## Changes in Employment Status and Access to Care During COVID-19 Pandemic Among Low-Income Adults in 4 Southern States



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**BACKGROUND:** While the impact of the COVID-19 recession on the economy is clear, there is limited evidence on how the COVID-19 pandemic-related job losses among low-income people may have affected their access to health care.

**OBJECTIVE:** To determine the association of job loss during the pandemic with insurance coverage and access to and affordability of health care among low-income adults. **DESIGN:** Using a random digit dialing telephone survey from October 2020 to December 2020 of low-income adults in 4 states—Arkansas, Kentucky, Louisiana, and Texas—we conducted a series of multivariable logistic regression analyses, adjusting for demographics, chronic conditions, and state of residence.

**PARTICIPANTS:** US citizens aged 19–64 with a family income less than 138% of the federal poverty line who became newly unemployed during pandemic, remained employed during pandemic, or were chronically unemployed before and during the pandemic.

**MAIN MEASURES:** Rates of insurance, type of insurance coverage, measures of access to/affordability of care, and food/housing security

**KEY RESULTS:** Of 1,794 respondents, 14.5% were newly unemployed, 49.6% were chronically unemployed, and 35.7% were employed. The newly unemployed were slightly younger and more likely Black or Latino. The newly unemployed were more likely to report uninsurance compared to the employed (+16.4 percentage points, 95% CI 6.0–26.9), and the chronically unemployed (+26.4 percentage points, 95% CI 16.2–36.6), mostly driven by Texas' populations. The newly unemployed also reported lower rates of access to care and higher rates of financial barriers to care. They were also more likely to report food and housing insecurity compared to others.

**CONCLUSIONS:** In a survey of 4 Southern States during pandemic, the newly unemployed had higher rates of uninsurance and worse access to care—largely due to financial barriers—and reported more housing and food insecurity than other groups. Our study highlights the vulnerability of low-income populations who experienced a job loss, especially in Texas, which did not expand Medicaid.

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#### INTRODUCTION

The COVID-19 pandemic has been devastating, leading to unprecedented, interrelated health and economic crises globally. In the United States (US), in addition to over 33 million COVID-19 cases and over 600,000 deaths to date, the unemployment rate rose from 3.5% in February 2020 to 14.8% in April 2020, the highest rate ever recorded since collection began in 1948. While the unemployment rate has steadily improved during the first half of 2021, it continues to be higher than any monthly rate recorded in the past 5 years. This grave economic recession is likely due to several factors including the loss of jobs in services deemed non-essential, a decline in consumer demand driven by individuals' fear of contracting COVID-19, and prior state-level stay-at-home orders and business closure mandates. 3–5

While the huge impact of the COVID-19 recession on the economy and rates of unemployment is clear, we have limited evidence of how the pandemic-related job losses among lowincome people affected their insurance coverage, their access to and affordability of care, and, importantly, their food and housing security. Prior evidence has shown that employment status and health status are inter-linked, as employment may have substantial effects on social, psychological, and financial well-being. Widespread layoffs also threaten health coverage of millions of individuals with employer-sponsored insurance, which may subsequently lead to difficulty paying for necessary medical care. In the long run, job loss may have stronger effects on health, especially among those who were laid off unexpectedly. These concerns are much greater among lowincome individuals, as the majority of jobs lost in the pandemic have been in industries that employ low-skilled workers and pay below average wages.8

In this paper, we used an ongoing survey of four Southern States (Arkansas, Kentucky, Louisiana, and Texas) to capture information on employment status, insurance coverage, access to care, and housing/food insecurity among low-income populations. We sought to answer three key questions. First, what were the characteristics of low-income people who became newly unemployed during the COVID-19 pandemic? Second, how did insurance coverage and access to care differ among the newly unemployed compared to those were employed or chronically unemployed for the past 2 years? Finally, were there substantial differences in the financial and non-financial barriers to care and problems with food and housing security among low-income people who became newly unemployed compared to those who were employed or chronically unemployed?

#### **METHODS**

## Study Design and Sample

We used the results of an ongoing survey of low-income adults residing in four Southern States: Arkansas, Kentucky, Louisiana, and Texas. 9–12 Three of the four states (all except Texas) have expanded their Medicaid program under the Affordable Care Act. The survey we report on here was conducted between October 5, 2020, and December 23, 2020, by the vendor, Social Science Research Solutions (SSRS). The survey included both cellphone and landline users in random digit dialing, and was available in English and Spanish. For more details of survey methodology, please see Appendix Exhibit 1.

The inclusion criteria for survey included the following: people between the ages of 19–64, US citizens, and a family income of less than 138% of the Federal Poverty Level (FPL) based on their income in 2019 (given that survey was conducted in 2020 and people did not have a full year of income to report yet). Texas and Louisiana were oversampled to ensure adequate sample sizes for Black and Latino respondents. Analyses were weighted to produce state-level population estimates using population benchmarks from the American Community Survey (ACS) for age, gender, race/ethnicity, marital status, geographic region within state, and population density.

