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# The Impact of Job and Insurance Loss on Prescription Drug use: A Panel Data Approach to Quantifying the Health Consequences of Unemployment During the Covid-19 Pandemic

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**Abstract**

Due to the nature of health insurance in the United States, health care utilization is often tied to economic conditions, at both the individual and aggregate levels. This article examines how loss of employment may reduce medication adherence through the subsequent loss of insurance and income. At the individual level, the loss of employer-sponsored insurance is shown to be associated with lower prescription drug use and higher out-of-pocket expenditures. The rapid increase in unemployment during the COVID-19 pandemic provides a natural experiment to estimate the causal relationship between unemployment and prescription drug use at the aggregate level. In total, the growth in unemployment during the pandemic resulted in a 2.6% reduction in medication adherence and 57.5 million fewer prescriptions filled in 2020, with prescriptions declining for many chronic conditions. Unemployment-related reductions in prescription fills and medication adherence were highest in states without expanded Medicaid eligibility, further underscoring the importance of social safety nets such as Medicaid during times of economic hardship.

In the United States, where health insurance is tied to employment for more than half of the population,[1] health care and the economy are inextricably linked. In many cases, becoming unemployed means not only losing a primary source of income, but also facing a disruption in health insurance coverage and higher out-of-pocket health care costs. Consequently, job loss—particularly at the historic levels experienced during the COVID-19 pandemic—may significantly reduce prescription drug utilization and increase the risk of adverse health outcomes[2].

Under employer-sponsored insurance (ESI), employees share the cost of their insurance plans with their employers, typically in the form of monthly premiums and copays. The average employer subsidizes 70 to 82% of the monthly premiums for an employer-sponsored plan[3]. The prevalence of ESI in the United States means that when people lose their jobs, they often lose both their source of income and their source of health insurance. Patients who lose ESI coverage and do not qualify for government assistance (through Medicaid or Affordable Care Act [ACA] subsidies) face a higher upfront price for their health care, since they no longer receive subsidies from their employer. In addition to being costlier to stay insured after losing ESI, it can also be more expensive to get treatment. People who switch insurance plans may have new deductibles, more restrictions on their medication coverage, and/or higher copays. Meanwhile, those who become uninsured are left exposed to the full price of medications, which have steadily increased in the past five years [4].

To illustrate the challenges that unemployed patients face: 46% of Americans report that they do not have enough money saved to pay an unexpected $400 (all dollar amounts in U.S. Dollars) expense [5]. That means that if they lost their job, they may not be able to afford the average monthly employer contribution to premiums needed to enroll in continuation of health coverage (COBRA), which allows workers and their families to continue group health benefits for a limited time after job loss ($496) [3,6]; the average cash price of a month's supply of insulin ($476) [7]; or the average cost of a visit to the emergency room ($2032) [8]. Faced with higher health

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care costs on top of lost income, many unemployed patients may not be able to afford the medications they need. As a result, unemployment may cause patients to risk their health by skipping, delaying, and/or rationing their prescriptions [9].

The rapid increase in unemployment during the COVID-19 pandemic provides a natural experiment to study the relationship between changes in unemployment and health care utilization. To slow the pandemic, states issued new restrictions and mandated shutdowns for many businesses, putting millions out of work and triggering an economic recession [10]. After COVID-19 was declared a national emergency, the U.S. unemployment rate increased to historic levels, peaking in April 2020 at 14.8% and remaining persistently above 5% [11]. As a result, an estimated 25 million people lost their regular health insurance [12]. Despite a surge in Medicaid enrollment [13], enhanced and extended unemployment insurance benefits [14], and direct income subsidies based on income and family size [15], an estimated 12.1 million people who lost their ESI during the pandemic remained uninsured [12].

In this study, we examine the relationship between unemployment and health care: specifically, prescription drug use and the extent to which patients adhere to their prescribed treatment (medication adherence). As a first step, we use individual-level expenditure data to empirically test whether loss of employment and ESI is associated with higher out-of-pocket costs and lower prescription drug use. Next, we use state-level data on unemployment insurance claims and prescription drug fills leading up to and during the COVID-19 pandemic to estimate the causal impact of rising aggregate unemployment on prescription drug use and medication adherence.

## Hypotheses

First, this study tests whether unemployed individuals significantly reduce their prescription drug utilization and spend more out-of-pocket on their prescriptions after losing ESI. Second, this study tests whether the increase in unemployment during the COVID-19 pandemic caused significantly lower prescription drug utilization. Third, this study tests whether expanded Medicaid eligibility requirements offset the effect of unemployment on prescription drug utilization.

## Methods

### *The Impact of Loss of Employment and Employer-Sponsored Insurance*

Out-of-pocket prescription drug costs and prescription drug utilization for unemployed individuals are sourced from the Medical Expenditure Panel Survey (MEPS), a nationally representative panel survey. This dataset follows participant cohorts over two-year periods, collecting information on their employment and insurance status, health care use, and spending; this analysis included three full cohorts (Panels 19, 20, and 21, years 2014-2017) [16]. We limit the study population to adults under the age of 65 who filled at least one prescription, experienced a change in employment status, and were not on disability during the study period.

To observe the relationship between unemployment and medication use at the individual level, we compare out-of-pocket prescription drug costs and prescription drug utilization before and after losing ESI for individuals who saw an employment status change from employed to unemployed during the study period. We calculate the average number of prescriptions filled and average out-of-pocket cost per prescription when these individuals had ESI and when they did not have ESI. Without ESI, the patients studied either had Medicaid, had an individual plan purchased from the health insurance exchange, or were uninsured.

