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Evidence from the 2019 Virginia Medicaid Expansion

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REVISED
December 2024

WP 2023-41

https://doi.org/10.21033/wp-2023-41

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MEDICAID-ING COVERAGE VOLATILITY FOR DISPLACED WORKERS: EVIDENCE FROM THE 2019 VIRGINIA MEDICAID EXPANSION*

Bradley Heim,† Ithai Lurie,‡ Elena Patel,§ Shanthi Ramnath¶

ABSTRACT

Using novel administrative tax data, we study the effect of the ACA's Medicaid expansion on health insurance coverage dynamics for over 1.6 million displaced workers. Leveraging Virginia's Medicaid expansion, we estimate a 190% increase in Medicaid as first coverage source following job loss. We also find that the expansion immediately and persistently increased the likelihood of coverage and reduced the duration of uninsurance for displaced workers. Additionally, our findings suggest that the expansion influenced labor search dynamics, enhancing job match quality, particularly among those that came from the lower half of earnings.

Keywords : Health Insurance Dynamics, Unemployment, Medicaid Expansion

JEL Classification : J65, I13, I18, I38

*This research was conducted while Lurie was an employees at the U.S. Department of the Treasury. The findings, interpretations, and conclusions expressed in this paper are entirely those of the authors and do not necessarily reflect the views or the official positions of the U.S. Department of the Treasury, the Federal Reserve Bank of Chicago, or the Federal Reserve System. All taxpayer data used in this research were kept in a secured Treasury or IRS data repository, and all results have been reviewed to ensure that no confidential information is disclosed. We thank conference participants and discussants at the NBER Public Economics Meeting, the Midwestern Economics Association, the American Society of Health Economists, the National Tax Association, the Texas A&M Microeconomics Empirical Workshop, and the Michigan Tax Invitational Conference. In addition, we thank seminar participants at the University of Chicago, the Federal Reserve Bank of Chicago, Brigham Young University, the University of Utah, the University of Massachusetts at Lowell, the University of Exeter, the University College Dublin, and the Congressional Budget Office. Finally, we thank Mike Geruso and Amy Cyr for valuable feedback throughout the development of this work.

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1. Introduction

Did the Affordable Care Act's (ACA) historic expansion of Medicaid, which extended public insurance to millions of low-income adults, widen the social safety net to include displaced workers? Most Americans access health insurance through employment (Lurie and Pearce, 2021), implying that labor market cyclicality exposes millions to the risk of uninsurance when hit with an unemployment shock. Coverage volatility, i.e. moving in and out of health coverage, compromises individual health and decreases financial stability (see, for example, Cutler and Gelber, 2009; Guevara et al., 2014; Gai and Jones, 2020)—risks that are already heightened for displaced workers (Chan and Stevens, 1999; Sullivan, 2008; Schaller and Stevens, 2015). Before the ACA, people facing job loss were often ineligible for Medicaid. The extent to which the Medicaid expansion reduces coverage volatility for displaced workers is an open question that we study in this paper.

We leverage novel administrative tax data that reports *monthly* information on the source of health insurance coverage for the entire U.S. population. In 2016 alone, we observe roughly 1.6 million displaced workers who lose their employer health insurance. We use these data to document several stylized facts about insurance transitions for displaced workers, expanding our understanding of coverage dynamics that were otherwise unobservable on a large-scale basis. We then estimate the effect of expanded Medicaid access on coverage dynamics by leveraging variation provided by the 2019 Virginia Medicaid expansion. We find that the expansion increased the likelihood of transitioning to Medicaid by nearly 200%, and that this transition reduced the duration of uninsurance. Moreover, we show that transitions to Medicaid affect labor search dynamics by increasing the time to finding a new employer plan and by increasing the likelihood of finding a new employer. Overall, our work highlights the expanded role of Medicaid as a crucial component of a broad social safety net.

We construct a panel dataset of policyholders who lose their employer coverage between 2016 and 2019. We then focus on displaced workers, or those who simultaneously claim unemployment benefits.[1] Our data includes longitudinal monthly coverage information for each policyholder for up-to twenty-four months following their coverage loss. We focus on policyholders aged 18 to 61 to exclude the Medicare-eligible population during our sample period. Finally, we link each policyholder to their individual tax return data to capture information about employment, earnings, age, marital status, dependents, gender, and geographic location.

We use these data to characterize coverage dynamics for displaced workers who lose their coverage in 2016. First, we find that they are uninsured for an average duration of 3.9 months. Second, 4.7% fail to regain coverage within two years, implying the existence of some long-run persistence in uninsurance. Third, Medicaid serves as the first source of new coverage for 12.3% of those who become unemployed, and 73% of people who transition to Medicaid remain covered by Medicaid six months later. Fourth, those living in a Medicaid expansion state are 22.4% more likely to regain coverage, all else equal.

Having established these baseline statistics, we next leverage quasi-experimental policy variation to estimate the effect of the 2019 Virginia Medicaid expansion on post-separation coverage dynamics for displaced workers. Our analysis relies on two complimentary empirical methods. First, we use a differences-in-differences model (DiD) to study the effect of the expansion on the likelihood of transitioning to Medicaid as a first source of coverage and the total time it takes to find Medicaid coverage; this model compares (1) those separating from an employer policy in Virginia before (2016–2018) and after (2019) the Medicaid expansion to (2) those who separated concurrently in states without expanded Medicaid. Second, we study the effect of transitioning to Medicaid as a first source of coverage on broader post-separation

[1] As we explain later, we characterize policyholders as unemployed if they receive unemployment income, reported on Form 1099-G, in the year of or in the year after they separate from an employer plan.

coverage dynamics, including the likelihood of any coverage in the months after separation, the duration of uninsurance, crowd-out from other sources of coverage, and outcomes related to labor search dynamics. This second analysis uses a two-stage least square model, where we instrument for the likelihood of transitioning to Medicaid as a first source of coverage using the Virginia Medicaid expansion. The estimates of this model can be interpreted as the compliers' effect, or the effect of transitioning to Medicaid *for those who transitioned to Medicaid because of the expansion*.

We find that the Virginia Medicaid expansion increased the likelihood of transitioning to Medicaid as a first source of coverage by nearly 200% (9.28 percentage points) and reduced the time it takes to transition to Medicaid by roughly 10 percent (0.3 months). We show that across the pre-separation earnings distribution, policyholders who were in the bottom quartile—or those who earned roughly $23,000 per year—were the most impacted by the policy, experiencing a 237% increase in the likelihood of transitioning to Medicaid and a 21 percent reduction in the time that it takes to transition to Medicaid. We also find strong effects for policyholders without dependents. This group was 300% more likely to transition to Medicaid, consistent with the fact that single adults were generally ineligible prior to the Medicaid expansion. Finally, we conduct a placebo test by estimating the same DiD model but classifying each of the control states as treated, and comparing them to the other control states. We find that the estimated effect in Virginia is more than ten times larger than any other secular trends that underlie the data.

Next, we show that the expansion immediately and persistently increased the likelihood of coverage and reduced the duration of uninsurance for displaced workers. For example, two months after losing coverage, the likelihood of regaining insurance increased by an average of 6 percentage points for all displaced workers and by 66.9 percentage points for compliers. These effects were even larger among the lowest earners, for whom the expansion increased

the likelihood of new coverage by 80.8 percentage points six months after losing coverage. Furthermore, the duration of uninsurance fell by 0.328 months for the full population and by 3.532 months for compliers.

We also study the crowd-out effect of the expansion, or the extent to which individuals shifted from other coverage sources to Medicaid as their first source of new insurance. We find that the expansion reduced the likelihood of transitioning to an employer and marketplace plan by 3.14 and 1.75 percentage points, respectively, for all displaced workers. These reductions explain about half of the increase in Medicaid coverage, suggesting some crowd-out but also an increase in Medicaid coverage among those who might not otherwise have been re-insured within the year.

Finally, we study the effect of the expansion on several outcomes related to labor search. By offering an alternative source of no-cost health insurance to a population that had previously been ineligible, the Medicaid expansion has the potential to weaken the connection between health insurance and employment. This change has competing effects on employment. By increasing the value of unemployment, job seekers may consume more leisure and shift re-employment, if at all, to a later date. Alternatively, others may search for longer to find jobs with higher match quality. We show that the policy increased the time it takes to transition to new employer coverage by 1 month among compliers, consistent with a lengthening of the labor search process. At the same time, we see that compliers are 7.78 percentage points more likely to find a new employer by the end of the year, and this effect is more than twice as large (16.2 percentage points) for displaced workers who were in the 25th to 50th percentile of earnings prior to separation. These same workers earned $9,045 more at their new job, offering suggestive evidence that the increased search effort also increased the likelihood of better match quality at their new job.

Overall, our research uses high-quality administrative data covering the U.S. population to highlight how the ACA's Medicaid expansion provides stop-gap coverage to the broader population of displaced workers. Coverage volatility has long been a concern among policy-makers; plan transitions and gaps in coverage are costly from both a health and a monetary standpoint (Roberts and Pollack, 2016; Gai and Jones, 2020; Kressin et al., 2020). While a deep empirical literature studies the effects of Medicaid, including insurance instability, this body of work has relied on small-scale survey data is primarily focused on how this public assistance program benefits the chronically low-income population (see, for example, Swartz, Marcotte and McBride, 1993; Swartz and McBride, 1990; Fairlie and London, 2008; Schaller and Stevens, 2015; Schaller and Zerpa, 2019; East and Simon, 2022). We show that after the expansion, Medicaid also provides benefits to those who lose their health plan when faced with a job loss. In this way, the ACA broadened the Medicaid safety net by helping to stabilize coverage for the majority of Americans who rely on their employers for health insurance and perhaps also by playing a role in broader employment decisions where the unemployed are able be more selective in their job pursuits.

2. Background

2.1. Sources of Health Insurance Coverage in the U.S.

There are two sources of public health insurance in the United States that serve as important pillars of the U.S. social safety net: Medicare, which serves as a single-payer insurance system for adults above 65, and Medicaid, which provides no-cost insurance to eligible, low-income adults and their children. Medicare is managed by the federal government, whereas Medicaid is managed collaboratively by federal and state governments. This partnership for Medicaid

administration leads to variation in eligibility standards across states, which are determined by factors such as monthly income, household composition, and, in some cases, assets.[2]

Medicaid is often an unstable source of health insurance for the low-income population due to its eligibility requirements. Since eligibility is based on fluctuating monthly income with frequent reviews, many people experience "churn," or cycling in and out of coverage. For example, the Kaiser Foundation estimates that in 2018—nearly a decade after the Affordable Care Act (ACA) was signed into law—roughly 10% of Medicaid enrollees were disenrolled from Medicaid but subsequently re-enrolled within one year (Corallo et al., 2021).

Some people may also have what's known as "latent eligibility" for Medicaid. This means that they qualify for Medicaid but are not enrolled or aware of their eligibility when they receive medical services. If they later enroll, either on their own or with assistance from a social or case worker, their coverage can be retroactively extended to cover prior medical expenses incurred during periods of latent eligibility.

The majority of Americans are covered by private insurance, which is most commonly accessed through employers who sponsor tax-subsidized group insurance for their employees.[3] Access to these health insurance policies are typically offered as part of a compensation package, and employers may choose to pay a portion (or all) of the plan's monthly premium. Individuals who are not offered access to employer health plans and who are not eligible for public insurance plans can purchase coverage in what is known as the non-group market.

The ACA brought sweeping changes to the U.S. healthcare system, introducing key policies to expand coverage and improve access. Notably, it introduced financial incentives for

[2]Asset tests are used to determine Medicaid eligibility for individuals seeking coverage under specific categories, such as elderly or disabled individuals applying for long-term care services. Asset limits generally do not apply to children, pregnant women, or low-income adults covered under Medicaid expansion.

[3]We define employer health plans as coverage obtained through one's own or one's spouse's employer, including multi-employer plan and Small Business Health Options Program (SHOP) plans.

states to expand access to Medicaid, raising the eligibility threshold to 138% of the Federal Poverty Level for all adults. 25 states adopted this expansion alongside other provisions of the ACA in 2014. Large employers were required to offer affordable insurance to their employees or face penalties. Additionally, the ACA broadened access to private insurance by creating subsidized marketplaces, allowing individuals without access to an employer plan and ineligible for Medicaid to purchase insurance.

Like Medicaid, private insurance can be unstable, and labor market changes are a major source of that instability. Before the ACA, job loss was associated with a nearly 20 percentage point increase in likelihood of becoming uninsured. (Schaller and Stevens, 2015; Schaller and Zerpa, 2019; East and Simon, 2022). Reduced work hours, or a change from full-time part-time status, can also make employees ineligible for coverage, even if they remain employed. Additionally, employees might change plans or insurers during open enrollment, including switches to coverage through a spouse or partner.

2.2. Related Literature: Insurance Instability, Coverage Dynamics, and the Labor Market

A number of past studies have explored the extent of insurance instability in the U.S., particularly before the ACA was enacted. Using survey data, these studies provide details about the characteristics and duration of uninsurance spells (Swartz, Marcotte and McBride, 1993; Swartz and McBride, 1990; Fairlie and London, 2008; Einav and Finkelstein, 2023; Schaller and Stevens, 2015; Schaller and Zerpa, 2019; East and Simon, 2022). Early work by Swartz and McBride (1990), using data from the 1984 Survey of Income and Program Participation (SIPP), shows that roughly half of all uninsured spells end within four months. Cutler and Gelber (2009) used SIPP data covering the periods 1983–1986 and 2001–2004 to show that

the likelihood of losing any coverage grew from 19.8% to 21.4% from the 1980s to the early 2000s. They additionally show that shorter periods of uninsurance were associated with transitions to public insurance in the early 2000s.

More recent work studies changes in coverage dynamics that arose following the ACA. Using the Medical Expenditure Panel Survey (MEPS), Graves and Nikpay (2017) show that transitions from uninsurance to private and public coverage increased after the health care expansion. Vistnes and Cohen (2018) use the Household Component of the MEPS (MEPS-HC) to show that uninsurance spell duration declined in 2014–15, after the implementation of the ACA, relative to 2012–2013. Agarwal and Sommers (2020) use MEPS data to compare coverage dynamics for those who experience job loss before and after the ACA went into effect, showing that the additional coverage options of the ACA were associated with an increase in overall coverage for those who lost their job. Additionally, Gai and Jones (2020) and Einav and Finkelstein (2023) use the MEPS to describe changes in insurance instability across different types of coverage with the implementation of the ACA.

