I Z A Institute
of Labor Economics
Initiated by Deutsche Post Foundation

DISCUSSION PAPER SERIES

IZA DP No. 16665

Accessing the Safety Net: How Medicaid Affects Health and Recidivism

Analisa Packham
David Slusky

DECEMBER 2023

I Z A Institute
of Labor Economics

Initiated by Deutsche Post Foundation

DISCUSSION PAPER SERIES

IZA DP No. 16665

Accessing the Safety Net: How Medicaid Affects Health and Recidivism

Analisa Packham
Vanderbilt University, IZA and NBER

David Slusky
University of Kansas, IZA and NBER

DECEMBER 2023

ISSN: 2365-9793

IZA – Institute of Labor Economics

Schaumburg-Lippe-Straße 5–9
53113 Bonn, Germany

Phone: +49-228-3894-0
Email: publications@iza.org

www.iza.org

ABSTRACT

Accessing the Safety Net: How Medicaid Affects Health and Recidivism*

We estimate the causal impact of access to means-tested public health insurance coverage (Medicaid) on health outcomes and recidivism for those recently released from incarceration. To do so, we leverage a policy change in South Carolina that allowed simplified Medicaid re-enrollment for previously incarcerated eligible individuals. Using linked administrative data on criminal convictions and health insurance claims, we find that reducing barriers in access to Medicaid for vulnerable populations increases enrollment and utilization of health care services. However, we do not find that this improved health care insurance access reduces 1-year or 3-year recidivism, suggesting that effectiveness of such policies is context dependent.

JEL Classification: I38, I18, K42

Keywords: Medicaid, health care utilization, recidivism

Corresponding author:
David Slusky
Department of Economics
University of Kansas
1460 Jayhawk Blvd.
415 Snow Hall
Lawrence, KS 66045
USA
E-mail: david.slusky@ku.edu

* We thank Alexander Ahammer, Lindsey Bullinger, Marguerite Burns, Matt Harris, Jessica Kiser, Matthew Notowidigdo, Matthew Pecenco, Barton Willage, Mariyana Zapryanova, seminar participants at the University of Richmond, and participants of the International Health Economics Association 2023 Congress and 2023 Association for Public Policy Analysis and Management meeting for helpful suggestions. We acknowledge financial support from the Russell Sage Foundation.

I. Introduction

The U.S. has one of the highest recidivism rates in the world. Nearly half of those returning to the community are rearrested within one year, and 77 percent are rearrested within five years. Moreover, a large proportion of inmates have high rates of chronic medical conditions like diabetes and hypertension, as well as severe mental health disorders, and substance use issues, which can lead to a higher likelihood of recidivism (Bronson and Berzofsky, 2017). Despite the need for timely and continuous access to care, many offenders do not receive necessary medical treatment while incarcerated or upon release and return to prison with existing behavioral health issues (Mallik-Kane and Visher, 2008; Wilper, Woolhandler, Boyd, Lasser, Mc-Cormick, Bor, and Himmelstein, 2009).

These statistics suggest that there is scope for public health care services to assist inmates upon reentry into society in a number of ways. Indeed, a number of recent studies show that Affordable Care Act-facilitated expansions in state-level funding for means-tested public health insurance (Medicaid) lead to reductions in recidivism, especially for violent crimes (Aslim, Mungan, Navarro, and Yu, 2019; Badaracco, Burns, and Dague, 2021; Burns and Dague, 2023; Wen, Hockenberry, and Cummings, 2017; Vogler, 2020).[1] Beyond studies on enrollment and recidivism, Arenberg, Neller, and Stripling (2023) show that cohort-based Medicaid expansions in the 1990s that largely affected Black children reduce financially motivated offenses by age 28, suggesting a link between coverage and crime. Alternatively, new evidence shows that when men *lose* Medicaid coverage at age 19, the probability of re-offending within one year increases substantially (Jácome, 2023). And although such reduced-form studies are unable to directly measure the mediating effects of health-seeking behavior on crime, these findings suggest a clear channel where access to care leads to a reduction in criminal behavior due to take-up of health services.

[1] Specifically, Aslim, Mungan, Navarro, and Yu (2019) finds that Medicaid expansion led to a 31–40 percent reduction in recidivism for violent crimes among multi-time reoffenders. Badaracco, Burns, and Dague (2021) estimates that the Affordable Care Act led to a 2.3 percentage point decrease in the likelihood of reincarceration with the corresponding increase in employment and wages. Burns and Dague (2023) study policies in Wisconsin and Indiana that increased Medicaid enrollment by up to 60 percent. Estimate indicate that Medicaid coverage upon release led to a 16 percent reduction in re-offending and increases employment by 25 percent.

In this paper, we use administrative, individual-level data to build on a growing literature on Medicaid access and recidivism by addressing three largely unanswered questions: (i) Do policies that reduce barriers to Medicaid access for recently released inmates affect insurance coverage?; (ii) Do changes in health insurance take-up correspond to changes in health care utilization?; and (iii) Could increases in health care utilization serve as a direct link to reducing recidivism? To answer these questions, we focus on the context of South Carolina–a non-Medicaid expansion state that implemented a 2016 policy to more easily re-enroll previously incarcerated individuals in the Medicaid program. The goal of the program was to suspend, rather than terminate coverage in an effort to reduce application hurdles and lapses in coverage due to waiting times. In studying this targeted enrollment assistance program in a state with relatively low Medicaid take-up, we build on the existing literature showing that Medicaid expansions affect utilization.

We go beyond analyzing effects on enrollment to test if increased access for targeted individuals with ties to the criminal justice system also affects health care services take-up and recidivism. To do so, we use a regression discontinuity (RD) approach to compare ex-offenders released after the June 30, 2016 policy implementation date, i.e., those first eligible for easier re-enrollment, to those released just prior to this date. We first use linked data on health care claims and Medicaid enrollment for individuals with interactions in the South Carolina criminal justice system to estimate whether this Medicaid suspend policy affects Medicaid enrollment, health care utilization, and health outcomes shortly after release. We then test whether increased Medicaid access affects the probability of re-offending within 1 to 3 years. We find that reducing barriers for re-eligibility led to a 11.1 percentage point, or 58 percent, increase in the probability of an ex-offender being enrolled in Medicaid within six months upon release. Effects are largest for men and Black ex-offenders.

Next, we show that the observed increase in Medicaid enrollment is mirrored by an increase in health care service usage. Importantly, individuals released after the policy change increase overall Medicaid utilization, although this is not driven by any one type of care, including prescription usage, inpatient care, or outpatient care. When exploring what types of drugs recently released individuals are more likely to use once enrolled in Medicaid, we find no systematic patterns.

Importantly, we do not estimate any meaningful change in utilization for mental health drugs or opioids.

Moreover, despite finding consistent changes in Medicaid enrollment and utilization, we do not find that individuals released after July 2016 are less likely to re-offend within 1 and 3 years after release as compared to those released earlier. This effect holds for all crime types, including violent, drug, and property crimes. Below, we discuss potential explanations of our results in greater depth, noting the existing information barriers and lack of counseling services for recently released inmates in South Carolina.

Lastly, we show that these effects are not driven by changes in sentencing or composition of convicted offenders at the policy change cutoff. Individuals released just prior to and after the Medicaid suspend policy implementation are, on average, similar both on demographic characteristics like age and race, and on characteristics related to the types of crimes committed. We also show that the policy change did not affect the number of convictions, sentence length, or release dates around this cutoff, yielding as-good-as-random variation in the population eligible for continued Medicaid coverage.

Given the potential benefits of Medicaid and the consequences of even a short interruption in coverage, many states have begun implementing Medicaid suspension laws for both those in jail and those in prison; one study has shown that such policies have been successful in reducing recidivism rates at the state level (Gollu and Zapryanova, 2022). We note that in this study we focus on the context of South Carolina for three main reasons. First, South Carolina implemented a Medicaid suspension policy in 2016, but did little to inform inmates of the change or counsel eligible individuals. This setting allows us to better measure the direct effects of access to Medicaid in the presence of transactions costs and information barriers, which many other individuals in poverty also face. Second, South Carolina provides a compelling testing ground for studying both crime and Medicaid utilization. South Carolina is ranked first in recidivism rates in the U.S. and has undergone a number of criminal justice reforms, including a major reform in 2010, in an effort to reduce its incarcerated population. Consequently, our findings have important implications for policymakers

looking for low-cost ways to reduce offending. Third, South Carolina is a non-expansion state with many restrictions for Medicaid access for able-bodied childless adults. Therefore, our findings shed new light on how a targeted public health insurance policy can affect a vulnerable population facing hurdles to participating in social services.

Our findings also provide new insight on the extent to which allowing eligible individuals immediate access to health care upon reentry into the labor market affects their health and well-being and contributes to economic productivity more generally. Accordingly, our findings build on existing work showing that health insurance coverage can help individuals treat and manage existing health conditions, especially mental health conditions (Wakeman, McKinney, and Rich, 2009; Rosen, Dumont, Cislo, Brockmann, Traver, and Rich, 2014; Howard, Solan, Neptune, Mellgren, Dubenitz, and Avery, 2016; Aslim, Mungan, Navarro, and Yu, 2019; Cuddeback, Morrissey, and Domino, 2016; Ortega, 2023). Although previous research has typically focused on health coverage and outcomes due to expansions in Medicaid coverage for a large set of individuals in the 1980s and 1990s, our results speak to the current application hurdles that exist for low-income, eligible populations. This is especially important for addressing how policy can address gaps in coverage, as more than 19 percent of Medicaid-eligible adults choose not to participate (Sommers, Kronick, Finegold, Po, Schwartz, and Glied, 2012).

We note that one limitation to these data is that we are unable to speak to effects of health coverage while in prison. However, incarceration itself has been linked to increased longevity by decreasing the mortality risk of murder and drug overdose as well as death by natural cases (Norris, Pecenco, and Weaver, 2022). Along these lines, the notion that health care can change risky behavior is also supported by recent work showing that providing health services in Swedish prisons improves mortality rates for offenders and reduce recidivism, especially those suffering from mental illness (Hjalmarsson and Lindquist, 2020), suggesting that one additional channel to further reduce recidivism and improve social welfare would be to also improve continuity of care during incarceration.

II. South Carolina's 2016 Medicaid Suspension Policy Initiative

Medicaid is a federally funded program providing comprehensive coverage of health care and long-term services to more than 90 million low-income people in the U.S. Decisions regarding eligibility and spending, however, remain at the state level. In South Carolina, to be eligible for Medicaid, one must be either a U.S. citizen or a legally residing non-citizen. Additionally, parents/caretakers with dependent children are eligible, if their household incomes do not exceed 100% of the Federal Poverty Line (FPL). Pregnant women with household incomes up to 199% of the FPL are also eligible. Able-bodied adults without dependents are not eligible.

Medicaid participation in South Carolina is approximately 20 percent, slightly lower than the U.S. average of 21.1 percent (Kaiser Family Foundation, 2023). These rates are even lower among the previously incarcerated population; while 53 percent of such individuals are eligible for Medicaid prior to incarceration, only 22 percent of ex-offenders enroll in Medicaid after release (Soura, Alexander, Baker, Fate, Hutto, James E. Smith, Stirling, and Harry H. Stokes, 2017). There are many reasons why those with interactions in the criminal justice system may be less likely to take-up Medicaid. For one, South Carolina Medicaid offices maintain strict application requirements, including requiring an address and attending an in-person interview, which may impose additional hardships for those recently released from prison. Moreover, incarcerated parents, in particular, may surrender or be stripped of their parental responsibilities at some point during their time served, rendering them ineligible. For those staying in households with friends or family upon release, the household income levels may be too high to allow for eligibility.

On June 30, 2016, in an effort to increase Medicaid utilization among recently released inmates, the state of South Carolina adopted a new practice of allowing eligible individuals to continue coverage without reapplying after release for any inmate serving time for less than two years. The policy change in 2016 followed a push from an interagency South Carolina initiative known as TeamWork. The TeamWork committee included 8 members, including a state senator and two state

representatives.[2] The stated goals of TeamWork include promoting health, equity, and sustainability by seeking to reduce health disparities between inmates and the general population. TeamWork also sought to connect ex-offenders to a stable source of health care after release.

Critically, the 2016 policy changed the landscape of Medicaid enrollment for inmates. For example, prior to the policy change, the Department of Corrections employed one Medicaid eligibility worker to handle cases for inmates upon release, due to time and budgetary constraints. TeamWork created a new team of workers to handle Medicaid re-enrollment for individuals recently released (Soura, Alexander, Baker, Fate, Hutto, James E. Smith, Stirling, and Harry H. Stokes, 2017).

