DID EXTENDED POST-PARTUM MEDICAID COVERAGE HELP INCREASE POSTPARTUM ACCESS TO TREATMENTS FOR OPIOID USE DISORDER?

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Abstract

Opioid use disorder (OUD) among pregnant women increased over fourfold from 1999 to 2014 in the United States, making substance use the leading cause of maternal death. Medicaid is the largest payer for material substance use disorder treatment, but in most states, coverage is terminated 60 days postpartum, which likely disrupts OUD treatment. In response to the COVID-19 pandemic, Medicaid coverage was extended to 12-months postpartum. We study the effect of this coverage extension on gold-standard OUD treatment - medications (MOUD) - among postpartum women. To do so, we combine all-payer claims data with difference-in-differences methods, comparing Medicaid- and commercially-covered parents 12 months postpartum. Our findings indicate that continuous Medicaid coverage lead to an 8.0% and 5.2% increase in months with sustained MOUD use and medication adherence, and continuing MOUD beyond 60 days postpartum, respectively.

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1 Introduction

Maternal deaths have been increasing in the United States since 2000 (Rossen et al., 2020), and in 2018 there were 17 maternal deaths for every 100,000 live births in the U.S. — a ratio more than double that of most other high-income countries (Gunja et al., 2024). Between 1999 and 2014, opioid use disorder (OUD) among pregnant women more than quadrupled (Kroelinger et al., 2019), and substance use is now a leading cause of maternal death (CMS, 2024). Reported rates of OUD are lower among pregnant than non-pregnant populations (0.9 vs. 2.6%). But, there are concerns that punitive laws categorizing prenatal drug use as a form of child abuse or neglect and necessitate healthcare professionals to report these instances to state child welfare agencies may underly lower reported rates of OUD among pregnant individuals than non-pregnant persons, with actual rates of OUD being comparable among pregnant and non-pregnant individuals (or even higher among pregnant people) (Roberts et al., 2023). Pregnant and postpartum people who misuse substances are at high risk for poor maternal outcomes, including preterm labor and complications related to delivery; problems frequently exacerbated by malnourishment, interpersonal violence, and other health-related social needs. Infants exposed to opioids before birth also face negative outcomes, with a higher risk of being born preterm, having a low birth weight, and experiencing the effects of neonatal abstinence syndrome (CMS, 2024).

All state Medicaid programs are required to provide coverage to pregnant women with incomes at or below 138% of the Federal Poverty Level (FPL). Pregnancy-related Medicaid coverage eligibility may partly explain why more than half (52.5%) of pregnant individuals between the ages of 15 to 44 were covered by Medicaid when they entered OUD treatment (Smith, 2025). Almost universally, Medicaid maternity coverage has included OUD services. The specific substance-use services covered by Medicaid vary by state, but typically include individual and group counseling, detoxification, and, most importantly, medications for the treatment of OUD (MOUD), which are considered gold-standard treatment with a strong evidence base (Gray and Moore, 2017). Overall, Medicaid pays the largest portion of hospital charges for maternal substance use, as well as a majority of the $1.5 billion annual cost of neonatal abstinence syndrome.

Prior to the COVID-19 Public Health Emergency (PHE), birthing populations who qualified for pregnancy-related Medicaid lost insurance after 60 days postpartum (see Figure 1 for the policy timeline). Some people qualified for continued Medicaid coverage after the 60-day postpartum period, through another pathway such as the Affordable Care Act's (ACA) state expansion. Income eligibility requirements are more stringent for parents than

pregnant people, with lower maximum income allowances (Ranji, 2019), which may force postpartum people to transition to other sources of coverage or become uninsured (Office, Office). In states with expanded Medicaid under the 2010 ACA, 10% of postpartum women are uninsured at some point after delivery (Daw et al., 2017). In the ten states that have not expanded Medicaid (see Figure 1), the rate of postpartum uninsurance is double that of the expansion states (Ranji et al., 2021). Overall, prior evidence shows that before the pandemic, nearly a quarter of those with a Medicaid birth were uninsured after the 60 day mark (Johnston et al., 2021). Even among those maintaining some coverage, prior to the pandemic over half of postpartum people who deliver within the Medicaid program experience significant churning in-and-out of coverage within six months following delivery, with 25% experiencing at least two months without postpartum coverage in the first half-year after delivery (Daw et al., 2017; Daw and Sommers, 2018). Nationally, this group of women is likely to earn between 100–185% of the FPL, pushing them above the Medicaid expansion income threshold, but still at income levels ($40,182 for a family of three) where private insurance coverage remains unaffordable (Eckert, 2020). Postpartum disruptions in treatment for OUD due to loss of (or fragmented) coverage, is a missed opportunity to effectively treat women with OUD at a time when they may be particularly vulnerable and willing to engage with the healthcare system.

Medicaid rules changed in March 2020 with the COVID-19 PHE. To protect individuals and families from loss of coverage during the pandemic, Congress put in place a temporary measure: the Families First Coronavirus Response Act that mandated states to suspend Medicaid eligibility redeterminations and to continue covering Medicaid enrollees until the expiry of the federal PHE (Gupta et al., 2024). That is, individuals eligible for Medicaid as of March 2020, or became newly eligible since then, would not lose coverage until the PHE ended. This coverage includes birthing parents within 60 days of the standard postpartum Medicaid coverage period, specifically those who gave birth on or after January 19, 2020 and were still enrolled in Medicaid at the onset of the COVID-19 PHE (change in Medicaid postpartum coverage policy environment depicted in the blue shaded area in Figure 1). These allowances in eligibility led to a 20% increase in Medicaid enrollment relative to the prepandemic period, reaching nearly 87.0 million people in January 2022 (CMS, 2025). Furthermore, to ensure continued improvements in maternal health and coverage stability beyond the COVID-19 PHE, a provision in the American Rescue Plan Act of 2021(Rep. Yarmuth, 2021) gave states a new option to extend Medicaid postpartum coverage to 12 months via a state plan amendment (KFF, 2025; Ranji et al., 2021). This new option took effect on April 1, 2022 and was originally available for five years; however, the option was made perma-

nent by the Consolidated Appropriations Act of 2023 (United States: National Archives and Records Administration: Office of the Federal Register, 2022). Even after the PHE ended and the resumption of Medicaid eligibility redetermination began starting in April 2023, Medicaid postpartum coverage can now extend to one year (at state discretion; depicted in the green shaded area in Figure 1) rather than 60 days, and these continuity provisions are expected to strengthen general healthcare access postpartum, including continued treatment for OUD. However, no literature this far has examined whether the extended Medicaid coverage during the pandemic PHE has increased the continuity of MOUD utilization beyond 60 days postpartum.

Using all payer nationwide prescription and medical claims data from IQVIA's LRx and Dx databases, this study fills an important gap in the literature by testing whether the suspension of Medicaid redetermination during the COVID-19 PHE increased continuity of 60+ days postpartum MOUD utilization among birthing parents impacted by the policy. Specifically, we construct two parallel cohorts of birthing parents, ages 18-50 years, with a history of MOUD use during the 280-day gestation period, and with births paid for by Medicaid ("treatment cohort") or by private or commercial insurance ("control cohort"); refer to research design in Figure 2. We assess three indicators of postpartum MOUD continuity during the first year after birth: (1) the number of months with MOUD use, (2) continuation of MOUD use beyond 60 days postpartum, and (3) share of days with MOUD medication available during the 12-month postpartum period, a frequently used proxy measure of medication adherence. Using a difference-in-differences design, we compare our measures of MOUD continuation between the treated cohort (those now able to access one-year extended postpartum Medicaid coverage) and the control cohort (those with no change in postpartum coverage), before and after the onset of the COVID-19 PHE. Our study finds that among Medicaid recipients, 12-month extended continuous postpartum coverage during the COVID-19 PHE was associated with a 5.24% higher likelihood of continuing MOUD beyond 60 days postpartum as well greater than 8% increase in months of MOUD use and medication adherence. While the policy increased Medicaid-financed postpartum MOUD utilization, our findings reveal no significant overall change in MOUD use. This suggests that the policy primarily resulted in a shift in payment source, from self-paid to Medicaid-covered MOUD, rather than an expansion in treatment access. A series of sensitivity analyses reinforce the robustness of our estimates. Additionally, we examine whether the impact of extended postpartum Medicaid coverage on MOUD continuation varies by state ACA Medicaid expansion status and paid sick leave (PSL) mandates, given the potential role of these policies in providing alternative coverage options and improving access to care

by conferring financially-protected time for employees and their dependents. Our findings indicate that the improvements in MOUD continuation during the first postpartum year, following the COVID-19 PHE-related extended coverage, were primarily observed in non-expansion states and states without PSL mandates. This finding underscores the extent to which extended Medicaid coverage can serve as a critical safeguard against coverage loss and treatment disruptions, particularly in policy environments lacking such protections.