A key limitation of these studies is that the data from the MEPS and SIPP surveys are underpowered to study the ACA Medicaid expansion's effect on coverage dynamics for displaced workers. A single wave of the SIPP or a panel of the MEPS includes around 700 policyholders transitioning off employer plans; roughly 10% of these are likely to be connected to job loss. Furthermore, both surveys are designed to be *nationally* representative rather than representative at the state level. Consequently, these data can be ill-suited for conducting state-level analyses, where significant variation in Medicaid access exists, particularly in the case of smaller states.[4] Finally, these surveys are two-year panels, without regard to

[4]The SIPP also suffers from a well-known "seam bias." This bias occurs when changes in coverage within the reference period are underreported, and too many transitions occur between interview rounds. It is particularly serious when studying duration data, which is the focus of this paper (Ham, Li and Shore-Sheppard, 2009).

when a coverage transition occurs, resulting in post-separation coverage windows of differing lengths.

The tax data overcome these limitations in two important ways. First, these data are several orders of magnitude larger than the survey data, permitting a focus on displaced workers. For example, in 2016 the tax data contain roughly 11 million transitions off of employer plans, 1.5 million of which involved displaced workers. Second, these data report monthly coverage for the entire U.S. population beginning in 2015, allowing us to construct balanced panel datasets that are centered on the month of coverage loss and to observe post-separation monthly coverage consistently across time.

Finally, a related literature studies the impact of access to Medicaid on labor supply. Medicaid can create disincentives to work much in the same way that unemployment insurance is known to disincentivize work—by inducing moral hazard. This body of work has generally shown mixed results, both before (Garthwaite, Gross and Notowidigdo, 2014; Buchmueller, Ham and Shore-Sheppard, 2016; Pohl, 2018; Bradley and Sabik, 2019) and after the ACA's Medicaid expansion (Dague, DeLeire and Leininger, 2017; DeLeire, 2019; Buchmueller, Levy and Valletta, 2021). In most cases, these analyses capture employment as measured by surveys like the American Community Survey (ACS) or the Current Population Survey (CPS), neither of which reports high-frequency health insurance coverage information. As a result, these papers tend to focus on the effects of point-in-time coverage, or of whether an individual was ever covered during the past year. We contribute to this literature by combining high frequency coverage information with administrative data that captures employment to specifically study the effect of Medicaid expansion on detailed coverage dynamics for displaced workers.

3. Data

The Affordable Care Act imposed new regulations requiring insurers and employers to report individual health insurance coverage to the IRS. This information is documented on Forms 1095-A, 1095-B, and 1095-C. Form 1095-A captures monthly coverage acquired through insurance policies purchased on the newly created state and federal marketplaces, Form 1095-B captures monthly coverage acquired through government programs like Medicare and Medicaid, and both Forms 1095-B and 1095-C capture monthly coverage acquired through private policies, including employer-provided health insurance.[5] Each form identifies all individuals, both policyholders and dependent beneficiaries, that are associated with a particular policy in a given tax year and reports whether each individual is covered in each month of the calendar year. We exploit the high-frequency and longitudinal nature of these data to provide a comprehensive analysis of private health coverage dynamics within the U.S.

3.1. Data Construction

We begin by identifying individuals who separate from an employer plan in 2016, and we construct an individual-level panel dataset describing monthly coverage information surrounding their plan separation (coverage loss). We require that individuals were covered by the same policy for at least twelve months beforehand to focus on well-attached policyholders.[6] Conditional on twelve months of continuous enrollment, we define an individual as having separated from their employer plan in month m if they are covered in month m according to a single Form

[5] We define employer plans based the presence of Form 1095-C, which is used by employers who qualify as an Applicable Large Employer (ALE), or based on the following 1095-B, line 8 codes: code A (Small Business Health Options Program); code B (Employer-sponsored coverage); or code E (multi-employer plans). See Lurie and Pearce (2021) for a more detailed description of these tax forms.

[6] Although reporting requirements began in tax year 2014, transition rules for the first year of the Affordable Care Act offered reporting relief. We begin with the 2016 cohort to allow one full year of observations prior to separation

1095-B or Form 1095-C, but not covered by that plan in the next month, $m+1$.[7] Next, we combine information from all three 1095 Forms across multiple tax years to create a panel of monthly coverage for the twenty-four months that follow coverage loss. We classify those who are not identified on any Form 1095 in month m as uncovered.[8]

For all of our analyses, we focus on policyholders between ages 18 and 61 at the time of separation. This ensures that policyholders who experience a separation do not subsequently transition to Medicare during their twenty-four month post-separation period.[9] Finally, we incorporate information describing an individual's geographic location, unemployment compensation, wages, and demographic and household characteristics using additional tax data. Geographic location is determined by the address reported on the Form 1095s. Unemployment compensation (UI benefits) is reported on Form 1099-G, and wage data is reported on Form W-2. We determine marital status and the presence of dependents from information reported on Form 1040 in the year prior to a plan separation.[10]

[7]Each form reports individual coverage for a single tax year, from January–December. Using these forms, we identify individuals who separate from their employer plan by comparing monthly coverage over the year. This sample identification comes with one limitation: we do not identify those who separate in December, because that would require a comparison of monthly coverage across two different tax years, which is outside of the scope of our data construction. Note that individuals can have multiple Form 1095's in a given month. We characterize their coverage using a hierarchical ranking: ESI, Medicaid, Marketplace, other.

[8]When employment is terminated, covered individuals are permitted to continue health insurance coverage for a limited period of time on their original employer plan under COBRA (Consolidated Omnibus Budget Reconciliation Act). These former employees must opt-in within three months of termination to continue on the same plan and are responsible for *both* the employer and employee portion of their monthly premium. COBRA coverage can continue for 18–36 months, depending upon the circumstances surrounding the termination of employment. Our data cannot distinguish between months of COBRA coverage and months of coverage provided through employment because an individual's plan does not change under COBRA—the only change is to who pays for the premium. Our data will identify the month in which a previously covered employee moves to a new plan or becomes uncovered following a lapse in COBRA coverage.

[9]Information on age and gender are provided to the IRS by the Social Security Administration (SSA).

[10]In the context of administrative tax data, a non-filer is someone who did not file a federal income tax return for a given year, often because their income was below the threshold required for filing. This information is missing for anyone who did not file a Form 1040 in the year prior to plan separation. We classify these individuals as non-filers and, later, control for this in later analyses. In our data, 3.5% of policyholders were non-filers in the year before coverage loss.

3.2. Defining Job Loss

We are interested in studying the coverage dynamics for displaced workers who lose their employer plan. Although the data do not distinguish between voluntary job changes and involuntary job losses, we can use tax reports of unemployment benefits to identify those more likely to have faced an unexpected job loss.[11] Typically, employees qualify for unemployment benefits if they are terminated due to layoffs, changes in business conditions, or a business closure.

We define unemployed policyholders as those who received unemployment insurance income (UI), as reported on Form 1099-G, in the year of or the year after a policy separation. This one-year look-ahead accounts for delays in claiming UI benefits, which may extend into the next calendar year—especially for those who lose their job near the year's end. Importantly, this restriction excludes unemployed policyholders who did not claim UI benefits, making it a subsample of the full unemployed population.

After imposing this unemployment restriction, our 2016 sample includes approximately 1.6 million policyholders who lost their employer coverage. For the remainder of the paper, we will focus on this group to study post-separation coverage dynamics.[12]

[11] While mass layoffs or plant closures could presumably identify more plausibly exogenous job loss, these events are not well suited to our setting. First, mass layoffs are not observed in the tax data, and therefore must be measured with noise using a threshold change in Form W2 counts or some alternative metric. Second, employees affected by mass layoffs or plant closures are often able to negotiate a continuation of health insurance, making the change in coverage less exogenous than the job loss.

[12] For the interested reader, we will replicate all descriptive statistics for the full population of policyholders who lost their employer coverage in 2016, regardless of whether they also became unemployed. These tables are provided in Appendix A.1.

3.3. Summary Statistics

Table 1 reports summary statistics in the first column ("All") for our analysis sample as described above. Each subsequent column reports statistics for policyholders based on the month in which new coverage is obtained, with columns labeled accordingly. Finally, the last column reports statistics for those who remain without new coverage for at least 24 months ("Uninsured").

Table 1 highlights several advantages of our data. First, our sample of 1.6 million people is several order of magnitudes larger than previous sources containing *within year* longitudinal information on coverage source.[13] Second, our balanced panel, which captures monthly post-separation coverage dynamics for two full years following each separation, provides a detailed view of coverage transitions.[14] Panel (a) of Figure 1 reports the source of coverage for each individual in our sample 2, 4, 6, 12, and 24 months after separating from their employer plan. This figure shows the coverage path: just 60% of policyholders have new coverage two months after separation, but this increases to 77% after one year. After two years, there is little additional improvement, with just 81% of policyholders covered. The figure also shows that Medicaid serves as a meaningful source of re-insurance, covering 9.7% of policyholders two months after separation and 11.9% after one year.

Panel (a) of Table 2 provides more detail about the stability of coverage through a six-month Markov transition matrix, or the likelihood of transitioning across coverage types over a six month period.[15] 58% of policyholders who are uninsured in month t remain uninsured six months later. Coverage, however, tends to be more stable: 86% of those with employer-

[13]Furthermore, Appendix Table A1 reports summary statistics for the full population of roughly 11 million policyholders who separated from their employer plan in 2016.

[14]By contrast, the survey designs of the MEPS and SIPP, which span two year period regardless of when separation occurs, limit their ability to study study long-term coverage trends.

[15]The six-month Markov transition matrix for the full population is given in Appendix Table A2. The two- and four-month transitions are given in Appendix Tables A3 and A4 and reveal similar dynamics.

sponsored plans and 73% of those on Medicaid maintain their same coverage type over the same period. This Medicaid stability contrasts the well-known instability of coverage among the chronically low-income population. Finally, we observe strong movement into a new employer plan over six months: 31% of those that are initially uninsured, 16% of those on Medicaid and 23% of those covered by a Marketplace plan move to a new employer plan.

Third, our data permit a high frequency analysis on selection out of uninsurance. Table 1 shows that as the duration of uninsurance increases, i.e. the first month of new coverage increases, individuals are more likely to be male and unmarried. In addition, wages earned in the year before the job loss decline with spell duration, suggesting positive selection out of uninsurance. Perhaps most surprising, however, is that the vast majority of policyholders are employed by 2018, regardless of their spell length (including the never covered), which implies a decoupling of coverage and employment. Finally, roughly 5% of unemployed policyholders remain without health coverage for at least 24 months despite the fact that nearly three-quarters (70%) of them find employment by 2018. This suggests the existence of longer-run persistence in uninsurance following job loss.

Table 3 describes policyholders based on their first source of coverage, irrespective of the month in which it was obtained.[16] We show that most of those who transition to Medicaid are employed two years after separation (80.2%) in 2018, consistent with other data sources highlighting high employment rates of Medicaid recipients.[17] In fact, the lowest rate of post-separation employment is among those with Marketplace coverage, though the vast majority (79.4%) of this group is also employed.[18] Comparing across employer and Medicaid coverage,

[16] Individuals who never find coverage are excluded from this table. Appendix Table A5 reports these summary statistics for the full population of policyholders who separate from their employer plan in 2016.

[17] See, for example, https://www.kff.org/medicaid/issue-brief/understanding-the-intersection-of-medicaid-work-a-look-at-what-the-data-say/

[18] As a reminder, a policyholder can move to an employer plan without being employed if they move to a spouse or partner's employer plan as a dependent.

women are more likely to transition to Medicaid while men are more likely to transition to new employer coverage. By contrast, transitions to Marketplace plans are roughly evenly split across genders. In addition, there is sorting across coverage types by marital status, where single policyholders are more likely to transition to Medicaid and married policyholders are more likely to transition to new employer coverage.

4. Medicaid and Coverage Dynamics in the U.S.

While demographic characteristics can account for some of the differences in obtaining new coverage, we are particularly interested the role of Medicaid access, all else equal. Panels (b) and (c) of Figure 1 compare short- and long-run dynamics in states that did and did not expand Medicaid access by 2015. Two months after separation, individuals in Medicaid expansion states are more than twice as likely to be covered by Medicaid (5.4% compared with 11.9%). Over time, Medicaid coverage remains relatively flat in non-expansion states while increasing in expansion states. One year after the initial policy separation, individuals are more than three times as likely to have Medicaid coverage in expansion states (5.9% compared with 15%). Panels (b) and (c) of Table 2 likewise compare coverage stability in states where states are split by Medicaid expansion status. Individuals living in expansion states are less likely to remain uncovered over a six-month period, (54% compared with 63%), and are more likely to have stable coverage through Medicaid (73% compared with 68%).

Panels B and C of Table 2 report the six-month transition rates across coverage types for Medicaid expansion and non-expansions states, respectively. The persistence of uninsurance is 17% higher in non-expansion states compared to expansion states (63% vs. 54%, or a 9 percentage point difference). This difference is almost entirely driven by a 7 percentage point increase in the likelihood of transitioning from uninsurance to Medicaid in expansion states

(10% vs. 3%). In addition, Medicaid coverage appears to be more stable in expansion states, with 73% of those with Medicaid coverage in month m having Medicaid coverage 6 months later, compared with 68% in non-expansion states.

We summarize these dynamics, including differences in state-level access to Medicaid, using the following regression:

$$Y_i = \mathbf{X}_i\beta + \phi_m + u_i.$$

Y_i represents the duration of uninsurance measured in months or is one of three indicators that represent having coverage in two, in four, or in six months after separation. $\mathbf{X}_i$ captures demographic characteristics of policyholder i: gender, marital status, presence of dependents, filer status, age, wages, and, importantly, access to the Medicaid expansion.[19] Time-varying characteristics are all measured in the year prior to separation. In addition, we include fixed effects for the month of the policy separation, ϕ_m, to account for seasonality in job separation. All standard errors are clustered at the state level.

As is common when studying dynamic processes, the probability of regaining insurance is unlikely to remain constant over time and the distribution of these data is unlikely to be normal. Further, our finite post-separation observation period (24 months) induces right-censoring in our data: we do not observe the duration of uninsurance for the 5% of individuals who are uninsured for at least 24 months. As such, we compliment our OLS estimates using a Cox Proportional Hazard model, which exploits the full information on monthly coverage while more directly accounting for the unique features of duration data. The Cox coefficients measure the impact of observable characteristics on the hazard ratio, i.e., the instantaneous probability of finding coverage at any moment in time, conditional on not having found coverage to that point.

[19] We proxy for access to Medicaid based on the address reported on the form 1095 that is associated with the loss of employer coverage.

The results from running the OLS (cols 1-4) and Cox models (col 5) are reported in Table 4. In column (1), the dependent variable is the total number of months of uninsurance that we observe, or the duration of uninsurance.[20] We estimate that, on average, women experience uninsurance spells that are 1.055 months shorter than men, and married individuals have uninsurance spells that are 1.551 months shorter than those who are single. Non-filers tend to experience a longer uninsurance spells than filers while age, pre-separation wages, and the presence of dependents have negligible effects. Most important in the context of our study, policyholders that live in expansion states have uninsurance spells that are 1.54 months shorter, roughly the same magnitude of difference that is associated with marriage.