## **Survey Outcomes**

The survey inquired about employment status (employed in 2020 at the time of the survey, unemployed in 2020 but employed in the year prior during same month of 2019, and unemployed in both 2020 at time of the survey and also in 2019 during the same month of survey. For simplicity, we refer to the latter group as "chronically unemployed."). Among those newly unemployed, the survey ascertained the reason for job loss, including because they became sick, or employer permanently eliminated job or went out of business, furloughed, needed to care for children not in school or daycare, or stopped working due to fear of getting COVID-19. The survey elicited information on the type of health coverage

respondents had and measures of their access to health care. For type of coverage, measures included proportion of people who are uninsured or have Medicaid or Marketplace insurance, employer-sponsored insurance, or other health insurance at the time of the interview. Measures of health care access included whether respondents had a usual source of care (not including the emergency department), a personal doctor, and access to telehealth, and had regular care for chronic conditions (which was limited to those reporting common chronic conditions, including hypertension, coronary artery disease, asthma, chronic obstructive pulmonary disease (COPD), depression/anxiety, cancer, or substance use disorder). Of note, usual source of care referred to the particular doctor's office, clinic, health center, or other location a person usually goes to seek care when needed. Please see Appendix Exhibit 2 for the specific wording of each survey question. Insurance status and employment status were based on respondents' current state at the time of interview.

Additional outcomes included whether respondents experienced delays in care due to financial vs. non-financial barriers. Delaying care due to costs, skipping medications due to cost, and trouble paying medical bills were ascertained as indicators of financial barriers. Non-financial barriers included delays in care for reasons other than cost, including fear of contracting COVID-19, doctor's office was closed, no access to telehealth, did not want to use public transportation, or too busy with work or taking care of family. Respondents were allowed to choose more than one response. For these questions, respondents were asked in reference to the last 12 months from the time of interview.

### **Analysis**

We first showed characteristics of respondents across three groups: those who were employed in 2020 at the time of the survey, those who were newly unemployed in 2020 but were employed the year before, and those who were chronically unemployed in 2020 and the year before. Means and rates were compared between the newly unemployed and each of the other two groups using 95% confidence intervals based on t-tests and Wald's tests for rate differences, respectively. Among the newly unemployed, we examined a series of different potential reasons for job loss and report their prevalence. We then conducted multivariable logistic regression analyses, with the type of health insurance coverage and each health care access measure as separate outcomes. The primary comparisons were comparisons between the newly unemployed and the currently employed, and between the newly unemployed and the chronically unemployed (reported being unemployed 1 year before the survey in 2019 and at the time of the survey in 2020). Odds ratios were converted to predicted probabilities using marginal standardization for ease of interpretability. Models were adjusted for age, gender, race and ethnicity, education, marital status, urban vs. rural residence, presence of chronic conditions, and state of residence.

Next, we examined differences in non-financial and financial barriers to care and also responses to questions on food and housing security. We again repeated a series of multivariable logistic regression analyses with each barrier or insecurity as the dependent variable, and comparisons between newly unemployed and employed respondents, and beween newly unemployed and chronically unemployed respondents as the primary predictors. Models were adjusted for age, gender, race and ethnicity, education, marital status, urban vs. rural county, presence of chronic conditions, and state of residence. Finally, we repeated the models above separately for Texas (state that did not expand Medicaid) and then for Arkansas, Kentucky, and Louisiana combined (states that expanded Medicaid) to assess for potential differences by Medicaid expansion status.

All analyses were weighted using weights supplied by SSRS to account for the survey design (e.g., oversampling of low-income counties) and for survey nonresponse. For each of the four survey states, the American Community Survey was used to estimate the size of population subgroups by age, gender, race/ethnicity, marital status, geographic region within the state, and the population density of respondents' counties. The sample in each state was then weighted to match Census parameters using iterative proportion fitting, or raking. This process ensures that the marginal distribution of the sample reflects the known distribution of these parameters in the target population. Weights were normalized so that the weighted sample size equated the original respondent size. See Appendix Exhibit 1 for further details on survey design, weighting, and response rates.

This study was approved by our university's Institutional Review Board. All analyses were performed using STATA (Version 14.2). Given the descriptive nature of this study, *p*-values were not calculated but 95% confidence intervals are shown for all results.

#### **RESULTS**

## Sample Characteristics

The sample included 1,794 respondents in 2020, for an overall response rate of 9%. There were 641 (35.7%) respondents who reported being employed in 2020, 889 (49.6%) respondents who were unemployed in both 2019 and 2020, and 264 respondents (14.7%) who were newly unemployed in 2020.

