

Construction Worker Mental Health During the COVID-19 Pandemic

Samantha Brown, MPH, Amber Brooke Trueblood, DrPH, William Harris, MS, Xiuwen Sue Dong, DrPH¹

OVERVIEW

[Anxiety and depression symptoms](#) significantly worsened nationwide during the COVID-19 pandemic. Construction workers already suffer from an increasing and alarmingly high [suicide rate](#), making it particularly important to understand mental health in the industry during the pandemic. To support that goal, this Data Bulletin examines self-reported symptoms of *anxiety* and *depression* in the population using the National Health Interview Survey (NHIS) from 2011 to 2018 and in 2020,² focusing on patterns and changes during the pandemic. Anxiety and depression were measured for *construction workers* by A) feelings of anxiety or depression at least once a month; and B) feelings of anxiety or depression at least once a week, or associated medication use. (see the Definitions section at the end of the report for detailed criteria). Differences in the frequency or level of anxiety/depression between 2019 and 2020 were measured in a subsample of construction workers who were interviewed in both years. Anxiety/depression was compared across³ worker demographics, socioeconomic status, and health indicators (i.e., health status, alcohol use, opioid use, and health insurance coverage). Due to the [survey methodology changes](#) in 2020 and fewer respondents during the pandemic, the sample size of some subgroups is relatively small.⁴



Learn about the warning signs and how to start a conversation at cpwr.com/suicide-prevention

THIS ISSUE

This issue examines anxiety and depression symptoms or medication use among construction workers before and during the COVID-19 pandemic, comparing differences by demographics, socioeconomic status, and health indicators.

KEY FINDINGS

Construction workers feeling anxious at least once per month rose 20% between 2011 and 2018.

Chart 1

In 2020, the prevalence of anxiety/depression (based on feelings or medication) in workers was 15%, and was particularly high in those who were age 18-34 (18%), female (24%), living below the poverty line (18%), or working part-time (19%).

Charts 4-6

In 2020, symptoms or medication use for anxiety/depression were almost three times higher in workers who used prescription opioids in the past year compared to those who did not (39% versus 14%).

Chart 7

Among workers who were surveyed in both 2019 and 2020, 43% had increases in the frequency or level of anxious/depressed feelings between years, with increases more common in those who were age 18-54 (46%), female (50%), or had a family income below the poverty line (61%).

Charts 8-10

NEXT DATA BULLETIN

Employment Trends and Projections in Construction

¹Correspondence to: datacenter@cpwr.com.

²No industry and occupation information in the 2019 survey due to the questionnaire redesign.

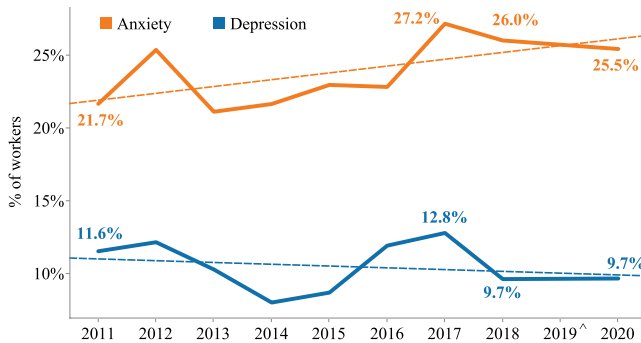
³Statistical significance is not discussed in the text but is provided in the associated charts.

⁴Frequencies of anxiety/depression are small ($n < 30$) for some subgroups in certain charts (see chart footnotes). Readers are advised to use related results with caution.

Numbers in text and charts were calculated by the CPWR Data Center.

In 2018, one quarter (26.0%) of construction workers felt anxious at least once per month, an increase of 19.8% since 2011 (chart 1). In contrast, 9.7% of construction workers felt depressed at least once per month in 2018, a decrease of 16.4% since 2011. The prevalence of anxious and depressed feelings in 2020 were similar to 2018. However, estimates before and after 2018 may [not be directly comparable](#) due to survey redesign.