Columns (2) - (4) of Table 4 report estimates for the probability of having new coverage two, four, and six months after separation, respectively. Focusing on column (4), we estimate that six months after separation, women are 7.69 percentage points more likely to regain coverage, and married individuals are 14.3 percentage points more likely to regain coverage; differences by the presence of dependents, age, and pre-separation earnings, on the other hand, are minimal. Those who live in an expansion state are 13.8 percentage points more likely to have coverage. Finally, the Cox model in column (5) shows that that women are 14.3% more likely to find coverage, joint filers are 23.4% more likely to find coverage, and those who live in an expansion state are 22.4% more likely to find coverage. The results in Table 4 underscore that living in a Medicaid expansion state is strongly correlated with likelihood of finding new coverage and the duration of uninsurance.

This section provides several related and reinforcing descriptive statistics that speak to the likely determinants of the duration of uninsurance spells following a separation from an employer policy. This analysis makes a compelling case for a causal effect of Medicaid expansion on post-separation coverage dynamics for displaced workers that lose their employer

[20] All individuals that remain uncovered for at least twenty four months are coded as having a duration of uninsurance that is 24 months long.

coverage. As we will discuss, this population is, ex-ante, less likely to be eligible for Medicaid due to their relatively high earnings compared to traditional Medicaid thresholds. In the next section, we exploit a state-level experimental setting created by the Virginia expansion of Medicaid to study the causal effect the Medicaid expansion.

5. The Effects of Medicaid on Coverage Dynamics

Recall from Section 2 that the Medicaid Expansion is an optional provision of the ACA—that is, states choose whether to expand Medicaid coverage to adults earning up to 138% FPL and receive federal funding to pay for 90–100% of the associated costs. When the ACA became effective in 2014, 25 states and the District of Columbia chose to expand Medicaid. Since then, 15 additional states have adopted the Medicaid expansion; these expansions offer a unique experimental setting to estimate the *causal* effect of increasing Medicaid access, holding fixed the other provisions of the ACA and mean differences in outcomes between expansion and non-expansion states.

In this section, we focus on the Virginia Medicaid expansion, which was implemented in January, 2019. Prior to this expansion, Medicaid access in Virginia was severely limited: childless adults were ineligible, and eligibility among parents was restricted to those earning less than 38% of the Federal Poverty Level (FPL), equivalent to $7,896 for a parent in a family of three. Each month from 2017 to 2019, approximately 1,000,000 individuals were enrolled in Medicaid and CHIP.[21] Following Affordable Care Act (ACA) guidelines, Medicaid eligibility in Virginia was expanded to households earning below 138% of the FPL (e.g., $29,435 for a family of three). In the first month of the expansion, Medicaid enrollment surged by 17%, with steady growth thereafter, ultimately doubling to 2,000,000 enrollees by 2023.

[21] Data Source: Monthly State Medicaid Enrollment, Centers for Medicaid and Medicare Services.

Our data are well suited to leverage the expansion in Virginia to study the effect of expanding access to Medicaid. Recall that monthly coverage information is only reported to the IRS after the ACA was enacted in 2014. The timing of this policy change allows us to observe pre-expansion plan separations, providing the opportunity to identify pre-treatment groups. In addition, the timing of this expansion allows for post-separation observations that are uncontaminated by pandemic-era policies like expanded access to Medicaid and unemployment insurance. Finally, Virginia is a large and diverse state with its population spread across urban, suburban, and rural communities and comprises diverse political ideology and educational attainment.[22] Appendix Table A6 compares Virginia's population to the overall U.S. in 2018 for a selected demographic characteristics drawn from the American Community Survey. This table shows that Virginia has a similar age and sex composition to the U.S., though a higher median income, a higher share with a bachelors degree or above, and a lower share of uninsured.

For our empirical analysis, we will use a difference-in-difference (DiD) estimation strategy that compares post-separation coverage dynamics for (1) individuals who separated from their employer health plan in Virginia before (2016–2018 separations) and after (2019 separations) the Medicaid expansion to (2) policyholders who separated from their employer health plan during these same month-years in all other non-expansion states.[23] This identification

[22] As a reminder, our data effectively begin in 2016; we consider a natural bound of our analysis 2019, before the onset of the pandemic. Between 2015 and 2019, four states adopted Medicaid expansion: Montana (January 2016), Louisiana (July 2016), Virginia (January 2019), and Maine (January 2019). We exclude Montana because its January 2016 effective date does not allow us to observe plan separations prior to the Medicaid expansion. We exclude Maine because its Medicaid expansion was retroactive to mid-2018, making the pre and post period difficult to disentangle. We exclude Louisiana due to data issues—the 1095 data from Louisiana appear to be incomplete based on internal validation exercises. For these reasons, we focus solely on Virginia for this analysis.

[23] Our control group includes the following states: Alabama, Florida, Georgia, Kansas, Missouri, Mississippi, Nebraska, Oklahoma, South Carolina, South Dakota, Tennessee, Texas, Wisconsin, and Wyoming. Although Idaho and Utah did not expand Medicaid until Jan 1, 2020, each of these states was partially treated in 2019, so we exclude these states from our control group. Specifically, Idaho began expanded enrollment in November, 2019, and Utah implemented a bridge program to Medicaid expansion beginning in April, 2019. Finally, we exclude North Carolina because North Carolina implemented a major change to its Medicaid program, switching from a fee-for-service to a managed care network, where private companies, known as managed care organizations

strategy will control for any differences between Virginia and other non-expansion states to the extent that these differences—including labor market differences, health differences, and other elements of the social safety net—are time-invariant during this time period.[24]

5.1. Analysis Sample

To draw our data, we follow the procedures outlined in Section 3, with a few modifications to account for both the pandemic and the experimental setting. First, we focus on separations that occur between January and June of each calendar year. Accordingly, we define pre-treatment cohorts to be policyholders who separate from an employer plan between January and June in 2016 through 2018. Second, we limit observed post-separation monthly coverage to the end of *the same calendar year as separation*. This truncation of the post-period ensures that coverage dynamics for the post-treatment group, or individuals who separate between January and June of 2019, will not be confounded by the effects of the pandemic and associated policy.[25] Additionally, this truncation ensures that the our outcomes for the 2018 cohort (part of the pre-treatment group) are not affected by the treatment itself (the January 2019 Virginia Medicaid Expansion).[26] Third, we limit our analysis to those who received UI *in the same year*

(MCOs), would be responsible for coordinating and delivering Medicaid services to beneficiaries. We note that our results are not sensitive to including Idaho, Maine, North Carolina, and Utah.

[24]To the best of our knowledge, there were no concurrent changes in access to other social safety net programs (unemployment insurance benefits, SNAP, WIC, TANF, etc) in Virginia that occurred at the same time as Medicaid expansion.

[25]Uninsurance was especially risky during this time period: the onset of the pandemic imposed a broad increase in ex-ante expected health care expenditures for the U.S. population due to the perceived risk of infection and hospitalization simultaneously with increased macroeconomic turmoil and reduced financial ability to weather large medical expenditures. In light of this, the federal government undertook an historic expansion of the social safety net through increased emergency funds, emergency Medicaid waivers that allowed states to streamline enrollment processes, expand coverage options, increase access to telehealth services, and relax typical eligibility verification to permit continuous enrollment in Medicaid. In addition, the Federal government expanded access to Unemployment Insurance to the self-employed and broadly expanded benefits.

[26]Specifically, individuals who separate between January and June of 2018 in Virginia will become treated by the Medicaid expansion in January of 2019. For the 2018 cohort, therefore, we limit our analysis to post-separation coverage dynamics that end in December, just before the Medicaid expansion took effect.

as plan separation. This slightly more restrictive definition of displaced workers is imposed, again, to avoid the influence of pandemic-era policies that dramatically expanded access to the unemployment insurance system beginning in March, 2020.

Table 5 reports summary statistics, including those related to coverage dynamics, for the pre-treatment sample. Column (1) describes our full pre-treatment sample, or policyholders who separated from their employer plan in non-expansion states between January and June in 2016–2018. Columns (2) through (4) describe policyholders that transitioned to new coverage 2, 4 and 6 months after they separated from their employer plan, and column (5) describes policyholders that do not find coverage by the end of the calendar year. Finally, columns (6) through (9) describe policyholders based on their first source of new coverage (new employer plan, Medicaid, or marketplace policy).

Compared to our 2016 sample, this sample is more likely be female, less likely to be married, and more likely to have dependents, although these differences are all within a few percentage points. The proportion of policyholders transitioning to new coverage is similar in months 2, 4, and 6. However, this sample has a higher likelihood of being right-censored due to the shorter post-separation observation period—we do not observe a transition to new coverage for 22% of this sample, compared with 5% of the 2016 sample. Finally, demographic patterns that are correlated with first source of observed coverage are similar across both samples: women and individuals with dependents are the most likely to transition to Medicaid.

5.2. Empirical Strategy

We begin our analyses by estimating the effect of the Medicaid expansion on the likelihood that Medicaid serves as the first new source of coverage following job loss. Using non-

expansion states as a control group, we estimate the following difference-in-differences (DiD) equation:

$$Y_i = \beta_0 + \beta_1 \, Treat_i + \beta_2 \, Cohort_i + \beta_3 \, Treat_i \times Cohort_i + \Gamma_i + \varepsilon_{it}, \tag{1}$$

where $Treat_i$ is a dummy variable identifying policyholders who live in Virginia, and $Cohort_i$ is a dummy variable identifying the year a policyholder separates from their plan, where 2019 identifies the cohort separating after Virginia's expansion of Medicaid. The vector Γ_i includes a series of fixed effects identifying gender, joint-filing, the presence of dependents, non-filers, month of separation as well as continuous controls for age and wages earned in the year before separation. We include three-digit zip code effects to control for local, time-invariant differences in population, employment, and factors that influence coverage dynamics. We also include the average county-level unemployment rate in the six months that follow separation to control for local labor market fluctuations that can influence job search and therefore, coverage dynamics. Y_i represents our outcomes of interest: (1) the probability of Medicaid serving as the first source of new coverage and (2) the time it takes to become covered by Medicaid.[27] The coefficient, $\hat{\beta}_3$, captures the effect of expanded Medicaid access in Virginia on outcome Y_i relative to a control group of policyholders who separate in non-expansion states. We cluster all standard errors at the state level to align with the level of treatment.

We next study how transitions to Medicaid affect broader coverage dynamics. In particular, we are interested in studying Medicaid's effect on the likelihood of finding any new coverage following a job loss, the uninsurance spell duration, and the crowd-out of other sources of coverage. We also study labor market outcomes because job search is affected by the availability of health insurance during unemployment (Aizawa and Fang, 2020). Since Medicaid coverage is not randomly assigned, we estimate the effects of Medicaid on the outcomes of compliers, that is, those whose transition to Medicaid is due to the Virginia expansion. For this compliers

[27] Individuals that never become covered by Medicaid are right-censored, as with other duration outcomes.

analysis, Equation 1 describes the first stage of our model, where we instrument for Medicaid coverage using the interaction term $Treat_i \times Post_i$. We then include the predicted likelihood of transitioning to Medicaid ($\widehat{Medicaid}$) as a regressor in the following equation:

$$Y_i = \alpha_0 + \alpha_1 \widehat{Medicaid}_i + \alpha_2 Treat_i + \alpha_3 Cohort_i + \alpha_4 \widehat{Medicaid} + \Gamma_i + \varepsilon_{it} \quad (2)$$

We estimate this model using two-stage least squares. Here, $\hat{\alpha}_4$ captures the compliers effect of the expansion. The specific outcomes that we focus on include the likelihood of any coverage 2, 4, and 6 months after separating from an employer plan, the length of the uninsurance spell, the time to finding a new employer plan, the probability of finding a new job by the end of the year, and wages at that new job.

Finally, we provide a decomposition of the characteristics of compliers. Following Frandsen, Lefgren and Leslie (2023) and using equation 2, we define a new outcome, $X_i \times \widehat{Medicaid}_i$, where X_i is a pre-treatment characteristic (such as the female indicator), and $\widehat{Medicaid}_i$ is the predicted likelihood of Medicaid coverage. In this case, $\hat{\alpha}_4$ provides an estimate of the complier characteristics, or the subpopulation to which the IV estimand applies.

5.3. Medicaid Coverage Effects

Figure 2 shows two trends based on the year a policyholder separated from their employer plan (separation cohort): the average probability of transitioning to Medicaid as a first coverage source after dropping employer coverage (panel a), and the average spell length for transitions to Medicaid (panel b). In each figure, trends in non-expansion states and in Virginia are represented by the gray and black line, respectively. Before 2019, trends in both non-expansion states and Virginia follow a similar pattern, consistent with the parallel trends

assumption required for identification. Roughly 5% of policyholders transitioned to Medicaid in the year of their policy separation, and it took roughly 8 months to transition to Medicaid, regardless of cohort or state of separation. After the Medicaid expansion was implemented in Virginia in 2019, however, the probability of transitioning to Medicaid coverage increased to 13.8%, and time to transition to Medicaid fell by 0.837 months for Virginia policyholders. No comparable change occurred in non-expansion states in 2019.

Panels (c) and (d) show the scaled coefficient estimates from equation 1 for the probability of Medicaid as the first new coverage and average time to Medicaid, respectively, using the mean outcome in Virginia in 2018 as the baseline. All point estimates are reported in Appendix Table A7. Before the expansion, the differences in transitioning to Medicaid as a first source of new coverage were small (less than 10%) in Virginia compared to the other non-expansion states. With the expansion, however, the likelihood of this transition surged by 190% (9.28 pp, relative to an average transition rate of 4.9%). Likewise, differences in the transition time to Medicaid were small (less than 1%) prior to 2019; in 2019, the time to Medicaid fell by 10% for Virginia policyholders.[28]

Panels (e) and (f) show the scaled coefficients from equation 1 for different subgroups; point estimates are reported in Appendix Table A7. The largest scaled effects of the Medicaid expansion on the likelihood of transitioning to Medicaid were among policyholders in the bottom 25th percentile of the wage distribution prior to separation, men, singles, and policyholders without dependents (panel e). The largest scaled effect on time to transition to Medicaid were also among policyholders in the bottom 25th percentile of the wage distribution prior to separation and singles (panel f); however, the scaled effect in this case is larger for

[28]From Column (1) of Appendix Table A7, we note that coefficients in 2016 and 2017 are statistically significant, meaning that outcomes of interest between Virginia and non-expansion states were different before expansion. This raises some questions about identification and the suitability of the parallel trends assumption, these differences were relatively small, especially compared with the magnitude of the estimated effect. With nearly 800,000 observations, our analysis is highly powered, meaning that emphasis should be placed on the magnitudes of these differences rather than statistical significance alone.

women and individuals with dependents. However, variation in absolute effect (the DiD coefficients) was consistently largest for both outcomes for the lowest earners, women, singles, and policyholders without dependents.