Table 1 shows respondent characteristics by employment status and differences in proportions with 95% confidence intervals (CI) between newly unemployed and employed and between newly unemployed and chronically unemployed, unadjusted for covariates. The chronically unemployed were more likely to be older, of White race, and less educated; live in rural areas; and report the presence of more chronic conditions than those who were newly unemployed in 2020. The proportions of female and male respondents were similar across the three groups. The chronically unemployed had higher prevalence of most chronic conditions than the other

two groups, except for issues of alcoholism or drug addiction which was higher among the newly unemployed group. Between the newly unemployed and employed, the newly unemployed had similar mean age, gender distribution, and proportions living in rural areas. The newly unemployed though were more likely to be Latino, less likely to have some college, and less likely to be married or living with a partner compared to the employed. The newly unemployed also had higher prevalence of most chronic conditions compared to the employed.

Reasons for unemployment are shown in Appendix Exhibit 3, unadjusted for covariates. The majority of newly unemployed (68.1%) reported stopping work in 2020 due to a reason related to the coronavirus pandemic. Main reasons included their employer completely eliminating their job or going out of business (18.2%), being furloughed (14.4%), caring for children not in school or daycare (8.0%), becoming sick (6.8%), and choosing to stop working because of being afraid of getting COVID-19 (6.4%).

## Health Insurance Coverage and Access to Care

Table 2 presents weighted, adjusted prevalence rates of health insurance coverage and measures of access to health care. Newly unemployed individuals were more likely to report uninsurance (45.4%) compared to the employed (29.0%) and chronically unemployed (19.0%). Adjusted differences in the proportion of people with uninsurance between newly unemployed and employed were +16.4 percentage points (95% CI 6.0, 26.9) and +26.4% (95% CI 16.2, 36.6) between the newly unemployed and the chronically unemployed. Newly unemployed were also less likely to report having Medicaid relative to the chronically unemployed (-21.7 percentage points, 95% CI -30.8, -12.6) and less likely to have employer-sponsored insurance compared to the employed group (-20.2 percentage points, -27.0, -13.4).

There were no significant differences in measures of access to care among the newly unemployed relative to those who were currently employed at the time of the survey in 2020. However, compared to those who were chronically unemployed, the newly unemployed were less likely to report having a personal doctor (-15.8 percentage points, 95% CI -26.4, -5.2), having a usual source of care (-11.3 percentage points, -21.4, -1.2), and receiving regular care for their chronic condition (-14.2 percentage points, 95% CI -26.9, -1.6), and were less likely to have used telehealth (-10.1 percentage points, 95% CI -19.3, -0.8).

We repeated the analyses stratifying by Medicaid expansion status (Appendix Exhibit 4). Overall results appear to be driven by responses in Texas, where the newly unemployed are more likely to report being uninsured compared to the employed (+26.2 percentage points, 95% CI 12.3, 40.1) and the chronically unemployed (+36.2 percentage points, 95% CI 22.4, 50.0). However, in the states that expanded Medicaid,

Respondent characteristics	Employed (n=641)	Newly unemployed (n=264)	Chronically unemployed (n=889)	Newly unemployed vs. employed: Difference (95% CI)	Newly unemployed vs. chronically unemployed: Difference (95% CI)			
Age								
–Mean (SD)	50.0 (9.2)	51.0 (8.9)	53.4 (8.7)	1.0 (-0.3, 2.2)	-2.4 (-3.6, -1.2)			
Race/ethnicity								
-White non-Latino	34.9%	38.6%	46.7%	3.7% (-3.3, 10.7)	-8.0% (-14.8, -1.3)			
–Latino	32.0%	22.7%	17.0%	-9.3% (-15.2, -3.3)	5.7% (0.02, 11.5)			
-Black non-Latino	27.3%	31.1%	26.8%	3.8% (-2.6, 10.2)	4.3% (-1.8, 10.4)			
-Other	5.8%	7.6%	9.6%	1.8% (-2.1, 5.7)	-2.0% (-5.7, 1.7)			
Education								
<ul> <li>Less than high school degree</li> </ul>	15.8%	17.0%	30.8%	1.3% (-4.7, 7.3)	-13.8% (-19.5, -8.0)			
-High school graduate	35.6%	41.7%	37.7%	6.1% (-0.8, 13.0)	4.0% (-2.7, 10.6)			
-Some college	48.7%	41.3%	31.5%	-7.4% (-14.3, -0.5)	9.8% (3.2, 16.4)			
Other variables								
–Female	57.6%	55.7%	57.3%	-1.9% (-9.0, 5.2)	-1.6% (-8.4, 5.2)			
-Married or living with partner	41.5%	34.5%	32.4%	-7.0% (-13.9, -0.2)	2.1% (-4.5, 8.6)			
-Spanish interview	5.1%	6.8%	4.8%	1.7% (-1.5, 4.9)	2.0% (-1.1, 5.0)			
–Rural	32.3%	35.2%	45.0%	2.9% (-4.0, 9.9)	<b>-9.8%</b> ( <b>-16.4</b> , <b>-3.1</b> )			
Chronic conditions								
-High blood pressure	30.6%	40.5%	56.7%	10.0% (3.0, 16.9)	-16.2% (-22.8, -9.5)			
-Cardiovascular disease	4.7%	7.6%	20.1%	2.9% (-1.8, 7.6)	$-12.6\% \ (-17.0, -8.1)$			
-Lung disease	17.8%	21.2%	34.0%	3.4% (-2.8, 9.6)	-12.8% (-18.7, -6.8)			
-Depression or anxiety	32.3%	46.6%	53.3%	14.3% (7.3, 21.3)	-6.7% (-13.4, -0.02)			
-Diabetes	9.4%	19.3%	34.8%	10.0% (4.1, 15.8)	-15.4% (-21.0, -9.8)			
-Cancer, excluding skin cancer	2.3%	3.8%	8.2%	1.4% (-1.8, 4.7)	-4.4% (-7.5, -1.3)			
-Alcoholism or drug addiction	4.2%	9.5%	5.2%	5.3% (2.0, 8.5)	4.3% (1.2, 7.4)			