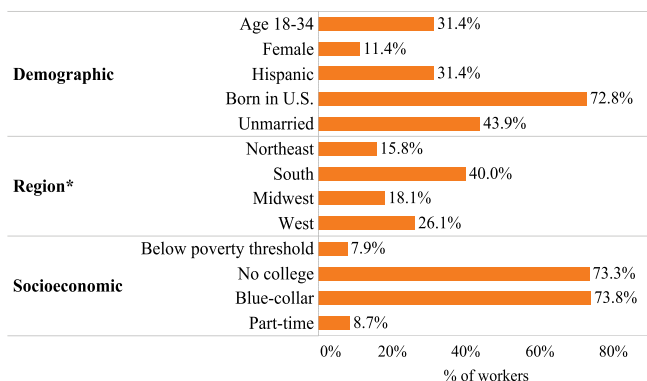
1. Prevalence of feelings of anxiety or depression at least once a month* among construction workers, 2011-2018, 2020



Source: National Health Interview Survey, 2010-2018, 2020.
 *Chart includes anxious or depressed feelings at any level (a little, a lot, or somewhere in between) (see Definition A).
 ^Data unavailable for 2019. Chart displays average of 2018 and 2020 as 2019.

In 2020, 1,258 NHIS respondents reported that they worked in construction as their main job in the last week or last year, representing about 13 million U.S. construction workers (chart 2). Of these workers, 31.4% were age 18-34 years, 11.4% were female, 31.4% were Hispanic, and 43.9% were unmarried. Additionally, 7.9% of construction workers lived below the *poverty threshold*, nearly three-fourths (73.8%) held a blue-collar occupation, and 8.7% worked part-time.

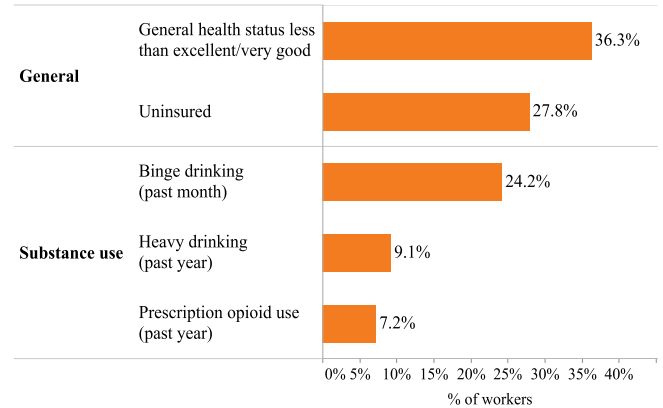
2. Demographic and socioeconomic characteristics of construction workers, 2020 (Estimated total = 12.98 million)



Source: National Health Interview Survey, 2020.
 *Region reported separately from other demographic variables because it has four levels (Northeast, South, Midwest, West).

Over one in three (36.3%) construction workers considered themselves not in very good or excellent health (i.e., perceived their general health status as good, fair, or poor; chart 3). More than a quarter (27.8%) of workers were *uninsured*. Overall 24.2% reported *binge drinking* in the past month, 9.1% reported *heavy drinking* over the past year, and 7.2% used *prescription opioids* in the past year.

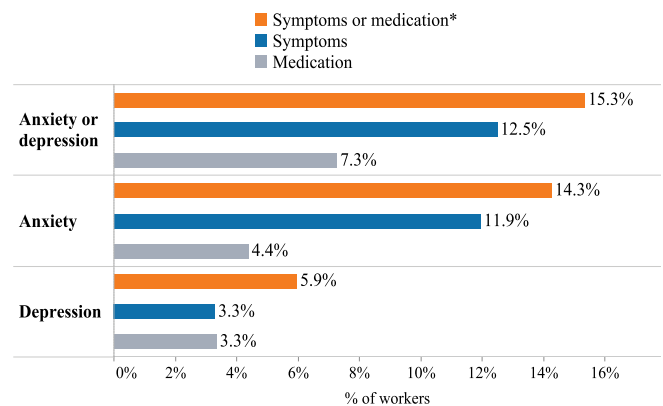
3. Health indicators among construction workers, 2020 (Estimated total = 12.98 million)



Source: National Health Interview Survey, 2020.