Our study makes several key contributions to the existing knowledge base. First, it strengthens the policy evidence on the role of continuous Medicaid coverage in lowering financial barriers to accessing recommended, harm-reducing healthcare. While our results indicate that extending postpartum Medicaid coverage did not increase overall MOUD use, it significantly shifted payment from self-pay to Medicaid. Given the potentially substantial costs of MOUD, such as the estimated $196 per month for transmucosal buprenorphine in 2022 (Flam-Ross et al., 2023), this coverage may lead to meaningful out-of-pocket savings for patients, which has been linked to improved long-term treatment retention. Consequently, our findings suggest that the unwinding of Medicaid's post-COVID-19 extensions may lead to coverage loss among at-risk postpartum individuals with OUD, particularly in the ten states that, that did not immediately opt to permanently adopt the 12-month extended postpartum coverage.[1] Future research should examine trends in MOUD utilization and OUD-related harms in these states. Second, our study highlights the complex interplay between state and federal policies in shaping health insurance coverage and, by extension, access to care. The observed improvements in MOUD continuation following extended postpartum Medicaid coverage were concentrated in ACA non-expansion states and states without PSL mandates—suggesting that, in the absence of broader policy protections, Medicaid extensions can serve as a critical buffer against treatment disruptions for vulnerable populations.

2 Data

2.1 Data Sources

To assess changes in MOUD continuation beyond the first 60 days postpartum and through the end of the first postpartum year—driven by extended postpartum Medicaid coverage during the COVID-19 PHE suspension of Medicaid eligibility redeterminations—we use linked national retail pharmacy and medical claims data January 2019-December 2021, from the

[1] At the time of the start of Medicaid unwinding, the states of AK, AZ, IA, MS, MO, MT, NE, NV, NH, SD, UT, VT, and WY had not yet implemented the extended 12-month postpartum Medicaid coverage. This delay may have led to coverage gaps and disruptions in MOUD continuation in these states.

IQVIA Longitudinal Prescription (LRx) and Medical Claims (Dx) databases. The LRx database captures nearly 4 billion U.S. prescription dispensings annually, covering over 90% of nationwide retail pharmacy fills. Each prescription claim record documents the National Drug Codes (NDCs) for the dispensed medication, days of supply, and payer information (classified as private, Medicare, Medicaid, or self-paid/cash). The Dx database includes unadjudicated office medical claims for approximately 191 million patients, providing detailed patient-level data on diagnoses (using International Classification of Diseases, Tenth Revision (ICD-10) codes), procedures (noted using Current Procedural Terminology (CPT® codes), and in-office treatments, along with payer information, across U.S. office-based providers, ambulatory settings, and general healthcare sites. Both medical and prescription claims data include the date of service, as well as the beneficiary's sex, age, and state of residence at the time of service.

2.2 Sample Construction

We restrict our sample to female adults of ages 18–50 years with an observed childbirth (via cesarean section or vaginal birth). Childbirths within the study period are identified using ICD-10 and CPT codes in the IQVIA Medical Claims (Dx) database (see Supplemental Appendix for code details).

To ensure our analysis focuses on changes in MOUD continuation, not MOUD initiation, we further restrict our sample to birthing parents with a documented prenatal history of MOUD use. This approach mitigates potential biases arising from pandemic-related disruptions in healthcare access, such as facility shutdowns, which may have affected MOUD initiation despite expanded insurance coverage. In the absence of precise gestational age information at birth, we follow the convention of defining the prenatal period as the 280 days (40 weeks) preceding childbirth. This approach aligns with clinical practice and is supported by data indicating that approximately 80% of births occur between 37 and 41 weeks of gestation, with nearly 60% classified as "full-term" (39–40 weeks) (Martin and Osterman, 2023; Declercq et al., 2023; The American College of Obstretricians and Gynaecologists, American Institute of Ultrasound in Medicine and Society for Maternal–Fetal Medicine, 2017). MOUD use during the prenatal period is identified through prescription claims for buprenorphine or naltrexone formulations that are FDA-approved for OUD treatment within the 280-day prenatal window. Buprenorphine formulations used exclusively for pain management (e.g., Butrans and Belbuca) are excluded from the analysis.

Payer information from the medical claim associated with childbirth is used to clas-

sify birthing parents as having either Medicaid or commercial insurance at the time of delivery. During the COVID-19 PHE, the suspension of Medicaid eligibility redeterminations—effective March 18, 2020—allowed birthing parents covered by Medicaid to maintain Medicaid coverage beyond the typical 60-days postpartum eligibility window. As a result, parents with Medicaid-covered childbirths on or after January 18, 2020, remained eligible for extended postpartum Medicaid coverage because they were still within the standard 60-day postpartum Medicaid eligibility period at the onset of the pandemic. While some parents who initially qualify for Medicaid through maternity-based eligibility may have retained Medicaid-covered MOUD access beyond the first postpartum year during the COVID-19 PHE, our analysis specifically examines the impact of extended postpartum Medicaid coverage on MOUD continuity within the first postpartum year. This targeted focus ensures that our findings from the PHE period provide direct policy insights for the proposed one-year extended postpartum Medicaid coverage under the American Rescue Plan Act of 2021.

Based on data availability (records through December 31, 2022), we limit our sample to birthing parents with childbirths between January 18, 2019, and December 17, 2021. This restriction ensures we can observe the complete one-year postpartum MOUD utilization for all individuals in our sample. Throughout the study period, parents with commercial insurance-covered childbirths have continuous access to insurance-covered MOUD during the postpartum period, unaffected by Medicaid policy changes.

To distinguish between the period when parents are eligible for standard 60-day postpartum Medicaid coverage and when they could access extended one-year postpartum coverage, we classified parents into cohorts based on their month and year of childbirth. As the policy change impacts parents with Medicaid-covered childbirths on or after January 18, 2020, we define each month as beginning on the 18th and ending on the 17th of the following month. For example, January 2020, the first childbirth year-month with access to extended Medicaid postpartum coverage, spans from January 18 to February 17, 2020. Parents with Medicaid-covered childbirths between January 2019 (defined as January 18, 2019 - February 17, 2019) through December 2019 (defined as December 18, 2019 - January 17, 2020) are eligible for the standard 60-day postpartum Medicaid coverage. Parents with Medicaid-covered childbirths between January 2020 (defined as January 18, 2020 - February 17, 2020) through November 2021 (defined as November 18, 2021 - December 17, 2021) are eligible for (at least) one-year postpartum Medicaid coverage. This classification ensures a clear distinction between the two policy periods.

In sensitivity analyses, we further examine a subset of births occurring between January 18, 2020, and December 31, 2020, as these pregnancies likely began before the onset of the

COVID-19 pandemic. This subset is less likely to be influenced by pandemic-related factors, such as changes in fertility decisions or policy-driven shifts in healthcare access.

2.3 Outcome Measures

Using MOUD prescription claims for each birthing parent in our Medicaid (treatment) and private insurance (control) cohorts, we calculate the rolling days of MOUD supply in hand for each calendar month during the 12-month postpartum period. This measure accounts for both new prescription fills and any remaining medication supply from previous months. We then construct three key measures of MOUD continuation during the first postpartum year: (1) months with MOUD use (range 0-12 months), (2) MOUD continuation beyond 60 days postpartum (indicator variable of available days' of MOUD supply during months 3-12 postpartum), and (3) share of days with MOUD medication available during the 12-month postpartum period (range (0-365)/365 days).

The primary motivation for extending Medicaid postpartum coverage to one year is to ensure continued coverage and access to care for birthing parents during a particularly vulnerable period. However, for our Medicaid parent cohort with a history of MOUD use, the loss of Medicaid coverage after the standard 60-day postpartum period may not necessarily lead to a complete loss of MOUD access, as some individuals may transition to other forms of coverage, including self-/cash- paid for MOUD use. Given this possibility, in addition to assessing the impact of extended postpartum Medicaid coverage on any MOUD continuation, irrespective of payer type, we also examine post-policy changes in continued postpartum MOUD use by payer type (in particular, Medicaid or self-paid) during the first postpartum year, using payer information available on each MOUD prescription claim.[2] Since the policy extends Medicaid postpartum eligibility, we expect an increase in Medicaid-covered MOUD continuation. Self-paid MOUD continuation is also of particular interest as patients paying fully out-of-pocket may face the greatest financial barriers to consistent use (Strahan et al., 2023). Higher cost-sharing burdens are associated with shorter MOUD treatment retention (Dunphy et al., 2021; Agbese et al., 2020), with studies reporting as much as a 34% higher likelihood of discontinuation for patients in the highest versus lowest cost-sharing quartile (Leech et al., 2023). So, if the policy reduces the need for individuals to switch to self-paid or cash-paid MOUD, improving long-term continuation chances, we would also anticipate a decline in out-of-pocket MOUD use during the first postpartum year post policy change. The net effect of extended Medicaid postpartum coverage on total MOUD continuation is

[2]We identify payer type at the prescription level but lack direct information on insurance coverage, limiting our ability to detect patients with multiple insurance types.

ultimately an empirical question. If the policy merely allows individuals who would have otherwise switched to alternative coverage (including self-financed MOUD) to instead remain on Medicaid, then we would not expect an increase in total MOUD continuation. Conversely, if the extended coverage helps individuals who might have discontinued MOUD use due to uninsurance or higher cost-sharing, then overall MOUD continuation would likely increase.