As a robustness check for whether the Virginia Medicaid expansion is driving the patterns we observe in the data, we conduct a placebo test where we estimate the difference-in-difference model separately for each control state, classifying a single control state as treated and using all other non-expansion states in our analysis as the control group. These results are shown in Figure 3. For reference, we also show baseline estimates of the effect of the Virginia Medicaid expansion in this figure. In panel (a), we see less than a 20 percent change in the likelihood of Medicaid serving as a first source of coverage in 2019 in each of the control states compared with prior year trends; these estimates are ten times smaller than the change that we estimate in Virginia. In panel (b) we see less than a 1 percent change in the number of months it takes to transition to Medicaid in each of the control states; these estimates are, again, ten times smaller than the change that we estimate in Virginia. Overall, Figure 3 provides strong evidence that the observed changes in Virginia are not due to underlying secular trends, reinforcing the validity of our baseline finding that the Virginia Medicaid expansion increased the likelihood of transitioning to Medicaid as a fist source of coverage and reduced the time that it takes to transition to Medicaid.

5.4. Describing Compliers

Table 6 reports the characteristics of compliers, or those who transition to Medicaid as a first source of coverage because of the Virginia Medicaid expansion.

We begin by examining wage quartiles from the year before separation to understand where compliers fall within the earnings distribution. Policyholders earned an average of

$22,713, $37,178, $54,606 and $116,339 across the four quartiles. Since Medicaid eligibility targets low-income populations, we expect most compliers to come from the lower half of the earnings distribution. Consistent with this, 43% of compliers were in the bottom quartile, whereas just 12% were in the top quartile. Although it may be surprising that any compliers come from the highest earners, Medicaid eligibility under expansion is based solely on monthly income. Top earners who lose their jobs and receive the maximum weekly unemployment benefit ($378 in Virginia in 2019) can still qualify for Medicaid if their monthly income falls below 138% FPL.[29]

Compliers also have distinct and intuitive demographic patterns given the well-documented descriptive statistics of the Medicaid population. A majority, 60.3%, are women, and over half (53.5%) have dependents. Strikingly, only 19.7% of compliers are married, which means that 83.3% are single. This high percentage of single individuals is consistent with the predominant effect of the Medicaid expansion, which served to reduce uninsurance rates among single adults that did not otherwise have access to Medicaid absent a Medicaid expansion.

5.5. Coverage Dynamics Effects

Table 7 reports the effect of expanding Medicaid access on broader measures of coverage dynamics; panel A reports the reduced form estimates based on equation 1, or the intent-to-treat impacts of the policy, and panel B reports the compliers' estimates based on equation 2. On average, the likelihood of being covered increased by approximately 6 percentage points, or 12.7%, 11.6%, and 8.9% in months 2, 4, and 6, respectively. Among compliers, the effects are much larger, with coverage likelihood increasing by 66.9, 70.5, and 69.7 percentage

[29]For reference, the 2019 poverty threshold for 138% FPL for a family of size 1,2,3, and 4 was $1,436, $1,945, $2,453, and $2,961. Earning the maximum weekly unemployment benefit for four weeks would result in monthly income of $1,521; families of size two more would qualify for Medicaid. Source: HHS 2019 Poverty Guidelines

points at 2, 4, and 6 months after separation. Furthermore, the duration of uninsurance fell by 9.9% (0.328 months) among all displaced workers and by 3.532 months among compliers. In other words, the Medicaid expansion immediately and persistently increased the likelihood of coverage and reduced the duration of uninsurance for displaced workers.

Columns (5) and (6) of Table 7 report estimates of the crowd-out effect from the Medicaid expansion, i.e. the extent to which individuals shifted from other sources to Medicaid as their first source of coverage. Recall that the expansion increased the likelihood that Medicaid serves as the first source of coverage by 9.28 percentage points. We find that the Medicaid expansion reduced the likelihood that an employer plan served as a first source by 3.14 percentage points and a marketplace plan by 1.75 percentage points. These reductions explain about half of the increase in Medicaid coverage, suggesting some crowd-out but also an increase in Medicaid coverage among those who might not otherwise be insured. For compliers, the likelihood of employer plan and marketplace plans serving as a first source of coverage decreased by 33.8 and 18.9 percentage points, respectively.

We next decompose changes for compliers across different subgroups to determine who is likely driving the results. These results are shown in Figure 4 and point estimates are reported in Appendix Table A8.[30] From panel (a), expanding Medicaid increased the likelihood of coverage six months after separation by 80.8 percentage points among the lowest earners, aligning with Medicaid's focus on low-income individuals. Singles were 52% more likely to be covered six months after separation (77.3 compared with 50.8 percentage points for married policyholders), consistent with married individuals often having access to a spouse's employer plan, making single workers more likely to benefit from Medicaid expansion. Finally, we consider gender and family structure, which are inevitably co-mingled because single women are more likely to have children in their home than single men. We find that women are

[30] Appendix Table A9 estimates across these subgroups for all displaced workers.

52% more likely than men to be covered six months after separation (79.6 vs 52.4 percentage points for men) and those with dependents are 82% more likely to be covered six months after separation (85.8 vs 47.1 percentage points for those without dependents).

Subgroups who saw the biggest increase in coverage six months after separation—women, singles, and those with dependents—generally also experienced the largest decline in uninsurance spells (panel b). An exception to this trend is found across wage quartiles. Here, the biggest drops in the duration of uninsurance were in the top half of the wage distribution. Additionally, the second lowest wage quartile had the largest employer plan crowd-out, while the highest wage quartile experienced the largest marketplace crowd-out. However, comparisons across earnings groups are somewhat uncertain, with overlapping error bars making relative differences less clear.

5.6. Labor Search Effects

The Medicaid expansion may have impacted job search among displaced workers by decoupling the connection between new employment and new coverage. On the one hand, the expanded availability of Medicaid would allow individuals more time to search for a better job match by reducing the need for an employer health plan, thereby raising the benefit to unemployment. On the other hand, the availability of health coverage in unemployment might simply increase the consumption of leisure among job seekers and shift the timing of when a new job is obtained. Each of these effects would imply longer unemployment spells, but with differing types of employment matches, and therefore differing welfare implications.

To investigate this, we study the effect of the Medicaid expansion on several outcomes related to labor search. First, we study the time that it takes to find new employer coverage, where longer labor search is consistent with an increase in this time. Here, we focus on gaining

employer coverage as the primary policyholder, as it is more indicative employment. Second, we study two labor market outcomes: the likelihood of finding a new employer within the same calendar year as separation (identified as earning wages from an employer not associated with the individual in the previous year), and wages earned at the new employer, noting that these will be part-year wages due to mid-year separation. An increase in the likelihood of a new employer and higher wages is more consistent with the match quality hypothesis. These results are reported in Table 8.

Among all displaced workers, the time to finding a new employer plan increased by 2.4% (0.0951 months relative to an average of 3.956 months), while the time to becoming a policyholder of a new employer plan increased by 1.9% (0.0918 months relative to an average of 4.786 months). Among compliers, the time to finding a new employer plan, including as a policyholder, increased by roughly one month. Together, these results are consistent with expanded access to Medicaid increasing the duration of unemployment. We also find that the likelihood of finding a new employer increased by 0.722 percentage points, on average, and by 7.78 percentage points among compliers. Effects on new wages are positive, but noisy, although these estimates become sharper when we focus on sub-populations that are more affected by the Medicaid expansion based on our compliers analysis.

Figure 5 shows our estimated labor market effects for compliers among the different subgroups; point estimates are reported in Appendix Table A8.[31] Starting with differences by pre-separation wages, displaced workers in the first and second quartile took 1 to 2 months longer to find a new employer plan, with no statistically significant effect for the top half of the distribution (panel a). Moreover, those in the second quartile drive the increase in time to becoming a policyholder in a new employer plan (2.613 month increase, panel b). This is the only group for whom the estimated effect of the likelihood of finding a new employer is

[31] Appendix Table A11 reports subgroup estimates for all displaced workers.

statistically significantly (16.2 percentage point increase, panel c). In addition, they earned $9,045 more at their new job (panel d). The evidence from the sub-groups suggests that those who were earning in the second quartile of the wage distribution, or those who earned $37.2 thousand prior to separation, are driving overall labor supply responses.

In general, differences by marital status and the presence of dependents are minimal across all outcomes. Men, however, exhibit stronger labor search effects: they are the most likely of any subgroup to find a new employer (26.4 percentage point increase). Still, the related change in their earnings is noisy ($11,923 increase, but statistically insignificant).

5.7. Discussion

Spells of uninsurance increase the cost of health care and, therefore, reduce health care consumption. Gai and Jones (2020) show that insurance instability is associated with forgone preventative and other medical services. Spells of uninsurance are also associated threats to financial risk. In particular, costly treatment may be unavoidable for those facing acute health shocks, thereby increasing the risk of financial setbacks during periods of uninsurance. Medicaid is shown to mitigate this risk. For example, Gross and Notowidigdo (2011) finds that pre-ACA Medicaid expansions reduced the likelihood of personal bankruptcy. More broadly, Hu et al. (2018); Kuroki (2021); Miller et al. (2021) find evidence that the ACA's Medicaid expansion was associated with improved financial well-being. These protections can be especially valuable during periods of unemployment for displaced workers.

Most Americans rely on employer health plans for coverage, making them vulnerable to spells of uninsurance when faced with job loss. Our analysis indicates that the ACA's Medicaid expansion improved coverage stability by increasing the likelihood of finding coverage and reducing the duration of uninsurance for displaced workers experiencing loss of health

insurance. Importantly, our findings demonstrate that the ACA broadened the scope of the Medicaid safety net beyond the chronically low-income to include those who previously held stable, high-quality jobs.

Our work has implications for proposals that incorporate work requirements into Medicaid eligibility rules. Recently, a number of states have debated modifications to their state Medicaid programs that would condition coverage on work and reporting requirements, similar to public assistance programs like Temporary Assistance for Needy Families (TANF). Sommers et al. (2020) finds that Medicaid work requirements in Arkansas in 2018 led to a decrease in Medicaid or Marketplace coverage of 13.2 percentage points and an increase in the uninsurance rate of 7.1 percentage points among Arkansans aged 30-49. These results suggest that the imposition of work requirements associated with Medicaid, especially in Medicaid expansion states, is likely to decrease the effectiveness of the ACA's Medicaid expansion in reducing coverage instability.

6. Conclusion

Our study leverages tax reporting requirements mandated by the ACA to offer a more comprehensive understanding of coverage dynamics for displaced workers. Among policyholders who experience both separation from an employer plan and unemployment, we provide insights into the average duration of uninsurance, the sources of coverage during this period, and detailed transitions across various types of coverage.

Previous research examining coverage instability and the mitigating effects of Medicaid primarily focuses on the chronically low-income demographic. In contrast, we demonstrate

that the 60% of individuals in the U.S. covered by employer plans are also vulnerable to coverage instability due to labor market dynamics.

We offer the first causal estimates of the effect of the ACA's Medicaid expansion on high-frequency coverage dynamics for displaced workers by leveraging a compelling source of variation—the 2019 Virginia Medicaid expansion. We show that this state-level Medicaid expansion increased the likelihood of transitioning to Medicaid by nearly 200%. We also show that the expansion immediately and persistently increased the likelihood of coverage and reduced the duration of uninsurance for displaced workers. Finally, we provide evidence that suggests that the expansion affected labor search dynamics by improving match quality, especially for those who were in the second quartile of pre-separation earnings.

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Table 1
Summary Statistics, by Transition Month out of Uninsurance

		First Transition Month from Uninsurance					
	All	2	4	6	12	24	Uninsured
Female	0.413	0.430	0.376	0.385	0.355	0.321	0.306
Married	0.402	0.401	0.334	0.304	0.275	0.237	0.238
Has Dependents	0.453	0.449	0.423	0.418	0.396	0.375	0.375
Non-Filer	0.0554	0.0418	0.0583	0.0672	0.0850	0.106	0.123
Age	42.07	42.26	41.52	41.64	41.53	41.21	42.25
2015 Wages	60,705	60,421	55,570	54,197	52,722	46,911	46,072
2015 MAGI							
$<$ 100% FPL	0.0284	0.0200	0.0228	0.0241	0.0286	0.0366	0.0391
100-138% FPL	0.0459	0.0357	0.0417	0.0429	0.0476	0.0593	0.0670
138-400% FPL	0.495	0.501	0.541	0.556	0.576	0.615	0.619
$>$ 400% FPL	0.430	0.443	0.394	0.377	0.348	0.289	0.275
Has Wages in 2018	0.867	0.875	0.904	0.898	0.892	0.879	0.704
2018 Wages	46,539	49,738	48,631	45,321	40,695	31,734	20,512
Duration of Uninsurance	3.936	-	-	-	-	-	-
First Source of Coverage							
Employer Plan	0.752	0.603	0.755	0.739	0.739	0.716	-
Medicaid	0.123	0.168	0.130	0.165	0.152	0.159	-
Exchange	0.0527	0.184	0.0930	0.0774	0.0861	0.0937	-
Other	0.0259	0.0448	0.0216	0.0187	0.0229	0.0311	-
N	1,645,936	106,239	56,617	33,717	14,383	4,013	77,643

Notes: This table summarizes policyholders based on the first month that we observe new coverage after having separated from an employer plan in 2016. The sample is limited to those who receive unemployment income in 2016 or 2017 (displaced workers). See Section 3 for more details.

Table 2
Six-Month Coverage Transitions

	$m+6$				
m	Uncovered	Employer	Medicaid	Marketplace	Other
Panel A. Full Analysis Sample					
Uncovered	58%	31%	7%	3%	1%
Employer	9%	86%	3%	1%	1%
Medicaid	9%	16%	73%	2%	1%
Marketplace	10%	23%	6%	60%	1%
Other	4%	22%	3%	2%	67%
Panel B. Expansion					
Uncovered	54%	32%	10%	3%	1%
Employer	8%	87%	3%	1%	1%
Medicaid	8%	16%	73%	2%	1%
Marketplace	8%	24%	9%	59%	1%
Other	4%	23%	4%	3%	66%
Panel B. Non-Expansion					
Uncovered	63%	30%	3%	3%	1%
Employer	12%	84%	1%	1%	1%
Medicaid	12%	16%	68%	1%	2%
Marketplace	13%	22%	2%	63%	1%
Other	4%	22%	2%	2%	70%

Notes: This table describes transitions for policyholders who separate from an employer plan in 2016 and also become unemployed in 2016 or 2017 (displaced workers). These statistics reflect the likelihood of transitioning across coverage sources from month m to month $m+6$ for all displaced workers (Panel A), those living in expansion states (Panel A), and those living in non-expansion states (Panel B) prior to their coverage loss.