We note, however, that the TeamWork team also reported having difficulties converting eligibility of inmates into enrollment, which may also have led to a lower take-up of Medicaid services than originally expected (Soura, Alexander, Baker, Fate, Hutto, James E. Smith, Stirling, and Harry H. Stokes, 2017). Due to a backlog of cases and limited staff, the South Carolina Department of Corrections in 2016 could review only about 90 cases per month, although 500 inmates are released per month (Soura, Alexander, Baker, Fate, Hutto, James E. Smith, Stirling, and Harry H. Stokes, 2017). The interview requirement is still in place for South Carolina residents that are eligible for Medicaid, even those targeted by the policy initiative.[3] Because of this, re-enrollment of ex-offenders with prior Medicaid coverage is not automatic and remains less than 100 percent for eligible individuals after release.

III. Data

We use two administrative linked datasets to study crime and health outcomes. Our main sample includes all individuals convicted of a criminal offense in the state of South Carolina between 2007–2020. We link this sample to data on these individuals' public health insurance claims. The

[2]The TeamWork members were Christian L. Soura, Thomas C. Alexander, Joshua Baker, Lefford Fate, Elizabeth Hutto, James E. Smith, Jr., Bryan P. Stirling, and Harry H. Stokes, Jr.

[3]For example, as summarized by the TeamWork follow-up report, "A series of visits to several correctional institutions also improved the project team's appreciation for the varied settings in which an inmate may find himself or herself while serving out a sentence."

main advantage of these datasets is that both span several years and contain detailed individual-level information. Below we provide a detailed description of the data used in our analysis.

III.1. South Carolina Criminal Justice Data

South Carolina conviction-level data from the Department of Corrections contain information on the type of offense, sentence length, and indicators for offender characteristics, such as age, sex, and race. For our primary analysis, we consider only an individual's first offense observed in the data, although we include additional offenses when estimating effects on recidivism. Because those with sentence lengths longer than two years are not eligible for simplified Medicaid re-enrollment, we omit individuals with longer sentences from the sample for our main analyses.

Table 1 contains summary statistics for these crime data. Our sample is largely male (81 percent), and nearly evenly split between White and non-White individuals. Within two quarters after release, about 16 percent of the sample is enrolled in Medicaid, while only 5 percent use Medicaid for prescriptions. The most common offense is property crime, and about 18 percent of our sample recidivates within 3 years.[4]

III.2. South Carolina Medicaid Claims Data

We link individuals involved in the South Carolina criminal justice system from 2007–2020 to Medicaid enrollment data and claims data from the South Carolina Department of Health. These data contain information on Medicaid spells, as recorded by the state, as well as detailed data on Medicaid-covered hospitalizations, diagnoses, prescription drugs, and outpatient visits.

Importantly, one limitation of the data is that we do not have information on Medicaid *eligibility* and do not have information on health care take-up from non-Medicaid sources. Therefore, we are not able to compare individuals that could have enrolled and chose not to. We instead focus on

[4]We also note that, on average, individuals released prior to 2016 are 7 percentage points more likely to recidivate. This could be due to the fact that these individuals are released earlier; however, 1-year recidivism rates follow a similar pattern. This is reflective of two stylized facts. First, crime has fallen over time as part of a general, national trend. Second, South Carolina since 2010 has cut sentence lengths and attempted to reduce the total number of individuals incarcerated as part of a criminal justice reform. For more on this reform, see https://www.pewtrusts.org/-/media/assets/2010/06/10/pspp_south_carolina_brief.pdf.

whether the Medicaid suspension policy did, in fact, allow for a higher Medicaid enrollment rate among the target population in the six months following prison release.

IV. Empirical approach

We exploit the sharp change in the South Carolina Medicaid suspension policy on June 30, 2016, which allowed ex-inmates to more easily re-enroll in Medicaid upon release, to identify the effects of access to health insurance on health and crime. In other words, our main approach is a regression discontinuity (RD) model that exploits the quasi-random timing of prisoner release dates. This strategy is motivated by the idea that characteristics of ex-offenders released after the policy's implementation should not experience any discontinuous change in the absence of the new law; that is, any jump in Medicaid enrollment, prescription drug use, or hospitalization, can be reasonably attributed to the change in Medicaid application procedure. For each individual i, we estimate the following models using OLS:

$$y_i = \beta_0 + \beta_1 Medicaid + f(releasedate_i) + \eta_i, \quad (1)$$

where y_i is the outcome of interest, including Medicaid enrollment, any health care utilization, prescriptions, inpatient and outpatient care, and 1- and 3-year recidivism. f represents some smooth function of our running variable, prisoner release date, binned by quarter. $Medicaid_i$ is a dummy equal to one if i is subject to the Medicaid suspension policy, which went into effect June 30, 2016. Specifically, this variable is equal to one if an individual is released after the Medicaid suspension policy was in effect and zero otherwise. To construct our preferred estimates, we adopt a linear specification for the function of our running variable and allow the slope term to vary on each side of the Medicaid suspension eligibility threshold, although we additionally fit models where the running variable enters the equation quadratically and cubically. We highlight estimates from a specification that uses a one-sided bandwidth of 10 quarters, although we additionally present results from a wide range of bandwidths. We display estimates from a model with robust standard

errors.[5]

To study the more immediate effects of a change in health insurance access, we focus on Medicaid enrollment and health care utilization within the first two quarters (i.e. first six months) after release. This period of time has been shown to be a critical time for finding employment, registering for social services, and reintegrating into society (Petersilia, 2005; Carson, Sandler, Bhaskar, Fernandez, and Porter, 2021). We note that due to challenges experienced by staff in automatically re-enrolling individuals in Medicaid at the point of release, as recorded by the TeamWork team, estimates will represent intent-to-treat effects. We allow for an post-incarceration enrollment window of six months, given that release date and Medicaid enrollment start date may experience lags. However, we also present estimates using a rolling window of 1–8 quarters after release.

Identification of the above models rests on the assumption that the crime and health outcomes of individuals subject to Medicaid suspension laws would have been similar to those individuals released prior to the policy, had they not been eligible for re-enrollment. One potential violation of this assumption is that sentencing guidelines or Medicaid enrollment procedures for prisoners changed as a result of the policy change. Because convictions and sentence lengths for our sample population were determined prior to the policy change, this provides some reassurance that the identification assumption is likely to hold in this context. However, we additionally provide empirical evidence that any observable characteristics of ex-offenders and the types and frequencies of crimes committed are unrelated to the passage of the law.

Moreover, to test the sensitivity of the main results, we perform two additional checks. First, we test whether the estimated effects for those previously enrolled in Medicaid are larger, as these individuals may be most familiar with the program and face fewer barriers for take-up. Second, we use data from 2007–2014 to produce RD estimates for offenders released prior to the policy change, using false policy cutoffs. We show there are no detectable discontinuities in Medicaid

[5]We avoid presenting estimates from models that cluster standard errors on the running variable (i.e. quarter released) due to the discrete nature of this variable, noting that our main estimates are statistically similar at the 99 percent level when we do so.

enrollment for those released on either side of the policy change threshold and provide additional support for the notion that the Medicaid suspension law had a different effect on health and crime outcomes than what would have been expected had the policy change not occurred.

V. Results

V.1. Effects of Increased Medicaid Access on Enrollment

First, we analyze to what extent the Medicaid Suspension policy in South Carolina changed Medicaid enrollment for those released after July 2016. We first present the results visually in Figure 1.6 We plot binned means of Medicaid enrollment, by quarter released. Points to the left of the vertical line indicate enrollment rates for individuals released prior to the 2016 policy change, while those to the right of the vertical line represent enrollment rates for those eligible for the Medicaid suspend policy. Estimates indicate that being eligible for the Medicaid suspension policy increased enrollment in the six months after release by 11.1 percentage points, or 58.1 percent, as compared to individuals with prior enrollment that were not eligible for easier re-enrollment.

V.2. Effects of Increased Medicaid Access on Health Care Take-Up

Next, in Figures 2–6 we present RD estimates from Equation (1) for variables that serve as a proxy for Medicaid utilization. In particular, we measure effects of the Medicaid suspension policy on take-up of outpatient services, inpatient services, and prescriptions. We additionally construct a variable for "any utilization," which is an indicator variable equal to one if an individual claims either outpatient, inpatient, or prescription services within six months of release.

We present these estimates in Table 2. Columns 2 shows effects for the "any utilization" variable, while Columns 3 and 4 present effects for prescriptions, both on the extensive and intensive margins. Columns 5 and 6 present estimates for inpatient and outpatient services, respectively. Estimates indicate that the Medicaid suspension policy increases Medicaid utilization by 2 percentage points.

6We present the formal RD estimates from Equation (1) in Table 2 Column 1.

Across nearly all outcomes that make up this variable, however, we find no positive effects of increased Medicaid access on any one particular health care utilization component. We can rule out more than a 41 percent increase in prescription drug take-up, and effect sizes of 110–170 percent for inpatient and outpatient services. Given that related work on Medicaid access finds more modest increases in outpatient care (50 percent) and hospitalizations (30 percent), and larger effects on prescription drug usage (Baicker, Taubman, Allen, Bernstein, Gruber, Newhouse, Schneider, Wright, Zaslavsky, and Finkelstein, 2013; Taubman, Allen, Wright, Baicker, and Finkelstein, 2014), we note that while our findings can speak to overall utilization, they are less informative for determining whether the South Carolina program was less effective at increasing prescription or hospitalization take-up than other more wide-reaching programs. Notably, when analyzing if any particular types of drugs are driving our main results, as presented in Figure A1, we find no systematic drivers for take-up, even when focusing separately on opioids and other mental health drugs, including antidepressants, or antipsychotic medications.

V.3. Effects of Increased Medicaid Access on Recidivism

Lastly, we test whether this increased access to Medicaid affected an individual's likelihood to reenter the criminal justice system in the future. We note that in our sample, approximately 30 percent of inmates recidivate before the end of our panel, with over 18 percent committing more than 1 additional crime after release. For those ex-offenders that do recidivate, they do so within 5 quarters, on average.

In Figure 7 and Table 3 we show the relationship between being released after the Medicaid suspension policy and recidivism. Estimates indicate that increasing Medicaid access by over 58 percent for ex-offenders does not decrease the probability of a subsequent crime conviction within 1-year or 3-years. These findings hold even when analyzing effects by crime type, including future convictions of a violent crime, drug crime, weapons crime, or property crime. Therefore, in our setting where ex-offenders with improved access to Medicaid increase utilization of services, we find that these individuals are just as likely to re-offend within 1 year as their ineligible peers.

Moreover, we find a marginally significant increase in 3-year recidivism rates, driven by weapons crimes. We note that our findings stand in stark contrast to other evidence that Medicaid suspend laws are effective in other states at reducing recidivism (Gollu and Zapryanova, 2022).[7] Similar to other experiments that increased Medicaid access and take-up, we note that one explanation of our results is that Medicaid access was not effective in improving the physical or mental *health* of ex-offenders (Baicker, Taubman, Allen, Bernstein, Gruber, Newhouse, Schneider, Wright, Zaslavsky, and Finkelstein, 2013).

V.4. Heterogeneity

Above we present the average effects of a Medicaid suspension policy on Medicaid enrollment, health care utilization, and recidivism. However, we note that these estimates may mask important heterogeneity across subgroups. In this section, we investigate whether the South Carolina Medicaid suspend policy differentially affected male, older individuals, White individuals, or individuals that were convicted of more serious crimes. In Table A1 and Table A2, we present estimates that explore how these effects vary across offender characteristics and across crime types. As shown in Table A1, estimates indicate that Medicaid enrollment increased across all groups, with largest effects on the above-45 age group.[8] Estimates also indicate an increase in inpatient services for White ex-offenders, although utilization of prescriptions, and hospital services remains unchanged across groups.[9] Similar to our baseline results, we find no declines in recidivism due to Medicaid enrollment.

These patterns hold even when separately analyzing effects by the type of first offense (Table A2), although sample sizes for some crime types (e.g., violent and weapons crimes) are much smaller,

7We note that we similarly see no reductions in 3-year recidivism for violent crimes or property crimes. For violent crime, we can rule out effects of less than 0.7 percentage points, or 81 percent.

8We note that the point estimates on enrollment for non-White individuals are even larger, although not statistically different from White individuals. Our data does not have detailed information on race and ethnicity, and we are only able to test the difference between White and non-White groups.