2.4 Non-parametric Analysis

Appendix Table A1 presents summary statistics describing our treatment (parents with Medicaid-covered childbirths) and control (commercial insured-covered childbirths) cohorts, for each year of the study period. The Medicaid-covered childbirth cohort is substantially larger (16,134 birthing parents) than the commercially insured group (2,568 birthing parents), reflecting the higher prevalence of opioid use disorder (OUD) and therefore MOUD use among Medicaid enrollees. The mean age is similar across both cohorts, with Medicaid recipients averaging around 30 years and commercially insured individuals slightly older (30.7–31.2 years). Across both cohorts, depression (24.9% in commercial vs. 26.1% in Medicaid) and COPD (20.8% in commercial vs. 26.2% in Medicaid) are the most common conditions, reflecting significant comorbidities in this population. The Medicaid-covered treatment cohort has higher rates of hypertension (HTN), diabetes (DM), and liver disease compared to the commercially insured cohort. However, the overall prevalence of these conditions, and those of cardiovascular conditions (CAD, CHF, and stroke), remains low in both cohorts, likely due to their relatively young age.

Figure 3, and Appendix Figures A1 and A2 graphically depict trends in our MOUD continuation outcomes, by payer type (Medicaid (Figure 3), self-/cash- paid (Appendix Figure A1) paid) and overall (Appendix Figure A2)) during the first postpartum year during our study period from January 18, 2019 through December 31, 2022. The figure presents trend lines comparing average months with MOUD continuation during first postpartum year of parents with Medicaid-paid (treatment cohort) versus commercial-insurance (control cohort) paid childbirths, by payer type . The vertical line designates January 2020. These plots capture two distinct periods. The first period includes childbirths between January 2019-December 2020, during which birthing parents with maternity-based Medicaid eligibility would only have access to the standard 60-day postpartum Medicaid coverage. The second period, January 2020-December 2022, consists of the period during which birthing parents (i.e., childbirths on or after January 2020) would be eligible for extended Medicaid postpartum coverage during the COVID-19 PHE.

Several observations emerge from this descriptive analysis. We note fairly flat trends, in both the Medicaid-covered (Figure 3) and overall (Appendix Figure A2) for all three MOUD continuation outcomes, for both the treatment and control cohorts, during the standard 60-day postpartum Medicaid coverage period. From Appendix Figure A1, we observe a slight downward trend in cash paid postpartum MOUD utilization for both the treatment and control cohorts, likely reflecting the many policy initiatives in recent years aimed at improving insurance coverage of MOUD. Throughout the study period, we also observe considerable overlap in the levels of the MOUD continuation outcomes during the first postpartum year with MOUD continuation paid for by cash and overall for the treatment and control cohorts, but a consistently higher Medicaid-covered postpartum MOUD use in the Medicaid-covered childbirths, relative to the control cohort (commercially insured childbirths), as expected.

From Figure 3, we also observe that there appears to be a divergence between Medicaid and commerical insurance cohorts in all three MOUD continuation outcomes with Medicaid-covered MOUD during the first postpartum year after January 2020, suggesting that the extended postpartum Medicaid coverage may have increased Medicaid-covered MOUD continuation for the treatment cohort. From Appendix Figure A1 we observe that while the treatment and control cohorts had similar levels and trends in cash-paid MOUD use pre-2020, albeit with some fluctuations, there may be a slight decline in cash-paid MOUD for the treatment cohort with Medicaid-covered childbirths post-2020, potentially indicating that extended Medicaid coverage reduced the need for out-of-pocket MOUD payments. Finally, from Appendix Figure A2, we observe that the treatment and control cohorts begin the period with similar trends, but the treatment cohorts appears to sustain very slightly higher overall MOUD continuation following the Medicaid postpartum coverage extension.

Overall, our preliminary descriptive trend analyses suggests that the extended Medicaid postpartum coverage associated with the COVID-19 PHE appears to have increased Medicaid-covered MOUD continuation (Figure 3), with accompanying declines in cash-paid MOUD use (Appendix Figure A1), and no overall change in all-payer MOUD continuation (Appendix Figure A2). These findings suggest that the policy change helped sustain MOUD access through Medicaid while potentially reducing financial burdens associated with out-of-pocket payments.

3 Methods

We use a difference-in-differences (DD) strategy to estimate changes in MOUD continuation outcomes among parents with Medicaid covered childbirths as compared to the control cohort

of parents with commercial insurance covered childbirths, during the first postparum year, following the COVID-19 PHE related extension of postpartum Medicaid coverage. Specifically, the effects of the extended postpartum Medicaid coverage for birthing parents with childbirths on or after January 18, 2020, on MOUD continuation outcomes is modeled at the birthing parent (i)-childbirth year-month (t) level as follows:

$$y_{it} = \beta Birth_{Medicaid} \times C19PHE_t + \mu Birth_{Medicaid} + X_{it}\delta + \theta_s + \gamma_t + \epsilon_{st} \quad (1)$$

In the regression, θ_s is a vector of state fixed effects that captures time invariant differences across states, and γ_t is a vector of month $\times$ year fixed effects, which accounts for trends in the outcomes that are common across all birthing parents in the study sample. $Birth_{Medicaid}$ adjusts for the time invariant differences in outcomes among parents with childbirths covered by Medicaid. X_{it} is a vector of individual demographic and human capital characteristics, including comorbidities,[3] and age. ϵ_{it} is a residual error term that we assume is strictly exogenous of the policy variables and the covariates. The interaction terms $Birth_{Medicaid} \times C19PHE_t$ are analogous to the Treat $\times$ Post terms in a conventional DD framework, with β representing the changes in our MOUD continuation outcomes among parents with Medicaid covered childbirth following the extension of postpartum Medicaid coverage during the COVID-19 PHE. The main effect associated with $C19PHE_t$ is absorbed by the fixed effects. We estimate the regression using OLS and we compute standard errors using a heteroskedasticity robust variance matrix, without additional clustering at the state or parent level, since the policy change was federal and we have only one observation per birthing parent in our sample. Our study period is January 18, 2019, and December 17, 2022.

This DD regression relies on the common trends and strict exogeneity assumptions (Wing et al., 2018). The common trends assumption implies that, after adjusting for covariates and state fixed effects, MOUD continuation outcomes among parents with Medicaid-covered childbirths would have followed a parallel time trend post-policy in the absence of the COVID-19 PHE-related extension of postpartum Medicaid coverage. The strict exogeneity assumption requires that the timing of the federal policy decision to suspend Medicaid eligibility redeterminations during the COVID-19 PHE was not systematically related to MOUD continuation outcomes in other time periods. This assumption could be violated if

[3]ICD-10 codes are used to adjust for the presence of ten chronic conditions based on their high prevalence in our sample (CDC, 2024; Sung et al., 2024), and the necessity for ongoing healthcare engagement. These conditions include cancer, coronary artery disease, chronic obstructive pulmonary disease, diabetes, heart failure, hypertension, liver disease, osteoarthritis, renal disease, and stroke.

MOUD continuation patterns shifted in anticipation of COVID-19 onset. While these are strong assumptions that are difficult to directly test, the unanticipated onset of the COVID-19 PHE, which triggered the postpartum Medicaid extension, potentially makes them more plausible in our setting.

While our non-parametric analysis of pre-trends in Figures 3, A1 and A2 provide some support that our data can support these assumption, we employ an event study to evaluate how measures of MOUD continuation evolve before (i.e., pre-trends) and after the implementation of extended postpartum Medicaid coverage. Let E represent January 2020, the monthly date after which birthing parents gained access to the (at least) one-year extended Medicaid postpartum coverage. Then, $TSE_{it} = t - E$ measures for each birthing parent i the number of months between their year-month of childbirth t and January 2020. For instance, for childbirths occurring five months prior to January 2020 (i.e., in August 2019), $TSE_{it} = -5$. For childbirths five months after the extension of Medicaid postpartum coverage took effect (i.e., June 2020), $TSE_{it} = 5$. We set $TSE_{it} = 0$ for birthing parents with privately insured childbirths, which were unaffected by Medicaid postpartum coverage policy changes. We then fit event study regressions with the following structure:

$$y_{it} = \sum_{a=-12}^{2} \alpha_a 1\left(TSE_{it} = -a\right) + \sum_{b=0}^{23} \beta_b 1\left(TSE_{it} = b\right) + \mu Birth_{Medicaid} + X_{it}\delta + \theta_s + \gamma_t + \epsilon_{st} \quad (2)$$

α_a and β_b are event study coefficients that trace out deviations from the common trends experienced by birthing parents in the months leading up to and following the implementation of extended Medicaid postpartum coverage (i.e., for births occurring before and after January 2020). Specifically, α_a captures the differential trends in MOUD continuation outcomes among parents with Medicaid-covered childbirths, relative to parents with commercial insurance-covered childbirths, before the extension of Medicaid postpartum coverage. β_b measures the differential trends in MOUD continuation outcomes for birthing parents with childbirths occurring after January 2020, when parents with Medicaid covered childbirths gained access to the extended postpartum Medicaid coverage. The reference period in all event studies is the month before January 2020 ($TSE_{it} = -1$). Interpretation of θ_s, $Birth_{Medicaid}$, X_{it}, and γ_t remain the same as in Equation (1). Equality in MOUD continuation outcomes among parents with Medicaid and private insurance covered childbirths in the period preceding the extension of postpartum Medicaid coverage is tested with the estimated coefficients α_a. Several sensitivity tests are undertaken to confirm the robustness of our estimates as described in Section 4.2.