Table 3
Summary Statistics, by First Source of Coverage

	ESI	Medicaid	Marketplace	Other
Female	0.406	0.494	0.481	0.290
Married	0.431	0.278	0.413	0.407
Has Dependents	0.450	0.550	0.390	0.370
Non-Filer	0.0518	0.0642	0.0266	0.0523
Age	42.12	40.26	45.75	41.46
2015 Wages	64,278	43,194	61,756	64,439
2015 MAGI				
$<$ 100% FPL	0.0229	0.0629	0.0183	0.0248
100-138% FPL	0.0368	0.104	0.0288	0.0309
138-400% FPL	0.463	0.648	0.505	0.457
$>$ 400% FPL	0.477	0.186	0.448	0.487
Has Wages in 2018	0.895	0.802	0.794	0.804
2018 Wages	51,715	28,525	39,213	43,899
N	1,237,136	201,823	86,677	42,657

Notes: This table summarizes policyholders based on the first source of new coverage after having separated from an employer plan in 2016. The sample is limited to those who receive unemployment income in 2016 or 2017 (displaced workers). See Section 3 for more details.

Table 4
Probability of New Coverage

	Uninsurance	Covered			Hazard of
	Duration	$t = 2$	$t = 4$	$t = 6$	New Insurance
	(1)	(2)	(3)	(4)	(5)
Female	-1.055***	0.0932***	0.0855***	0.0769***	1.143***
	(0.0487)	(0.00538)	(0.00401)	(0.00362)	(0.00188)
Married	-1.551***	0.167***	0.155***	0.143***	1.234***
	(0.0625)	(0.00366)	(0.00435)	(0.00479)	(0.00223)
Has Dependents	-0.0705	0.00666	0.00289	0.00243	1.014***
	(0.0789)	(0.00695)	(0.00732)	(0.00711)	(0.00175)
Non-Filer	1.342***	-0.0662***	-0.0922***	-0.0993***	0.854***
	(0.0590)	(0.00488)	(0.00503)	(0.00464)	(0.00319)
Age	0.0111***	-0.000503	-0.000648*	-0.000668**	0.999***
	(0.00211)	(0.000371)	(0.000290)	(0.000239)	(0.0000755)
2015 Wages	-0.0502***	0.00438***	0.00397***	0.00373***	1.004***
	(0.00746)	(0.000466)	(0.000465)	(0.000488)	(0.0000584)
Expansion State	-1.540***	0.148***	0.147***	0.138***	1.224***
	(0.286)	(0.0192)	(0.0212)	(0.0215)	(0.00209)
Control Mean	3.937	0.602	0.68	0.718	-
N	1,645,936	1,645,936	1,645,936	1,645,936	1,645,936

Notes: This table reports results from estimating a OLS model (cols 1,2, 3, 4) and a Cox Proportional Hazard model (col 5). Analysis is based on policyholders who separate from an employer plan in 2016 and become unemployed in 2016 or 2017 (displaced workers). Post separation monthly coverage is observed for 24 months for all individuals in this analysis. All specifications include monthly fixed effects identifying the month of separation in 2016. See Section 3 for more details.

Table 5
DiD Sample Pre-Treatment Summary Statistics

		First Transition Month				First Source of Coverage		
	All	2	4	6	Uninsured	Employer	Medicaid	Marketplace
Female	0.436	0.449	0.418	0.434	0.416	0.431	0.602	0.513
Married	0.381	0.404	0.346	0.319	0.267	0.423	0.291	0.424
Has Dependents	0.473	0.485	0.461	0.465	0.430	0.473	0.718	0.425
Non-Filer	0.0705	0.0469	0.0655	0.0725	0.108	0.0620	0.0509	0.0280
Age	43.10	43.16	42.24	42.33	43.12	43.27	38.11	46.94
Pre-Separation Wages	57,709	58,724	55,676	55,386	48,930	61,848	41,386	59,829
N	622,987	33,993	23,236	14,834	138,799	409,452	33,508	27,432

Notes: This table reports summary statistics for pre-treatment policyholders (2016–2018 separation cohorts) included in our DiD analysis sample. See Section 5 for more details on sample construction. See also Tables 1 and 3 for more details.

Table 6
Virginia's Medicaid Expansion: Compliers' Characteristics

	Pre-Separation Wage Percentile						
	$<$ 25th	25-50th	50-75	$>$ 75th	Female	Married	Depndts
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
First Coverage Medicaid	0.430***	0.259***	0.192***	0.119***	0.603***	0.197***	0.535***
	(0.00513)	(0.00255)	(0.00440)	(0.00242)	(0.00296)	(0.00323)	(0.00382)
N	795,393	795,393	795,393	795,393	795,393	795,393	795,393

Notes: This table describes the characteristics of compliers following (Frandsen, Lefgren and Leslie, 2023). Analysis sample includes policy holders who separate from an employer plan in Virginia or other non-expansion states in 2016, 2017, 2018 or 2019. See Section 5 for more details.

Table 7
Effect of Virginia's Medicaid Expansion: Coverage Dynamics

	Covered			Months	First Source of Coverage	
	$t = 2$	$t = 4$	$t = 6$	Uninsured	Employer Plan	Marketplace
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. Intent-to-Treat (DiD)						
Treat X 2016	0.00778	0.0167	0.0187*	-0.117*	0.00854	-0.000256
	(0.00739)	(0.00938)	(0.00831)	(0.0468)	(0.00592)	(0.00125)
Treat X 2017	-0.00150	0.00815*	-0.000535	-0.0992***	0.00396	0.00629***
	(0.00338)	(0.00335)	(0.00411)	(0.0234)	(0.00409)	(0.000684)
Treat X 2019	0.0621***	0.0655***	0.0647***	-0.328***	-0.0314***	-0.0175***
	(0.00127)	(0.00131)	(0.00186)	(0.0113)	(0.00234)	(0.00101)
Control Mean	0.49	0.567	0.621	3.31	0.691	0.042
N	795,393	795,393	795,393	795,393	795,393	795,393
Panel B. Compliers' Effect (IV)						
First Coverage Medicaid	0.669***	0.705***	0.697***	-3.532***	-0.338***	-0.189***
	(0.0151)	(0.0144)	(0.0195)	(0.129)	(0.0242)	(0.0118)
Craig-Wald F Statistic	954.7	954.7	954.7	954.7	954.7	954.7
N	795,393	795,393	795,393	795,393	795,393	795,393

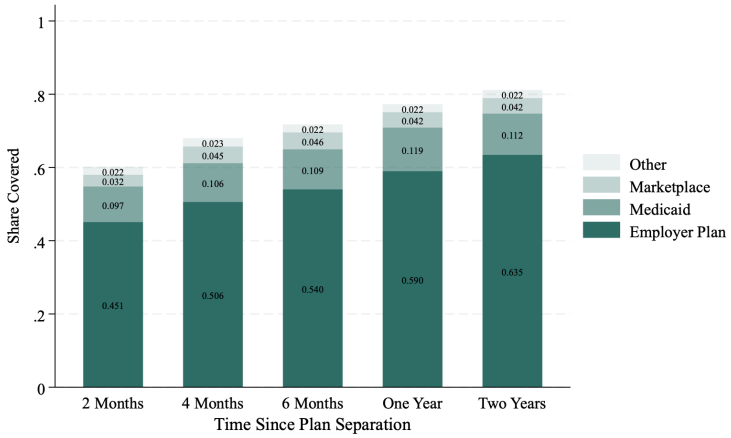
Notes: This table reports the effect of Medicaid Expansion on post-separation coverage dynamics. Panel A reports Average Treatment Effects based on a DiD model, and Panel B reports the Compliers' Effect based on an two-stage least squares model, as described in Section 5. Pre-treatment means are measured in Virginia in 2018.

Table 8
Effect of Virginia's Medicaid Expansion: Employer Plans and the Labor Market

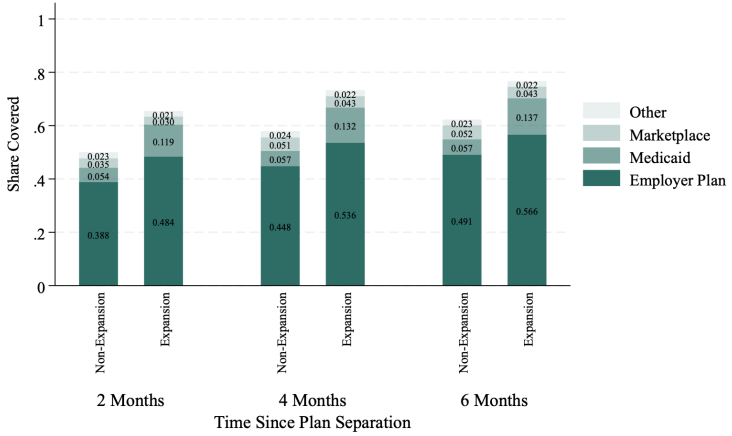
	Months to Own Employer Plan (1)	New Employer (2)	New Wages (3)
Panel A. Intent-to-Treat(DiD)			
Treat X 2016	-0.0813	0.00267	837.6
	(0.0479)	(0.00952)	(820.5)
Treat X 2017	-0.0718	0.0103	1317.2***
	(0.0344)	(0.00522)	(96.04)
Treat X 2019	0.0918***	0.00722***	469.4
	(0.0206)	(0.00153)	(356.0)
Control Mean	4.786	0.772	22292.966
N	795,393	795,393	795,393
Panel B. Compliers' Effect (IV)			
First Coverage Medicaid	0.989***	0.0778***	5055.8
	(0.219)	(0.0167)	(3839.8)
N	795,393	795,393	795,393

Notes: This table reports the effect of Medicaid Expansion on post-separation coverage dynamics. Panel A reports Average Treatment Effects based on a DiD model, and Panel B reports the Compliers' Effect based on an two-stage least squares model, as described in Section 5. Pre-treatment means measured in Virginia in 2018.

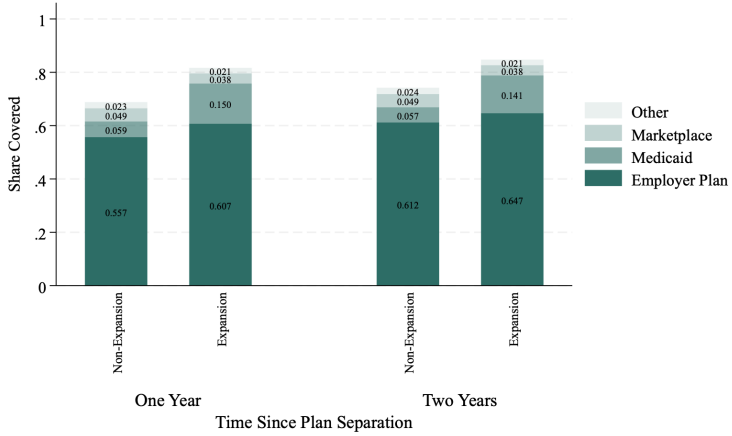
Figure 1. 2016 Post-Separation Monthly Coverage



(a) All States



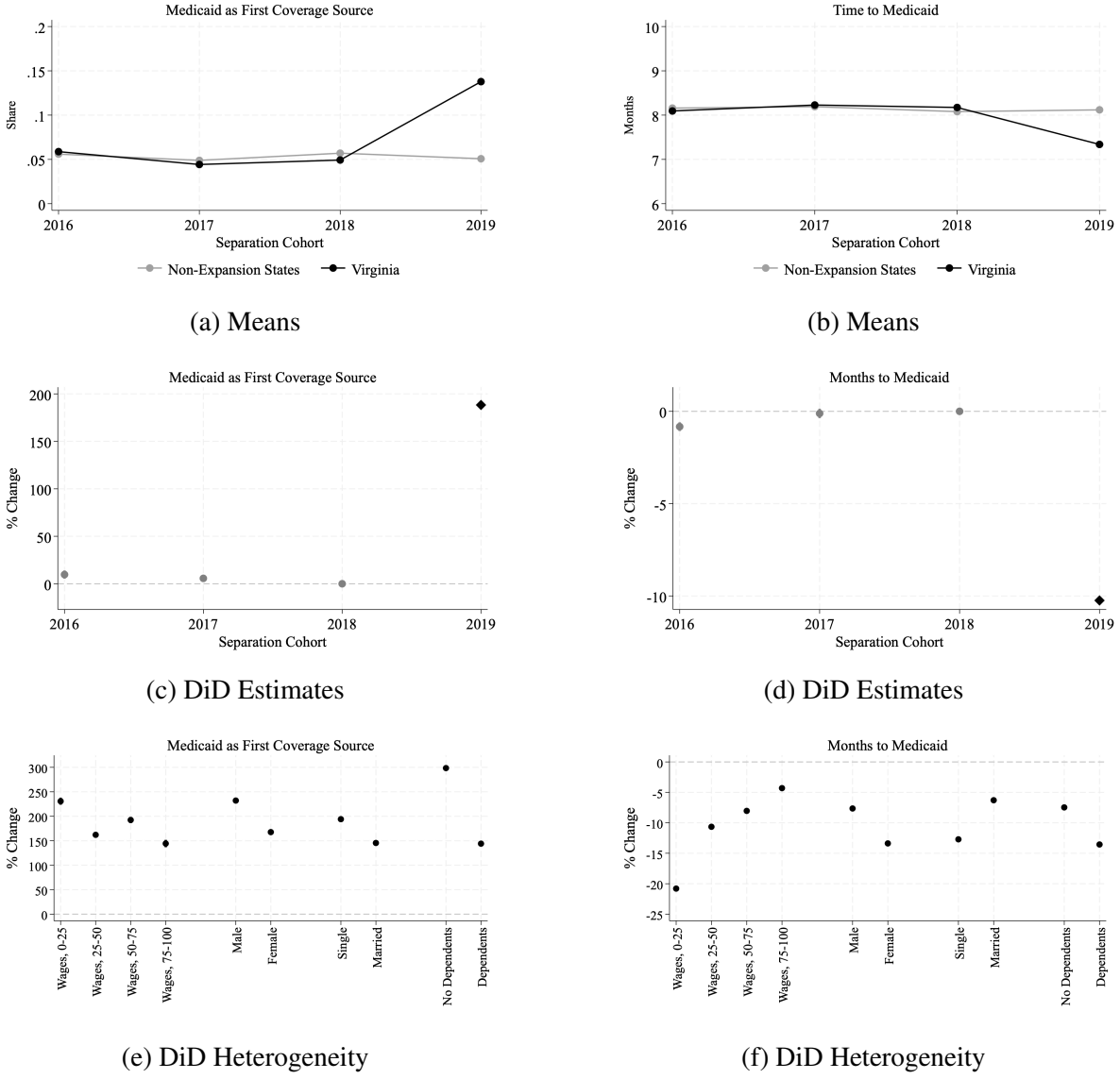
(b) Short-Run Dynamics by Expansion



(c) Long-Run Dynamics by Expansion

Notes These figures depict the breakdown of the source of health insurance coverage 2, 4, 6, 12, and 24 months after a policyholder who becomes unemployed separates from an employer plan in 2016. Panel a includes our full analysis sample, and panels b and c report information separately based on whether the policyholder lived in a non-expansion state or an expansion state.