9We note that this may be due to the fact that Medicaid enrollment for offenders is prioritized by whether they have an immediate health care need at exit. For example, one follow-up of the initiative to enroll ex-offenders in Medicaid more seamlessly reported that the assigned case worker "exclusively focused on applications for inmates who were headed to the hospital," suggesting that those released with acute conditions have prioritized access to needed care (Soura, Alexander, Baker, Fate, Hutto, James E. Smith, Stirling, and Harry H. Stokes, 2017).

and therefore the estimates are less precise. Overall, our results suggest that no one group is particularly affected by decreasing barriers to Medicaid enrollment, which may have implications for policymaking.

VI. Sensitivity Checks

Above, we present evidence that Medicaid suspension policies increase Medicaid enrollment and use of inpatient services, with increases in prescriptions for White offenders. In this section, we test the extent to which our main results are sensitive to functional form, bandwidth, or sample selection. We first provide sensitivity checks for the model specification. For example, a standard concern in RD models is that the results are a product of over- or underfitting the data or a product of bandwidth selection. To combat these concerns, we explore various alternative specifications in this section and show that our average estimates are robust to these other specifications.

First, we allow the order of the function of the release quarters from the date of the policy change (i.e. the running variable) to vary. We present these results in Table 4. Column 1 in Table 4 replicates the main (baseline) results. Column 2 contains the results when we control for the days to the cutoff quadratically, and results in the 3rd column allow for it to vary cubically. Again, we allow the polynomials to vary on either side of the cutoff. The quadratic models generally produce results close to the baseline models. Under a cubic fit some of the estimate magnitudes are smaller, but all are still statistically significant and are similar to baseline estimates.

Additionally, in Column 4 we present estimates from a Poisson model to account for count nature of hospital visit and prescription data. Because some individuals are enrolled in Medicaid but never fill a prescription or commit a second crime, a number of observations are dropped in this model for those categories. Again, the estimates are similar in sign and magnitude to the main results.

Second, we explore how sensitive the estimates are to kernel selection. We estimate the model with a triangular kernel, instead of a uniform kernel, and present these results in Column 5. Point estimates for utilization and recidivism outcomes are nearly identical to the baseline results in

Column 1.

To further test bandwidth sensitivity, we replicate the models under a range of bandwidths. We test whether estimates are similar when allowing for bandwidths from 2 quarters on either side to a bandwidth of 12 quarters (3 years). Figure A2 reports the coefficients and standard errors from models using each of these alternative bandwidths, increasing by a one-sided bandwidth of 1 quarter, separately. For all outcomes, the estimated coefficient is stable across the different bandwidths. We find a positive effect of the Medicaid suspension policy on Medicaid enrollment, ranging from 7.5–37.8 percentage points, with increases in utilization and no effects on prescription or hospitalization utilization. We estimate no consistent reduction in recidivism. If anything, effects on 3-year recidivism are positive for smaller bandwidths.

Next, we consider how these effects evolve within different time windows after incarceration release, to test whether average effects fade or remain stable when including observations in the longer run. In Table 5, we present estimates for Medicaid enrollment, health utilization, and recidivism within a time window of 1–8 quarters after release, separately. Effects are similar across observation periods; estimates indicate an increase in Medicaid enrollment, ranging from 7.8–11.1 percentage points and an increase in utilization ranging from 1.0-1.2 percentage points. We also show that take-up for prescription drugs and inpatient services increase in the 3–8 quarters following release, which helps to explain the increase in overall utilization. These findings also imply that our 6-month sample window is not driving our main results.

Additionally, we conduct permutation inference using placebo RD estimates to provide more evidence that the observed effects are a result of the policy change and not an existing artifact of the data. To do so, we randomly select 3,282 individuals from the main sample (e.g., our number of actually treated individuals) and assign them a randomly assigned release date, without replacement. We then generate distributions of RD coefficients from Equation (1) and their corresponding robust standard errors. We present these distributions of beta coefficients in Figure A4. Only 5.6 percent of the placebo coefficients are positive and statistically significant, and no placebo coefficients are greater than the reported estimates for Medicaid enrollment, providing additional support for the

idea that the actual change in Medicaid access due to the change in policy is driving these reported results.

Furthermore, we show that both the number of prisoners released at the July 2016 threshold and that the composition of prisoners and crimes remains smooth through the cutoff. See Figure A3 for a density test, following Frandsen (2017) and Figure A5 for estimates of prisoner characteristics, like gender, race, and age, as well as conviction characteristics, including the percent of those released that committed a violent crime. Importantly, each of these estimates is statistically insignificant, providing additional evidence to support the identification assumption. We have additionally added these variables to our model as covariates to provide further evidence that our RD estimates are not sensitive to their inclusion (Table A3).

Lastly, we note that our estimates are not sensitive to our main sample restrictions. For example, if we include inmate with sentence lengths of longer than two years, our estimates are smaller but statistically similar to our main results, while we estimate statistically insignificant effects for health care utilization and recidivism.[10] Moreover, in our main analyses, we include individuals even if they did not use Medicaid prior to incarceration. When we separately analyze effects on individuals that were and were not enrolled in Medicaid prior to release, we find that the increase in utilization post-incarceration is driven by those that had prior experience receiving services from Medicaid. See Table A4. Estimates also indicate that those with prior utilization increase enrollment off a much higher baseline, as expected, but the group of individuals with no prior utilization experience large percent increases in enrollment of over 600 percent. Despite this large increase in enrollment, estimates do not indicate an increase in health care take-up. This provides additional support for the notion that significant information barriers may exist that inhibit recently released individuals from receiving health care services. We note that reducing knowledge barriers in eligibility and utilization may be an effective way to improve utilization and health status among these individuals.

[10] Approximately half of individuals observed in the full data have sentences longer than two years. This inclusion of individuals with longer sentences increases the sample from approximately 14.5 thousand observations to 51 thousand observations. Estimates on enrollment are positive and statistically significant ($\beta = 0.037$).

VII. Discussion and Conclusion

In this paper we use linked Medicaid claims data and criminal justice data from South Carolina to estimate the effects of a 2016 policy change to simplify Medicaid re-enrollment for inmates upon release. Using linked administrative crime and health care claims, we find that reducing barriers to re-enrollment increased Medicaid enrollment and an overall take-up of health care services. Estimates indicate an increase in inpatient services for White ex-offenders, likely due to case workers prioritizing inmates with immediate health care needs. We find no evidence that Medicaid suspension increases take-up of mental health care drugs or outpatient services. Moreover, we show that take-up of health care services was largely driven by individuals with prior experience with the Medicaid program, potentially pointing to information barriers as a major existing hurdle to those recently released from prison. While our main findings support the notion that the South Carolina 2016 Medicaid suspension policy did improve health care access and utilization for inmates upon release, we do not find any evidence that enrolling in Medicaid reduced recidivism.

We note that, although the program was initially intended to dramatically increase participation due to a more automatic re-enrollment procedure, the state Medicaid office faced many challenges in implementing the law. In particular, while over 500 inmates leave the South Carolina prison system per month, when the policy went into effect, the state designated only one officer in charge of such cases. This case worker was only able to process 90 per month, leaving gaps in coverage for some individuals that were eligible for continued coverage (Soura, Alexander, Baker, Fate, Hutto, James E. Smith, Stirling, and Harry H. Stokes, 2017). Moreover, to enroll in Medicaid, inmates are required to sit for an in-person interview to automatically regain coverage, providing an additional barrier. And, as mentioned by the team responsible for writing the Medicaid suspend policy, several individuals that were previously eligible lost eligibility while in prison, due to relinquishing or losing dependent caregiver status (Soura, Alexander, Baker, Fate, Hutto, James E. Smith, Stirling, and Harry H. Stokes, 2017).

Finally, we do not find that individuals with increased access to Medicaid are less likely to

commit future violent or property crimes. While this effect runs counter to evidence from other states, we note that this null result may be driven by the fact that South Carolina, unlike other states that implemented similar policies, did not strongly advertise the new policy, nor were inmates counseled about Medicaid services or re-enrollment. Therefore, individuals most at risk for re-offending may still have experienced lapses in coverage or been uninformed about the possibility of re-obtaining insurance. Although we do not find evidence of a statistically significant drop in recidivism rates, we note that continued care for the most vulnerable populations may still be welfare-improving. We note that collecting more evidence about the effectiveness of Medicaid suspension policies is an important avenue for future research.

References

Arenberg, S., S. Neller, and S. Stripling (2023): "The Impact of Youth Medicaid Eligibility on Adult Incarceration," *American Economic Journal: Applied Economics*.

Aslim, E. G., M. C. Mungan, C. I. Navarro, and H. Yu (2019): "The Effect of Public Health Insurance on Criminal Recidivism," *Working Paper*, Available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3425457.

Badaracco, N., M. Burns, and L. Dague (2021): "The Effects of Medicaid Coverage on Post-Incarceration Employment and Recidivism," *Working Paper*, Available at https://onlinelibrary.wiley.com/doi/abs/10.1111/1475-6773.13752.

Baicker, K., S. L. Taubman, H. L. Allen, M. Bernstein, J. H. Gruber, J. P. Newhouse, E. C. Schneider, B. J. Wright, A. M. Zaslavsky, and A. N. Finkelstein (2013): "The Oregon Experiment — Effects of Medicaid on Clinical Outcomes," *New England Journal of Medicine*, 368(18), 1713–1722, PMID: 23635051.

Bronson, J., and M. Berzofsky (2017): "Indicators of Mental Health Problems Reported by Prisoners and Jail Inmates, 2011–12," Discussion paper, U.S Department of Justice, Office of Justice Programs, Bureau of Justice Statistics, Available at https://www.bjs.gov/content/pub/pdf/imhprpji1112.pdf.

Burns, M., and L. Dague (2023): "In-Kind Welfare Benefits and Reincarceration Risk: Evidence from Medicaid," Working Paper 31394, National Bureau of Economic Research.

Calonico, S., M. D. Cattaneo, M. H. Farrell, and R. Titiunik (2016): "rdrobust: Software for Regression Discontinuity Designs," Discussion paper, University of Michigan.

Carson, E. A., D. H. Sandler, R. Bhaskar, L. E. Fernandez, and S. R. Porter (2021): "Employment of Persons Released from Federal Prison in 2010)," Discussion paper, Bureau of Justice Statistics, Available at https://bjs.ojp.gov/content/pub/pdf/eprfp10.pdf.

Cuddeback, G. S., J. P. Morrissey, and M. E. Domino (2016): "Enrollment and Service Use Patterns Among Persons With Severe Mental Illness Receiving Expedited Medicaid on Release From State Prisons, County Jails, and Psychiatric Hospitals," *Psychiatric Services*, 67(8), 835–841.

Frandsen, B. R. (2017): "Party Bias in Union Representation Elections: Testing for Manipulation in the Regression Discontinuity Design when the Running Variable is Discrete," in *Regression Discontinuity Designs*, vol. 38 of *Advances in Econometrics*, pp. 281–315. Emerald Group Publishing Limited.

Gollu, G., and M. Zapryanova (2022): "The effect of Medicaid on recidivism: Evidence from Medicaid suspension and termination policies," *Southern Economic Journal*, 89(2), 326–372.

Hjalmarsson, R., and M. J. Lindquist (2020): "The Health Effects of Prison," *Working Paper*, Available at https://www.su.se/english/profiles/lindq-1.188092.

Howard, J., M. Solan, J. Neptune, L. Mellgren, J. Dubenitz, and K. Avery (2016): "The Importance of Medicaid Coverage for Criminal Justice Involved Individuals Reentering Their Communities," Discussion paper, Department of Health and Human Services, ASPE Issue Brief, Available at https://aspe.hhs.gov/pdf-report/importance-medicaid-coverage-criminal-justice-involved-individuals-reentering-their-communities.

Jácome, E. (2023): "Mental Health and Criminal Involvement: Evidence from Losing Medicaid Eligibility," Discussion paper.

Kaiser Family Foundation (2023): "Medicaid State Fact Sheets," Discussion paper, Kaiser Family Foundation, Available at https://www.kff.org/interactive/medicaid-state-fact-sheets/.

Mallik-Kane, K., and C. A. Visher (2008): "Health and Prisoner Reentry: How Physical, Mental, and Substance Abuse Conditions Shape the Process of Reintegration," Discussion paper, Urban Institute Justice Policy Center Washington, DC.

Norris, S., M. Pecenco, and J. Weaver (2022): "The Effect of Incarceration on Mortality," *The Review of Economics and Statistics*, pp. 1–45.

Ortega, A. (2023): "Medicaid Expansion and mental health treatment: Evidence from the Affordable Care Act," *Health Economics*, 32(4), 755–806.

Petersilia, J. (2005): "Hard Time: Ex-Offenders Returning Home After Prison," *Corrections Today*, 67(2), 66–71.

