states and years provide a good counterfactual. The main potential violation of this assumption is policy endogeneity: the idea that states that expanded Medicaid for childless adults were doing so in response to a perceived need in their population which may have independently affected SSI participation as well. While the parallel trends assumption is not directly testable, we provide several checks to assess the plausibility of our research design.

First, we provide estimates in Tables 2 and 3 from specifications that include state-specific linear time trends in addition to a general quadratic time trend. The main concern is essentially the omission of time-varying unobservable characteristics that may influence SSI participation at the state level and the state time trends provide a parameterization of these characteristics.

For these specifications, if the main difference-in-differences estimate remains unchanged, it would provide support for the design. Columns (4) and (5) in both Table 2 (all states) and Table 3 (only states implementing or eliminating programs) show that including these time trends in the regressions results in very similar estimates to the main results in Column (3). For $CACov_{st}$, results remain statistically significant at the 1% level and rather than attenuating are slightly more negative. $Threshold_{st}$ shows a similar pattern, remaining statistically significant at the 10% level in Table 2 but not Table 3; this change is due to increased standard errors rather than changes in the magnitude of the coefficients. $SimElig_{st}$ estimates are not statistically different from zero when time trends are included, but the coefficients are nearly identical in magnitude to the results obtained in the main specification. Overall, we conclude that the results are not particularly sensitive to the inclusion of state time trends.

Second, we explore how changes to our sample might affect the results obtained. In particular, we limit the analysis to the parts of the income distribution which are most likely to be affected by the policy: low income adults with family incomes below 400% FPL. We might expect the results to be even more pronounced if this group is the main population that responds to the policy. Table 4 shows the results of this analysis for regressions featuring each of the three independent policy variables in the main specification, for both the set of all states and for the set of states that changed their programs (Columns 3 and 4). Across all 6 regressions we find that the policy variable is statistically significant at least at the 10% level and that the magnitudes are even larger in absolute value than for the estimates that include individuals of all income levels. For $CACov_{st}$, results remain statistically significant at the 1% level and suggest that in this subpopulation, implementing a childless adult Medicaid program results in a .2 - .3

percentage point decline in SSI participation. The results for $Threshold_{st}$ suggest that a 100 percentage point increase in the income threshold results in a .10 percentage point decrease in SSI participation. Finally, $SimElig_{st}$ estimates show that a 10 percentage point increase in the proportion of childless adults eligible for Medicaid in a state results in a .1 percentage point decrease in SSI participation for this subpopulation. Together, the results in Table 4 strongly support our research design and that the population we would expect to be driving the results indeed appears to be doing so.

Table 4. Difference-in-Differences estimates of the effect of Medicaid coverage for childless adults on SSI participation, 2001 – 2013: Robustness Checks