Notes: Results are survey weighted. Tests were not adjusted for subject characteristics in this table. Cardiovascular disease included history of heart attack, coronary artery disease, or hear failure. Lung disease included history of asthma, chronic bronchitis, chronic obstructive pulmonary disease, or emphysema. Differences with 95% CIs are bolded if they did not cross zero

there was no statistically significant difference in rates of uninsurance between the newly employed and chronically unemployed or between the newly employed and the currently employed.

# Financial and Non-financial Reasons for Delaying Care

Table 3 presents weighted, adjusted prevalence rates of financial- and non-financial-related barriers to care. Compared to the chronically unemployed, the newly unemployed were much more likely to report skipping medications due to cost,

trouble paying medical bills, and general cost-related delays in care. Newly unemployed were also more likely to report having trouble paying medical bills compared to the employed. The results suggest similar patterns for other financial barriers to care, but the differences were of smaller magnitude when comparing newly unemployed to those who were employed and did not reach statistical significance. There were also no substantial differences in non-financial barriers between the newly unemployed and those who were employed or chronically unemployed (except for higher rate of not wanting to use public transportation among the newly unemployed compared to the employed, which may be affected by

Table 2 Adjusted Differences in Coverage and Access to Care by Employment Status During COVID Pandemic

	Employed in 2020	Newly unemployed	Chronically unemployed	Newly unemployed vs. employed	Newly unemployed vs. chronically unemployed
				Difference (95% CI)	Difference (95% CI)
Coverage					
Uninsured	29.0%	45.4%	19.0%	16.4% (6.0, 26.9)	26.4% (16.2, 36.6)
Medicaid or marketplace	34.3%	35.6%	57.5%	1.3% (-7.7, 10.3)	-21.7% (-30.8, -12.6)
Employer-sponsored insurance	26.3%	6.1%	4.1%	-20.2% (-27.0, -13.4)	2.0% (-3.0, 7.0)
Other health insurance	9.2%	13.6%	18.2%	4.4% (-2.9, 11.7)	-4.6% (-12.1, 2.9)
Access to care					
Has a personal doctor	43.1%	43.1%	58.9%	0.0% (-10.8, 10.9)	-15.8% (-26.4, -5.2)
Usual source of care	73.0%	67.0%	78.3%	-6.0% (-16.3, 4.3)	-11.3% $(-21.4, -1.2)$
Regular care for chronic condition	55.8%	56.8%	71.0%	1.0% (-12.8, 14.9)	-14.2% $(-26.9, -1.6)$
Used to telehealth	26.6%	23.5%	33.6%	-3.1% (-12.3, 6.2)	-10.1% (-19.3, -0.8)

Note: Results show survey-weighted logistic regression results adjusting for age, sex, race/ethnicity, marital status, education, urban vs. rural residence, presence of chronic conditions, and state. Odds ratios were converted to predicted probabilities using marginal standardization for ease of interpretability. Adjusted differences with 95% CIs are bolded if they did not cross zero