Rosen, D. L., D. M. Dumont, A. M. Cislo, B. W. Brockmann, A. Traver, and J. D. Rich (2014): "Medicaid Policies and Practices in US State Prison Systems," *American Journal of Public Health*, 104, 418–420.

Sommers, B., R. Kronick, K. Finegold, R. Po, K. Schwartz, and S. Glied (2012): "Understanding Participation Rates in Medicaid: Implications for the Affordable Care Act," Discussion paper, U.S. Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation, Available at https://aspe.hhs.gov/basic-report/understanding-participation-rates-medicaid-implications-affordable-care-act.

Soura, C. L., T. C. Alexander, J. Baker, L. Fate, E. Hutto, J. James E. Smith, B. P. Stirling, and J. Harry H. Stokes (2017): "TeamWork: Leadership for Healthy States: South Carolina," Available at https://www.cbpp.org/research/poverty-and-inequality/economic-security-programs-cut-poverty-nearly-in-half-over-last-50.

Taubman, S. L., H. L. Allen, B. J. Wright, K. Baicker, and A. N. Finkelstein (2014): "Medicaid Increases Emergency-Department Use: Evidence from Oregon's Health Insurance Experiment," *Science*, 343(6168), 263–268.

Vogler, J. (2020): "Access to Healthcare and Criminal Behavior: Evidence from the ACA Medicaid Expansions," *Journal of Policy Analysis and Management*, 39(4), 1166–1213.

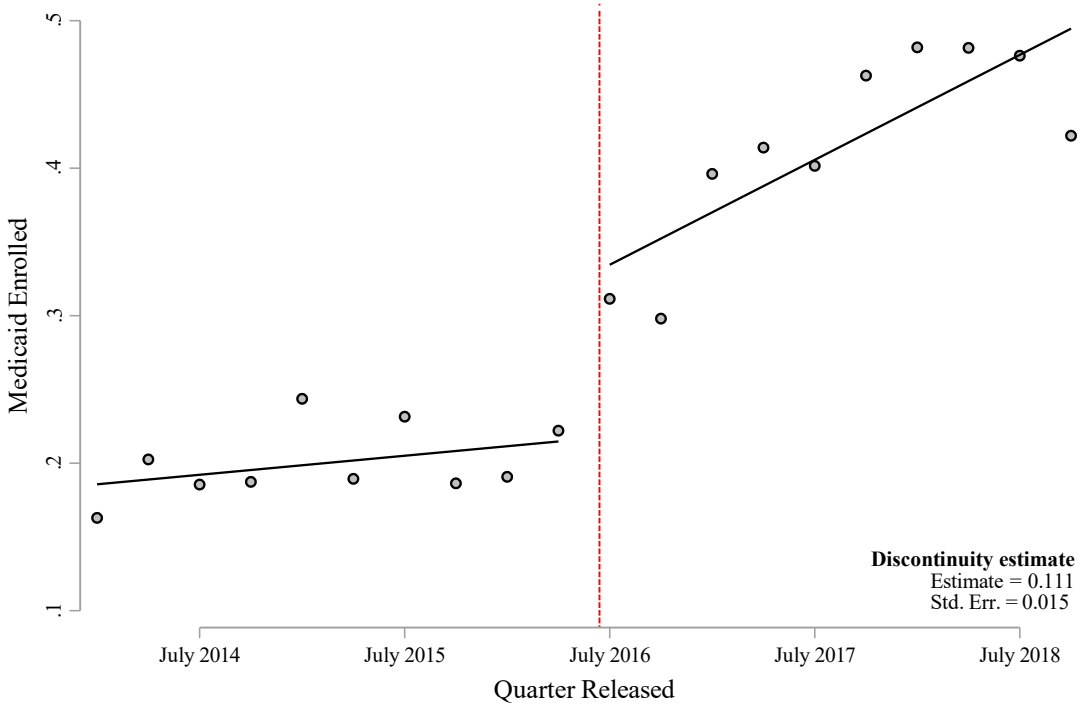
Wakeman, S. E., M. E. McKinney, and J. D. Rich (2009): "Filling the Gap: The Importance of Medicaid Continuity for Former Inmates," *Journal of General Internal Medicine*, 24, 860–862.

Wen, H., J. M. Hockenberry, and J. R. Cummings (2017): "The effect of Medicaid expansion on crime reduction: Evidence from HIFA-waiver expansions," *Journal of Public Economics*, 154, 67–94.

Wilper, A. P., S. Woolhandler, J. W. Boyd, K. E. Lasser, D. Mc-Cormick, D. H. Bor, and D. U. Himmelstein (2009): "The Health and Health Care of US Prisoners: Results of a Nationwide Survey," *American Journal of Public Health*, 99(4), 666–672.

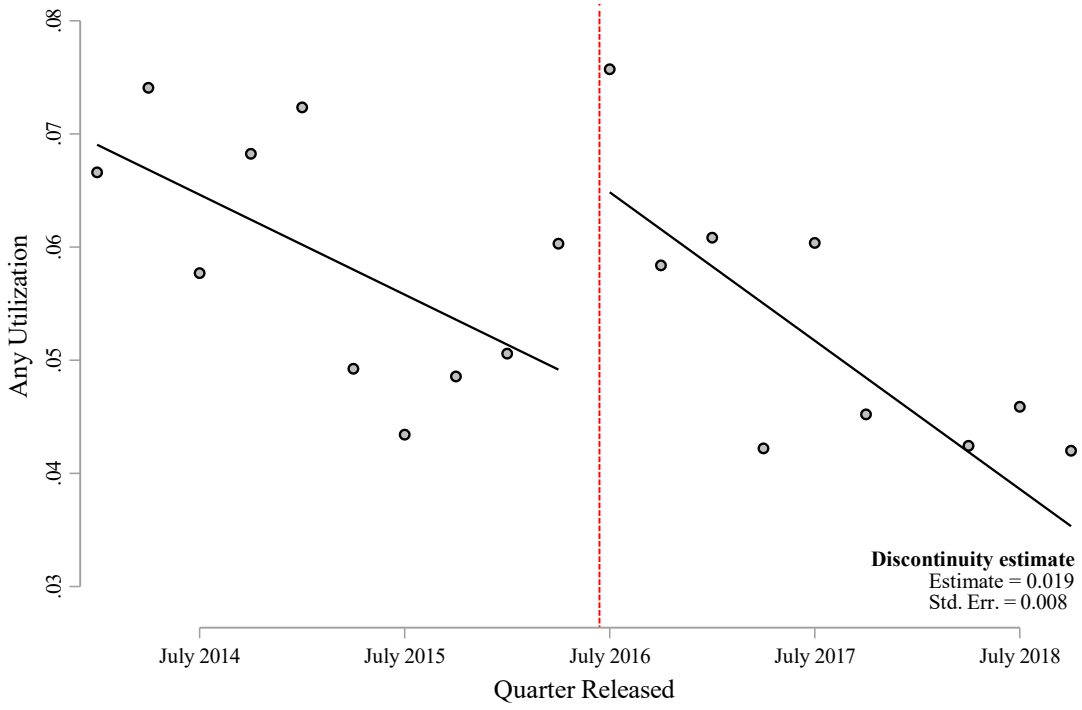
A. Figures and Tables

Figure 1 — Effect of South Carolina's Medicaid Suspension Policy on Medicaid Enrollment within Six Months of Release



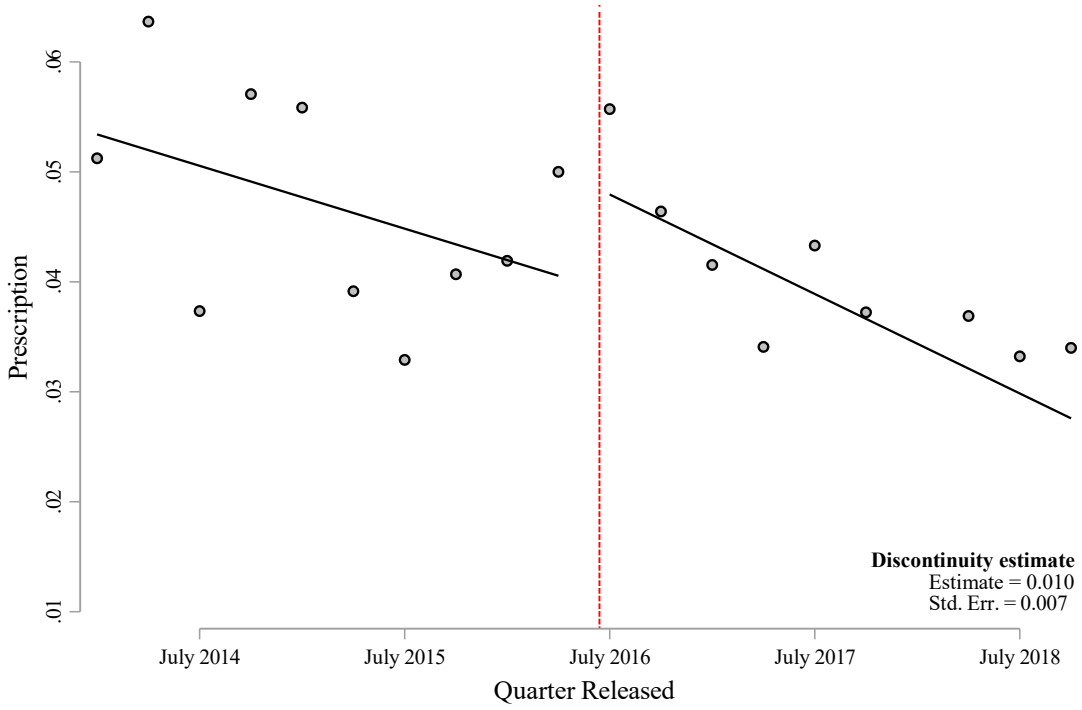
Notes: Incarceration data is from the South Carolina Department of Corrections. Data on Medicaid eligibility for ex-offenders is from the South Carolina Department of Health. The sample includes incarcerated individuals with sentence lengths of less than two years that were released within ten quarters of the July 2016 Medicaid application policy change. Each figure plots means, binned at the quarterly level, and linear fits of the listed outcome. Scatters to the left of the vertical line represent outcomes for individuals released prior to the Medicaid Suspension policy, implemented on June 30, 2016. We include data for 10 quarters on either side of the cutoff.

Figure 2 — Probability of Using Medicaid within Six Months of Release



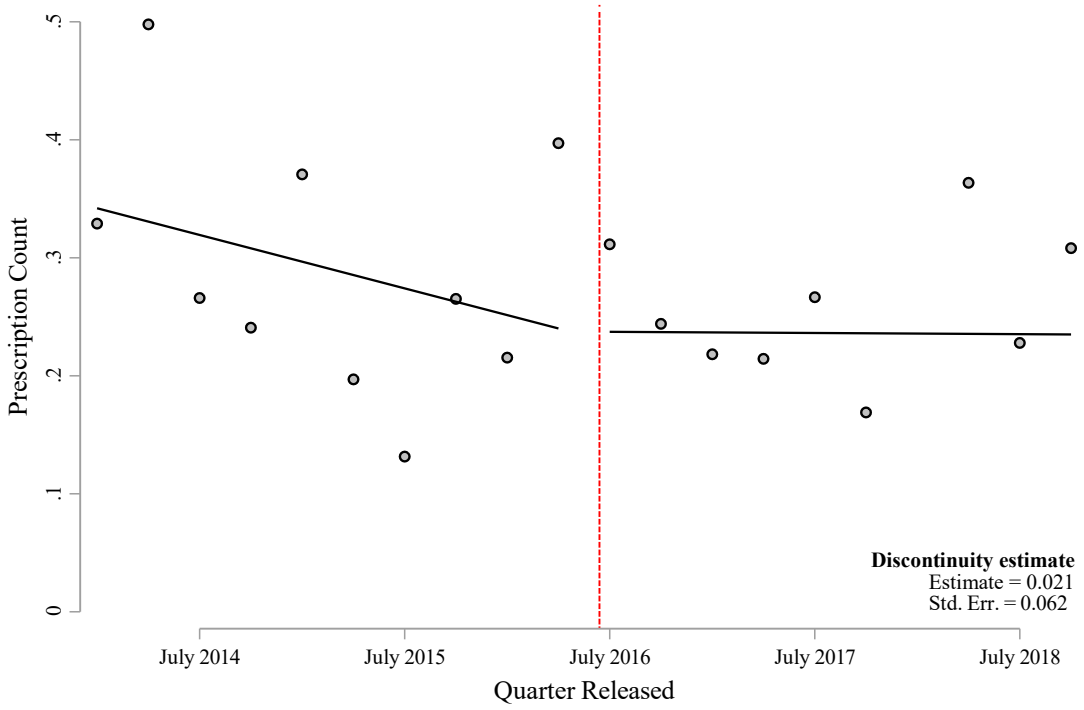
Notes: See Figure 1. The outcome variable is an indicator variable equal to one if an individual used Medicaid for inpatient, outpatient, or prescription services, and zero otherwise. The sample includes incarcerated individuals with sentence lengths of less than two years that were released within ten quarters of the July 2016 Medicaid application policy change.