All analyses are adjusted using complex survey-weighting procedures with sample weights provided by MEPS; using these survey weights, all estimates are representative of the U.S. civilian noninstitutionalized population [17]. Differences in weighted averages are tested for statistical significance using paired t-tests. Weighted estimates are computed using the survey package in R [18].

### *The Impact of Rising Unemployment During the COVID-19 Pandemic*

To measure prescription drug use and medication adherence, we construct a panel dataset of weekly, state-level prescription drug fills from all-payer U.S. pharmacy data from 58,332 chain, independent, and mail-order pharmacies, reflecting approximately 17 million deidentified claims [19]. The study period for this analysis covers February 16, 2020, through December 19, 2020. Change in medication adherence is estimated relative to the number of retail prescriptions filled one year prior to the study period, from February 17, 2019, to December 20, 2019.

Data on weekly, state-level traditional unemployment insurance claims is sourced from the U.S. Department of Labor [20]. State Medicaid expanded-eligibility status is obtained from Kaiser Family Foundation; Nebraska is the only state that expanded its Medicaid eligibility during our study period [21]. For control variables, we use data on weekly, state-level COVID-19 cases from the COVID Tracking Project [22]; total population estimates from the five-year American Community Survey 2018 [23]; and weekly, state-level, stay-at-home mandates from data collected by Fullman and colleagues [24].

To isolate the causal relationship between rising unemployment and falling prescription drug fills, we exploit the geographic and time variation in unemployment insurance claims due to regional business shutdown mandates during the COVID-19 pandemic. We employ a weighted least squares panel regression model with two-way fixed effects. Specifically, we regress weekly, state-level prescription drug fills lagged one month on weekly, state-level traditional

unemployment insurance claims; a weekly indicator for the state having expanded Medicaid eligibility; an interaction term equal to the product of weekly, state-level traditional unemployment insurance claims and the weekly indicator for the state having expanded Medicaid eligibility; and a set of weekly, state-level control variables, with state and week fixed effects.

The interaction term allows for heterogeneous treatment effects for Medicaid expansion states and non-Medicaid expansion states, which would likely see different rates of insurance loss under unemployment [25]. Under the ACA, states can expand Medicaid eligibility so that people can qualify based on income alone, rather than income plus other factors, such as family size or disability status [26]. If the coefficient on this interaction term is significant, then the estimated effect of unemployment on prescription drug fills during the pandemic differs depending on whether a state expanded Medicaid eligibility prior to the pandemic. To simulate the unemployment-related prescription fill declines that could have been averted had all states adopted Medicaid expansion prior to the pandemic, we also estimate the unemployment effect on medication use assuming all states expanded Medicaid eligibility under ACA.

Including two-way fixed effects controls for unobserved differences in the determinants of prescription drug use and unemployment, including sociodemographic factors such as population size and distribution of age, gender, race, and education. State-level fixed effects control for pre-existing differences across states, while week-level fixed effects control for national trends across time. To account for potential confounding factors from differential state trends in COVID-19 outbreak severity and policy response, we also control for the weekly number of new, positive COVID-19 cases per capita in each state and a weekly indicator for whether each state had a stay-at-home order in effect.

To correct for heteroskedasticity in the prescription fill data, the regression is weighted using national retail prescription drug market representative weights [27]. Robust standard errors are clustered at the state level to account for any correlations within state. Regression analyses were performed using the xtreg function in STATA 16.1 [28].

## Results

### *The Impact of Loss of Employment and Employer-Sponsored Insurance*

On average, people who lost their jobs filled significantly fewer prescriptions when they were uninsured compared to when they had ESI (see Figure 1). Overall, loss of employment and insurance translated to an average of 2.6 fewer prescriptions filled annually (population-weighted N = 4,843,944; SE = 282,863). Those who switched from ESI