Figure 2. DiD Model: Effect of Expansion on Medicaid Take-Up



(a) Means

(b) Means

(c) DiD Estimates

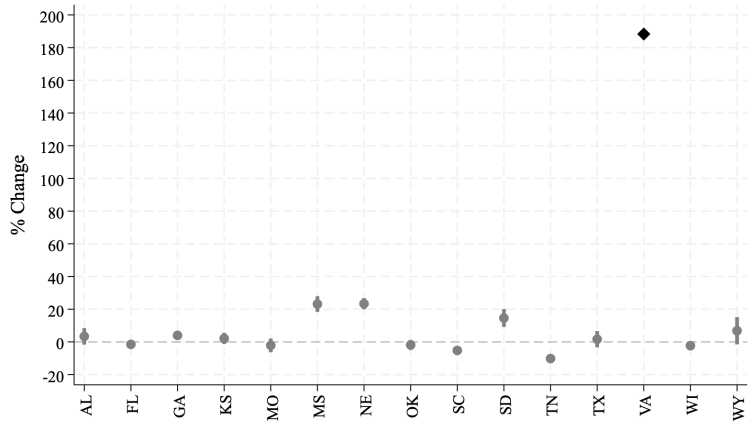
(d) DiD Estimates

(e) DiD Heterogeneity

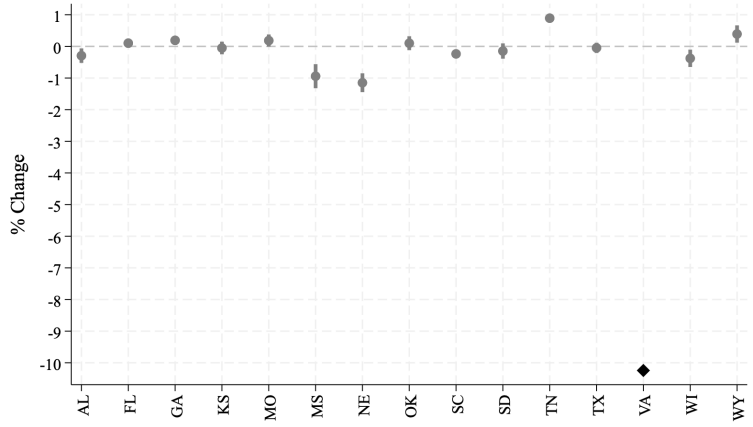
(f) DiD Heterogeneity

Notes These figures depict the effect of the 2019 Virginia Medicaid expansion on the number of months until an individual becomes covered by Medicaid and the likelihood of Medicaid as a first source of coverage. Panels a and b depict mean trends for individuals in Virginia (treated) and other non-expansion states (control) based on the year of separation (separation cohort). Scaled estimates based on a difference-in-difference (DiD) model and relative to mean outcomes in Virginia in 2018, as described in Section 5, are reported in panels c and d. Panels e and f report scaled estimates across different subgroups, relative to subgroup-specific mean outcomes in Virginia in 2018. Corresponding point estimates are reported in Table A7.

Figure 3. Effect of Medicaid: Falsification Tests



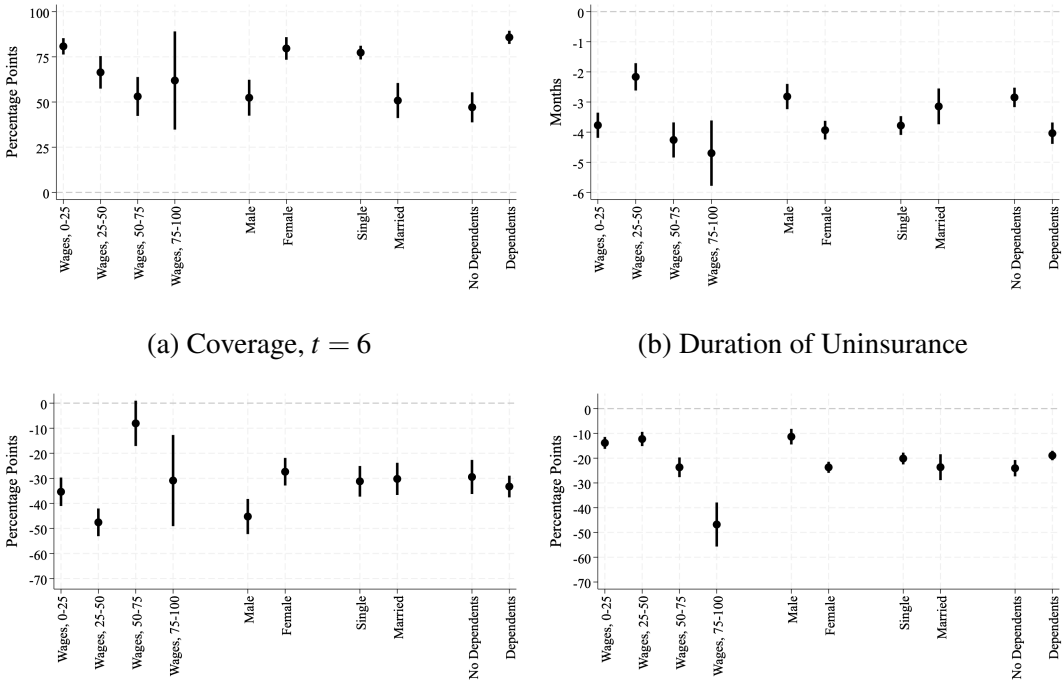
(a) Medicaid as First Coverage Source



(b) Months to Medicaid

Notes These figures depict estimates of a placebo test, described in Section 5, of any change in 2019 in each of the non-expansion states included in the control group, compared to other non-expansion states. Panel a reports estimates of changes in the likelihood of Medicaid as a first source of coverage, and panel b reports the number of months until an individual is covered by Medicaid .

Figure 4. Compliers' Effect on Coverage Dynamics: Heterogeneity



(a) Coverage, $t = 6$

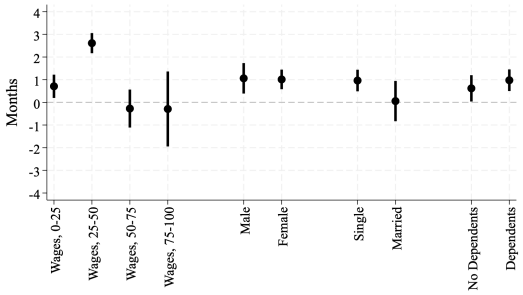
(b) Duration of Uninsurance

(c) First Coverage: Employer Plan

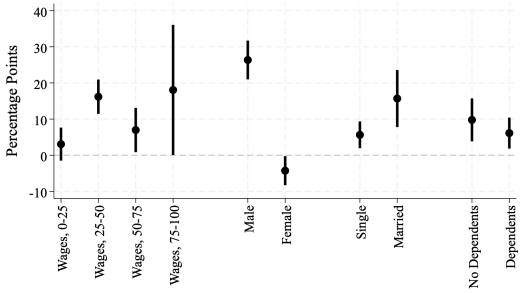
(d) First Coverage: Marketplace

Notes These figures depict compliers' estimates and 95% confidence intervals of the effect of the 2019 Virginia Medicaid expansion for subgroups based on pre-separation earnings, gender, marital status, the presence of dependents, and age of the policy holder. Marital status and the presence of dependents can only be observed for policy holders who also filed a Form 1040 in the year before separation (filers). Point estimates are reported in Table A8. Non-Filer estimates are reported in Appendix Table A12.

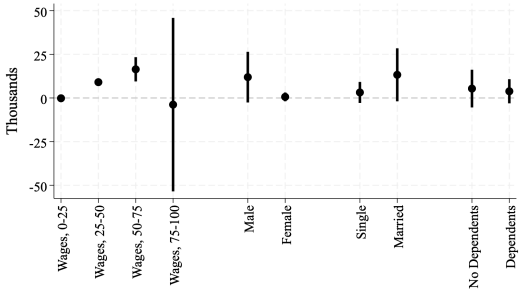
Figure 5. Compliers' Effect on Labor Market Search: Heterogeneity



(a) Time to Own Employer Plan



(b) New Employer



(c) New Earnings

Notes These figures depict compliers' estimates and 95% confidence intervals of the effect of the 2019 Virginia Medicaid expansion for subgroups based on pre-separation earnings, gender, marital status, the presence of dependents, and age of the policy holder. Marital status and the presence of dependents can only be observed for policy holders who also filed a Form 1040 in the year before separation (filers). Point estimates are reported in Table A8. Non-Filer estimates are reported in Appendix Table A12.

A. APPENDIX: FOR ONLINE PUBLICATION

A.1. Additional Tables and Figures

Table A1
Summary Statistics, by Transition Month out of Uninsurance: Full Population

		First Transition Month from Uninsurance					
	All	2	4	6	12	24	Uninsured
Female	0.455	0.493	0.432	0.425	0.406	0.367	0.338
Married	0.444	0.409	0.330	0.300	0.293	0.260	0.288
Has Dependents	0.433	0.417	0.394	0.385	0.382	0.365	0.351
Non-Filer	0.0554	0.0372	0.0574	0.0714	0.0829	0.107	0.135
Age	40.42	39.28	39.07	38.95	39.29	38.92	40.71
2015 Wages	65,022	62,094	51,768	50,199	50,273	45,277	46,678
2015 MAGI							
$<$ 100% FPL	0.0364	0.0275	0.0357	0.0445	0.0517	0.0637	0.0856
100-138% FPL	0.0425	0.0377	0.0514	0.0585	0.0629	0.0733	0.0715
138-400% FPL	0.458	0.486	0.559	0.572	0.570	0.596	0.553
$>$ 400% FPL	0.463	0.449	0.354	0.325	0.315	0.267	0.290
Has Wages in 2018	0.882	0.908	0.909	0.889	0.873	0.848	0.581
2018 Wages	63,096	64,109	50,935	45,350	43,242	34,649	20,021
N	11,377,382	654,273	237,056	120,197	54,660	16,680	460,824

Notes: This table summarizes the full sample of policyholders based on the first month that we observe new coverage after having separated from an employer plan in 2016. See also Table 1 Notes.

Table A2
Six-Month Coverage Transitions: Full Population

	$m+6$				
m	Uncovered	Employer	Medicaid	Marketplace	Other
Panel A. Full Population					
Uncovered	62%	29%	4%	3%	1%
Employer	5%	94%	1%	0%	0%
Medicaid	8%	13%	76%	1%	1%
Marketplace	10%	16%	3%	69%	2%
Other	5%	16%	2%	3%	75%
Panel B. Expansion					
Uncovered	59%	31%	6%	3%	1%
Employer	4%	94%	1%	0%	0%
Medicaid	8%	14%	76%	2%	1%
Marketplace	8%	17%	5%	68%	2%
Other	5%	15%	2%	3%	75%
Panel B. Non-Expansion					
Uncovered	65%	28%	2%	3%	1%
Employer	6%	93%	1%	1%	0%
Medicaid	10%	12%	75%	1%	2%
Marketplace	11%	15%	2%	71%	2%
Other	5%	16%	1%	3%	74%

Notes: This table describes transitions for all policyholders who separate from an employer plan in 2016. See also Table 2 Notes.

Table A3
Two-Month Coverage Transitions: Displaced Workers

	$m+2$				
m	Uncovered	Employer	Medicaid	Marketplace	Other
Panel A. Full Analysis Sample					
Uncovered	79%	15%	3%	2%	0%
Employer	5%	93%	1%	0%	0%
Medicaid	4%	6%	88%	1%	0%
Marketplace	5%	9%	2%	83%	0%
Other	2%	9%	1%	1%	86%
Panel B. Expansion					
Uncovered	77%	16%	5%	2%	1%
Employer	4%	94%	1%	0%	0%
Medicaid	4%	6%	89%	1%	0%
Marketplace	4%	9%	3%	83%	0%
Other	2%	10%	2%	1%	85%
Panel B. Non-Expansion					
Uncovered	82%	14%	1%	2%	0%
Employer	7%	92%	1%	0%	0%
Medicaid	6%	6%	86%	0%	1%
Marketplace	6%	8%	1%	85%	0%
Other	2%	9%	1%	1%	87%

Notes: This table describes transitions for all policyholders who separate from an employer plan in 2016 and also become unemployed in 2016 or 2017. These statistics reflect the likelihood of transitioning across coverage sources from month m to month $m+2$ See also Table 2 Notes.

Table A4
Four-Month Coverage Transitions: Displaced Workers

	$m+4$				
m	Uncovered	Employer	Medicaid	Marketplace	Other
Panel A. Full Analysis Sample					
Uncovered	67%	25%	5%	3%	1%
Employer	8%	89%	2%	1%	0%
Medicaid	7%	12%	80%	1%	1%
Marketplace	8%	16%	4%	70%	1%
Other	3%	17%	3%	2%	76%
Panel B. Expansion					
Uncovered	63%	26%	8%	3%	1%
Employer	6%	90%	2%	1%	0%
Medicaid	6%	12%	80%	1%	1%
Marketplace	7%	17%	6%	69%	1%
Other	4%	17%	3%	2%	74%
Panel B. Non-Expansion					
Uncovered	71%	23%	2%	3%	0%
Employer	10%	88%	1%	1%	1%
Medicaid	10%	12%	76%	1%	2%
Marketplace	10%	15%	2%	72%	1%
Other	3%	16%	2%	1%	77%

Notes: This table describes transitions for all policyholders who separate from an employer plan in 2016 and also become unemployed in 2016 or 2017. These statistics reflect the likelihood of transitioning across coverage sources from month m to month $m+4$ See also Table 2 Notes.

Table A5
Summary Statistics, by First Source of Coverage: Full Population

	ESI	Medicaid	Marketplace	Other
Female	0.456	0.519	0.511	0.384
Married	0.462	0.300	0.425	0.427
Has Dependents	0.436	0.519	0.378	0.336
Non-Filer	0.0502	0.0801	0.0356	0.0670
Age	40.40	38.56	43.19	41.57
2015 Wages	68,347	38,343	53,003	60,378
2015 MAGI				
$<$ 100% FPL	0.0282	0.108	0.0451	0.0529
100-138% FPL	0.0354	0.125	0.0487	0.0338
138-400% FPL	0.441	0.599	0.537	0.425
$>$ 400% FPL	0.495	0.168	0.369	0.488
Has Wages in 2018	0.916	0.763	0.733	0.698
2018 Wages	69,313	27,254	35,059	41,488
N	9,617,109	677,849	345,042	276,558

Notes: This table summarizes the full population of policyholders based on the first source of new coverage after having separated from an employer plan in 2016. See also Table 3 Notes.

Table A6
U.S. and Virginia, American Community Survey 2018

	U.S.	Virginia
Female (%)	50.8	50.8
Median Age	38.2	38.3
Race (%)		
White	75.1	71
Black or African American	14.1	21.2
American Indian or Alaska Native	1.7	1.1
Asian	6.8	8.1
Native Hawaiian and Other Pacific Islander	0.4	0.2
Other	5.5	3
Median Household Income ($)	61,937	72,577
Uninsured (% civilian, non-institutionalized)	8.9	8.8
Bachelor's or above (%)	32.6	39.3
Population	327,167,439	8,517,685

Notes: 2018 1-year estimates from American Community Survey. Data downloaded from https://data.census.gov/.