Barriers to health care	Employed	Newly unemployed	Chronically unemployed	Newly unemployed vs. employed	Newly unemployed vs. chronically unemployed
				Difference (95% CI)	Difference (95% CI)
Barriers related to costs	,				
Skipped Medication Due to Cost	24.5%	32.8%	15.1%	8.3% (-2.7, 19.4)	17.7% (7.7, 27.8)
Trouble paying medical bills	27.3%	43.2%	22.9%	15.9% (5.5, 26.3)	20.3% (10.4, 30.2)
Cost-related delay in care	35.2%	39.4%	23.1%	4.2% (-7.0, 15.4)	16.3% (5.8, 26.8)
Barriers not related to costs					` ' '
Delays in care for reasons other than cost	15.8%	19.2%	13.8%	3.5% (-6.8, 13.8)	5.4% (-4.1, 14.9)
Fear of contracting COVID	7.3%	9.4%	8.9%	2.1% (-4.9, 9.2)	$0.6\% \ (-5.8, 7.0)$
Doctor's office closed	5.4%	2.6%	3.9%	-2.8% (-6.4, 0.9)	-1.3% (-4.1, 1.5)
No access to telehealth	2.0%	6.4%	3.3%	4.4% (-1.9, 10.7)	3.1% (-2.6, 8.8)
Did not want to use public transportation	1.8%	6.1%	2.7%	4.3% (0.1, 8.5)	3.4% (-1.0, 7.7)
Too busy with work/family	8.6%	5.8%	2.0%	-2.8% (-8.6, 2.9)	3.8% (-0.9, 8.5)

Note: Results show survey-weighted logistic regression results adjusting for age, sex, race/ethnicity, marital status, education, urban vs. rural residence, presence of chronic conditions, and state. Odds ratios were converted to predicted probabilities using marginal standardization for ease of interpretability. Adjusted differences with 95% CIs are bolded if they did not cross zero

higher prevalence of public transportation use among the newly unemployed).

## Food and Housing Hardships

Figure 1 shows weighted, adjusted prevalence rates of food and housing insecurity during the pandemic by employment status. Newly unemployed individuals reported higher proportions of being recently evicted or likely having to leave their current home (19.3%) compared to those who were employed (6.7%) or chronically unemployed (6.2%). The adjusted difference for housing insecurity between newly unemployed and employed was +12.5 percentage points (95% CI 4.1, 21.0) and +13.1 percentage points (95% CI 4.4, 21.4) between the newly unemployed and chronically unemployed. Odds ratio of reporting housing insecurity between newly unemployed and employed was 3.63 (95% CI 1.72, 7.65) and 4.04 (95% CI 2.01, 8.14). Newly unemployed were also more likely to report experiencing food insecurity by stating that they sometimes or often did not have enough to eat in the past year of the pandemic (28.3%) compared to those who were employed (18.4%) or chronically unemployed (17.2%). Adjusted differences for food insecurity between newly unemployed and employed were +9.8% (-0.5, 20.2) and +11.0% (95% CI 1.2, 20.9) between newly unemployed and chronically unemployed. Odds ratio of reporting food insecurity was 1.79 (95% 1.01, 3.16, p=0.046) between the newly unemployed and employed and 1.95 (95% 1.13, 3.36) between newly unemployed and chronically unemployed.

## **DISCUSSION**

In a survey of low-income adults residing in four Southern States, we found that approximately half of the respondents had been unemployed for the last 2 years and another 15% had become unemployed coincident with the pandemic, while

36% were employed at the time of the survey. We also found important differences in the demographics and type of insurance coverage by employment status. People who recently experienced a job loss during the COVID-19 pandemic were more likely to be uninsured and much less likely to have Medicaid than those who were chronically unemployed, driven particularly by people living in the non-Medicaid expansion of Texas. The newly unemployed were also far less likely to report having regular access to care and much more likely to report financial-related barriers to care compared to those who were chronically unemployed, the majority of whom had access to insurance. Concerns about housing and food insecurity were also much greater among the newly unemployed than among other groups.

The high rate of uninsurance among the newly unemployed highlights the fragility of health coverage in the American health care system, in which a majority of the population is covered by employer-sponsored insurance. While the Consolidated Omnibus Budget Reconciliation Act (COBRA) of 1985 was intended to help former employees and their dependents retain insurance coverage following the loss of a job, the fact that individuals must pay 102% of the full premium cost, which includes the employee share and the employer share, has led to very low levels of COBRA use, especially among low-income populations. 13,14 Prior research has also found that low-income populations are less willing to spend their available income on health insurance coverage in the presence of food and housing hardships, which we found were more prevalent among the newly unemployed group. 15,16 This was particularly important in 2020 at the time of our survey given that the American Rescue Plan and assistance with COBRA premium assistance did not happen until April 2021 to the end of September 2021.