Figure 3 — Probability of Getting a Prescription Drug within Six Months of Release



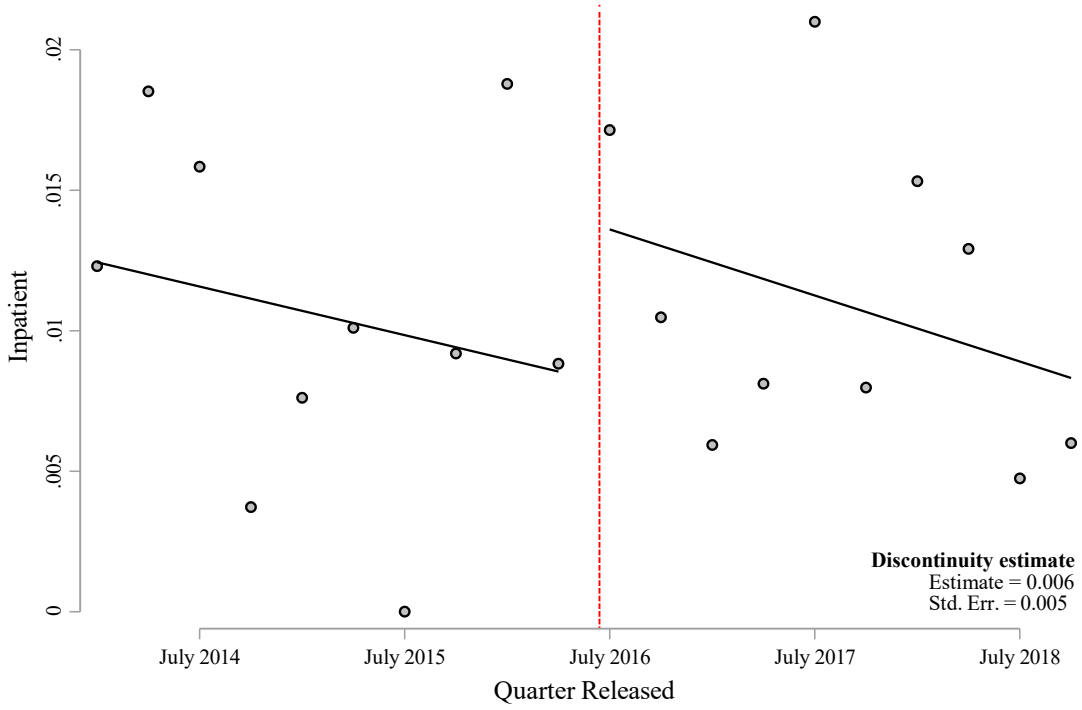
Notes: See Figure 1. The outcome variable is an indicator variable equal to one if an individual used Medicaid prescription services and zero otherwise. The sample includes incarcerated individuals with sentence lengths of less than two years that were released within ten quarters of the July 2016 Medicaid application policy change.

Figure 4 — Total Number of Prescription Drugs within Six Months of Release



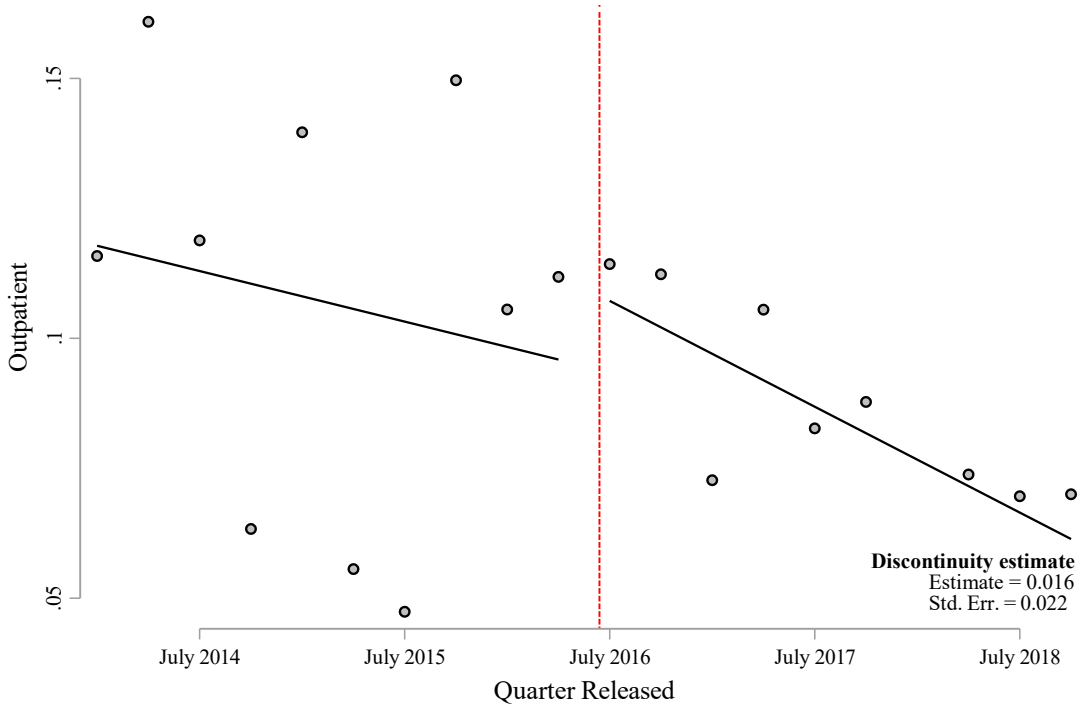
Notes: See Figure 1. The outcome variable is the count of prescriptions that an individual claimed using Medicaid. The sample includes incarcerated individuals with sentence lengths of less than two years that were released within ten quarters of the July 2016 Medicaid application policy change.

Figure 5 — Probability of Using Inpatient Services within Six Months of Release



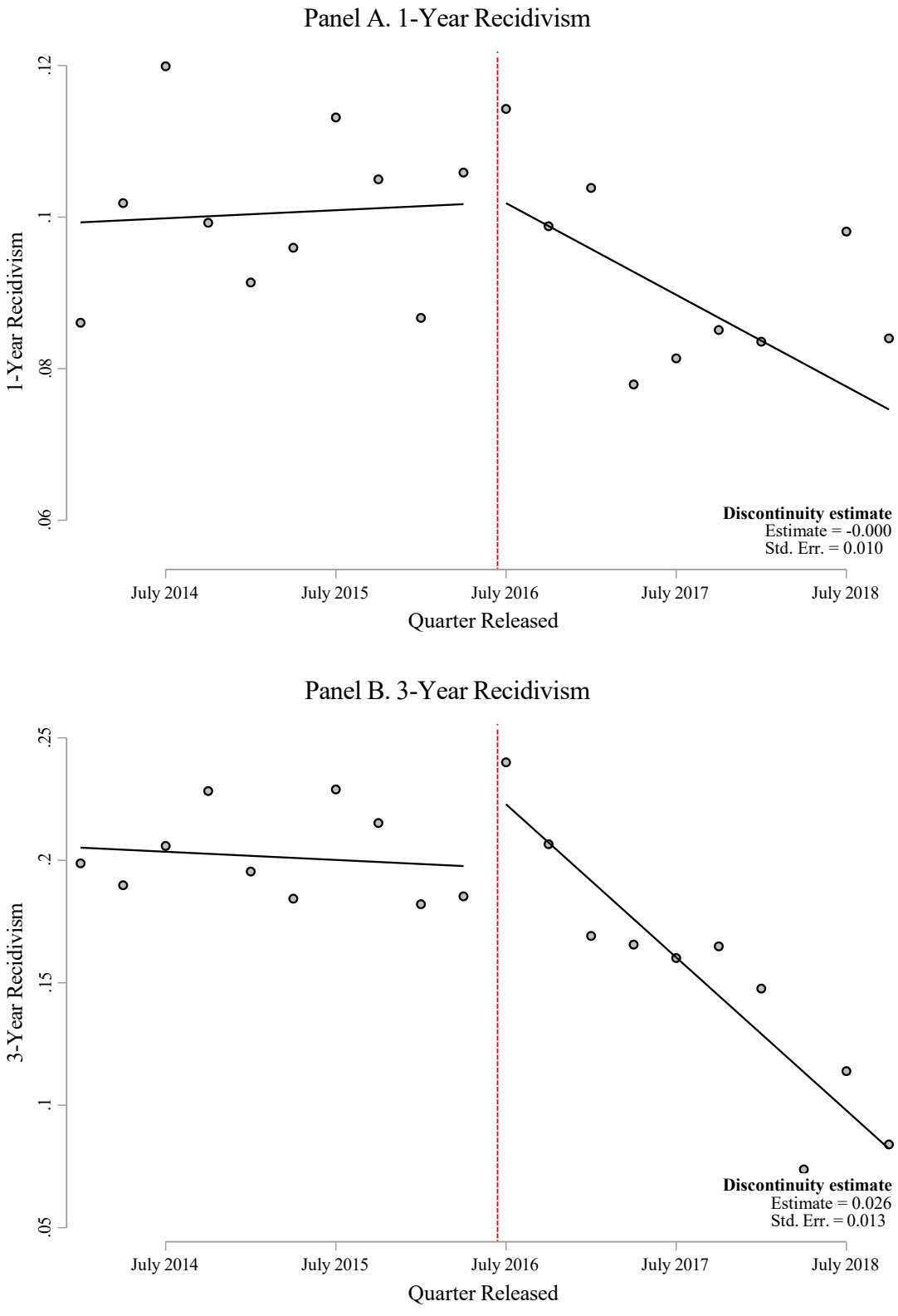
Notes: See Figure 1. The outcome variable is an indicator variable equal to one if an individual used Medicaid inpatient services and zero otherwise. The sample includes incarcerated individuals with sentence lengths of less than two years that were released within ten quarters of the July 2016 Medicaid application policy change.

Figure 6 — Probability of Using Outpatient Services within Six Months of Release



Notes: See Figure 1. The outcome variable is an indicator variable equal to one if an individual used Medicaid outpatient services and zero otherwise. The sample includes incarcerated individuals with sentence lengths of less than two years that were released within ten quarters of the July 2016 Medicaid application policy change.

Figure 7 — Effect of South Carolina's Medicaid Suspension Policy on 1-Year and 3-Year Recidivism Rates



Notes: Crime data is from the South Carolina Department of Justice from 2007–2020. Panel i displays scatters for a variable measuring whether an ex-offender commits a subsequent crime in the year following release. Panel ii displays re-offending within a 3-year period. The sample includes incarcerated individuals with sentence lengths of less than two years that were released within ten quarters of the July 2016 Medicaid application policy change.

Table 1 — Summary Statistics

	Mean	St.Dev.
Offender Characteristics		
Male	0.81	0.39
White	0.41	0.49
Over Age 45	0.19	0.39
Violent Crime	0.04	0.19
Property Crime	0.18	0.38
Drug Crime	0.15	0.36
Weapon Crime	0.03	0.18
Traffic Crime	0.19	0.39
Outcomes		
Eligible for Medicaid	0.16	0.37
Used Medicaid Outpatient Services	0.04	0.21
Used Medicaid Inpatient Services	0.01	0.10
Medicaid-Funded Prescription	0.05	0.22
Number of Medicaid-Funded Prescriptions	0.35	2.07
Recidivism	0.33	0.47

Notes: Crime data is from the South Carolina Department of Corrections. Medicaid claims data is from the South Carolina Department of Health. Column 1 shows the means for individuals in our data, i.e., individuals with interactions with the criminal justice system between 2007–2020 with sentence lengths shorter than 2 years. Column 2 displays standard deviations. Offender characteristics are dummy variables for if an individual is male, white, over the age of 45, and whether the first offense is coded as a violent, property, drug, or weapons crime. Outcome variables include outcomes in the period just after release. "Medicaid Enrolled" is a variable equal to one if an individual is enrolled in Medicaid within six months of release. "Any Utilization" is an indicator variable equal to one if an individual experiences any Medicaid-covered prescription, inpatient, or outpatient services within six months of release. "Medicaid-Funded Prescription" is an indicator variable equal to one if an individual fills a Medicaid-covered prescription within six months of release, and "Number of Prescriptions" represents the total number of prescriptions in a given quarter. Indicator variables "Inpatient Services" and "Outpatient Services" represent take-up of inpatient and outpatient services within six months of release, respectively.