Table A7
Effect of Virginia's Medicaid Expansion: Medicaid Take-Up

		Pre-Separation Wage Percentile								Dependents	
	All	$<$ 25th	25-50th	50-75	$>$ 75th	Male	Female	Single	Married	No	Yes
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(11)	(12)
Panel A. First New Coverage Source is Medicaid											
Treat X 2016	0.00479***	0.0124***	0.00275	0.00939**	-0.00155	0.00445**	0.00763***	0.00535***	0.00514***	0.00536***	0.00506**
	(0.00108)	(0.00272)	(0.00203)	(0.00231)	(0.00132)	(0.00149)	(0.00135)	(0.00124)	(0.00104)	(0.00119)	(0.00136)
Treat X 2017	0.00281**	0.0163***	0.00139	-0.00211	-0.00177	-0.00113	0.00887***	0.00388**	0.00203	0.00136	0.00568***
	(0.000902)	(0.00269)	(0.00174)	(0.00132)	(0.00110)	(0.00122)	(0.00112)	(0.00121)	(0.00106)	(0.000993)	(0.00136)
Treat X 2019	0.0928***	0.179***	0.101***	0.0748***	0.0365***	0.0713***	0.117***	0.115***	0.0529***	0.0704***	0.115***
	(0.000594)	(0.00284)	(0.00123)	(0.00127)	(0.000970)	(0.000638)	(0.00133)	(0.000895)	(0.000841)	(0.000671)	(0.00118)
Control Mean	0.049	0.078	0.062	0.039	0.025	0.031	0.070	0.059	0.036	0.024	0.080
N	795,393	198,776	198,762	198,802	198,764	444,036	351,223	438,774	298,464	363,507	373,716
Panel B. Months of Uninsurance prior to new Medicaid											
Treat X 2016	-0.0678***	-0.192***	-0.00444	-0.0809***	-0.0292*	-0.0791***	-0.0860***	-0.0547**	-0.106***	-0.0547***	-0.0970***
	(0.00974)	(0.0248)	(0.0181)	(0.0161)	(0.0136)	(0.0138)	(0.0200)	(0.0158)	(0.0106)	(0.00995)	(0.0172)
Treat X 2017	-0.00940	-0.191***	0.0555**	0.0604***	0.0112	-0.00166	-0.0292	-0.00439	-0.0208	-0.00582	-0.0192
	(0.0106)	(0.0245)	(0.0169)	(0.0136)	(0.0123)	(0.0107)	(0.0154)	(0.0155)	(0.0108)	(0.00867)	(0.0208)
Treat X 2019	-0.837***	-1.636***	-0.858***	-0.662***	-0.364***	-0.643***	-1.058***	-1.023***	-0.523***	-0.628***	-1.067***
	(0.00524)	(0.0163)	(0.0125)	(0.0102)	(0.00959)	(0.00590)	(0.0116)	(0.00850)	(0.00812)	(0.00383)	(0.0116)
Control Mean	8.173	7.867	8.052	8.234	8.461	8.414	7.904	8.052	8.316	8.415	7.869
N	795,393	198,776	198,762	198,802	198,764	444,036	351,223	438,774	298,464	363,507	373,716

Notes: This table reports the effect of Medicaid Expansion on post-separation coverage dynamics using a difference-in-differences identification strategy. Panel A reports the baseline results, while Panels B and C report estimates respectively for the bottom 25th percentile and top 25th percentile of the wage distribution where wages are measured in the year before losing coverage. Pre-treatment mean measured in Virginia in 2018. See Section 5 for more details.

Table A8
Compliers' Effect: Heterogeneity

		Pre-Separation Wage Percentile								Dependents	
	All	$<$ 25th	25-50th	50-75	$>$ 75th	Male	Female	Single	Married	No	Yes
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(11)	(12)
Covered, $t = 2$	0.669***	0.696***	0.591***	0.690***	0.635**	0.507***	0.761***	0.757***	0.483***	0.637***	0.721***
	(0.0151)	(0.0280)	(0.0434)	(0.0554)	(0.165)	(0.0364)	(0.0390)	(0.0230)	(0.0429)	(0.0237)	(0.0255)
Covered, $t = 4$	0.705***	0.726***	0.754***	0.586***	0.666**	0.634***	0.731***	0.783***	0.490***	0.534***	0.827***
	(0.0144)	(0.0253)	(0.0507)	(0.0583)	(0.189)	(0.0445)	(0.0280)	(0.0130)	(0.0538)	(0.0270)	(0.0196)
Covered, $t = 6$	0.697***	0.808***	0.664***	0.531***	0.619***	0.524***	0.796***	0.773***	0.508***	0.471***	0.858***
	(0.0195)	(0.0231)	(0.0460)	(0.0549)	(0.139)	(0.0507)	(0.0319)	(0.0194)	(0.0495)	(0.0424)	(0.0185)
Uninsurance Duration	-3.532***	-3.771***	-2.164***	-4.259***	-4.697***	-2.818***	-3.934***	-3.780***	-3.145***	-2.847***	-4.035***
	(0.129)	(0.213)	(0.231)	(0.297)	(0.553)	(0.214)	(0.158)	(0.159)	(0.303)	(0.164)	(0.181)
First Coverage: Employer Plan	-0.338***	-0.354***	-0.476***	-0.0808	-0.309**	-0.452***	-0.274***	-0.312***	-0.302***	-0.295***	-0.333***
	(0.0242)	(0.0290)	(0.0282)	(0.0461)	(0.0928)	(0.0358)	(0.0281)	(0.0312)	(0.0328)	(0.0347)	(0.0221)
First Coverage: Marketplace Plan	-0.189***	-0.138***	-0.123***	-0.237***	-0.468***	-0.113***	-0.237***	-0.201***	-0.236***	-0.241***	-0.189***
	(0.0118)	(0.0123)	(0.0147)	(0.0203)	(0.0454)	(0.0161)	(0.0114)	(0.0121)	(0.0267)	(0.0168)	(0.00972)
Months to Own Employer Plan	0.989***	0.708*	2.613***	-0.274	-0.292	1.060**	1.012***	0.964**	0.0559	0.618	0.976**
	(0.219)	(0.262)	(0.227)	(0.428)	(0.844)	(0.343)	(0.220)	(0.243)	(0.453)	(0.296)	(0.244)
New Employer	0.0778***	0.0307	0.162***	0.0698*	0.181	0.264***	-0.0427	0.0565**	0.157**	0.0977**	0.0612*
	(0.0167)	(0.0233)	(0.0242)	(0.0313)	(0.0918)	(0.0274)	(0.0205)	(0.0189)	(0.0402)	(0.0303)	(0.0218)
New Employer Wages	5055.8	-168.3	9047.9***	16413.4***	-3817.5	11922.5	624.5	3163.1	13268.8	5372.9	3841.3
	(3839.8)	(615.0)	(863.1)	(3545.2)	(25341.8)	(7402.6)	(1283.5)	(3068.3)	(7740.7)	(5506.1)	(3527.5)
N	795,393	198,776	198,762	198,802	198,764	198,776	198,762	198,762	198,802	198,762	198,802

Notes: This table reports the Compliers' Effect of Medicaid Expansion separately for policyholders based on their pre-separation characteristics. Panels A, B, and C report the effect of the expansion on the liklihood of being covered 2, 4, and 6 months after separation, respectively. Pre-treatment mean measured in Virginia in 2018. See Section 5 for more details.

Table A9
Average Treatment Effect Heterogeneity: Coverage Dynamics

		Pre-Separation Wage Percentile								Dependents	
	All	$<$ 25th	25-50th	50-75	$>$ 75th	Male	Female	Single	Married	No	Yes
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(11)	(12)
Panel A. Covered, t = 2											
Treat X 2016	0.00778	0.0218*	0.00449	0.0189	-0.00662	0.0157	-0.00458	0.0134	-0.00252	0.0127	0.000617
	(0.00739)	(0.00918)	(0.00950)	(0.0104)	(0.00309)	(0.01000)	(0.00475)	(0.00786)	(0.00688)	(0.00724)	(0.00731)
Treat X 2017	-0.00150	0.0276**	-0.0236***	-0.00261	-0.00586	0.00170	-0.00393	0.0107*	-0.0201***	-0.00129	-0.00161
	(0.00338)	(0.00674)	(0.00441)	(0.00486)	(0.00478)	(0.00267)	(0.00533)	(0.00450)	(0.00337)	(0.00266)	(0.00486)
Treat X 2019	0.0621***	0.125***	0.0596***	0.0516***	0.0231**	0.0361***	0.0894***	0.0870***	0.0256***	0.0449***	0.0828***
	(0.00127)	(0.00531)	(0.00417)	(0.00399)	(0.00590)	(0.00247)	(0.00395)	(0.00244)	(0.00230)	(0.00153)	(0.00285)
Control Mean	0.49	0.415	0.415	0.468	0.624	0.478	0.503	0.414	0.645	0.471	0.543
N	795,393	198,776	198,762	198,802	198,764	444,036	351,223	438,774	298,464	363,507	373,716
Panel B. Covered, t = 4											
Treat X 2016	0.0167	0.0140	0.0114	0.0223	0.0223**	0.0157	-0.00458	0.0134	-0.00252	0.0127	0.000617
	(0.00938)	(0.00826)	(0.00932)	(0.0141)	(0.00600)	(0.01000)	(0.00475)	(0.00786)	(0.00688)	(0.00724)	(0.00731)
Treat X 2017	0.00815*	0.0211***	-0.0155**	0.00142	0.0193***	0.00170	-0.00393	0.0107*	-0.0201***	-0.00129	-0.00161
	(0.00335)	(0.00426)	(0.00426)	(0.00362)	(0.00372)	(0.00267)	(0.00533)	(0.00450)	(0.00337)	(0.00266)	(0.00486)
Treat X 2019	0.0655***	0.130***	0.0759***	0.0439***	0.0243**	0.0361***	0.0894***	0.0870***	0.0256***	0.0449***	0.0828***
	(0.00131)	(0.00524)	(0.00494)	(0.00465)	(0.00684)	(0.00247)	(0.00395)	(0.00244)	(0.00230)	(0.00153)	(0.00285)
Control Mean	0.567	0.487	0.493	0.564	0.691	0.478	0.503	0.414	0.645	0.471	0.543
N	795,393	198,776	198,762	198,802	198,764	444,036	351,223	438,774	298,464	363,507	373,716
Panel C. Covered, t = 6											
Treat X 2016	0.0187*	0.0143	0.0116	0.0311*	0.0208**	0.0250	0.00698*	0.0237**	0.0127	0.0161	0.0209*
	(0.00831)	(0.00729)	(0.00848)	(0.0118)	(0.00554)	(0.0117)	(0.00260)	(0.00717)	(0.00931)	(0.00773)	(0.00849)
Treat X 2017	-0.000535	0.0180***	-0.0239***	-0.00975	0.00523	0.00366	-0.00462	0.00186	-0.000678	-0.00440	0.00664
	(0.00411)	(0.00388)	(0.00457)	(0.00509)	(0.00492)	(0.00333)	(0.00552)	(0.00520)	(0.00437)	(0.00476)	(0.00464)
Treat X 2019	0.0647***	0.145***	0.0669***	0.0397***	0.0226***	0.0373***	0.0935***	0.0889***	0.0269***	0.0331***	0.0985***
	(0.00186)	(0.00485)	(0.00447)	(0.00432)	(0.00521)	(0.00355)	(0.00298)	(0.00206)	(0.00279)	(0.00286)	(0.00210)
Control Mean	0.621	0.519	0.556	0.628	0.747	0.620	0.622	0.558	0.756	0.614	0.660
N	795,393	198,776	198,762	198,802	198,764	444,036	351,223	438,774	298,464	363,507	373,716
Panel D. Months of Uninsurance											
Treat X 2016	-0.117*	-0.00175	-0.0150	-0.342**	-0.145**	-0.188*	-0.00881	-0.149**	-0.0675	-0.0946*	-0.127*
	(0.0468)	(0.0490)	(0.0323)	(0.0873)	(0.0402)	(0.0766)	(0.0306)	(0.0451)	(0.0512)	(0.0418)	(0.0498)
Treat X 2017	-0.0992***	-0.222***	0.0896*	-0.0812*	-0.152***	-0.156***	-0.0329	-0.122***	-0.0390	-0.0500*	-0.132***
	(0.0234)	(0.0374)	(0.0319)	(0.0297)	(0.0320)	(0.0179)	(0.0396)	(0.0273)	(0.0193)	(0.0227)	(0.0262)
Treat X 2019	-0.328***	-0.675***	-0.218***	-0.319***	-0.171***	-0.201***	-0.462***	-0.434***	-0.166***	-0.201***	-0.463***
	(0.0113)	(0.0303)	(0.0242)	(0.0214)	(0.0206)	(0.0145)	(0.0170)	(0.0175)	(0.0157)	(0.0106)	(0.0197)
Control Mean	3.310	3.751	3.614	3.376	2.670	3.381	3.231	3.647	2.568	3.391	3.034
N	795,393	198,776	198,762	198,802	198,764	444,036	351,223	438,774	298,464	363,507	373,716

Notes: This table reports the effect of Medicaid Expansion on post-separation coverage dynamics separately for policyholders based on their pre-separation characteristics. Panels A, B, and C report the effect of the expansion on the liklihood of being covered 2, 4, and 6 months after separation, respectively. Pre-treatment mean measured in Virginia in 2018. See Section 5 for more details.