In 2020, the percentage of construction workers with anxiety and depression—based on symptoms or medication use—was 14.3% and 5.9%, respectively (chart 4). The prevalence of anxiety or depression based on symptoms or medication use (hereafter referred to as “anxiety/depression”) was 15.3%.

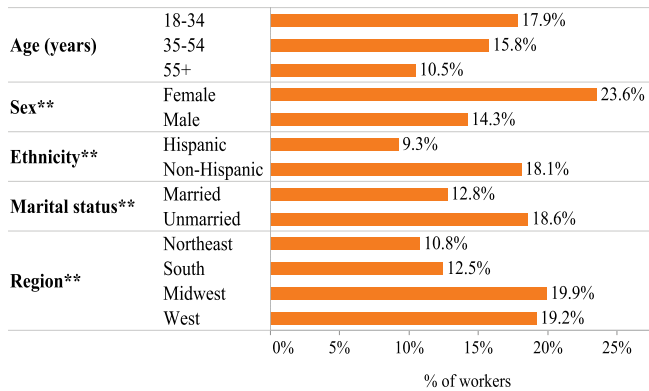
4. Prevalence of anxiety and depression among construction workers, 2020



Source: National Health Interview Survey, 2020.
 *Anxious/depressed feelings at least once a week with a level of “a lot” or “somewhere between a little and a lot” and/or reported medication for anxiety/depression (see Definition B).

Anxiety/depression symptoms or medication use varied by demographics and socioeconomic status (chart 5). Prevalence was higher in workers who were age 18-34 years (17.9% versus 15.8% 35-54 years and 10.5% 55+ years), female (23.6% versus 14.3% male), non-Hispanic (18.1% versus 9.3% Hispanic), unmarried (18.6% versus 12.8% married), or lived in the Midwest or West (>19% versus <13% in the South and Northeast).

5. Anxiety/depression[^] prevalence among construction workers, by demographics, 2020*



Source: National Health Interview Survey, 2020.

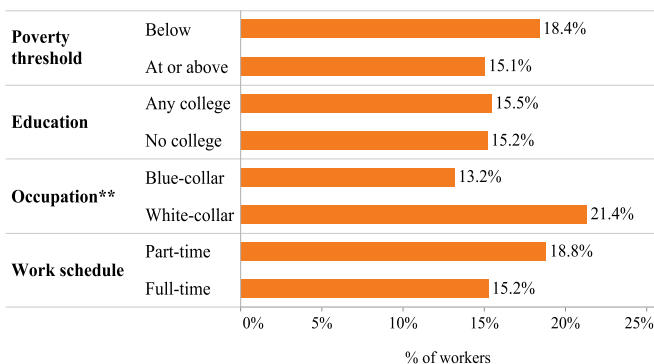
[^]Anxiety/depression based on symptoms or medication (see Definition B).

*N<30 for Northeast.

**Significant differences between categories (Chi-square p-value <0.05).

Prevalence of anxiety/depression symptoms or medication use was also higher in workers with a family income below the poverty threshold (18.4% versus 15.1% at or above) or who worked part-time (18.8% versus 15.2% full-time; chart 6). However, it was lower in blue-collar workers (13.2% versus 21.4% white-collar) and was relatively similar between workers who had received a college education (15.5%) and those who had not (15.2%).

6. Anxiety/depression[^] prevalence among construction workers, by socioeconomic status, 2020*



Source: National Health Interview Survey, 2020.

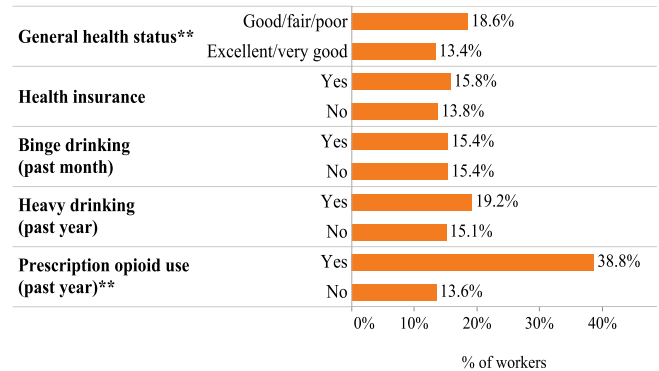
[^]Anxiety/depression based on symptoms or medication (see Definition B).