Another cause for concern is the seemingly low uptake of Medicaid or Marketplace insurance among our study's newly unemployed population in the state of Texas, especially when

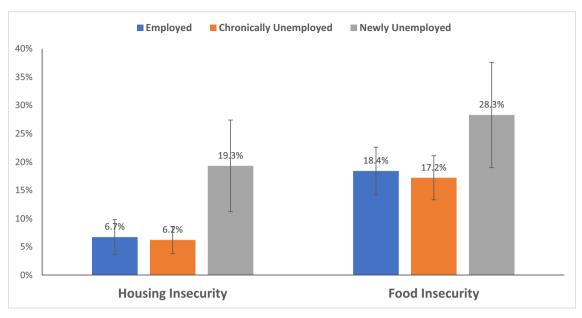


Figure 1 Food and housing insecurity by employment status. Note: Results show survey-weighted logistic regression results adjusting for age, sex, race/ethnicity, marital status, education, urban vs. rural residence, presence of chronic conditions, and state. Adjusted point estimates and 95% CIs are provided.

compared to people who have been chronically unemployed, of whom two-thirds obtained coverage through the Medicaid program or ACA exchanges. These data underscore the importance of targeting relief and safety net policies towards populations who recently lost their job and health insurance. Even before the pandemic, an estimated 450,000 people per month transitioned from employer-sponsored insurance to being uninsured.<sup>17</sup> It is possible that many individuals who may be eligible for Medicaid or ACA exchanges may face significant delays in confirming their eligibility and receiving benefits. While many states implemented strategies and policies during the pandemic to simplify the eligibility and enrollment process, early evidence suggests that these have had little to no effect in improving Medicaid enrollment. 18-20 One potential strategy to protect people from uninsurance is to promote automatic enrollment for eligible individuals as they exit the employer-based coverage system if a no premium plan exists. State unemployment insurance agencies, for example, can help eligible, newly unemployed people automatically enroll in the ACA exchanges or Medicaid.<sup>2</sup>

Findings of this study were particularly driven by low-income people living in the state of Texas, which currently have limited insurance options since the state did not expand Medicaid. In the other 3 states, all of which have expanded Medicaid, it appears that the newly unemployed were protected from significant loss of insurance. These results high-light the importance of protecting low-income people through expansion of insurance options. In prior work, Blacks and Latinos were more likely to be protected from loss of insurance during the pandemic if they lived in a state that expanded Medicaid. Nationally, the number of people in Medicaid has increased, especially among the states that expanded Medicaid. Currently, however, there are 12 states that have chosen

not to expand Medicaid, resulting in about 2.2 million people who fall in this Medicaid coverage gap, of which the largest proportion (35%) reside in Texas. Medicaid expansion is one solution to help these vulnerable low-income people. Another option is currently under consideration by Congress in the Build Back Better (BBB) Act, which includes federal subsidies for eligible people to sign up for insurance coverage with a private insurer similar to how people enroll in the ACA exchanges.

Prior work has found that involuntary job loss is associated with significantly poorer self-rated health, anxiety, and depression. <sup>23,24</sup> In our findings, we similarly observed higher proportions of people with depression and anxiety among both unemployed groups, although the proportion of people with substance abuse was higher among the newly unemployed than among the chronically unemployed. However, given that this is a cross-sectional study, we are not able to determine whether symptoms of depression or anxiety came before or after the job loss.

Interestingly, we found that people were unemployed in 2019 and 2020, the majority of which who have Medicaid insurance reported better access to care measures than those who were employed in 2020. It is possible that these chronically unemployed people may have had better access to care due to more generous coverage in the Medicaid program than low-income people insured through their commercial health plan/private employer. Prior work has found that low-income people with employer-sponsored plans may have poorer coverage with higher out-of-pocket costs, higher premiums, and higher cost-sharing/co-payments than those with Medicaid plans or plans offered through the ACA exchanges. Unfortunately, these individuals are not able to switch to Medicaid or qualify for subsidies to sign up for health insurance through

the ACA exchanges due to the ACA "firewall," which was instituted to minimize disruption to employer-sponsored markets and risk pools. <sup>26</sup> Therefore, efforts at improving the quality and value of plans available for low-income people are necessary to ensure they do not negatively affect access to care.

Our study has notable limitations. First, our survey response rate is low; however, it is consistent with other studies using telephone and internet-based surveys, and it is also similar to the United States Census Bureau's Pulse Survey, which has been designed to assess responses during the pandemic, and whose response rate has ranged between 1.3 and 10.3% in 2020. 27,28 In addition, previous research demonstrates that the use of population weighting in random digit dialing telephone surveys can help mitigate nonresponse bias and produce estimates similar to those from government surveys. <sup>29–32</sup> Therefore, we weighted our analyses to demographic targets for low-income adults in the study states based on age, sex, education, marital status, race/ethnicity, and geographic region. Moreover, previous versions of the survey have been validated for coverage and simple indices of access to care against federal data sets including the American Community Survey and the Behavioral Risk Factor Surveillance System. Those validations showed moderate to strong correlations and a range of absolute differences in estimates consistent with differences among various federal surveys.