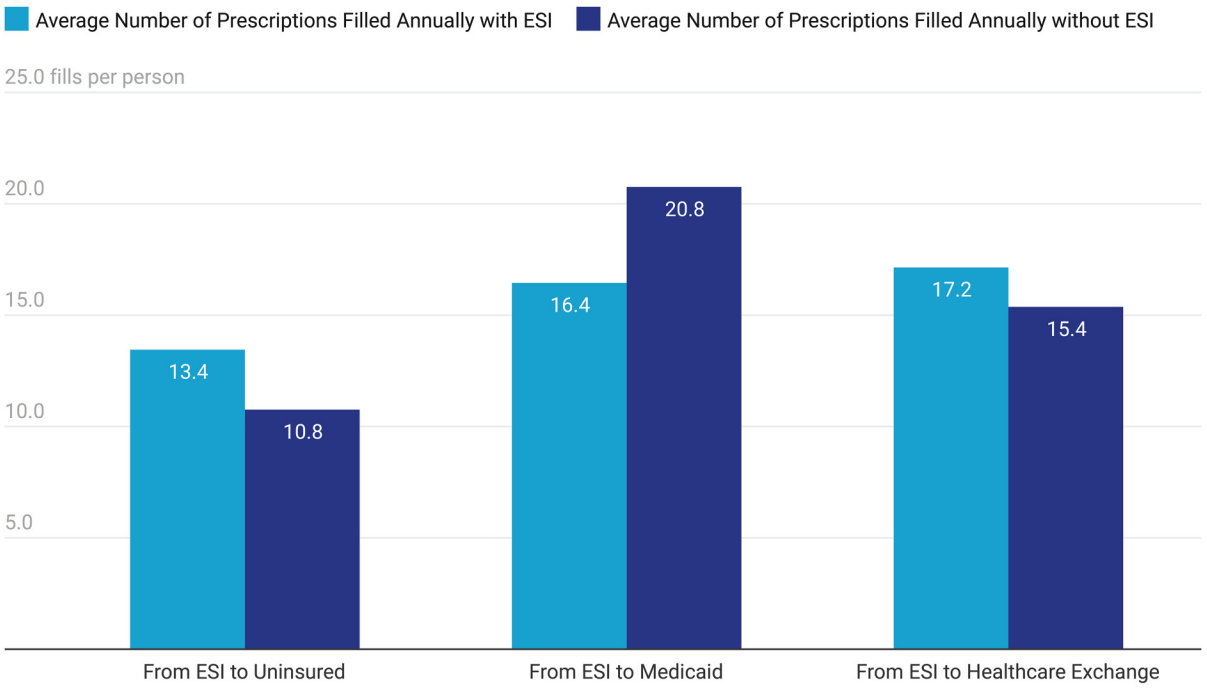



**Figure 1.** Average number of prescriptions filled annually by adults who became unemployed. Source: Authors' analysis of MEPS [16], 2014 to 2017. The average number of prescriptions filled in a year was calculated for the following subpopulations of interest: non-disabled adults under age 65 who experienced at least one employment status change and either: (*a*) had ESI and were uninsured at any time during the study period; (*b*) had ESI and Medicaid separately at any time during the study period; or (*c*) had ESI and a private health care exchange plan separately at any time during the study period. For each subpopulation, the difference between average prescription fills with and without ESI is statistically significant at the 5% level.

to an individually purchased plan (population-weighted N = 738,268; SE = 115,002) also filled significantly fewer prescriptions, averaging 1.8 fewer prescriptions each year.

In addition, those who were uninsured or purchased an individual plan faced significantly higher health care costs after losing their ESI (see Figure 2). Those who became uninsured saw their out-of-pocket cost per prescription increase by 162%, from $18 to $48, while those who switched to an individually purchased plan saw a 79% increase, from $18 to $33. In contrast, unemployed individuals who were able to enroll in the income-based public insurance program Medicaid (population-weighted N = 1,797,427; SE = 169,196) faced lower out-of-pocket costs and filled more prescriptions than when they had ESI.

Because of the increase in out-of-pocket costs, patients who became uninsured or purchased a new plan on the exchange spent more on medication after losing their jobs, despite filling fewer prescriptions. On average, patients who became uninsured spent $271 more each year for their medications, and patients who switched to an individually purchased plan spent $191 more than when they had ESI. It is important to note that this increase in out-of-pocket costs only reflects the cost of prescriptions that were filled. These figures do not reflect the cost of prescriptions that were likely too expensive to fill without ESI. Thus, the true cost of losing ESI is likely even higher than estimated here, especially for the newly uninsured.

Finally, we examined the impact of unemployment on individuals who never had ESI and maintained the same insurance status during the study period (either uninsured, Medicaid, or individually purchased insurance). Their average out-of-pocket costs per prescription were not significantly different, but their prescription drug use decreased significantly when they lost their jobs (see Figure 3). The group that was uninsured before and after losing employment filled 3.1 fewer prescriptions annually when unemployed (population-weighted N = 1,879,388; SE = 150,909). Those who had Medicaid before and after becoming unemployed filled 3.5 fewer prescriptions annually (population-weighted N = 3,912,582; SE = 249,790), and those who had individually purchased insurance before and after becoming unemployed filled two fewer prescriptions annually when unemployed (population-weighted N = 399,950; SE = 66,667). This suggests that income loss from unemployment can also affect health care use—particularly for those who work in occupations that do not provide ESI.

## *The Impact of Rising Unemployment During the COVID-19 Pandemic*

At the start of the pandemic, patients stockpiled their medications in preparation for stay-at-home orders. However, since the initial stockpiling, prescription fills for many drugs have