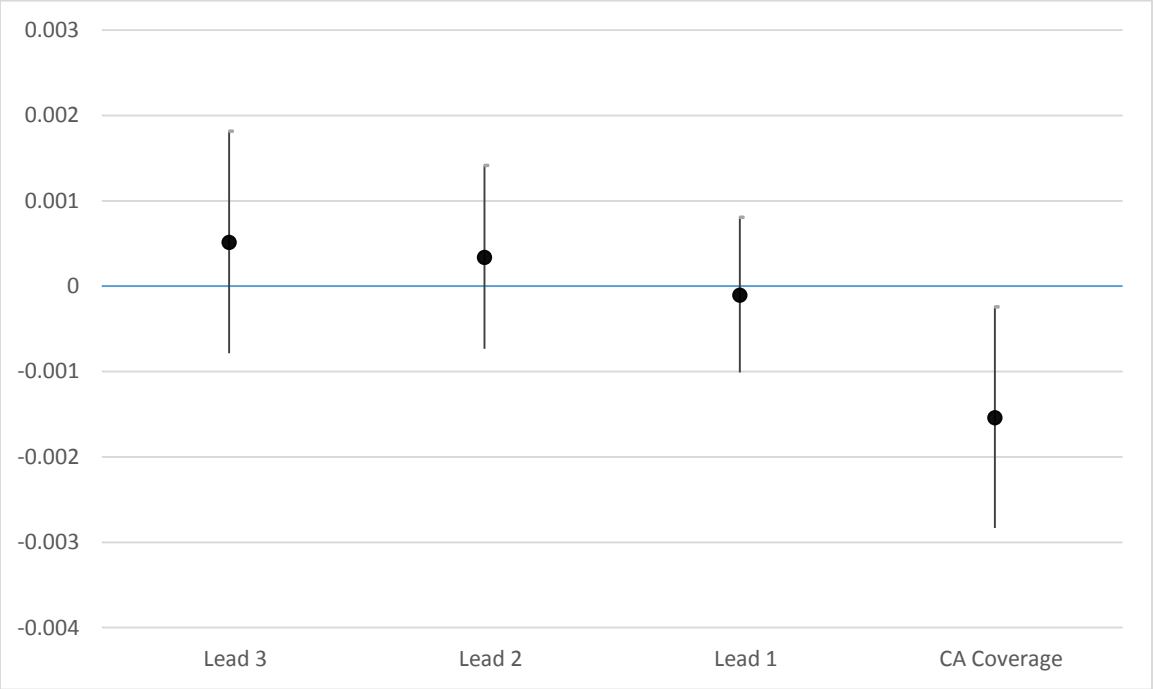
	Weighted Sample		Income < 400% FPL	
	(1)	(2)	(3)	(4)
Independent Variable	**All States**	**States that Changed Coverage**	**All States**	**States that Changed Coverage**
CA Coverage *(CACov)*	-0.00167***	-0.00166***	-0.00278***	-0.00218***
	(0.000468)	(0.000272)	(0.000985)	(0.000570)
Max Income Threshold *(Threshold)*	-0.000627***	-0.000680***	-0.00100*	-0.000981**
	(0.000228)	(0.000178)	(0.000576)	(0.000400)
Simulated Eligibility *(SimElig)*	-0.000622***	-0.000567***	-0.000986*	-0.000809**
	(0.000200)	(0.000158)	(0.000534)	(0.000364)
N (individuals)	9438219	3010492	4991173	1553540
N (states)	51	12	51	12
Less than 400%FPL			X	X
Weighted	X	X		
Individual characteristics	X	X	X	X
Lagged unemployment	X	X	X	X
Absolute change in unemployment	X	X	X	X
State fixed effects	X	X	X	X
Year fixed effects	X	X	X	X

Notes: Table reports the coefficients of interest and standard errors (in parentheses) from Ordinary Least Squares regression analyses using American Community Survey data and the Medicaid Waiver Dataset. Each independent variable and column combination is the result of a separate regression. Columns 1 and 2 present a weighted analysis of the main specification. Observations with family income >400% of the Federal Poverty Level are excluded from analyses presented in columns 3and 4. Standard errors clustered at state level. *** indicates statistical significance at 1% level; ** at 5% level; * at 10% level

Third, we perform a "Granger causality" test following Autor (2003), adding leads of the treatment variable $CACov_{st}$, to the model in order to test whether the effects of childless adult Medicaid coverage appear prior to actual implementation of a change. If the leads are not statistically different from zero, it suggests that SSI participation is only responsive to actual Medicaid program changes, as one would expect, supporting our design. Figure 5 illustrates the results of this analysis, with the graph illustrating the point estimates and 95% confidence intervals resulting from a regression including three leads in addition to the $CACov_{st}$ variable and the table below showing the exact point estimates and standard errors. None of the leads are statistically different from zero, while $CACov_{st}$ has a nearly identical magnitude as we find the main results. An F-test for joint significance of the leads indicates that in addition to lacking individual statistical significance, they are not jointly statistically different from zero either. This test suggests that state changes to their Medicaid programs are indeed driving the results.

Finally, we provide results from a "placebo" treatment simulation adapted for the multi-state, multi-year context, in which we randomly assign one of the years from a state's untreated pre-change period as the implementation year and estimate the model on only the pre-treatment data. We perform this random assignment of dates 1,000 times and report the average coefficient for $CACov_{st}$ and standard error. If our design is valid, the value of this average coefficient should be zero. Consistent with this expectation, the average coefficient and standard error were 0.000161 and 0.000608 respectively.

Figure 5. Point estimates and 95% confidence intervals, leads of childless adult coverage



	Lead 3	**Lead 2**	**Lead 1**	***CACov$_{st}$***
Coefficient	0.00051	0.00034	-0.00010	-0.00154**
Standard Error	(0.00065)	(0.00053)	(0.00045)	(0.00065)

Notes: Figure 4 shows the point estimates and 95% confidence interval bars resulting from a regression analysis that adds three leads of the Childless Adult Coverage variable. The model is otherwise identical to the preferred specification and includes state and year fixed effects, state unemployment variables and individual characteristics. The table reports coefficients and standard errors from this regression, ** indicates statistical significance at 5% level; * at 10% level

CONCLUSION

The Affordable Care Act authorized states to offer Medicaid coverage to adults with incomes at or below 138% of the FPL regardless of disability or parental status. Previously, childless adults had few paths to obtain Medicaid coverage unless they qualified for Supplemental Security Income (SSI) benefits because of a disability. In Medicaid expansion states, childless adults may obtain Medicaid coverage without undergoing an intensive federal disability review process and with relatively higher income and assets than the SSI program

allows. The expanded availability of Medicaid for this population- independent of SSI participation — creates an opportunity to increase earnings and savings without jeopardizing health insurance coverage. To the extent that individuals act on this opportunity, we would expect SSI participation rates to decrease. Using historical state Medicaid expansions for childless adults, this study's results offer the first estimates of the effects of changes in public health insurance eligibility for adults without dependent children on SSI participation.