Our work is a descriptive, cross-sectional study and, therefore, cannot definitively conclude that the relationships between employment status and our outcomes are causal in nature. The survey was limited to four states, which are located in the South and have relatively high poverty rates; generalizability to other states may be limited. Our survey included only US citizens. Therefore, it is unclear how our results would generalize to immigrant communities, especially in light of evidence that showed worsening coverage and lack of participation in the Medicaid program were linked with the implementation of the Trump administration's revised Public Charge rule in 2020.<sup>33,34</sup> Addtionally, while our survey was conducted in 2020, our sample was selected based on self-reported annual household income in 2019 to ensure they had a full year's of income to determine whether they met the federal poverty line of 138% or below. This could potentially have led to misclassification of people living in poverty, which would have bias us towards a null finding.

In conclusion, people who became newly unemployed during the COVID-19 pandemic reported much higher rates of uninsurance, were more likely to delay care largely due to financial reasons, and are much more likely to report food and housing hardships. These findings highlight the economic and social vulnerability of low-income populations, who are particularly susceptible to unexpected job loss, and loss of insurance in a health system heavily tied to employer-sponsored coverage.

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#### Declarations:

**Conflict of Interest:** The authors declare that they do not have a conflict of interest.

### **REFERENCES**

- CDC. COVID Data Tracker. Centers for Disease Control and Prevention. Published March 28, 2020. Accessed June 16, 2021. https://covid.cdc.gov/covid-data-tracker
- Falk G, Romero PD, Carter JA, Nicchitta IA, Nyhof EC. Unemployment Rates During the COVID-19 Pandemic. :28.
- Falk, G., Romero, P. D., Carter, J. A., Nicchitta, I. A., Nyhof, E. C. (2021). Unemployment Rates During the COVID-19 Pandemic. Congressional Research Service.
- Weber Handwerker E, Meyer PB, Piacentini J, Schultz M, Sveikauskas L. Employment recovery in the wake of the COVID-19 pandemic: Monthly Labor Review: U.S. Bureau of Labor Statistics. Accessed June 16, 2021. https://www.bls.gov/opub/mlr/2020/article/employment-recovery.htm#\_ednref65
- Arnon A, Ricco JA, Smetters KA. Epidemiological and economic effects of lockdown. Brookings. Published September 24, 2020. Accessed June 17, 2021. https://www.brookings.edu/bpea-articles/epidemiological-and-economic-effects-of-lockdown/
- Goodman N. The Impact of Employment on the Health Status and Health Care Costs of Working-age People with Disabilities. Lead Center Policy Brief. Published online November 2015.
- Michaud P-C, Crimmins EM, Hurd MD. The effect of job loss on health: Evidence from biomarkers. *Labour Economics*. 2016;41:194-203. doi:https://doi.org/10.1016/j.labeco.2016.05.014
- Tracking the COVID-19 Recession's Effects on Food, Housing, and Employment Hardships. Center on Budget and Policy Priorities. Accessed June 16, 2021. https://www.cbpp.org/research/poverty-and-inequality/tracking-the-covid-19-recessions-effects-on-food-housing-and
- Sommers BD, Chen L, Blendon RJ, Orav EJ, Epstein AM. Medicaid Work Requirements In Arkansas: Two-Year Impacts On Coverage, Employment, And Affordability Of Care. Health Aff (Millwood). 2020;39(9):1522-1530. doi:https://doi.org/10.1377/hlthaff.2020.00538
- Sommers BD, Blendon RJ, Orav EJ, Epstein AM. Changes in utilization and health among low-income adults after Medicaid expansion or expanded private insurance. JAMA Intern Med. 2016;176(10):1501–9.
- Sommers BD, Maylone B, Blendon RJ, Orav EJ, Epstein AM. Three-Year Impacts Of The Affordable Care Act: Improved Medical Care And Health Among Low-Income Adults. Health Affairs. Published online June 2017:10.
- Figueroa JF, Khorrami P, Bhanja A, Orav EJ, Epstein AM, Sommers BD. COVID-19-Related Insurance Coverage Changes and Disparities in Access to Care Among Low-Income US Adults in 4 Southern States. JAMA Health Forum. 2021;2(8):e212007. https://doi.org/10.1001/jama-healthforum.2021.2007
- Continuation of Health Coverage (COBRA) | U.S. Department of Labor. (n.d.). Retrieved June 16, 2021, from https://www.dol.gov/general/topic/health-plans/cobra