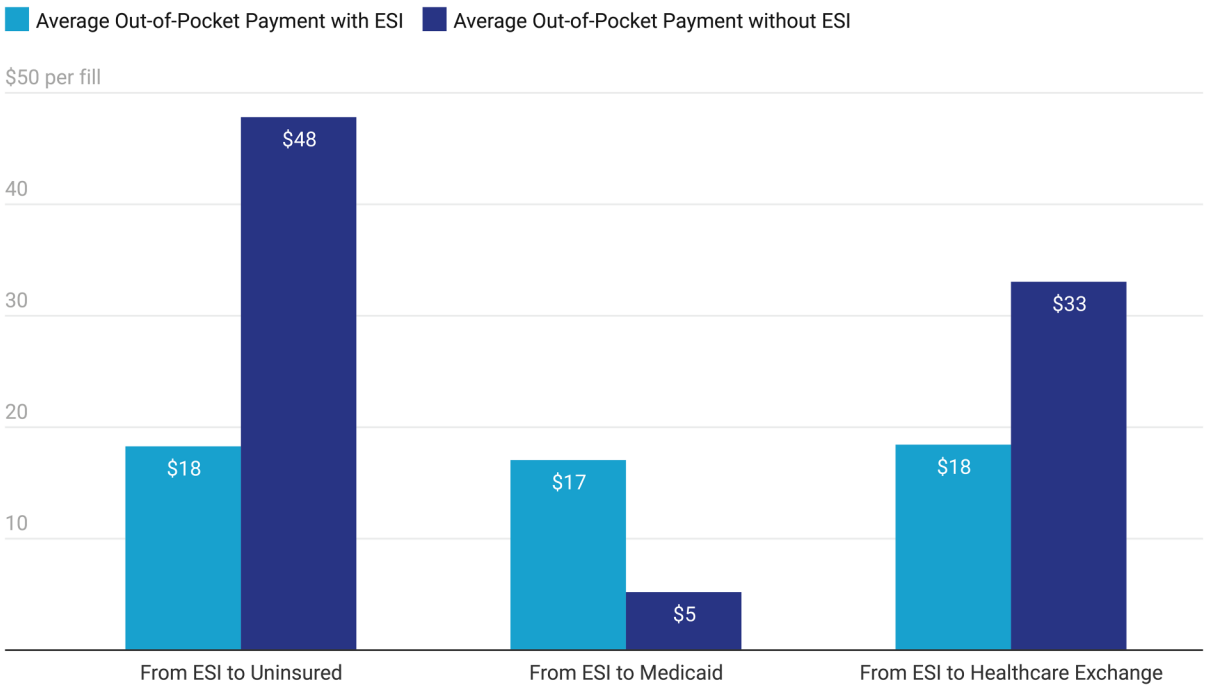



**Figure 2.** Average out-of-pocket cost per prescription paid by adults who became unemployed. Source: Authors' analysis of MEPS [16], 2014 to 2017. The average out-of-pocket cost per prescription was calculated for the following subpopulations of interest: non-disabled adults under age 65 who experienced at least one employment status change and either: (*a*) had ESI and were uninsured at any time during the study period; (*b*) had ESI and Medicaid separately at any time during the study period; or (*c*) had ESI and a private health care exchange plan separately at any time during the study period. For the subpopulation that had ESI and a private health care exchange plan, the difference between average out-of-pocket cost with and without ESI is statistically significant at the 5% level.

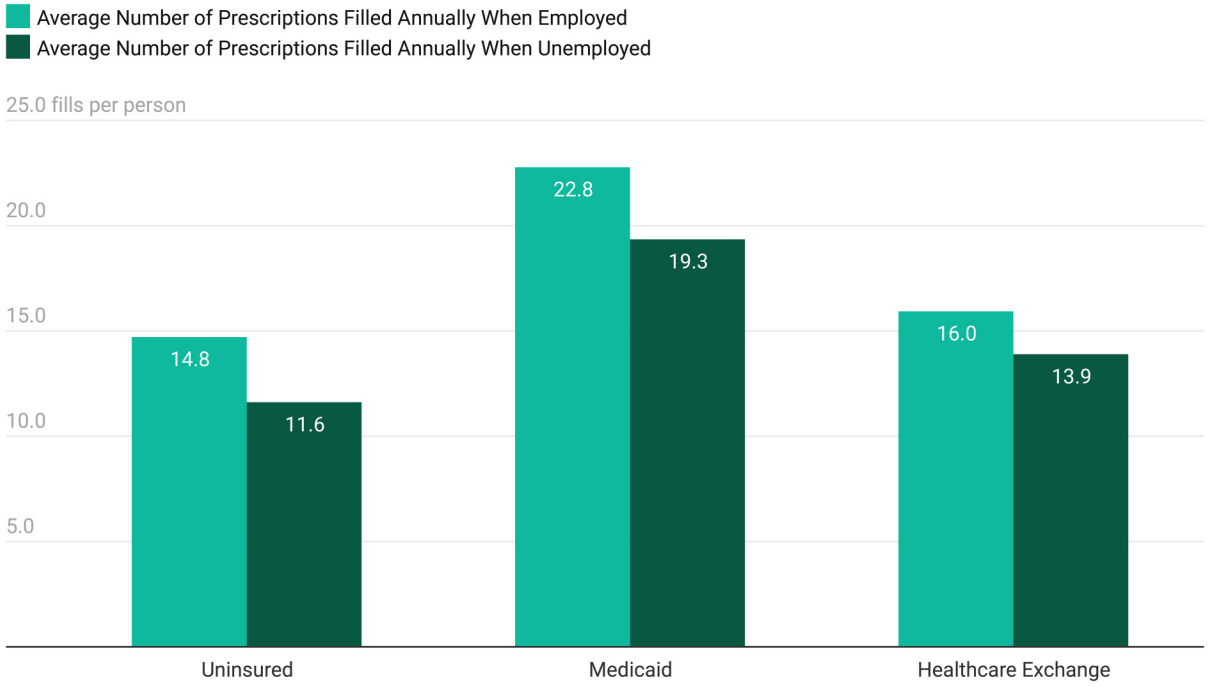



**Figure 3.** Average number of prescriptions filled annually by adults without ESI who became unemployed. Source: Authors' analysis of MEPS [16], 2014 to 2017. The average number of prescriptions filled in a year was calculated for the following subpopulations of interest: non-disabled adults under age 65 who experienced at least one employment status change and either: (*a*) were uninsured the entire study period; (*b*) had Medicaid the entire study period; or (*c*) had a private health care exchange plan the entire study period. For each subpopulation, the difference between average prescription fills when employed and unemployed is statistically significant at the 5% level.