Importantly, the study period coincides with several other policy initiatives aimed at expanding MOUD access during the COVID-19 pandemic. These initiatives include telehealth provisions for buprenorphine (e.g. initiation via telehealth), relaxed guidelines for take-home methadone (although not observed in our data), and suspension of the x-waiver program for buprenorphine prescribing (McGinty et al., 2025). Because most of these changes were implemented broadly and affected both Medicaid and commercial groups, our DD approach likely isolates the impact of the extended postpartum coverage.

Finally, to better understand the interplay between state and federal policies in shaping health insurance coverage and access to care, we also conduct DD analyses comparing the impact of extended Medicaid postpartum coverage on MOUD utilization in state samples stratified by whether or not the state had prior to the study period expanded Medicaid under the ACA (Kaiser Family Foundation, 2024) and those with and without PSL mandates (National Partnership of Women & Families, 2023) (refer Figure 1 for details on state-level ACA expansion and PSL policies). ACA Medicaid expansion extends coverage to all adults with incomes up to 138% of FPL in adopting states. Thus, Medicaid expansion provides an alternative source of coverage for lower-income postpartum women, suggesting that the COVID-19 era extended postpartum impacts may be larger in non-expansion states where lower-income residents, including postpartum women, have fewer affordable coverage options. More specifically, the two types of Medicaid coverage may serve as substitutes. PSL mandates provide employees with approximately seven days of financially protected time (with 100% wage replacement) each year for health-related needs of themselves and their dependents (National Partnership of Women & Families, 2023).[4] PSL reduces both the time and financial costs of receiving healthcare and erlier work documents that healthcare use increases post-PSL mandate (Maclean et al., 2023; Pichler et al., 2021), including among Medicaid enrollees (Maclean et al., 2024). Mandated PSL could be used by postpartum women to more easily receive healthcare, suggesting that PSL and extended postpartum Medicaid coverage may be complements.

[4]Eligible dependents include spouses, partners, and children in all PSL mandate states. A concern might be that Medicaid enrollees are less likely to work than are other people. However, 63% of non-disabled non-elderly adults enrollees in Medicaid work (Guth et al., 2023), suggesting that many enrollees are likely eligible for these benefits.

4 Results

4.1 Impact of Federal Extended Medicaid Postpartum Coverage

Table 1 presents DD coefficient estimates assessing the impact of extended postpartum Medicaid coverage on MOUD continuation outcomes, comparing the treated cohort of parents with Medicaid-covered childbirths to the control cohort of parents with commercial insurance-covered childbirths. The analysis focuses on our three key measures of continued MOUD use during the first postpartum year: (1) number of months with MOUD, (2) continuation of MOUD beyond 60 days postpartum, and (3) number of MOUD days' supply in hand (out of 365 days) across all MOUD prescriptions.

Panel A reports results for postpartum MOUD continuation paid by Medicaid, in the treated cohort of parents with Medicaid-covered childbirth relative to the control cohort. Extended postpartum Medicaid coverage significantly increases MOUD continuation among Medicaid beneficiaries across all three outcome measures. The policy increases Medicaid-covered MOUD use by 0.53 months, an 8.82% rise compared to the pre-policy mean of 6.04 months. Additionally, the probability of continuing MOUD beyond 60 days postpartum increases by 3.61 percentage points (5.24% increase), while the number of MOUD days' supply per year increases by 3.62 percentage points (8.26% increase). These results indicate that the policy effectively improves Medicaid-covered postpartum MOUD continuity for parents with Medicaid-covered childbirths.

Panel B reports results for the impact of extended postpartum Medicaid coverage on out-of-pocket (self-paid) MOUD continuation, again comparing the treated cohort of parents with Medicaid-covered childbirths to the control cohort of parents with commercial insurance-covered childbirths. The policy significantly reduces reliance on self-paid MOUD for those with Medicaid-covered childbirths relative to those with commercial insurance-covered childbirths, suggesting that extended Medicaid coverage provides financial protection for postpartum parents. The number of months with self-paid MOUD declines by 0.12 months (32.89% reduction), while the likelihood of continuing MOUD beyond 60 days postpartum with out-of-pocket payments decreases by 2.71 percentage points (23.86% reduction). Additionally, the number of MOUD days' supply per year covered by self payments drops by 0.75 percentage points (41.21% reduction). These findings indicate that extended Medicaid postpartum coverage reduces financial barriers to MOUD access, decreasing the need for individuals to pay for treatment out-of-pocket, which may be associated with improved likelihood of longer-term continuation and patient outcomes.

Finally, in Panel C, we report changes in overall postpartum MOUD continuation, irre-

spective of payer, in response to the postpartum Medicaid coverage extension, among those with Medicaid-covered births relative to commercial insurance-covered births. Despite the observed increase in Medicaid-covered MOUD use, the policy does not appear to significantly impact overall MOUD continuation. The estimated effect on total months with MOUD use is small (0.09 months, a 1.23% increase) and statistically indistinguishable from zero. Similarly, the likelihood of continuing MOUD beyond 60 days postpartum and the total number of MOUD supply days per year remains largely unchanged. This pattern of (null) results suggests that, while Medicaid coverage for MOUD increases, some individuals who would have transitioned to other payer sources (e.g., self-paid or private insurance) remained on Medicaid instead, resulting in little net change in overall continued MOUD use.

Figure 4 presents event-study estimates from Equation (2) for the three postpartum MOUD continuation outcomes, paid for by Medicaid. The estimates confirm that, prior to the implementation of the 12-month extended postpartum Medicaid coverage, there were no systematic differences in MOUD continuation between those with Medicaid-covered and commercially insured childbirths—consistent with the descriptive trends in Figure 3. This supports our difference-in-differences (DD) identifying assumption of parallel pre-policy trends between the treated and control cohorts. Consistent with our DD results the event-study estimates suggest modest increases in all three Medicaid-covered MOUD continuation outcomes during the first postpartum year following the policy's implementation. While individual event-time estimates are generally imprecisely estimated, with wide confidence intervals and not statistically significant at conventional levels, they are jointly significant at the 95% confidence level, as summarized in our DD estimates (see Table 1).

In sum, our findings suggest that extended postpartum Medicaid coverage does not impact the use of overall MOUD among postpartum women, but the policy leads to a substantial shift in the source of payment for this treatment. In particular, many postpartum women shift from self-payment for MOUD to using Medicaid to finance this treatment, in Table 1 column 1, there is a 0.53 increase in the number of months with Medicaid-financed MOUD and a corresponding decline of 0.12 months with self-financed MOUD, suggesting that Medicaid pays for the vast majority of MOUD months with the extended coverage. The financial resources freed-up by Medicaid coverage could be substantial as, in 2022, the monthly cost of transmucosal buprenorphine was$196 (Flam-Ross et al., 2023). To the extent that lower cost-sharing has favorable implications on long-term MOUD retention our findings underscore the role extended postpartum Medicaid coverage may play in maintaining long-term MOUD utilization.

4.2 Sensitivity Checks

A series of sensitivity checks confirm the robustness of our findings. To address concerns about endogenous fertility, we re-estimated our DD regression using births from January 18, 2019, to December 17, 2020—likely conceived before the COVID-19 pandemic. As shown in Table 2, the effects of extended 12-month postpartum Medicaid coverage on MOUD continuation outcomes, both overall and by payer type, closely align with our main estimates in Table 1, reinforcing the validity of our results. SEVERAL COMPLETED SENSITIVITY CHECKS STILL NEED TO BE INTEGRATED.

4.3 Heterogeneity Analyses

Figure 5 graphically presents our heterogeneity analysis examining the impact of extended postpartum Medicaid coverage on MOUD continuation, estimated using the DD methods, in state samples stratified by ACA Medicaid expansion status and PSL mandate status. Once again, the three panels present our three MOUD continuation outcomes.

Across all three measures of Medicaid-covered postpartum MOUD continuation, the beneficial impact of extended postpartum Medicaid coverage on MOUD continuation during the first postpartum year appears to be primarily driven by states that have not expanded Medicaid under the ACA and those without PSL mandates. Specifically, states without ACA expansion show positive and statistically significant effects on the number of months with continued Medicaid-covered postpartum MOUD use, likelihood of MOUD continuation beyond 60 days postpartum, and medication adherence (proxied by days of MOUD medication in hand per year) following the policy change, while non-expansion states exhibit smaller or negligible effects. The confidence intervals on the estimates for the non-expansion states are generally wider reflecting the small set of states that remain in this category. Similarly, the absence of state PSL mandate also appears to be associated with increased postpartum MOUD continuation across all three measures.