- Pollitz, K., Kamal, R., Fehr, R., May 28, G. Y. P., & 2020. (2020, May 28).
   Key Issues Related to COBRA Subsidies. KFF. https://www.kff.org/private-insurance/issue-brief/key-issues-related-to-cobra-subsidies/
- Long, S. K. (2003, May 21). Hardship among the Uninsured: Choosing among Food, Housing, and Health Insurance [Text]. The Urban Institute. http://webarchive.urban.org/publications/310775.html
- Majerol, M., Tolbert, J., Feb 04, A. D. P., & 2016. (2016, February 4).
   Health Care Spending Among Low-Income Households with and without Medicaid. KFF. https://www.kff.org/medicaid/issue-brief/health-care-spending-among-low-income-households-with-and-without-medicaid/
- Lee CLY and S. Making ACA enrollment more automatic for the newly unemployed. Brookings. Published May 28, 2020. Accessed June 16, 2021. https://www.brookings.edu/research/making-aca-enrollmentmore-automatic-for-the-newly-unemployed/
- KFF. Medicaid Emergency Authority Tracker: Approved State Actions to Address COVID-19. Kaiser Family Foundation. Published June 21, 2021. https://www.kff.org/coronavirus-covid-19/issue-brief/medicaid-emergency-authority-tracker-approved-state-actions-to-address-covid-19/
- Landucci R, Moore JE, Brown CC, Adams CE, Truhe N, Larson M. How States Are Facilitating Medicaid Enrollment During COVID-19—And How They Can Do Even More | Health Affairs Blog. Published June 17, 2020. https://www.healthaffairs.org/do/10.1377/hblog20200612.887360/full/
- Khorrami P, Sommers BD. Changes in US Medicaid Enrollment During the COVID-19 Pandemic. *JAMA Netw Open*. 2021;4(5):e219463. https://doi.org/10.1001/jamanetworkopen.2021.9463
- Lee CLY and S. Making ACA enrollment more automatic for the newly unemployed. Brookings. Published May 28, 2020. Accessed June 16, 2021. https://www.brookings.edu/research/making-aca-enrollmentmore-automatic-for-the-newly-unemployed/
- Corallo B, Mehta A. Analysis of recent national trends in Medicaid and CHIP enrollment. KFF. Accessed December 16, 2021. Available at: https://www.kff.org/coronavirus-covid-19/issue-brief/analysis-of-re-cent-national-trends-in-medicaid-and-chip-enrollment/
- Burgard SA, Brand JE, House JS. Toward a Better Estimation of the Effect of Job Loss on Health. J Health Soc Behav. 2007;48(4):369-384. doi:https://doi.org/10.1177/002214650704800403
- Schaller, J., & Stevens, A. H. (2015a). Short-run effects of job loss on health conditions, health insurance, and health care utilization. *Journal* of *Health Economics*, 43, 190–203. https://doi.org/10.1016/j.jhealeco. 2015.07.003

- 25. Straw T. Trapped by the firewall: policy changes are needed to improve health coverage for low income workers. Center on Budget and Policy Priorities. Accessed Aug 23 2021. Available at: https://www.cbpp.org/research/health/trapped-by-the-firewall-policy-changes-are-needed-to-improve-health-coverage-for
- Baumgartner JC, Collins SR, Radley DC. Removing firewall employer insurance and ACA marketplaces [Internet]. The Commonwealth Fund. Accessed Aug 23 2021. Available at: https://www.commonwealthfund. org/publications/issue-briefs/2020/dec/removing-firewall-employer-insurance-aca-marketplaces
- National Center for Health Statistics. 2020. Reduced Access to Care: Household Pulse 450 Survey. 451 Accessed 4 January 2021. 452
- Skopec L, Musco T, Sommers BD. A potential new data source for assessing the impacts of health reform: evaluating the Gallup-Healthways Well-Being Index. Healthc (Amst). 2014;2(2):113–20
- Pew Research Center. Assessing the Representativeness of Public Opinion Surveys.; 2012. Accessed June 25, 2021. https://www.pewresearch.org/ politics/2012/05/15/assessing-the-representativeness-of-public-opinion-surveys/
- Davern M. Nonresponse rates are a problematic indicator of nonresponse bias in survey research. Health Serv Res. 2013;48(3):905–12
- Keeter S, Kennedy C, Dimock M, Best J, Craighill P. Gauging the impact of growing nonresponse on estimates from a national RDD telephone survey. Public Opin Q. 2006; 70:759–79.
- Sommers BD, Maylone B, Blendon RJ, Orav EJ, Epstein AM. Three-Year Impacts Of The Affordable Care Act: Improved Medical Care And Health Among Low-Income Adults. Health Affairs. Published online June 2017:10.
- Sommers BD, Allen H, Bhanja A, Blendon RJ, Orav EJ, Epstein AM. Assessment of Perceptions of the Public Charge Rule Among Low-Income Adults in Texas. JAMA network open 2020;3(7):e2010391. https://doi. org/10.1001/jamanetworkopen.2020.10391.
- Ku L. New Evidence Demonstrates that the Public Charge Rule Will Harm Immigrant Families and Others. Health Affairs Blog 2019 (https://www.healthaffairs.org/do/10.1377/hblog20191008.70483/full/).

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