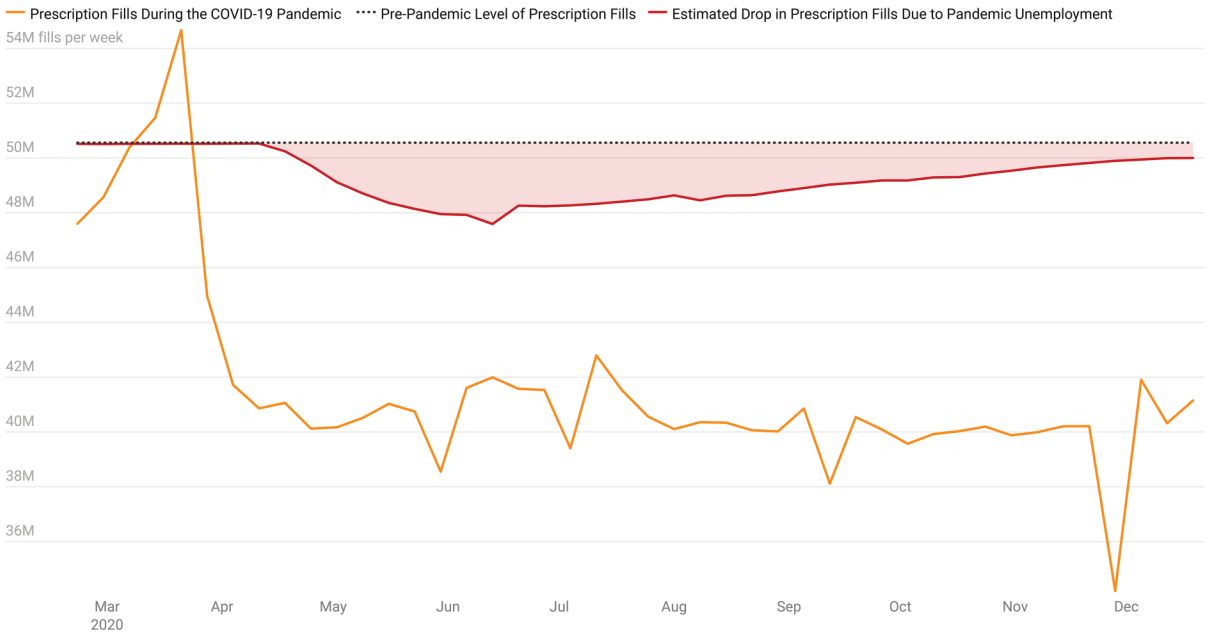



**Figure 4.** Weekly retail prescription fills before and during the COVID-19 pandemic. Weekly retail prescription fills are for a fixed basket of 859 drugs that have been identified as having a stable prescription fill rate over time [19]. Data on the number of retail prescription fills are assigned weights to match prescription data from Kaiser Family Foundation to generate national estimates [27]. Weekly retail prescription fills during the COVID-19 pandemic are measured from February 16, 2020, to December 19, 2020. The pre-pandemic level of prescription fills is measured as average weekly retail prescription fills from February 17, 2019, to December 20, 2019. The estimated drop in prescription fills due to pandemic unemployment is the predicted marginal effect of unemployment on weekly prescription fills, as estimated by the model presented in Table 1.

remained below pre-pandemic levels [29]. In 2020, we estimate that approximately 393 million fewer prescriptions were filled during the COVID-19 pandemic at retail pharmacies (see Figure 4).

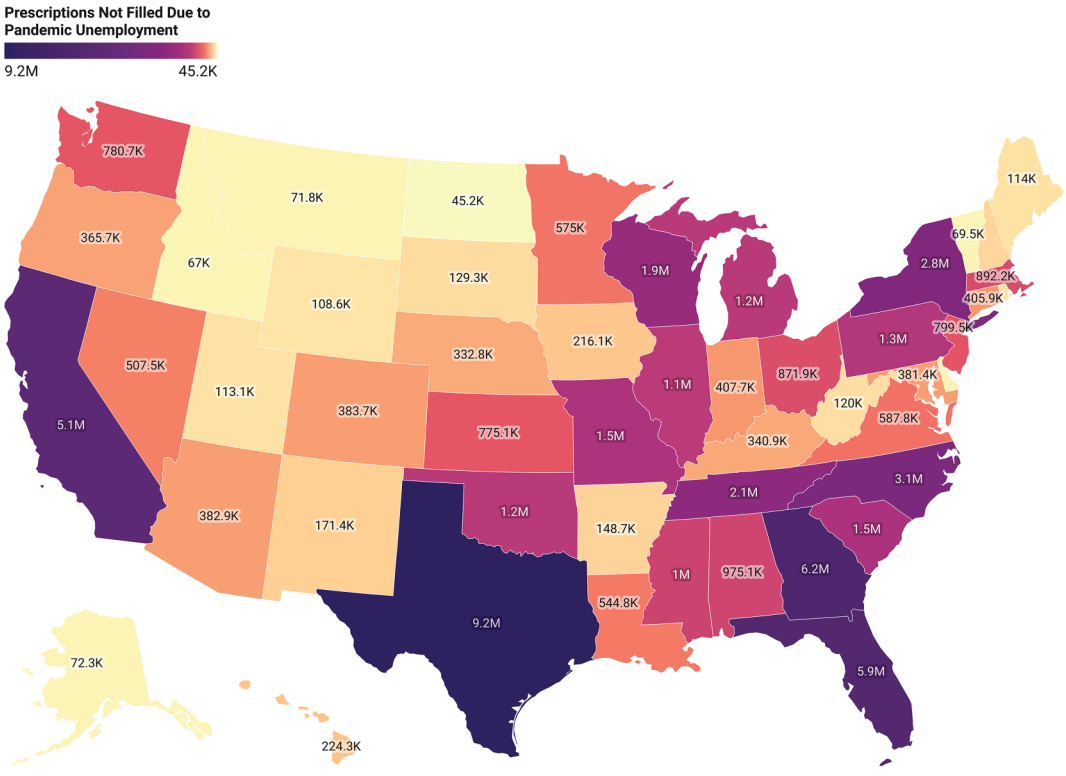
Our panel regression model with two-way fixed effects allows us to separately identify the reduction in prescription fills caused by unemployment from the reduction in prescription fills caused by elective service delays and reduced prevalence of other communicable diseases. Consequently, the estimated unemployment effect reflects the impact of job and insurance loss on health care affordability, rather than the direct impact of pandemic containment policies on the number of prescriptions written.