*N<30 for the following: Below, Part-time.

**Significant difference between categories (Chi-square p-value <0.05).

Workers with good/fair/poor general health were more likely to report anxiety/depression symptoms or medication use than those with excellent/very good health (18.6% versus 13.4%; chart 7). Additionally, nearly one in five (19.2%) workers who drank heavily throughout the past year reported anxiety/depression compared to 15.1% of workers who did not, and workers who used prescription opioids in the past year were almost three times as likely to report anxiety/depression compared to those who did not (38.8% versus 13.6%).

7. Anxiety/depression[^] prevalence among construction workers, by health indicators, 2020*



Source: National Health Interview Survey, 2020.

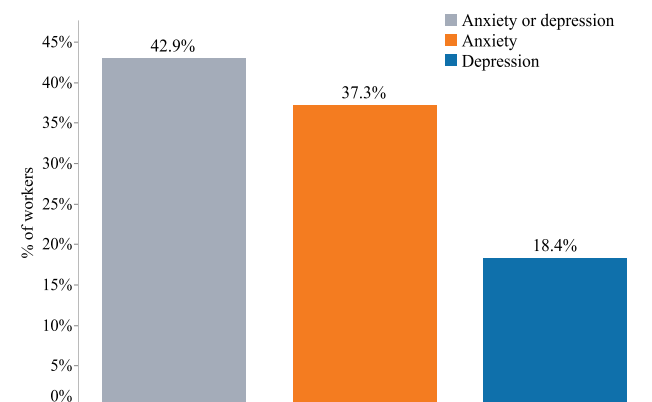
[^]Anxiety/depression based on symptoms or medication (see Definition B).

*N<30 for Heavy drinking (past year).

**Significant difference between categories (Chi-square p-value <0.05).

Changes in the frequency or level of anxious/depressed feelings between 2019 and 2020 were then examined in a subsample of 408 construction workers who were interviewed in both years. Overall, 42.9% of these workers reported feeling more anxious/depressed in 2020 than in 2019, including 37.3% that felt more anxious and 18.4% that felt more depressed (chart 8).

8. Percentage of construction workers feeling more anxious/depressed in 2020 than in 2019*

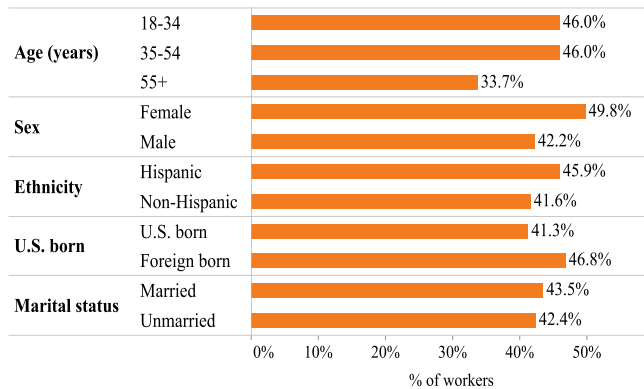


Source: National Health Interview Survey, 2019-2020.

*Chart includes sub-sample of construction workers who were interviewed in both 2019 and 2020.

Increases in the frequency or level of anxious/depressed feelings were more commonly reported in workers who were under age 55 years (46.0% versus 33.7% 55+ years) or female (49.8% versus 42.2% male; chart 9). Though less likely to have anxiety/depression overall (see chart 5), Hispanic workers were more likely to report rising anxious/depressed feelings from 2019 to 2020 (45.9% versus 41.6% non-Hispanic), and foreign-born workers were more likely to report this increase than U.S.-born workers (46.8% versus 41.3%, respectively).

9. Percentage of construction workers feeling more anxious/depressed in 2020 than in 2019^A, by demographics*



Source: National Health Interview Survey, 2019-2020.