Table A10
Average Treatment Effect Heterogeneity: Crowd Out

		Pre-Separation Wage Percentile								Dependents	
	All	$<$ 25th	25-50th	50-75	$>$ 75th	Male	Female	Single	Married	No	Yes
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(11)	(12)
Panel A. Employer Plan as First Coverage Source											
Treat X 2016	0.00854	-0.0159*	0.0106	0.0328**	0.0105*	0.0156	-0.00591	0.0103	0.00458	0.00144	0.0156
	(0.00592)	(0.00689)	(0.00548)	(0.00890)	(0.00426)	(0.00889)	(0.00402)	(0.00526)	(0.00752)	(0.00406)	(0.00768)
Treat X 2017	0.00396	0.0203*	-0.00369	0.00803	-0.00818	0.00864	-0.00322	0.0137**	-0.0116*	0.00437	0.00168
	(0.00409)	(0.00693)	(0.00596)	(0.00393)	(0.00438)	(0.00437)	(0.00426)	(0.00455)	(0.00403)	(0.00561)	(0.00285)
Treat X 2019	-0.0314***	-0.0633***	-0.0479***	-0.00604	-0.0113**	-0.0323***	-0.0321***	-0.0358***	-0.0160***	-0.0208***	-0.0382***
	(0.00234)	(0.00594)	(0.00290)	(0.00350)	(0.00346)	(0.00272)	(0.00346)	(0.00374)	(0.00173)	(0.00244)	(0.00276)
Control Mean	0.691	0.593	0.641	0.697	0.804	0.706	0.676	0.643	0.783	0.699	0.696
N	795,393	198,776	198,762	198,802	198,764	444,036	351,223	438,774	298,464	363,507	373,716
Panel B. Marketplace Plan as First Coverage Source											
Treat X 2016	-0.000256	0.00123	-0.00233	-0.00253	0.00333**	0.00159	-0.000888	0.000225	-0.00138	0.00482***	-0.00754***
	(0.00125)	(0.00164)	(0.00113)	(0.00123)	(0.000947)	(0.00172)	(0.00107)	(0.00124)	(0.00155)	(0.00101)	(0.00180)
Treat X 2017	0.00629***	-0.000843	0.00343**	0.00784***	0.0117***	0.00970***	0.00285*	0.00214*	0.0127***	0.00471***	0.00818***
	(0.000684)	(0.00167)	(0.000860)	(0.00121)	(0.00136)	(0.000819)	(0.000966)	(0.000819)	(0.00125)	(0.00103)	(0.00119)
Treat X 2019	-0.0175***	-0.0248***	-0.0124***	-0.0177***	-0.0171***	-0.00807***	-0.0278***	-0.0231***	-0.0125***	-0.0169***	-0.0217***
	(0.00101)	(0.00203)	(0.00150)	(0.00148)	(0.00140)	(0.00111)	(0.00123)	(0.00128)	(0.00142)	(0.00116)	(0.000942)
Control Mean	0.042	0.040	0.042	0.045	0.041	0.032	0.053	0.047	0.040	0.050	0.038
N	795,393	198,776	198,762	198,802	198,764	444,036	351,223	438,774	298,464	363,507	373,716

Notes: This table reports the effect of Medicaid Expansion on post-separation coverage dynamics separately for policyholders based on their pre-separation characteristics. Panels A, B, and C report the effect of the expansion on the liklihood of being covered 2, 4, and 6 months after separation, respectively. Pre-treatment mean measured in Virginia in 2018. See Section 5 for more details.

Table A11
Average Treatment Effect Heterogeneity: Labor Market

		Pre-Separation Wage Percentile								Dependents	
	All	$<$ 25th	25-50th	50-75	$>$ 75th	Male	Female	Single	Married	No	Yes
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(11)	(12)
Panel A. Months to Own Employer Plan											
Treat X 2016	-0.0813	0.170*	0.00225	-0.338***	-0.201**	-0.146	0.0596	-0.0902*	-0.0533	-0.0111	-0.144*
	(0.0479)	(0.0660)	(0.0397)	(0.0754)	(0.0487)	(0.0694)	(0.0377)	(0.0408)	(0.0527)	(0.0334)	(0.0539)
Treat X 2017	-0.0718	-0.149*	0.0413	-0.0670	-0.0807	-0.102**	0.0359	-0.0725*	0.0341	0.00113	-0.0624*
	(0.0344)	(0.0541)	(0.0412)	(0.0380)	(0.0447)	(0.0306)	(0.0414)	(0.0327)	(0.0330)	(0.0404)	(0.0262)
Treat X 2019	0.0918***	0.127*	0.263***	-0.0205	-0.0106	0.125***	0.0710*	0.103**	0.0107	0.0757***	0.0761*
	(0.0206)	(0.0487)	(0.0222)	(0.0319)	(0.0307)	(0.0233)	(0.0242)	(0.0274)	(0.0199)	(0.0154)	(0.0262)
Control Mean	4.786	5.477	5.039	4.752	4.068	3.913	4.004	4.384	3.128	3.951	3.821
N	795,393	198,776	198,762	198,802	198,764	444,036	351,223	438,774	298,464	363,507	373,716
Panel B. New Employer											
Treat X 2016	0.00267	-0.0171	0.000201	-0.00290	0.0367**	0.0113	-0.00494	-0.00336	0.0148	-0.00705	0.0149
	(0.00952)	(0.00972)	(0.00735)	(0.00933)	(0.0103)	(0.0117)	(0.00710)	(0.00791)	(0.0120)	(0.00926)	(0.0101)
Treat X 2017	0.0103	0.00937	0.0125*	0.00307	0.0149***	0.0108*	0.0107	0.00618	0.0166*	0.000906	0.0202*
	(0.00522)	(0.00843)	(0.00527)	(0.00603)	(0.00254)	(0.00491)	(0.00620)	(0.00479)	(0.00639)	(0.00394)	(0.00711)
Treat X 2019	0.00722***	0.00550	0.0163***	0.00522*	0.00659	0.0188***	-0.00501	0.00649**	0.00830**	0.00688**	0.00703*
	(0.00153)	(0.00417)	(0.00243)	(0.00231)	(0.00339)	(0.00187)	(0.00242)	(0.00217)	(0.00205)	(0.00213)	(0.00251)
Control Mean	0.772	0.748	0.766	0.785	0.784	0.762	0.783	0.782	0.761	0.771	0.777
N	795,393	198,776	198,762	198,802	198,764	444,036	351,223	438,774	298,464	363,507	373,716
Panel C. New Wages											
Treat X 2016	837.6	-244.6	-414.4	1031.0	4023.7**	1711.3	-218.6	-0.00336	0.0148	-0.00705	0.0149
	(820.5)	(319.9)	(434.6)	(708.7)	(1136.0)	(1062.6)	(422.6)	(0.00791)	(0.0120)	(0.00926)	(0.0101)
Treat X 2017	1317.2***	-123.3	-98.89	606.3**	4013.0***	2040.6***	592.6***	0.00618	0.0166*	0.000906	0.0202*
	(96.04)	(106.1)	(151.5)	(160.1)	(308.0)	(140.7)	(101.5)	(0.00479)	(0.00639)	(0.00394)	(0.00711)
Treat X 2019	469.4	-30.12	911.6***	1227.7***	-139.2	850.0	73.31	0.00649**	0.00830**	0.00688**	0.00703*
	(356.0)	(110.4)	(89.46)	(262.1)	(925.2)	(523.8)	(150.7)	(0.00217)	(0.00205)	(0.00213)	(0.00251)
Control Mean	22292.966	9975.262	13697.584	19417.347	41061.065	24932.540	19350.974	0.782	0.761	0.771	0.777
N	795,393	198,776	198,762	198,802	198,764	444,036	351,223	438,774	298,464	363,507	373,716

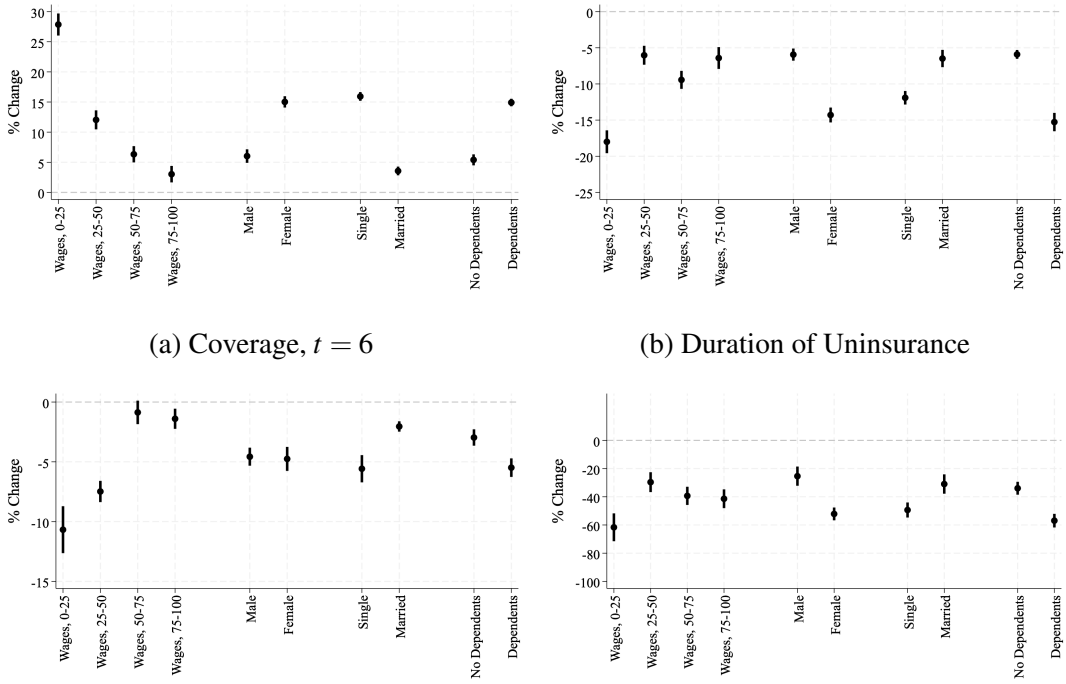
Notes: This table reports the effect of Medicaid Expansion on post-separation coverage dynamics separately policyholders based on their pre-separation characteristics. Panels A, B, and C report the effect of the expansion on the liklihood of being covered 2, 4, and 6 months after separation, respectively. Pre-treatment mean measured in Virginia in 2018. See Section 5 for more details.

Table A12
Effect of Virginia's Medicaid Expansion: Non-Filers

	Covered			Months	First Source of Coverage		Months to Own	New	New
	$t=2$	$t=4$	$t=6$	Uninsured	Employer Plan	Marketplace	Employer Plan	Employer	Wages
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Panel A. Average Treatment Effect (DiD)									
Treat X 2016	-0.00739	0.00106	0.000809	-0.102	0.00710	0.00263	-0.0304	-0.0142	795.5
	(0.00899)	(0.0110)	(0.0123)	(0.0682)	(0.0102)	(0.00231)	(0.0661)	(0.0112)	(810.3)
Treat X 2017	-0.00310	0.00593	-0.0217**	-0.183**	0.00313	-0.00245	-0.244**	0.00766	1457.0**
	(0.00601)	(0.00665)	(0.00650)	(0.0532)	(0.00783)	(0.00206)	(0.0600)	(0.00627)	(355.2)
Treat X 2019	0.0599***	0.0757***	0.0716***	-0.367***	-0.0695***	0.114***	0.310***	0.00601	957.8**
	(0.00494)	(0.00738)	(0.00666)	(0.0288)	(0.00596)	(0.00194)	(0.0226)	(0.00413)	(304.1)
Control Mean	0.303	0.376	0.434	4.398	0.61	0.038	5.253	0.749	15382.799
N	57,977	57,977	57,977	57,977	57,977	57,977	57,977	57,977	57,977
Panel B. Compliers' Effect (IV)									
First Coverage Medicaid	0.524***	0.663***	0.626***	-3.209***	-0.608***	0.00792	2.714***	0.0526	8382.1**
	(0.0444)	(0.0681)	(0.0586)	(0.233)	(0.0538)	(0.0123)	(0.192)	(0.0365)	(2686.9)
N	57,977	57,977	57,977	57,977	57,977	57,977	57,977	57,977	57,977

Notes: This table reports the effect of Medicaid Expansion on post-separation coverage dynamics for policyholders who were also non-filers in the year before separation. Panel A reports Average Treatment Effects based on a DiD model, and Panel B reports the Compliers' Effect based on an two-stage least squares model, as described in Section 5. Pre-treatment mean measured in Virginia in 2018.

Figure A1. Intent-to-Treat Effect on Coverage Dynamics: Heterogeneity



(a) Coverage, $t = 6$

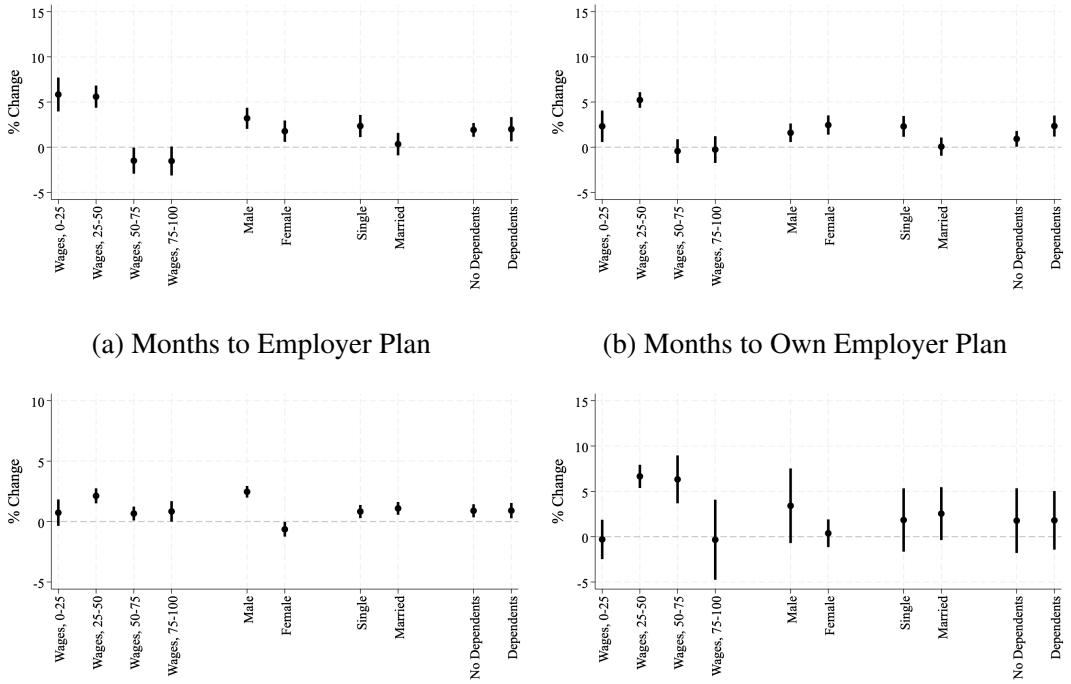
(b) Duration of Uninsurance

(c) First Coverage: Employer Plan

(d) First Coverage: Marketplace

Notes These figures depict the Intent-to-Treat estimates and 95% confidence intervals of the effect of the 2019 Virginia Medicaid expansion for subgroups based on pre-separation earnings, gender, marital status, the presence of dependents, and age of the policy holder. Marital status and the presence of dependents can only be observed for policy holders who also filed a Form 1040 in the year before separation (filers). Point estimates are reported in Tables A9 and A10.

Figure A2. Intent-to-Treat Effect on Labor Search Dynamics: Heterogeneity



(a) Months to Employer Plan

(b) Months to Own Employer Plan

(c) Likelihood of New Employer

(d) New Earnings

Notes These figures depict Compliers' estimates and 95% confidence intervals of the effect of the 2019 Virginia Medicaid expansion for subgroups based on pre-separation earnings, gender, marital status, the presence of dependents, and age of the policy holder. Marital status and the presence of dependents can only be observed for policy holders who also filed a Form 1040 in the year before separation (filers). Point estimates are reported in Table A11.