Overall, these heterogeneity tests suggest that state actions like ACA Medicaid expansion and adoption of PSL mandates are associated with better Medicaid-covered postpartum MOUD continuation, as these policies may help provide a more stable coverage environment for postpartum individuals receiving MOUD. These findings underscore the intricate relationship between state and federal policies in influencing health insurance coverage and access to care. When state protections like ACA Medicaid expansion and PSL mandates are lacking, federal policies supporting Medicaid extensions can play a crucial role in preventing treatment disruptions for vulnerable populations.

5 Conclusion

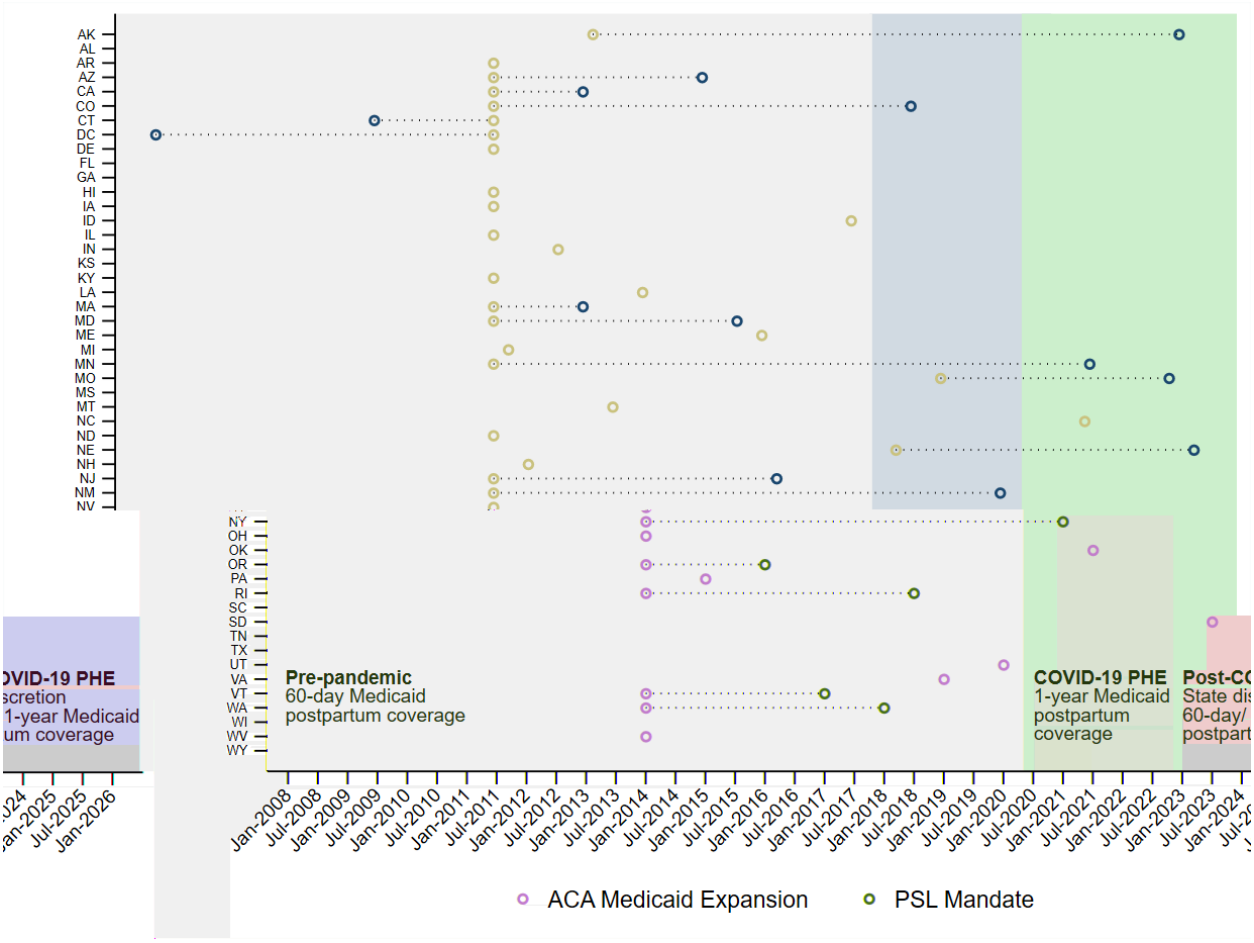
This study finds that extended postpartum Medicaid coverage significantly improves MOUD continuation for Medicaid-covered parents, supporting sustained access to treatment during the first postpartum year. The policy led to increased Medicaid-covered MOUD use, but did not significantly impact overall MOUD utilization. A key benefit of the policy was a substantial reduction in out-of-pocket MOUD payments, indicating enhanced financial protection for postpartum individuals with opioid use disorder, which may improve long-term MOUD retention.

Our study also highlights how state and federal policies interact to shape health coverage and access to care. Although the policy did not expand overall MOUD use, the finding that the gains in MOUD continuation with extended postpartum Medicaid coverage were largely seen in ACA nonexpansion states and those without PSL mandates, suggests that Medicaid extensions can play a vital role in preventing treatment disruptions where broader policy protections are lacking.

Overall, our study highlight the critical role of postpartum Medicaid extensions in maintaining treatment continuity, while also emphasizing that future policies should address barriers beyond coverage, such as provider availability and patient outreach, to further increase MOUD access and adherence.

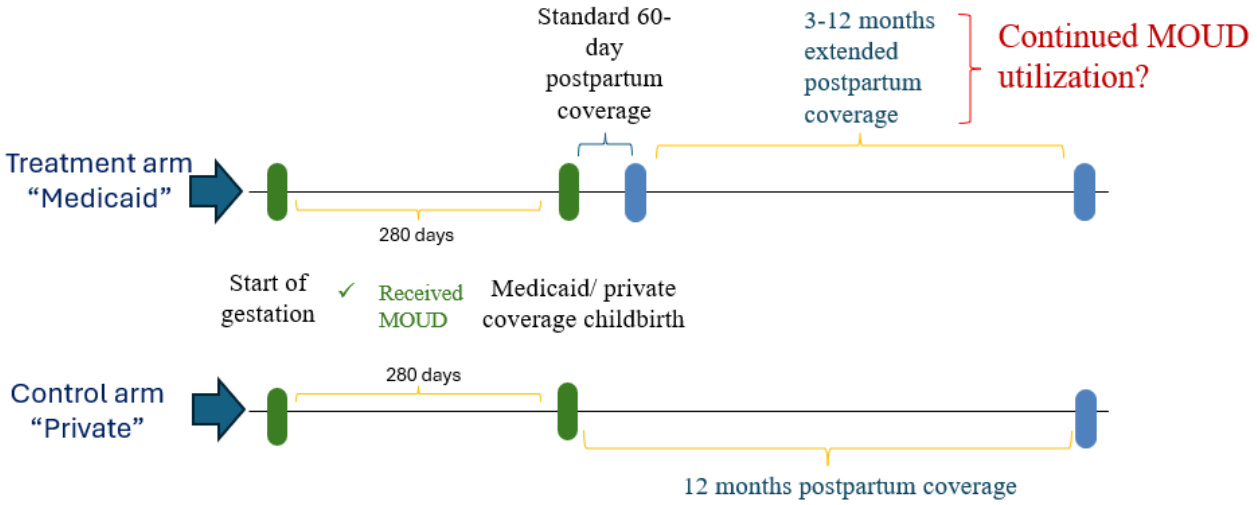
Tables and Figures

Figure 1: Timeline of Medicaid 1-year extended postpartum coverage, ACA Medicaid expansion and paid sick leave state mandates



Note: Authors' compilations based on states' legislation database.

Figure 2: Study research design



Note: Authors' depiction of study research design comparing MOUD continuation during the first year postpartum in the "treated" cohort of parents with Medicaid-covered childbirths and the "control" cohort of parents with commercial-insurance-covered childbirths.

Figure 3: National trend in Medicaid-covered postpartum continuation of medications for opioid use disorder (MOUD).