^AChart includes sub-sample of construction workers who were interviewed in both 2019 and 2020.

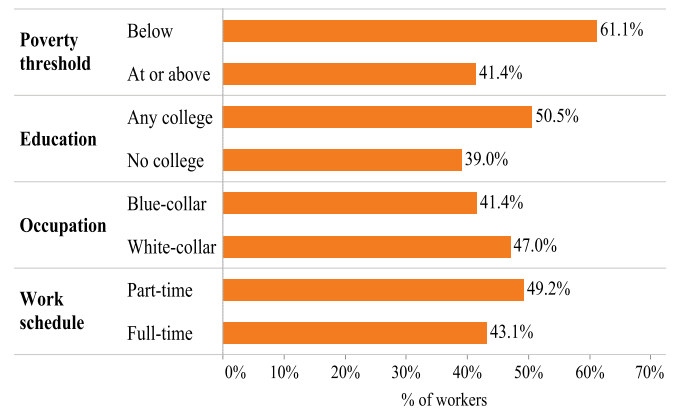
*N<30 for Female.

**No significant differences between any categories (Chi-square p-value > 0.05).

The majority (61.1%) of workers with a family income below the poverty level reported feeling more anxious/depressed in 2020 than in 2019, compared to 41.4% of workers with a family income at or above the poverty level (chart 10). However, college-educated construction workers were more likely to report increased anxious/depressed feelings in 2020 than those without a college education (50.5% versus 39.0%). This was also observed more frequently in white-collar (47.0% versus 41.4% blue-collar) and part-time (49.2% versus 43.1% full-time) workers.

Workers whose general health worsened during the pandemic were also more likely to report growing anxious/depressed feelings than those whose health improved or did not change (48.1% versus 41.1%) and increased anxious/depressed feelings were more common in workers who reported binge drinking than those who did not (48.6% versus 40.8%; chart 11).

10. Percentage of construction workers feeling more anxious/depressed in 2020 than in 2019^A, by socioeconomic status*



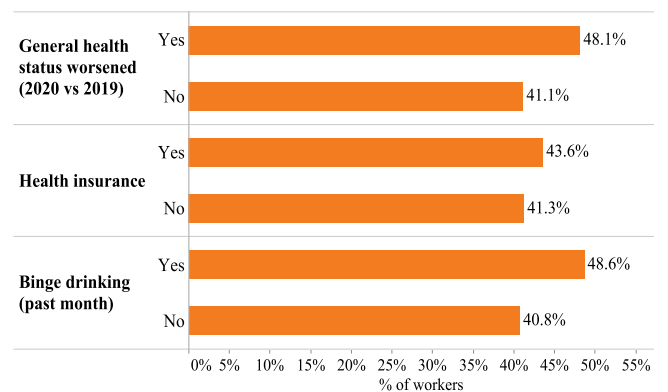
Source: National Health Interview Survey, 2019-2020.

^AChart includes sub-sample of construction workers who were interviewed in both 2019 and 2020.

*N<30 for the following: Below, Part-time.

**No significant differences between any categories (Chi-square p-value > 0.05).

11. Percentage of construction workers feeling more anxious/depressed in 2020 than in 2019^A, by health indicators*



Source: National Health Interview Survey, 2019-2020.

^AChart includes sub-sample of construction workers who were interviewed in both 2019 and 2020.

*No significant differences between any categories (Chi-square p-value > 0.05).

A portion of the construction workforce reported their mental health worsened during the COVID-19 pandemic, with over one-third (42.9%) having increased frequency or level of anxious/depressed feelings in 2020 compared to 2019. Workers who were young, female, working part-time, less healthy, or living below the poverty level were hit harder by anxiety/depression (defined by frequency or level of feelings/medication). Hispanic workers were more likely to report increased feelings of anxiety/depression during the pandemic compared to non-Hispanic workers. Socioeconomic stressors and job insecurity arising from [unemployment](#) and nonstandard work arrangements during the pandemic may underly some of these differences.