We show that the implementation of Medicaid coverage for childless adults results in an average annual reduction in SSI participation among working age childless adults of 5% - 9%. Our results are remarkably consistent across model specifications and alternative measures of childless adult coverage. The results of multiple robustness checks, including a test for policy endogeneity and a placebo treatment test, strongly support the validity of our study design.

A few caveats to our study should be considered. In the ACS we cannot distinguish SSI program entry and exit. The availability of stand-alone Medicaid coverage may affect these decisions differently because the SSI income eligibility criterion increases in generosity for individuals once enrolled in the program. Our definition of Medicaid coverage for childless adults excludes programs that offer only premium assistance or very limited benefits in order to evaluate the effect of providing coverage that is equivalent to the Medicaid benefits available to SSI beneficiaries. However, some programs in state-years that we designate as having childless adult coverage are not exact substitutes -- most obviously those that imposed enrollment caps. Likewise, in the state-years that we identify as having "no childless adult coverage" some potential or current SSI beneficiaries may have used limited public health

benefits that we do not recognize in our classification as childless adult coverage. Both types of measurement error are likely to bias our results toward the null.

A decrease of 5% - 9% in SSI participation among non-institutionalized adults without dependent children may seem like a small change. However, using the proverbial back of the envelope we estimate that a reduction of this size translates into a reduction in beneficiaries of 19,000 to 57,000 and a decrease of $4.0 to $12 million in federal SSI payments for each enrollment month within the 12 affected states.[5] While these dollar amounts may be imprecise, this stylized estimate conveys the magnitude of the program-level effects following the Medicaid expansions in the study states on SSI participation. Additionally, we may expect gains in efficiency to the extent that the higher income and asset thresholds for Medicaid expansions (relative to SSI) reduce labor supply distortions. This study's findings signal the importance of evaluating the cross-program effects of the ACA expansions to capture the full implications of increased Medicaid availability on public welfare spending and labor force participation among low-income adults.

The current study results are likely a lower bound estimate of the effects of the ACA Medicaid expansions on SSI participation among childless adults for several reasons. States are required to provide a comprehensive set of "essential health benefits" to individuals eligibile for Medicaid through the ACA expansions (U.S. DHHS, 2012). Among early Medicaid expansions,

[5] To arrive at this estimate, we multiplied a range of potential reductions in SSI participation, from 3% to 9%, to the total monthly federal payments for childless adult SSI beneficiaries in the 12 states that changed Medicaid coverage between 2001 - 2013. We estimated the number of childless adults who participated in the SSI program within the 12 change states from the ACS in our baseline year (2001). We assumed that each beneficiary received 1/3 of the maximum monthly SSI federal cash benefit in 2008, mid-way through the study period, because we surmised that the individuals most likely to forego or exit SSI for Medicaid coverage are likely to have relatively low cash benefits due to earnings capacity.

the generosity of benefits varied by state (Silow-Carrol, Anthony & Meyer, 2000; Holahan & Pohl, 2002; Dorn et al., 2004). It is probable that the ACA related benefits are more generous than those offered under early expansions in at least some states. Early expansion states frequently used enrollment caps and freezes to manage the size and expense of their programs (Dorn et al., 2004; Klein & Schwartz, 2008). These mechanisms limited access to coverage as evidenced by large and persistent waitlists (Klein & Schwartz, 2008; Burns et al., 2014). By constrast, ACA expansions may not impose enrollment caps or freezes. Finally, state Medicaid programs may not consider assets or resources in their determination of individual eligbility for the ACA-related expansions in contrast to the early expansions (U.S. DHHS, 2014). This attribute of the ACA Medicaid expansions may be particularly salient for individuals considering SSI participation because the SSI asset limit is not inflation adjusted and has been fixed at $2,000 since the program's implementation in 1974. Together these differences in benefit generosity, coverage accessibility, and eligibility criteria suggest that Medicaid coverage for childless adults through ACA expansions may be of even higher value to a potential beneficiary relative to the early expansion Medicaid coverage.

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