Table 2 — Effects of a Medicaid Suspension Policy on Medicaid Enrollment and Utilization

	Medicaid Enrollment	Any Utilization	Rx (Any)	Rx (Count)	Inpatient	Outpatient
Medicaid Suspend	0.1107***	0.0192**	0.0099	0.0209	0.0061	0.0161
	(0.0149)	(0.0079)	(0.0071)	(0.0618)	(0.0047)	(0.0221)
Pre-Period Mean	0.191	0.070	0.058	0.366	0.009	0.051
N	14568	14568	14568	14568	14568	14568

Notes: RD Estimates are based on Medicaid claims data from the South Carolina Department of Health and crime data from the South Carolina Department of Corrections. Robust standard errors are shown in parenthesis. Medicaid Enrollment is a variable equal to one if an individual is enrolled in Medicaid within six months of release. "Any Utilization" is an indicator variable equal to one if an individual experiences any Medicaid-covered prescription, inpatient, or outpatient services within six months of release. "Any Rx" is an indicator variable equal to one if an individual fills a Medicaid-covered prescription within six months of release, and "Rx Count" represents the total number of prescriptions in a given quarter. Indicator variables "Inpatient" and "Outpatient" represent take-up of inpatient and outpatient services within six months of release, respectively. The sample includes incarcerated individuals with sentence lengths of less than two years that were released within ten quarters of the July 2016 Medicaid application policy change.

, **, and * indicate statistical significance at the ten, five, and one percent levels, respectively.*

Table 3 — Effects of a Medicaid Suspension Policy on Recidivism

	Any	Violent	Property	Weapon	Drug	Traffic
1-Year Recidivism						
Medicaid Suspend	-0.00002	-0.00377	-0.01109	0.00374*	0.00465	0.00335
	(0.01019)	(0.00262)	(0.00685)	(0.00212)	(0.00324)	(0.00305)
Pre-Period Mean	0.097	0.005	0.040	0.003	0.008	0.009
N	14568	14568	14568	14568	14568	14568
3-Year Recidivism						
Medicaid Suspend	0.02612*	-0.00147	-0.00021	0.00475*	0.00534	0.00406
	(0.01344)	(0.00316)	(0.00867)	(0.00275)	(0.00472)	(0.00443)
Pre-Period Mean	0.189	0.009	0.069	0.006	0.018	0.017
N	14568	14568	14568	14568	14568	14568

Notes: RD Estimates are based on Medicaid claims data from the South Carolina Department of Health and crime data from the South Carolina Department of Corrections. Robust standard errors are shown in parenthesis. Medicaid Enrollment is a variable equal to one if an individual is enrolled in Medicaid within six months of release. "1-Year Recidivism" is an indicator variable equal to one if an individual commits another offense within a year of release. "3-Year Recidivism" is an indicator variable equal to one if an individual commits another offense within 3 years of release. Each column presents estimates for the listed crime type, with "Any" representing any type of subsequent crime. The sample includes incarcerated individuals with sentence lengths of less than two years that were released within ten quarters of the July 2016 Medicaid application policy change.

, **, and * indicate statistical significance at the ten, five, and one percent levels, respectively.*

Table 4 — Robustness Checks

	Baseline	Quad Fit	Cubic Fit	Poisson	Tri. Kernel
Medicaid Enrollment					
Medicaid Suspend in Effect	0.1107***	0.1047***	0.0749***	0.3774***	0.1116***
	(0.0149)	(0.0151)	(0.0200)	(0.0511)	(0.0148)
Any Utilization					
Medicaid Suspend in Effect	0.0192**	0.0195**	0.0251**	0.3485**	0.0191**
	(0.0079)	(0.0080)	(0.0110)	(0.1464)	(0.0080)
Prescriptions					
Medicaid Suspend in Effect	0.0099	0.0101	0.0135	0.2303	0.0099
	(0.0071)	(0.0071)	(0.0098)	(0.1683)	(0.0071)
Inpatient					
Medicaid Suspend in Effect	0.0061	0.0061	-0.0008	0.5668	0.0060
	(0.0047)	(0.0047)	(0.0067)	(0.4403)	(0.0048)
Outpatient					
Medicaid Suspend in Effect	0.0161	0.0164	-0.0018	0.1630	0.0156
	(0.0221)	(0.0218)	(0.0295)	(0.2323)	(0.0222)
1-Year Recidivism					
Medicaid Suspend in Effect	-0.0000	0.0015	0.0201	-0.0010	-0.0001
	(0.0102)	(0.0102)	(0.0139)	(0.1076)	(0.0144)
3-Year Recidivism					
Medicaid Suspend in Effect	0.0261*	0.0336**	0.0471**	0.1413*	0.0251
	(0.0134)	(0.0134)	(0.0183)	(0.0758)	(0.0190)

Notes: Each coefficient is generated by a separate regression of Equation (1) using the listed outcome as the dependent variable. Column 1 replicates the baseline results for comparison. Columns 2 and 3 allow for the quarters from the cutoff to vary quadratically and cubically (in addition to on either side of the threshold) respectively. Column 4 reports coefficient from a Poisson model. Columns 5 and 6 fit the model using a triangular kernel instead of uniform kernel. Column 5 reports estimates from the full sample, using a triangular kernel instead of uniform kernel. Crime data are from the South Carolina Department of Corrections. Data on Medicaid enrollment and utilization is from the South Carolina Department of Health and Human Services. "Medicaid Enrollment" is a variable equal to one if an individual is enrolled in Medicaid within six months of release. "Any Utilization" is an indicator variable equal to one if an individual experiences any Medicaid-covered prescription, inpatient, or outpatient services within six months of release. "Prescriptions" indicates if an individual fills a Medicaid-covered prescription within six months of release. Indicator variables "Inpatient" and "Outpatient" represent take-up of inpatient and outpatient services within six months of release, respectively. "1-Year Recidivism" is an indicator variable equal to one if an individual commits another offense within a year of release. "3-Year Recidivism" is an indicator variable equal to one if an individual commits another offense within 3 years of release. The sample includes incarcerated individuals with sentence lengths of less than two years that were released within ten quarters of the July 2016 Medicaid application policy change.

, **, and * indicate statistical significance at the ten, five, and one percent levels, respectively.*

Table 5 — Effects of a Medicaid Suspension Policy on Medicaid Enrollment and Utilization, Using a Rolling Post-Period Window

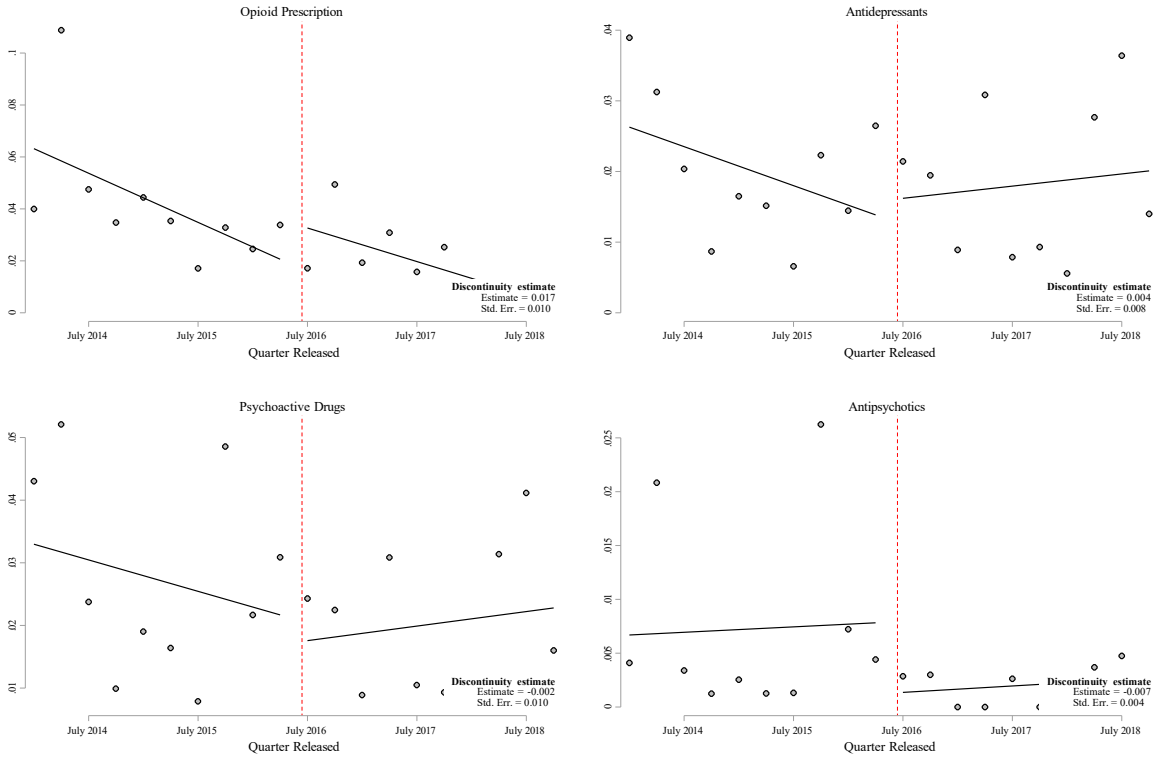
	Post-Period Length, in Quarters							
	1	2	3	4	5	6	7	8
Medicaid Enrollment								
Medicaid Suspend	0.1047***	0.1107***	0.1087***	0.1040***	0.0940***	0.0884***	0.0827***	0.0758***
	(0.0210)	(0.0149)	(0.0121)	(0.0105)	(0.0094)	(0.0085)	(0.0079)	(0.0074)
Pre-Period Mean	0.191	0.191	0.191	0.191	0.191	0.191	0.191	0.191
N	7284	14568	21852	29136	36170	42888	49335	55423
Any Utilization								
Medicaid Suspend	0.0151	0.0192**	0.0208***	0.0198***	0.0168***	0.0161***	0.0164***	0.0161***
	(0.0109)	(0.0079)	(0.0064)	(0.0056)	(0.0051)	(0.0047)	(0.0043)	(0.0041)
Pre-Period Mean	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070
N	7284	14568	21852	29136	36170	42888	49335	55423
Prescriptions								
Medicaid Suspend	0.0105	0.0099	0.0114**	0.0126**	0.0123***	0.0124***	0.0122***	0.0119***
	(0.0098)	(0.0071)	(0.0057)	(0.0050)	(0.0045)	(0.0041)	(0.0038)	(0.0036)
Pre-Period Mean	0.058	0.058	0.058	0.058	0.058	0.058	0.058	0.058
N	7284	14568	21852	29136	36170	42888	49335	55423
Inpatient								
Medicaid Suspend	0.0095	0.0061	0.0067*	0.0076**	0.0065**	0.0061**	0.0049*	0.0053**
	(0.0071)	(0.0047)	(0.0038)	(0.0034)	(0.0032)	(0.0028)	(0.0026)	(0.0025)
Pre-Period Mean	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012
N	7284	14568	21852	29136	36170	42888	49335	55423
Outpatient								
Medicaid Suspend	0.0190	0.0161	0.0260	0.0240	0.0182	0.0114	0.0125	0.0108
	(0.0321)	(0.0221)	(0.0184)	(0.0159)	(0.0144)	(0.0133)	(0.0123)	(0.0117)
Pre-Period Mean	0.116	0.116	0.116	0.116	0.116	0.116	0.116	0.116
N	7284	14568	21852	29136	36170	42888	49335	55423

Notes: See Table 2. Each estimate presents separate effects of the South Carolina Medicaid suspend policy for the 1–8 quarters (i.e., 3–24 months) following incarceration release. "Medicaid Enrollment" is a variable equal to one if an individual is enrolled in Medicaid within six months of release. "Any Utilization" is an indicator variable equal to one if an individual experiences any Medicaid-covered prescription, inpatient, or outpatient services within six months of release. "Prescriptions" indicates if an individual fills a Medicaid-covered prescription within six months of release. Indicator variables "Inpatient" and "Outpatient" represent take-up of inpatient and outpatient services within six months of release, respectively. "1-Year Recidivism" is an indicator variable equal to one if an individual commits another offense within a year of release. "3-Year Recidivism" is an indicator variable equal to one if an individual commits another offense within 3 years of release. Estimates are from a subset of the full sample that includes incarcerated individuals with sentence lengths of less than two years that were released within ten quarters of the July 2016 Medicaid application policy change.