Employers can take action to improve the mental health of construction workers. CPWR has several resources to address growing mental health concerns, including to prevent [suicide](#) and [opioid deaths](#). NIOSH has developed special webpages devoted to [stress at work](#), [opioids in the workplace](#), and [suicide](#). Additionally, the Construction Industry Alliance for Suicide Prevention provides a host of resources aiming to create a zero-suicide industry, including [workplace suicide prevention programs](#) and tools that specifically address [mental health during the COVID-19 pandemic](#).

ACCESS THE CHARTS & MORE

View the [charts](#) in PowerPoint and the [data](#) underlying the charts in Excel. Downloading will start when you click on each link. These files can also be found listed under the January 2022 Data Bulletin at: <https://www.cpwr.com/research/data-center/data-reports/>. In addition, see our latest Interactive Data Dashboards on [Construction Worker Mental Health](#) and [Healthcare and Medical Expenditures among Construction Workers](#).

DEFINITIONS

Anxiety –

A. Reported feeling worried, nervous, or anxious at least once a month at any level (chart 1);

B. Reported (1) feeling worried, nervous, or anxious at least once a week, and (2) that the level of latest worried, nervous, or anxious feelings was “a lot” or “somewhere in between a little and a lot”; OR reported taking prescription medication for worried, nervous, or anxious feelings (charts 4-7).

Binge drinking – Had five or more (for men) or four or more (for women) alcoholic drinks on one occasion in the last 30 days.

Construction worker – For 2011-2018: individuals ages 18+ with a job or business in the construction industry either last week or within the last year. For 2019-2020: Individuals ages 18+, who A) worked at a paid or unpaid job, had seasonal/contract work, or had a job or business but were not at work in the construction industry the week before the survey was conducted, or B) had a job or business within the last year.

Depression –

A. Reported feeling depressed at least once a month at any level (chart 1);

B. Reported (1) feeling depressed at least once a week, and (2) that the level of latest depressed feelings was “a lot”

or “somewhere in between a little and a lot”; OR reported taking prescription medication for depression (charts 4-7).

Changes (i.e., increases) in the frequency or level of anxious/depressed feelings – Compared to 2019, feelings of anxiety and/or depression in 2020 were either (A) more frequent, or (B) experienced at a greater level (charts 8-11).

Heavy drinking – Drank more than 14 (for men) or seven (for women) alcoholic drinks per week in the last year.

Poverty threshold – Family income for the prior year was below the federal poverty level (see <https://www.census.gov/topics/income-poverty/poverty/guidance/poverty-measures.html>).

Prescription opioid use – Took opioid pain relievers prescribed by a doctor, dentist, or other health professional in the past year.

Uninsured – Workers who lacked health insurance when the survey was conducted.

DATA SOURCES

2011-2018 data: IPUMS: Lynn A. Blewett, Julia A. Rivera Drew, Miriam L. King and Kari C.W. Williams. IPUMS Health Surveys: National Health Interview Survey, Version 6.4 [dataset]. Minneapolis, MN: IPUMS, 2019. <https://doi.org/10.18128/D070.V6.4>.

2019-2020 data: National Center for Health Statistics (NCHS), National Health Interview Survey (NHIS), 2019-2020. <https://www.cdc.gov/nchs/nhis/index.htm>.

REFERENCES

Construction Industry Alliance for Suicide Prevention. [2021] COVID-19 Resources. https://preventconstructionsuicide.com/COVID_19_Resources.

Construction Industry Alliance for Suicide Prevention. [n.d.]. Integration Resources. https://preventconstructionsuicide.com/Integration_Resources.

CPWR-The Center for Construction Research and Training. [2020]. Impact of COVID-19 on Construction Workers and Businesses. <https://www.cpwr.com/wp-content/uploads/DataBulletin-July2020.pdf>.

CPWR-The Center for Construction Research and Training. [n.d.]. Resources to Prevent Opioid Deaths in Construction. <https://www.cpwr.com/research/research-to-practice-r2p/r2p-library/other-resources-for-stakeholders/mental-health-addiction/opioid-resources/>.