We find that an increase in unemployment insurance claims has a statistically significant, negative effect on prescription drug use, even after controlling for time- and state-level differences, trends in prescription drug fills, new COVID-19 cases per capita, and changes in state stay-at-home mandates (see Table 1). Overall, there were 57.5 million fewer prescriptions filled between February 16 and December 19, 2020, relative to the same period the prior year, due to higher unemployment (see Figure 5a). This value represents a 2.6% decline in medication adherence, relative to pre-pandemic levels, and accounts for 14.6% of the total drop in prescriptions during this time (see Figure 5b).

At a state level, Texas, Georgia, and Florida saw the largest unemployment-related declines in prescription drug fills over the study period: 9.2 million fewer prescriptions were filled in Texas (a 5.2% decline in medication adherence), 6.2 million fewer prescriptions were filled in Florida (a 8.3% decline in medication adherence), and 5.9 million fewer prescriptions were filled in Georgia (a 4.1% decline in medication adherence). Wisconsin, Oklahoma, and North Carolina were also among the most impacted states, seeing unemployment-related reductions in medication adherence of 5.3% (1.9 million fewer prescriptions filled), 4.6% (1.2 million fewer prescriptions filled), and 4.1% (3.1 million fewer prescriptions filled), respectively.

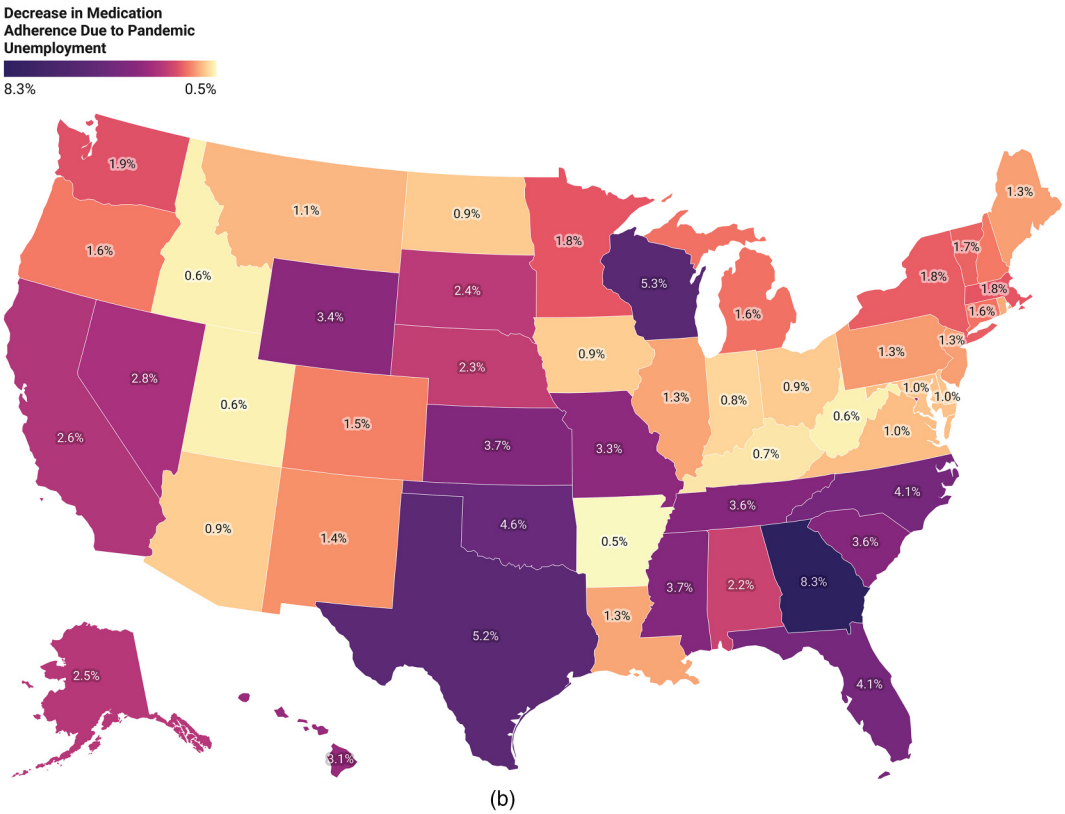
Prior research has found that patients with chronic conditions see the biggest change in medication use after employment loss [30]. Categorizing the drugs in our study as either "high refill" (more than 50% of claims have authorized refills) or "low refill" (less than 50% of claims have authorized refills), we estimate that 86.8% of the unemployment-related decline in prescription fills during the pandemic was for high-refill drugs. These high-refill drugs are used to treat chronic conditions such as diabetes, anxiety and depression, and high cholesterol.

We also find that expanded Medicaid eligibility during the COVID-19 pandemic significantly mitigated the negative effect of unemployment on prescription drug use. In total,




(a)

**Figure 5a.** Total estimated decline in retail prescription drug fills during the COVID-19 pandemic due to increased unemployment: February 16, 2020, to December 19, 2020. Source: Authors' analysis of retail pharmacy claims [19] and unemployment insurance claims [20] (see Table 1).




(b)

**Figure 5b.** Total estimated decline in medication adherence during the COVID-19 pandemic due to increased unemployment: February 16, 2020, to December 19, 2020. Source: Authors' analysis of retail pharmacy claims [19] and unemployment insurance claims [20] (see Table 1). The decline in medication adherence is estimated as the percent decrease in retail prescription fills from February 16, 2020, to December 19, 2020 attributable to increased unemployment (see Table 1 and Figure 5a), relative to the number of retail prescriptions filled from February 17, 2019, to December 20, 2019.

we find that 27.7 million more prescriptions could have been filled during the pandemic had all states expanded Medicaid eligibility to nonelderly adults with incomes up to 138% of the federal poverty level (see Figure 6).

## Discussion

Our findings provide new evidence of the economic impact of the COVID-19 pandemic and contribute to a growing literature on the impact of unemployment and health insurance on health care utilization.