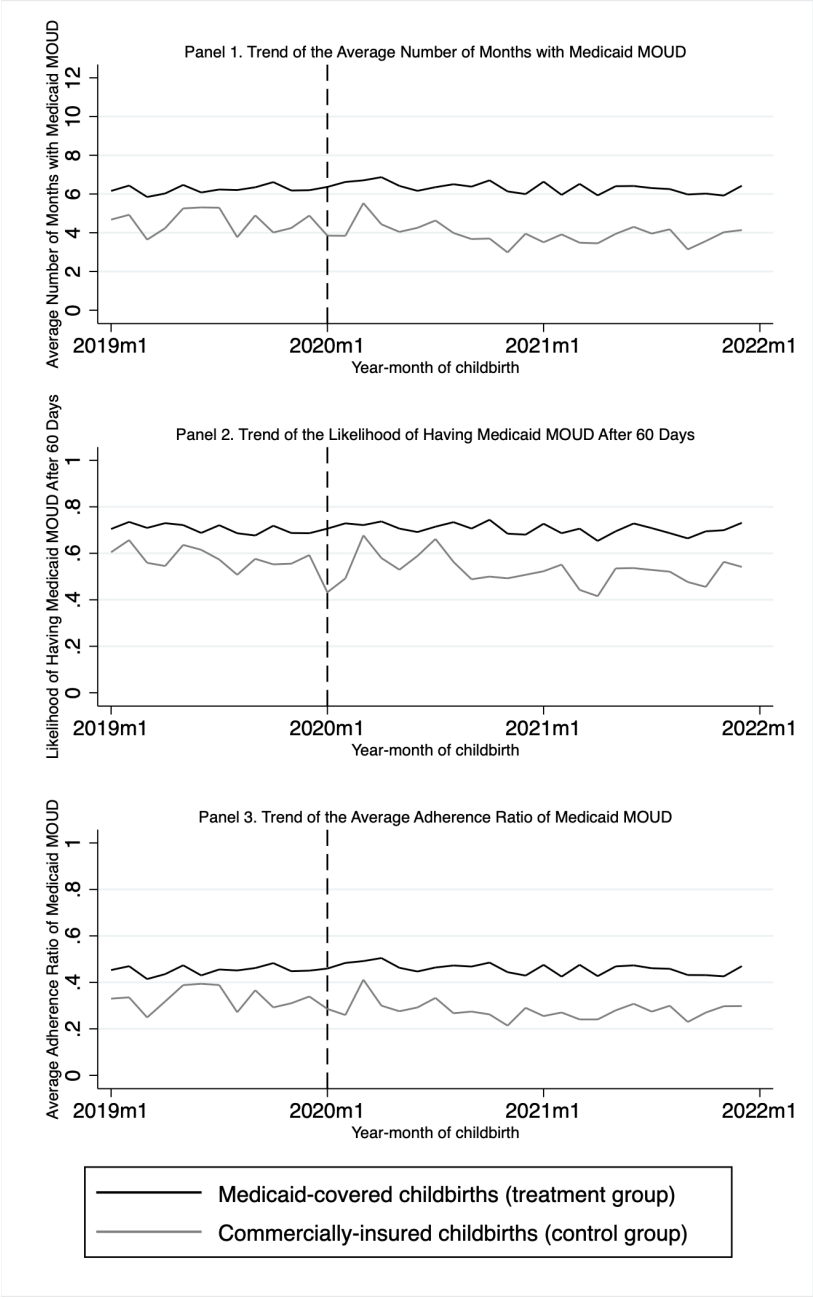


Figure 4: Event study estimates of the impact of extended 12-month postpartum Medicaid coverage on Medicaid-financed MOUD continuation during first postpartum year.

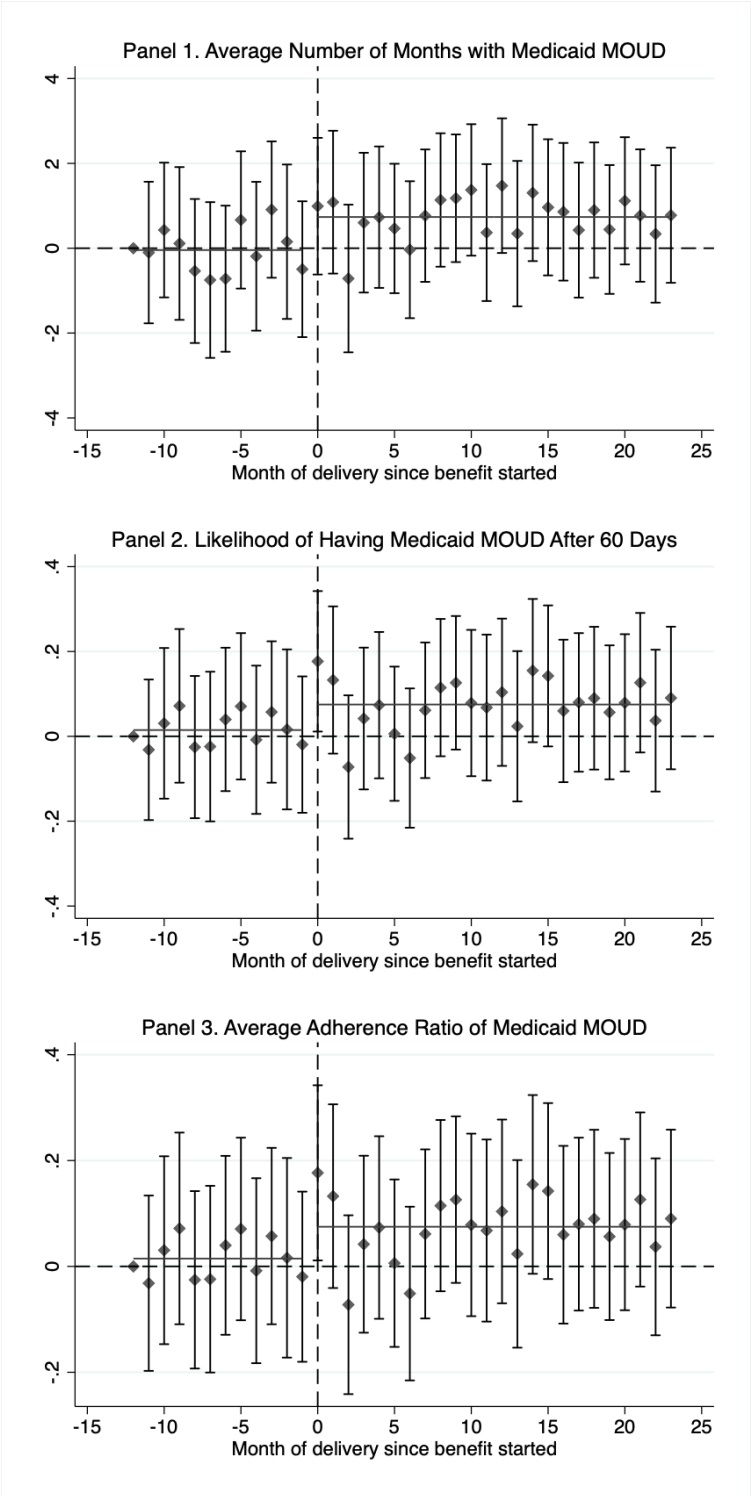


Figure 5: Effect of extended 12-month postpartum Medicaid coverage on Medicaid-financed MOUD continuation during first postpartum year, stratified by state ACA expansion status and PSL mandates.

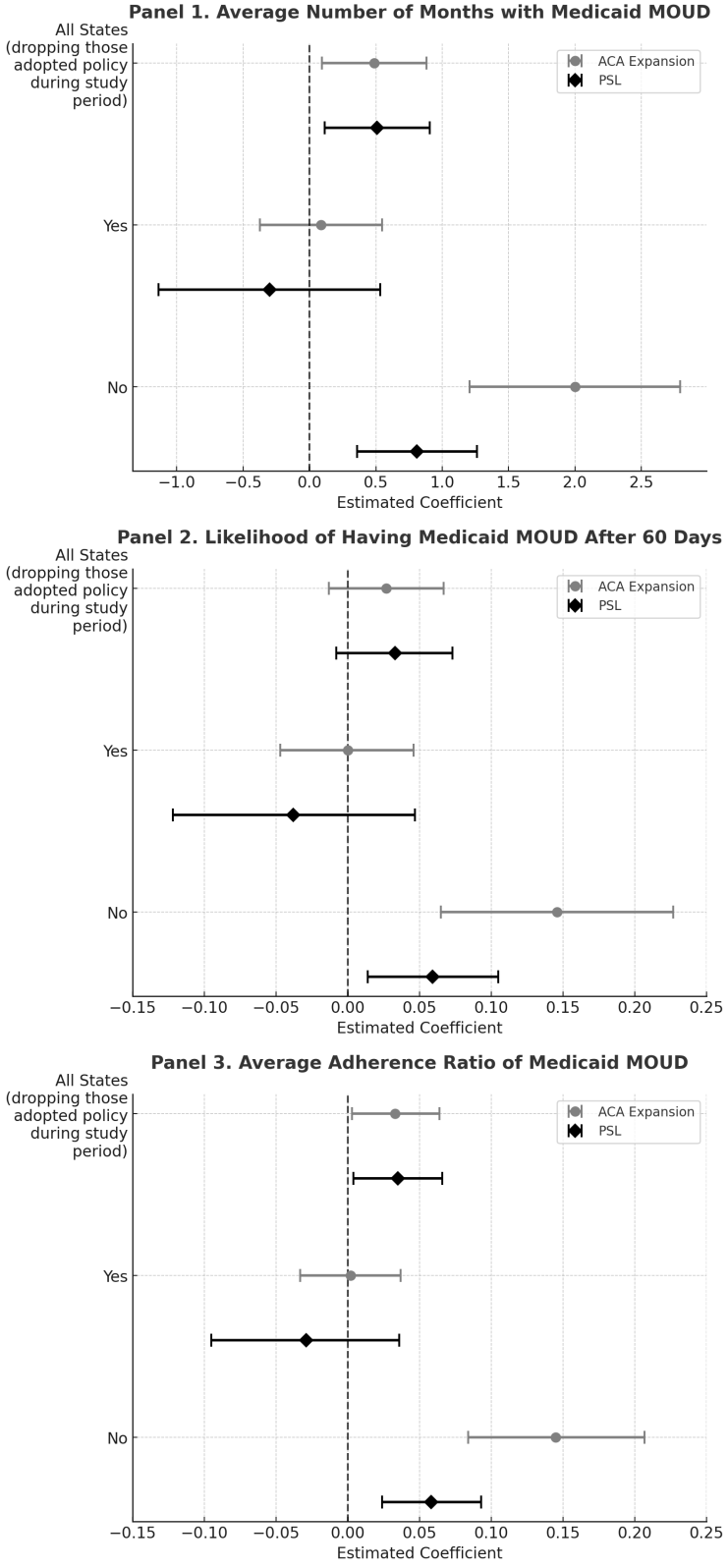


Table 1: Difference-in-differences estimates of the impact of extended 12-month postpartum Medicaid coverage on MOUD continuation, by payer type, during first postpartum year.