- CPWR-The Center for Construction Research and Training. [n.d.]. Suicide Prevention Resources. <https://www.cpwr.com/research/research-to-practice-r2p/r2p-library/other-resources-for-stakeholders/mental-health-addiction/suicide-prevention-resources/>.
- Dong XS, Brooks RD, Cain CT. [2020]. Prescription Opioid Use and Associated Factors Among US Construction Workers. *Am J Ind Med*, 63(10):868-877. <https://doi.org/10.1002/ajim.23158>.
- IPUMS Health Surveys. [2020]. User Note – Sampling Weights. https://nhis.ipums.org/nhis/userNotes_weights.shtml.
- National Center for Health Statistics. [2021]. What’s Different about the 2020 NHIS Data? <https://www.cdc.gov/nchs/nhis/2020nhisdata.htm>.
- National Institute for Occupational Safety and Health. [2021]. Opioids in the Workplace. <https://www.cdc.gov/niosh/topics/opioids/default.html>.
- National Institute for Occupational Safety and Health. [2013]. Stress at Work. <https://www.cdc.gov/niosh/topics/stress/default.html>.
- National Institute for Occupational Safety and Health. [2021]. Suicide and Occupation. <https://www.cdc.gov/niosh/topics/stress/suicide.html>.
- Peterson C, Sussell A, Li J, Schumacher PK, Yeoman K, Stone DM. [2020]. Suicide Rates by Industry and Occupation — National Violent Death Reporting System, 32 States, 2016. *MMWR Morb Mortal Wkly Rep*, 69:57–62. <http://dx.doi.org/10.15585/mmwr.mm6903a1>.
- Substance Abuse and Mental Health Services Administration. [2021]. SAMHSA Releases 2020 National Survey on Drug Use and Health. <https://www.samhsa.gov/newsroom/press-announcements/202110260320>.
- Vahratian, A., Blumberg, S. J., Terlizzi, E. P., & Schiller, J. S. [2021]. Symptoms of Anxiety or Depressive Disorder and Use of Mental Health Care Among Adults During the COVID-19 Pandemic - United States, August 2020-February 2021. *MMWR Morbidity and mortality weekly report*, 70(13), 490–494. <https://doi.org/10.15585/mmwr.mm7013e2>.

ABOUT THE CPWR DATA CENTER

The CPWR Data Center is part of CPWR—The Center for Construction Research and Training. CPWR is a 501(c)(3) nonprofit research and training institution created by NABTU, and serves as its research arm. CPWR has focused on construction safety and health research since 1990. The Data Bulletin, a series of publications analyzing construction-related data, is part of our ongoing surveillance project funded by the National Institute for Occupational Safety and Health (NIOSH).

Besides cpwr.com, visit CPWR's other online resources to help reduce construction safety and health hazards:

- Choose Hand Safety
<https://choosehandsafety.org/>
- Construction Safety and Health Network
<https://safeconstructionnetwork.org/>
- Construction Solutions
<https://www.cpwrconstructionsolutions.org/>
- Construction Solutions ROI Calculator
<https://www.safecalc.org/>
- COVID-19 Construction Clearinghouse
<https://covid.elcosh.org/index.php>
- COVID-19 Exposure Control Planning Tool
<https://www.covidcpwr.org>
- Electronic Library of Construction Occupational Safety and Health
<https://www.elcosh.org/index.php>
- Exposure Control Database
<https://ecd.cpwrconstructionsolutions.org/>
- Safety Climate Assessment Tool (S-CAT)
<https://cpwr.com/safetyclimate>
- Safety Climate Assessment Tool for Small Contractors (S-CAT^{SC})
<https://www.cpwr.com/scat-sc>
- Stop Construction Falls
<https://stopconstructionfalls.com/>
- Work Safely with Silica
<https://www.silica-safe.org/>

©2021, CPWR—The Center for Construction Research and Training. All rights reserved.

CPWR is the research and training arm of NABTU. Production of this document was supported by cooperative agreement OH 009762 from the National Institute for Occupational Safety and Health (NIOSH). The contents are solely the responsibility of the authors and do not necessarily represent the official views of NIOSH.