At the individual level, we find that loss of employment and ESI is significantly associated with lower prescription drug utilization. These results are broadly consistent with a 2016 study that found that people who became privately insured filled 28% more prescriptions than when uninsured [31]. We also find that individuals who are able to enroll in Medicaid after losing their ESI do not see the same decline in prescription drug use, consistent with prior research, which finds that Medicaid beneficiaries are less likely than their uninsured counterparts to have unmet health needs, including prescription drugs [32]. In addition to documenting the association between health insurance status and prescription drug use, our analysis also documents the association between employment status and prescription drug use. By examining changes in health care utilization for unemployed individuals who lost ESI as well as unemployed individuals who never had ESI, our findings shed light on both the insurance mechanism and income mechanism through which employment loss can potentially reduce prescription drug use.

At the aggregate level, we find that the rise in unemployment during the COVID-19 pandemic contributed to significantly lower prescription drug utilization, with a larger decline in states without expanded Medicaid eligibility. This suggests that the estimated unemployment-related drop in prescription drug fills during the pandemic could have been nearly halved had all states adopted Medicaid expansion prior to the start of the COVID-19 pandemic in the United States. Our study builds upon previous research that examines the impact of the Great Recession on health insurance coverage [25,33] and prescription drug utilization [34,35]. While previous literature has documented heterogeneous effects of unemployment on prescription fills for a limited number of drug classes [34], we estimate the impact of unemployment on prescription fills for more than 850 medications.

Our study is also one of the first to provide evidence of a causal relationship between unemployment and prescription

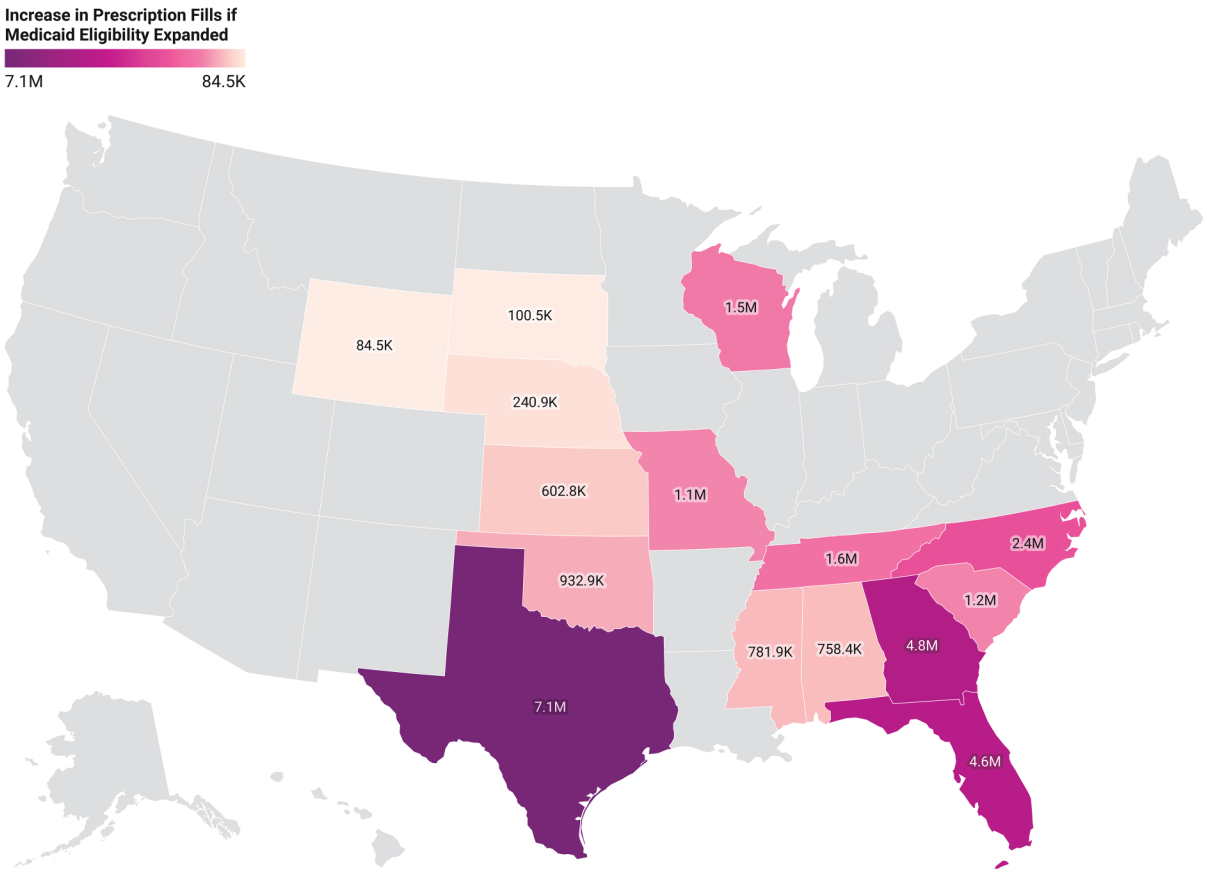



**Figure 6.** Retail prescriptions not filled due to unemployment that could have been filled if all states adopted medicaid expansion: February 16, 2020, to December 19, 2020. Source: Authors' analysis of retail pharmacy claims [19] and unemployment insurance claims [20] (see Table 1). This map shows the total predicted number of retail prescriptions not filled due to unemployment from February 16, 2020, to December 19, 2020 that could have been filled if all states had adopted Medicaid expansion under the ACA.

drug use. The overall decline in prescription fills during the pandemic can be attributed to several factors, including rising unemployment. Stay-at-home orders delayed many non-emergency healthcare services, so providers were seeing fewer patients and, as a result, writing fewer prescriptions. Limited social interactions also helped prevent the spread of other communicable diseases such as seasonal influenza, reducing the need for medication.[36] However, during this period unemployment increased with varied timing and localization due to different prevalence rates and policy responses.[11] As such, the COVID-19 pandemic creates a natural experiment in which we can exploit weekly and state-level variation in unemployment to isolate the impact of unemployment on prescription drug use from other confounding factors.