, **, and * indicate statistical significance at the ten, five, and one percent levels, respectively.*

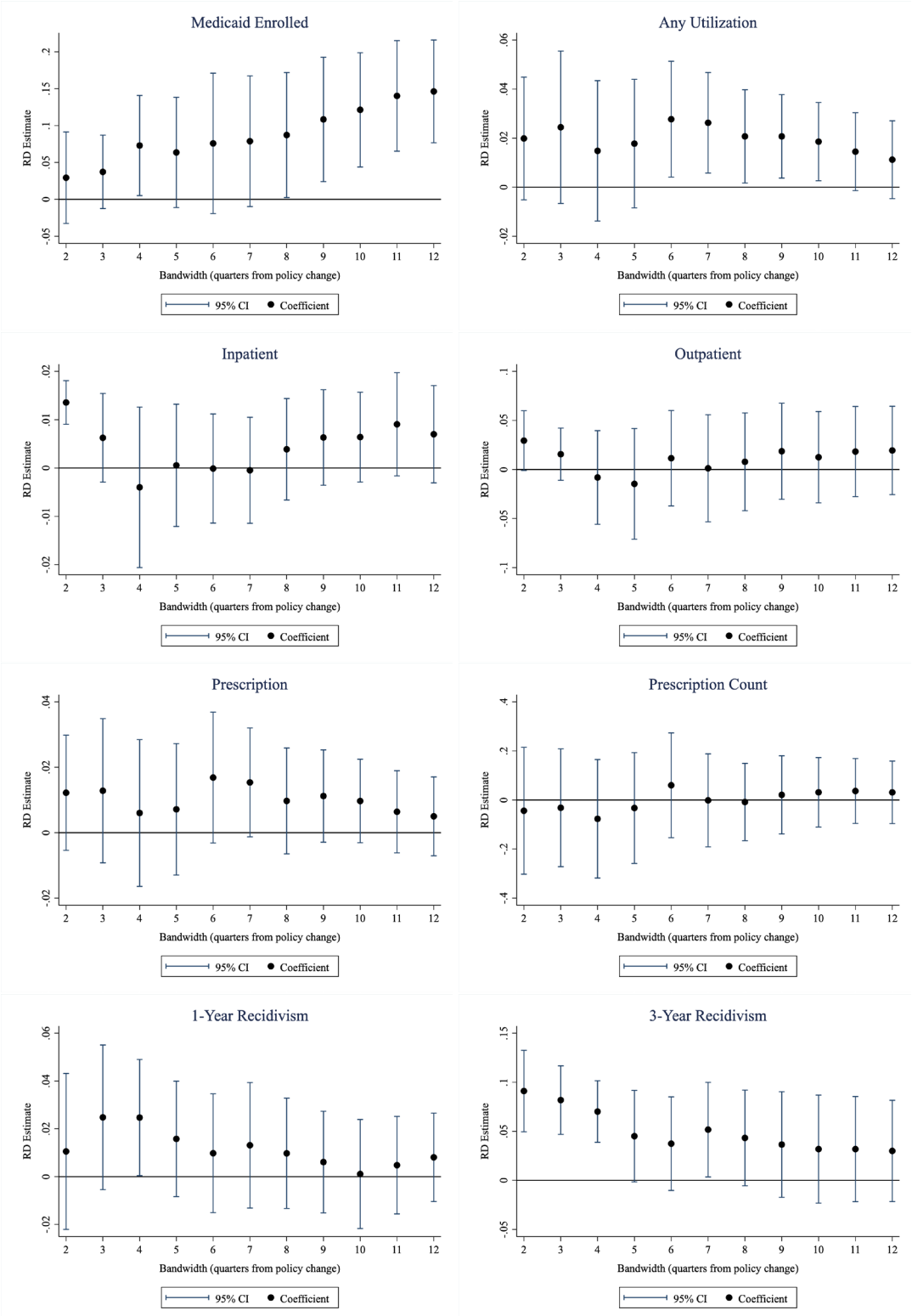
Appendix

Figure A1 — Effects of Medicaid Suspension on Prescription Take-Up of Opioids and Mental Health Drugs



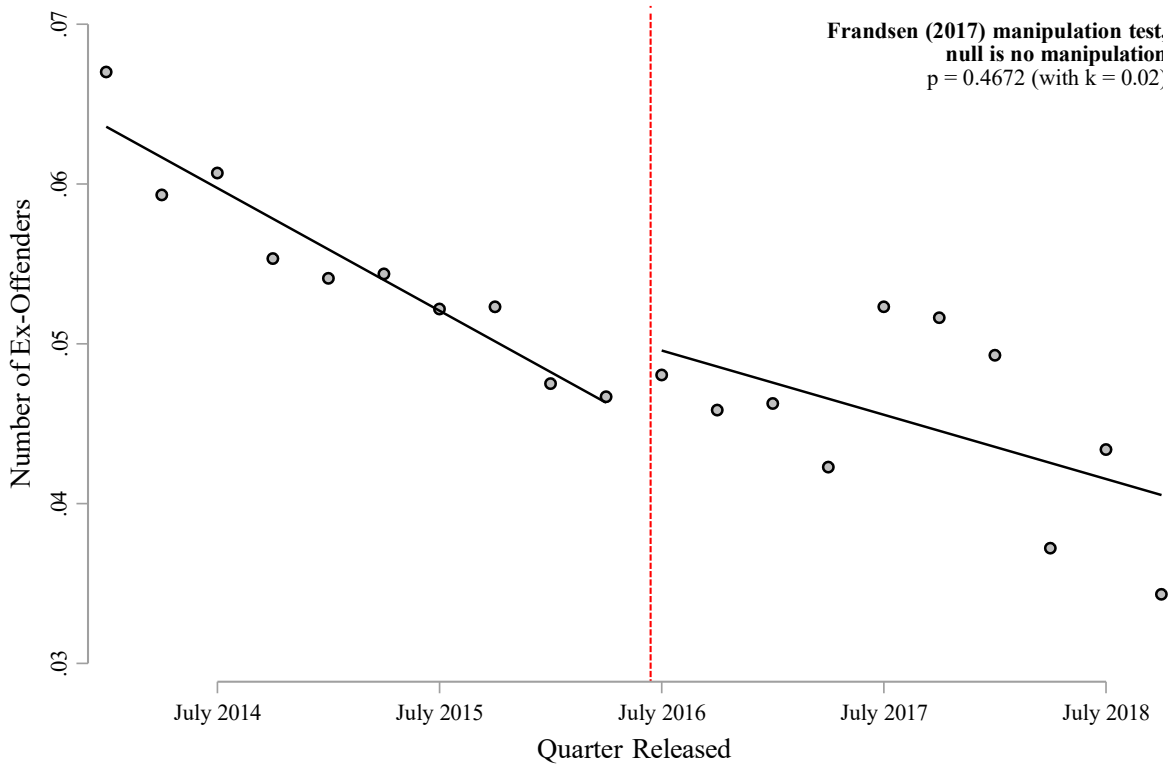
Notes: See Figure 1. Each figure plots means, binned at the quarterly level, and linear fits of the listed outcome. The top left panel presents estimates on opioid take-up within six months of release, while the top right panel presents scatters and RD estimates for antidepressants take-up within six months of release. The bottom left and right panels presents estimates for antipsychotic prescriptions take-up and any mental health prescriptions, respectively. The sample includes incarcerated individuals with sentence lengths of less than two years that were released within ten quarters of the July 2016 Medicaid application policy change.

Figure A2 — Testing Estimate Sensitivity Across Bandwidths



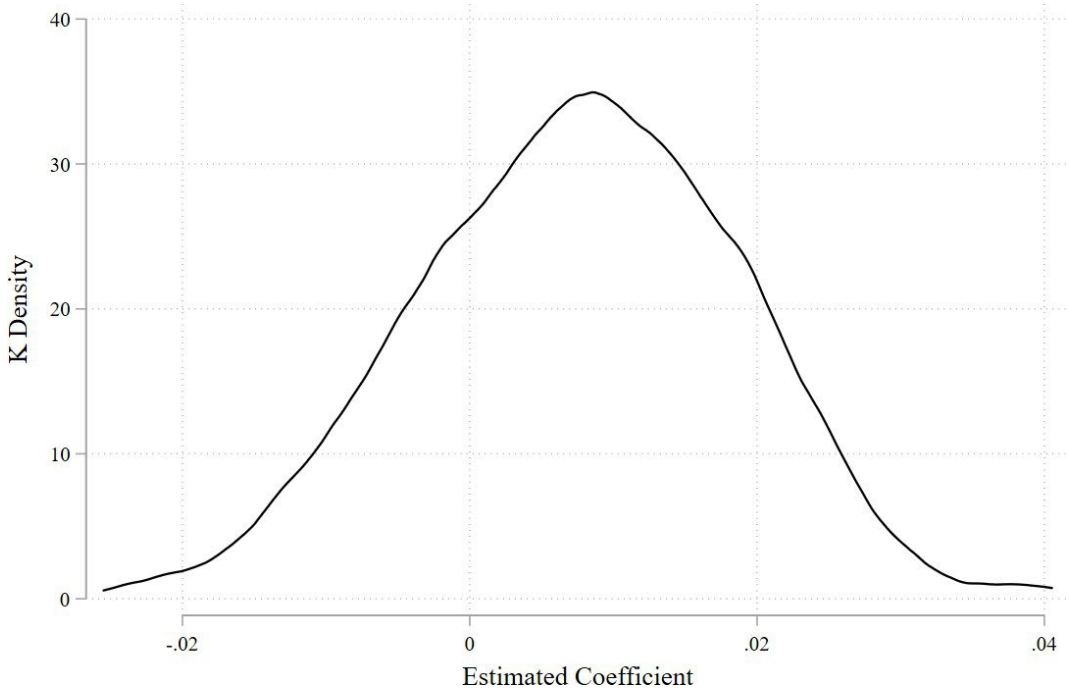
Notes: RD Estimates are based on Medicaid claims data from the South Carolina Department of Health and crime data from the South Carolina Department of Corrections from 2007–2020. Robust standard errors are shown in parenthesis. The MSE-calculated bandwidths following Calonico, Cattaneo, Farrell, and Titiunik (2016) is 3 quarters for each outcome.

Figure A3 — Distribution of the Number of Prisoners Released



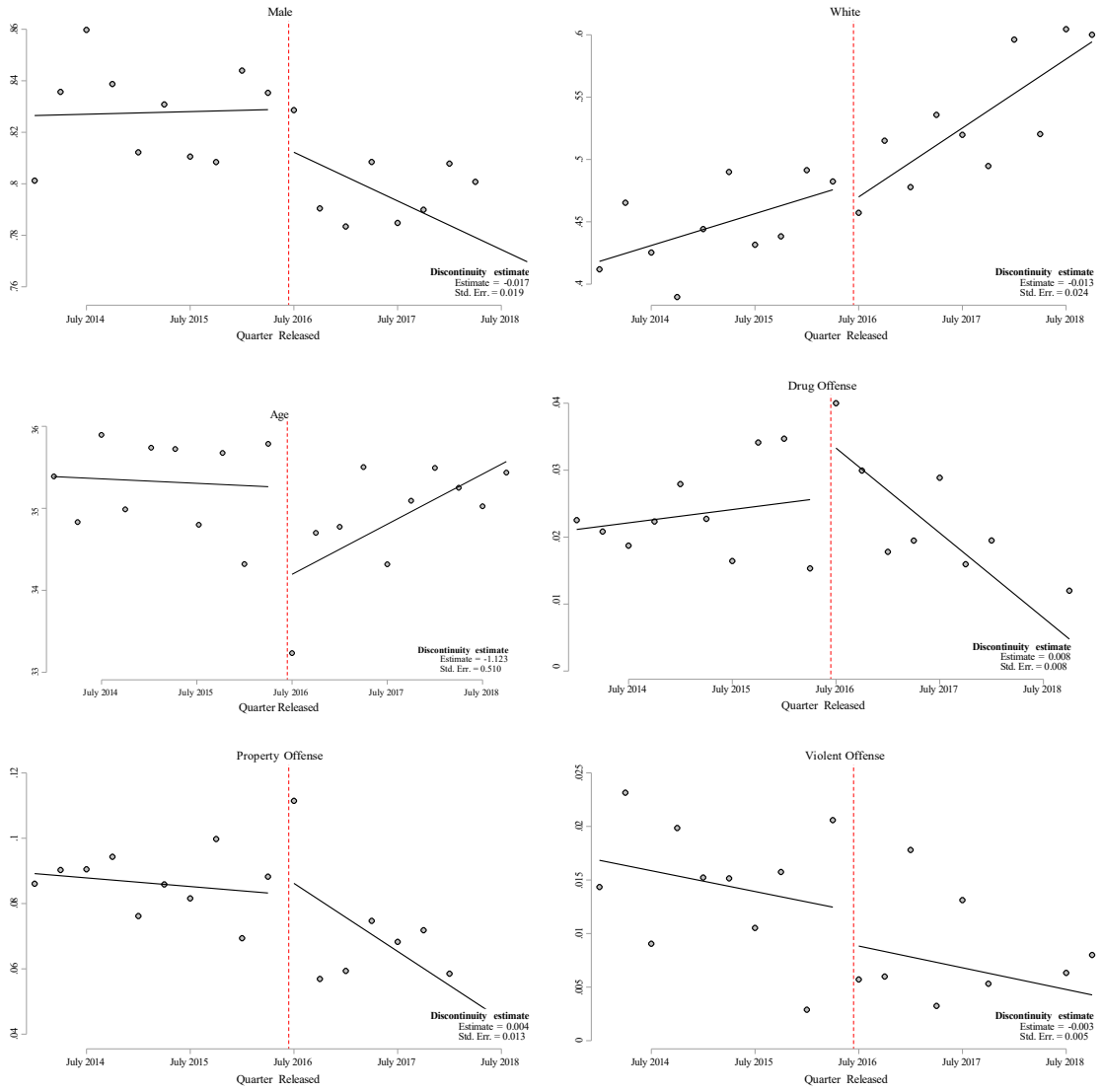
Notes: Incarceration data is from the South Carolina Department of Corrections. Data on Medicaid eligibility for ex-offenders is from the South Carolina Department of Health. The sample includes incarcerated individuals with sentence lengths of less than two years that were released within ten quarters of the July 2016 Medicaid application policy change. The vertical line represents the date released at which prisoners are eligible for simplified Medicaid re-enrollment. We include data for 10 quarters on either side of the July 2016 policy cutoff. Scatters represent the density for each quarterly release date bin. We present the estimate and corresponding p-value the Frandsen (2017) density test for running variables with discrete realizations to test for manipulation at the cutoff.