Panel A. Medicaid MOUD

	(1) Number of months with MOUD	(2) Continued MOUD after 60-day	(3) Number of MOUD supply days/365
Policy Treatment Effect	0.5327***	0.0361*	0.0362**
	(0.1980)	(0.0201)	(0.0153)
State FE	Yes	Yes	Yes
Year-month FE	Yes	Yes	Yes
Observations	18,702	18,702	18,702
Outcome mean prior to treatment	6.04	0.6892	0.4385
Percentage change	8.82%	5.24%	8.26%

Panel B. Cash-paid MOUD

	(1) Number of months with MOUD	(2) Continued MOUD after 60-day	(3) Number of MOUD supply days/365
Policy Treatment Effect	-0.1207**	-0.0271**	-0.0075**
	(0.0518)	(0.0120)	(0.0034)
State FE	Yes	Yes	Yes
Year-month FE	Yes	Yes	Yes
Observations	18,702	18,702	18,702
Outcome mean prior to treatment	0.3700	0.1136	0.0182
Percentage change	-32.62%	-23.86%	-41.21%

Panel C. All-payer MOUD

	(1) Number of months with MOUD	(2) Continued MOUD after 60-day	(3) Number of MOUD supply days/365
Policy Treatment Effect	0.0877	0.0018	0.0013
	(0.2032)	(0.0180)	(0.0161)
State FE	Yes	Yes	Yes
Year-month FE	Yes	Yes	Yes
Observations	18,702	18,702	18,702
Outcome mean prior to treatment	7.14	0.7529	0.5243
Percentage change	NA	NA	NA

Notes: Including all births from January 19, 2019, to December 17, 2020

Table 2: Difference-in-differences estimates of the impact of extended 12-month postpartum Medicaid coverage on MOUD continuation during first postpartum year, by payer type, and considering parents with ongoing pregancies at the time of policy change.

Panel A. Medicaid MOUD

	(1) Number of months with MOUD	(2) Continued MOUD after 60-day	(3) Number of MOUD supply days/365
Policy	0.4526**	0.0229	0.0310*
Treatment Effect	(0.2221)	(0.0224)	(0.0172)
State FE	Yes	Yes	Yes
Year-month FE	Yes	Yes	Yes
Observations	12,615	12,615	12,615
Outcome mean prior to treatment	6.04	0.6892	0.4384
Percentage change	7.49%	NA	7.07%

Panel B. Cash-paid MOUD

	(1) Number of months with MOUD	(2) Continued MOUD after 60-day	(3) Number of MOUD supply days/365
Policy	-0.1320**	-0.0335**	-0.0082**
Treatment Effect	(0.0611)	(0.0138)	(0.0040)
State FE	Yes	Yes	Yes
Year-month FE	Yes	Yes	Yes
Observations	12,615	12,615	12,615
Outcome mean prior to treatment	0.3700	0.1136	0.0182
Percentage change	-35.68%	-29.49%	-45.05%

Panel C. All-payer MOUD

	(1) Number of months with MOUD	(2) Continued MOUD after 60-day	(3) Number of MOUD supply days/365
Policy	-0.0009	-0.0153	-0.0055
Treatment Effect	(0.2266)	(0.0200)	(0.0179)
State FE	Yes	Yes	Yes
Year-month FE	Yes	Yes	Yes
Observations	12,615	12,615	12,615
Outcome mean prior to treatment	7.14	0.7529	0.5243
Percentage change	NA	NA	NA

Notes: Restricting to post-period births occurring until December 2020.

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Appendix

Identification of Birth Deliveries

ICD codes:
V3000, V3100, V3200, V3300, V3400, V3500, V3600, V3700, V3900, V3001, V3101, V3201, V3301, V3401, V3501, V3601, V3701, V3901, V301, V311, V321, V331, V341, V351, V361, V371, V391, V302, V312, V322, V332, V342, V352, V362, V372, V392, Z3800, Z3801, Z381, Z382, Z3830, Z3831, Z384, Z385, Z3861, Z3862, Z3863, Z3864, Z3865, Z3866, Z3868, Z3869, Z387, Z388, 66970, 66971, O80, O82, O7582;
and those start with V27, 650, Z37;

CPT/HCPCS codes:
59200, 59409, 59410, 59414, 59514, 59515, 59612, 59614, 59620, 59622, 59430, 59160, 59300, 59350, 0503F

We ensured that all identified claims using the above codes had sufficient time gaps to account for two possible birth deliveries, preventing duplicates and ensuring each delivery was counted only once.

Table A1: Descriptive Statistics

Treatment Sample: Medicaid-covered Deliveries with any Medicaid MOUD during 280 days prior to birth

Birth Year	N of births	Mean age	ADRD	CAD	Cancer	CHF	COPD	Depress	DM	HTN	Liver	Oarth	Renal	Stroke
2019	5,327	29.99	0	0.0015	0.0094	0.0026	0.0053	0.2337	0.0120	0.0353	0.1190	0.0049	0.0032	0
2020	5,616	30.59	0.0005	0.0018	0.0085	0.0039	0.0055	0.2598	0.0160	0.0433	0.1242	0.0066	0.0023	0.0016
2021	5,191	30.76	0.0003	0.0029	0.0116	0.0048	0.0071	0.2909	0.0191	0.0441	0.1191	0.0048	0.0021	0.0004
Total	16,134	30.45	0.0003	0.0020	0.0098	0.0038	0.0060	0.2612	0.0157	0.0409	0.1209	0.0055	0.0025	0.0007

Control Sample: Commercial-covered Deliveries with any commercial MOUD during 280 days prior to birth

Birth Year	N of births	Mean age	ADRD	CAD	Cancer	CHF	COPD	Depress	DM	HTN	Liver	Oarth	Renal	Stroke
2019	777	30.07	0.0013	0	0.0077	0.0026	0	0.2085	0.0090	0.0425	0.0682	0.0103	0.0013	0
2020	896	30.76	0	0.0022	0.0167	0.0022	0.0045	0.2355	0.0279	0.0368	0.0703	0.0089	0.0022	0.0011
2021	895	31.19	0	0.0011	0.0302	0.0011	0.0056	0.2994	0.0302	0.0603	0.0603	0.0045	0.0022	0.0011
Total	2,568	30.70	0.0004	0.0012	0.0187	0.0019	0.0035	0.2496	0.0230	0.0467	0.0662	0.0078	0.0019	0.0008

Notes:

Table A2: Difference-in-differences regression estimates of the impact of extended 12-month postpartum Medicaid coverage on Medicaid-covered MOUD continuation during first postpartum year.

	(1) Number of months with MOUD	(2) Continued MOUD after 60-day	(3) Number of MOUD supply days/365
Policy	0.5327***	0.0361*	0.0362**
Treatment Effect	(0.1980)	(0.0201)	(0.0153)
Post	1.6259***	0.1306***	0.1280***
	(0.1725)	(0.0174)	(0.0133)
Age	0.4620***	0.0300***	0.0377***
	(0.0709)	(0.0070)	(0.0055)
Age^2	-0.0061***	-0.0004***	-0.0005***
	(0.0011)	(0.0001)	(0.0001)
ADRD	-0.8836	-0.1981	-0.0526
	(2.2978)	(0.2002)	(0.1777)
CAD	-1.0040	-0.0832	-0.1022*
	(0.8050)	(0.0845)	(0.0608)
Cancer	-0.3312	-0.0409	-0.0163
	(0.3434)	(0.0333)	(0.0271)
CHF	-0.5077	-0.0432	-0.0443
	(0.6034)	(0.0590)	(0.0463)
COPD	-0.6043	0.0170	-0.0582*
	(0.4344)	(0.0422)	(0.0340)
Depress	-0.3789***	-0.0115	-0.0331***
	(0.0804)	(0.0078)	(0.0063)
DM	-0.2102	-0.0222	-0.0175
	(0.2768)	(0.0269)	(0.0215)
HTN	-0.3344*	-0.0280*	-0.0238*
	(0.1794)	(0.0170)	(0.0140)
Liver	-0.4936***	-0.0285***	-0.0380***
	(0.1121)	(0.0107)	(0.0087)
Oarth	0.4225	0.0302	0.0503
	(0.4643)	(0.0437)	(0.0366)
Renal	-0.6717	-0.1301*	-0.0637
	(0.7064)	(0.0725)	(0.0547)
Stroke	0.1709	-0.0637	-0.0001
	(1.4793)	(0.1347)	(0.1146)
Constant	-3.7440***	0.0094	-0.3561***
	(1.0862)	(0.1082)	(0.0842)
Observations	18,702	18,702	18,702
Outcome mean prior to treatment	6.04	0.6892	0.4385
State FE	Yes	Yes	Yes
Year-month FE	Yes	Yes	Yes

Notes: Standard difference-in-difference method was used for analysis. The OLS model was used to evaluate the outcomes. Robust errors were included in the parentheses. *p<0.1, **p<0.05, ***p<0.01.