Overall, our findings elucidate the linkages between the economic cost and health cost of the COVID-19 pandemic. Researchers have projected the economic cost of the pandemic to exceed $16 trillion as of the fall of 2021, based on reduced economic production; value of statistical lives lost due to premature deaths and long-term health impairments associated with COVID-19; and the cost of treating new, pandemic-related cases of mental health conditions alone [37]. On top of these direct economic costs and morbidity and mortality costs, we find that pandemic-related unemployment significantly reduced medication adherence, including prescriptions for chronic conditions. Lower medication adherence, especially for chronic conditions, can result in not only poor health outcomes, but also avoidable health care costs in the future [38]. These downstream effects suggest an even greater economic cost associated with the pandemic.

There are limitations to our analyses worth noting. While the panel survey design employed in our study allows us to observe individual health care costs and utilization during each phase of employment and insurance status, our analysis does not control for selection into each phase. To the extent that changes in underlying prescription drug needs could be associated with employment and insurance status changes, our analysis only reflects observed associations, rather than causal impacts at the individual level.

Our results are also limited in that we only observe prescriptions filled, not necessarily prescriptions taken, and therefore do not capture other nonadherent behaviors such as rationing doses. In our aggregate analysis, we also do

**Table 1.** Estimated Effect of Unemployment Insurance Claims on Retail Prescription Drug Fills During the COVID-19 Pandemic.

| Explanatory Variables | Coefficient | Robust SE | p-value |
|---|---|---|---|
| 4-week lagged weekly unemployment insurance claims | −0.2761*** | 0.0816 | 0.001 |
| (4-week lagged weekly unemployment insurance claims) × (Medicaid expansion state indicator) | 0.2148*** | 0.0788 | 0.009 |
| Stay-at-home mandate indicator | −25,173.09** | 9873.31 | 0.014 |
| New positive COVID-19 cases per capita | 83.3030** | 41.5576 | 0.05 |
| Week fixed effects | Yes | | |
| State fixed effects | Yes | | |
| Sample size | 2244 | | |
| R-squared (within) | 0.4684 | | |
| R-squared (between) | 0.6083 | | |

*** indicates statistical significance at the 1% level.

** indicates statistical significance at the 5% level.

State-level weekly prescription fills are measured by the number of prescriptions filled over a given time period at retail pharmacies in a given state for a fixed basket of 859 drugs that have been identified as having a stable prescription fill rate over time[19]. Data on the number of retail prescription fills are assigned weights to match prescription data from Kaiser Family Foundation to generate national estimates [27]. Weekly state unemployment insurance claims are measured as the sum of initial and continued traditional, unadjusted unemployment insurance claims from the U.S. Department of Labor [20]. Pandemic unemployment assistance claims are excluded because the program was not available prior to the study period. Medicaid expansion status during the study period is sourced from Kaiser Family Foundation [21]. Stay-at-home mandate timing is sourced from the state reopening policy database from Fullman and colleagues [24] (2020). New positive COVID-19 cases per capita are calculated using data from the COVID Tracking Project [22] and the 2018 American Community Survey five-year total population estimates [23]. Coefficients are estimated in a weighted least squares regression, using national retail prescription drug market representative weights. Robust standard errors are clustered at the state level to account for any correlations within state.

not separately identify the mechanisms (ie, ESI loss vs income loss) through which unemployment impacts prescription drug use; rather, our results should be interpreted as the net effect of increased unemployment on prescription drug use. Further, our analysis does not control for national emergency relief measures during the study period, such as direct income subsidies and the expansion of unemployment insurance [14,15]. To the extent that these programs mitigate income loss, the negative impact of pandemic unemployment on medication use may be even greater upon expiration of these programs. Finally, while we control for static state-level differences and national trends with two-way fixed effects, as well as state-specific trends in COVID-19 prevalence and policy responses, there may still be other unobservable differences in state time trends not available in our dataset. While this may be a limitation, to bias our results, these unobservable differential trends would need to be correlated with both changes in prescription drug utilization and changes in unemployment during the pandemic.

Looking toward policy solutions, we find that better access to social safety nets such as Medicaid can help smooth health care consumption during a negative economic shock such as unemployment. Our findings are consistent with previous literature studying the role of Medicaid during economic downturns [25,39]. Given that unemployment affects medication adherence through increased out-of-pocket costs, policy solutions should focus on the patients most vulnerable to cost-related nonadherence. In particular, low-income workers have suffered disproportionately high job losses due to the pandemic [40], with many of these workers also disproportionately losing their health insurance [41,42]. Policies that ensure uninterrupted health care coverage for the most vulnerable are critical to preventing compounding health issues during and beyond this pandemic.

Ultimately, the health of a country's economy should not determine the health of its people. In a country where half of the population's health insurance is tied to employment, a sudden increase in job loss can have a significant and lasting impact on health care. Our findings underscore the pandemic's far-reaching impact on health, as well as the importance of social safety nets such as Medicaid during times of economic hardship.

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These analyses are based on a representative sample of U.S. pharmacy claims and not based on GoodRx transactions.

## Notes on contributors

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## Declaration of Conflicting Interests

The author(s) declared the following potential conflicts of interest with respect to the research, authorship, and/or publication of this article: The authors are employees of GoodRx. The authors received no specific grant or additional compensation for the research, authorship, and/or publication of this article.

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