Figure A4 — Empirical Distribution of Placebo RD Estimates for Medicaid Enrollment



Notes: Data on Medicaid claims from 2007–2020 is from the South Carolina Department of Health. Crime data is from the South Carolina Department of Corrections. The sample includes incarcerated individuals with sentence lengths of less than two years that were released within ten quarters of the July 2016 Medicaid application policy change. The above figure plots the distribution of 1,000 regression discontinuity coefficients from placebo regressions of the preferred specification (Equation (1)) using randomly drawn individuals and randomly assigned release dates and a one-sided bandwidth of 10 quarters. For Medicaid enrollment, 5.7 percent of coefficients are significant at the five percent level, although 0 percent of placebo coefficients (in absolute value) are larger than the beta of 0.11 reported in our main table.

Figure A5 — Testing Discontinuity of Individual Characteristics and Conviction Type



Notes: Incarceration data is from the South Carolina Department of Corrections from 2007–2020. Data on Medicaid eligibility for ex-offenders is from the South Carolina Department of Health. The sample includes incarcerated individuals with sentence lengths of less than two years that were released within ten quarters of the July 2016 Medicaid application policy change. Each figure plots means, binned at the quarterly level, and linear fits of the listed outcome. Scatters to the left of the vertical line represent outcomes for individuals released prior to the Medicaid Suspension policy, implemented on June 30, 2016. In the top two panels we consider indicator variables equal to one for inmates who are male or White. In the middle left panel we present an estimate for offender age. In the middle right panel and bottom panels we consider whether the type of crime changes at the policy cutoff, including the probability of being released for committing a drug, property, or violent crime, respectively. In each panel we present discontinuity estimates and standard errors, based on our main RD approach described by Equation (1).

Table A1 — Heterogeneous Effects of a Medicaid Suspension Policy on Medicaid Enrollment, Utilization, and Recidivism, by Sex, Age, and Race

	Medicaid Enrollment	Any Utilization	Rx (Any)	Rx (Count)	Inpatient	Outpatient	1-Year Recidivism	3-Year Recidivism
Total								
Medicaid Suspend	0.1107***	0.0192**	0.0099	0.0209	0.0061	0.0161	-0.0000	0.0261*
	(0.0149)	(0.0079)	(0.0071)	(0.0618)	(0.0047)	(0.0221)	(0.0102)	(0.0134)
Pre-Period Mean	0.191	0.070	0.058	0.366	0.009	0.116	0.097	0.189
N	14568	14568	14568	14568	14568	14568	14568	14568
Male								
Medicaid Suspend	0.1364***	0.0173**	0.0093	0.0439	0.0035	0.0280	0.0025	0.0309**
	(0.0157)	(0.0067)	(0.0058)	(0.0507)	(0.0044)	(0.0185)	(0.0118)	(0.0153)
Pre-Period Mean	0.155	0.041	0.032	0.202	0.005	0.064	0.106	0.204
N	11820	11820	11820	11820	11820	11820	11820	11820
Above 45								
Medicaid Suspend	0.1713***	0.0083	-0.0089	-0.1792	0.0027	0.0720	-0.0036	0.0417
	(0.0331)	(0.0208)	(0.0187)	(0.2189)	(0.0176)	(0.0587)	(0.0205)	(0.0261)
Pre-Period Mean	0.163	0.075	0.059	0.509	0.016	0.118	0.089	0.151
N	3172	3172	3172	3172	3172	3172	3172	3172
White								
Medicaid Suspend	0.0898***	0.0145	0.0112	0.0114	0.0119**	0.0126	-0.0188	0.0372*
	(0.0213)	(0.0121)	(0.0109)	(0.1010)	(0.0059)	(0.0333)	(0.0151)	(0.0198)
Pre-Period Mean	0.195	0.086	0.074	0.509	0.013	0.136	0.111	0.208
N	7038	7038	7038	7038	7038	7038	7038	7038

Notes: See Table 2. Each panel presents estimates for the listed subgroup of individuals, based on observable sex, age, and race characteristics.

, **, and * indicate statistical significance at the ten, five, and one percent levels, respectively.*

Table A2 — Heterogeneous Effects of a Medicaid Suspension Policy on Medicaid Enrollment, Utilization, and Recidivism, by Crime Type of First Offense

	Medicaid Enrollment	Any Utilization	Rx (Any)	Rx (Count)	Inpatient	Outpatient	1-Year Recidivism	3-Year Recidivism
Any								
Medicaid Suspend	0.1107***	0.0192**	0.0099	0.0209	0.0061	0.0161	-0.0000	0.0261*
	(0.0149)	(0.0079)	(0.0071)	(0.0618)	(0.0047)	(0.0221)	(0.0102)	(0.0134)
Pre-Period Mean	0.191	0.070	0.058	0.366	0.009	0.116	0.097	0.189
N	14568	14568	14568	14568	14568	14568	14568	14568
Violent								
Medicaid Suspend	0.1903**	-0.0688	-0.0646	-0.0971	-0.0005	-0.0626	0.0046	0.0735
	(0.0954)	(0.0430)	(0.0428)	(0.2461)	(0.0008)	(0.0820)	(0.0820)	(0.1036)
Pre-Period Mean	0.191	0.070	0.058	0.366	0.009	0.116	0.097	0.189
N	358	358	358	358	358	358	358	358
Property								
Medicaid Suspend	0.0544*	0.0181	0.0159	0.1282	0.0214*	0.0189	-0.0023	0.0599*
	(0.0322)	(0.0179)	(0.0165)	(0.1698)	(0.0120)	(0.0476)	(0.0273)	(0.0329)
Pre-Period Mean	0.191	0.070	0.058	0.366	0.009	0.116	0.097	0.189
N	2908	2908	2908	2908	2908	2908	2908	2908
Weapon								
Medicaid Suspend	-0.0501	-0.0070	0.0043	-0.0387	0.0057	-0.0126	0.0423	0.0376
	(0.0741)	(0.0270)	(0.0163)	(0.0699)	(0.0057)	(0.0513)	(0.0503)	(0.0665)
Pre-Period Mean	0.191	0.070	0.058	0.366	0.009	0.116	0.097	0.189
N	620	620	620	620	620	620	620	620
Drug								
Medicaid Suspend	0.1153***	0.0252	0.0265*	-0.0479	0.0087	-0.0290	-0.0128	-0.0069
	(0.0389)	(0.0188)	(0.0161)	(0.1526)	(0.0098)	(0.0565)	(0.0245)	(0.0342)
Pre-Period Mean	0.191	0.070	0.058	0.366	0.009	0.116	0.097	0.189
N	2110	2110	2110	2110	2110	2110	2110	2110
Traffic								
Medicaid Suspend	0.1915***	0.0293	0.0161	0.0545	0.0153	0.0767**	0.0122	-0.0145
	(0.0387)	(0.0200)	(0.0179)	(0.1192)	(0.0133)	(0.0363)	(0.0223)	(0.0322)
Pre-Period Mean	0.191	0.070	0.058	0.366	0.009	0.116	0.097	0.189
N	2188	2188	2188	2188	2188	2188	2188	2188

Notes: See Table 2. Each panel presents estimates for the listed subgroup of individuals, based on the category of crime that appears as a first offense. The sample includes incarcerated individuals with sentence lengths of less than two years that were released within ten quarters of the July 2016 Medicaid application policy change.

, **, and * indicate statistical significance at the ten, five, and one percent levels, respectively.*

Table A3 — Effects of a Medicaid Suspension Policy on Medicaid Enrollment and Utilization, Including Covariates

	Medicaid Enrollment	Any Utilization	Rx (Any)	Rx (Count)	Inpatient	Outpatient
Medicaid Suspend	0.1086***	0.0184**	0.0092	0.0236	0.0064	0.0140
	(0.0147)	(0.0077)	(0.0069)	(0.0608)	(0.0047)	(0.0220)
Pre-Period Mean	0.191	0.070	0.058	0.366	0.009	0.051
N	14568	14568	14568	14568	14568	14568

Notes: RD Estimates are based on Medicaid claims data from the South Carolina Department of Health and crime data from the South Carolina Department of Corrections. Robust standard errors are shown in parenthesis. Medicaid Enrollment is a variable equal to one if an individual is enrolled in Medicaid within six months of release. "Any Utilization" is an indicator variable equal to one if an individual experiences any Medicaid-covered prescription, inpatient, or outpatient services within six months of release. "Any Rx" is an indicator variable equal to one if an individual fills a Medicaid-covered prescription within six months of release, and "Rx Count" represents the total number of prescriptions in a given quarter. Indicator variables "Inpatient" and "Outpatient" represent take-up of inpatient and outpatient services within six months of release, respectively. Covariates include dummy variables for male, white, age at release, and whether the first observed conviction was for a violent, property, or drug crime. The sample includes incarcerated individuals with sentence lengths of less than two years that were released within ten quarters of the July 2016 Medicaid application policy change.

, **, and * indicate statistical significance at the ten, five, and one percent levels, respectively.*

Table A4 — Heterogeneous Effects of a Medicaid Suspension Policy on Medicaid Enrollment and Utilization, by Prior Medicaid Utilization

	Medicaid Enrollment	Any Utilization	Rx (Any)	Rx (Count)	Inpatient	Outpatient	1-Year Recidivism	3-Year Recidivism
Any Prior Utilization								
Medicaid Suspend	0.0639**	0.0521**	0.0238	-0.0076	0.0055	0.0358	0.0094	0.0138
	(0.0304)	(0.0220)	(0.0201)	(0.1677)	(0.0131)	(0.0626)	(0.0184)	(0.0242)
Pre-Period Mean	0.612	0.216	0.180	1.117	0.035	0.350	0.096	0.192
N	4354	4354	4354	4354	4354	4354	4354	4354
No Utilization								
Medicaid Suspend	0.1384***	0.0073	0.0059	0.0445	0.0067*	0.0121	-0.0045	0.0319**
	(0.0139)	(0.0053)	(0.0044)	(0.0488)	(0.0037)	(0.0152)	(0.0123)	(0.0162)
Pre-Period Mean	0.021	0.011	0.008	0.061	0.002	0.021	0.098	0.188
N	10214	10214	10214	10214	10214	10214	10214	10214

Notes: See Table 2. The top panel presents estimates for individuals with utilization of Medicaid services prior to incarceration; the bottom panel presents those with no prior utilization. The full sample includes incarcerated individuals with sentence lengths of less than two years that were released within ten quarters of the July 2016 Medicaid application policy change. Approximately 14 percent of the full sample used Medicaid services at least once at some point prior to incarceration.

, **, and * indicate statistical significance at the ten, five, and one percent levels, respectively.*