Table A3: Difference-in-differences regression estimates of the impact of extended 12-month postpartum Medicaid coverage on self-paid for MOUD continuation during first postpartum year.

	(1) Number of months with MOUD	(2) Continued MOUD after 60-day	(3) Number of MOUD supply days/365
Policy	-0.1207**	-0.0271**	-0.0075**
Treatment Effect	(0.0518)	(0.0120)	(0.0034)
Post	0.0684	0.0223**	0.0011
	(0.0436)	(0.0106)	(0.0029)
Age	0.0145	0.0042	0.0001
	(0.0158)	(0.0041)	(0.0010)
Age^2	-0.0002	-0.0001	-0.0000
	(0.0003)	(0.0001)	(0.0000)
ADRD	0.2403	0.1231	0.0005
	(0.2612)	(0.1410)	(0.0050)
CAD	0.3222	0.0598	0.0131
	(0.2995)	(0.0553)	(0.0177)
Cancer	-0.0170	0.0132	-0.0029
	(0.0556)	(0.0192)	(0.0030)
CHF	-0.1584***	-0.0344	-0.0085***
	(0.0482)	(0.0249)	(0.0024)
COPD	0.1469	0.0382	0.0107
	(0.1238)	(0.0313)	(0.0092)
Depress	-0.0366**	-0.0051	-0.0027***
	(0.0163)	(0.0044)	(0.0010)
DM	0.0151	0.0127	0.0012
	(0.0627)	(0.0161)	(0.0042)
HTN	-0.0160	0.0038	-0.0019
	(0.0351)	(0.0100)	(0.0022)
Liver	-0.0195	-0.0076	-0.0011
	(0.0236)	(0.0061)	(0.0016)
Oarth	-0.1279***	-0.0043	-0.0074***
	(0.0406)	(0.0254)	(0.0020)
Renal	-0.1914***	-0.0730***	-0.0094***
	(0.0355)	(0.0080)	(0.0020)
Stroke	-0.1730***	-0.0714***	-0.0075**
	(0.0591)	(0.0179)	(0.0033)
Constant	0.0484	0.0191	0.0143
	(0.2415)	(0.0633)	(0.0156)
Observations	18,702	18,702	18,702
Outcome mean prior to treatment	0.3670	0.1136	0.0182
State FE	Yes	Yes	Yes
Year-month FE	Yes	Yes	Yes
Observations	18,702	18,702	18,702

Notes: Standard difference-in-difference method was used for analysis. The OLS model was used to evaluate the outcomes. Robust errors were included in the parentheses. *p<0.1, **p<0.05, ***p<0.01.

Table A4: Difference-in-differences regression estimates of the impact of extended 12-month postpartum Medicaid coverage on any MOUD continuation during first postpartum year.

	(1) Number of months with MOUD	(2) Continued MOUD after 60-day	(3) Number of MOUD supply days/365
Policy	0.0877	0.0018	0.0013
Treatment Effect	(0.2032)	(0.0180)	(0.0161)
Policy	-0.0839	-0.0017	-0.0057
	(0.1757)	(0.0154)	(0.0139)
Age	0.5504***	0.0305***	0.0462***
	(0.0713)	(0.0066)	(0.0056)
Age^2	-0.0076***	-0.0004***	-0.0006***
	(0.0011)	(0.0001)	(0.0001)
ADRD	1.7238	0.0768	0.1378
	(1.9158)	(0.1668)	(0.1469)
CAD	-0.8820	-0.0571	-0.0868
	(0.8095)	(0.0770)	(0.0632)
Cancer	-0.2572	-0.0277	-0.0114
	(0.3510)	(0.0318)	(0.0278)
CHF	-0.6932	-0.0615	-0.0626
	(0.6045)	(0.0572)	(0.0460)
COPD	-0.3130	0.0409	-0.0337
	(0.4400)	(0.0387)	(0.0354)
Depress	-0.4648***	-0.0184**	-0.0395***
	(0.0818)	(0.0074)	(0.0065)
DM	-0.4220	-0.0199	-0.0316
	(0.2809)	(0.0257)	(0.0222)
HTN	-0.1866	-0.0094	-0.0123
	(0.1825)	(0.0162)	(0.0145)
Liver	-0.4477***	-0.0180*	-0.0360***
	(0.1134)	(0.0102)	(0.0089)
Oarth	0.1076	0.0033	0.0185
	(0.4603)	(0.0417)	(0.0363)
Renal	-0.2471	-0.0692	-0.0275
	(0.7370)	(0.0690)	(0.0587)
Stroke	-0.3635	-0.0824	-0.0334
	(1.3783)	(0.1277)	(0.1081)
Constant	-2.4435**	0.2035**	-0.2798***
	(1.0951)	(0.1025)	(0.0860)
Observations	18,702	18,702	18,702
Outcome mean prior to treatment	7.14	0.7529	0.5243
State FE	Yes	Yes	Yes
Year-month FE	Yes	Yes	Yes

Notes: Standard difference-in-difference method was used for analysis. The OLS model was used to evaluate the outcomes. Robust errors were included in the parentheses. *p<0.1, **p<0.05, ***p<0.01.

Figure A1: National trend in self-/cash- paid postpartum continuation of medications for opioid use disorder (MOUD).

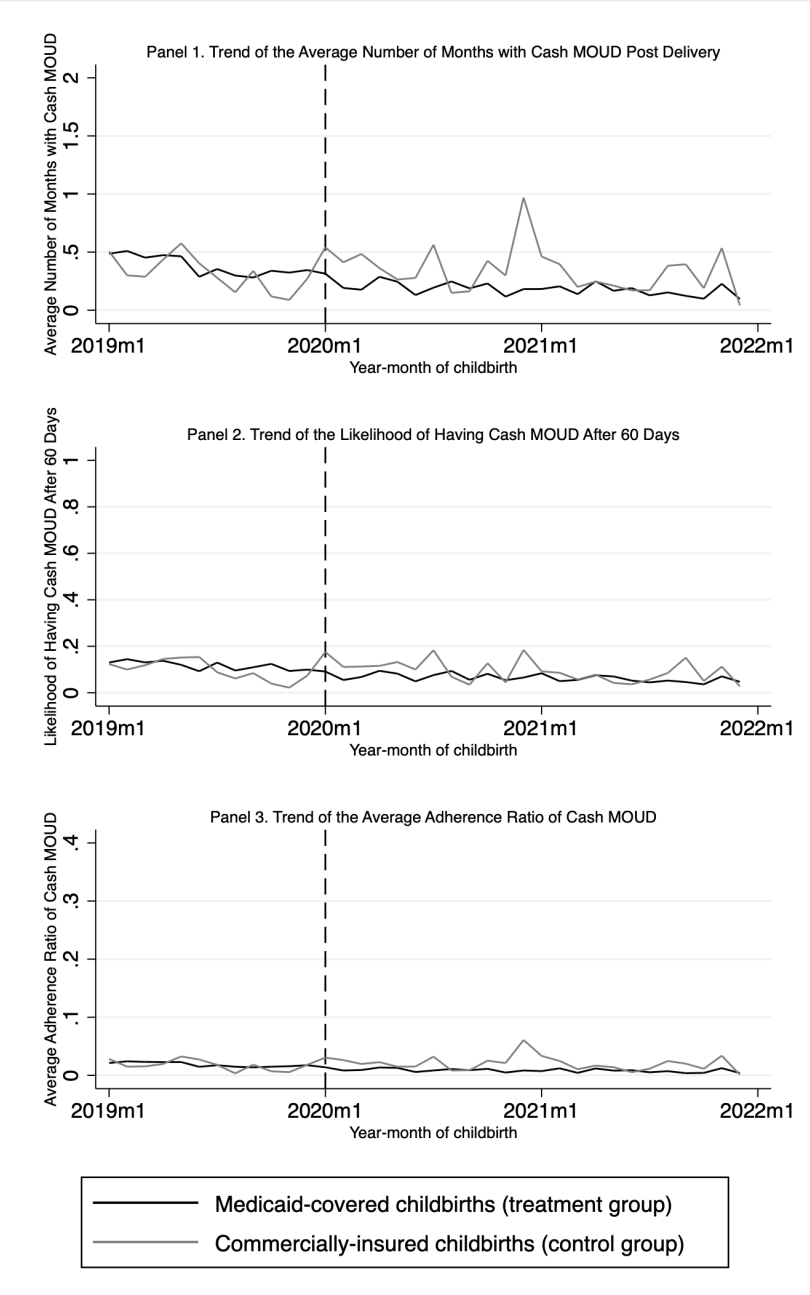


Figure A2: National trend in overall (all-payer) postpartum continuation of medications for opioid use disorder (MOUD).

