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Topics in Construction Safety and Health
Mental Health, Opioids and Suicide:
An Interdisciplinary Annotated Bibliography

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2022

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Mental Health, Opioids and Suicide: An Interdisciplinary Annotated Bibliography

Ahmad, F. B., Rossen, L. M., Sutton, P. (2021). *Vital Statistics Rapid Release: Provisional drug overdose death counts*. Retrieved from Centers for Disease Control and Prevention: National Center for Health Statistics: <https://www.cdc.gov/nchs/nvss/vsrr/drug-overdose-data.htm>

This data visualization presents provisional counts for drug overdose deaths based on a current flow of mortality data in the National Vital Statistics System. Counts for the most recent final annual data are provided for comparison. National provisional counts include deaths occurring within the 50 states and the District of Columbia as of the date specified and may not include all deaths that occurred during a given time period.

Bassuk, E. L., Hanson, J., Greene, R. N., Richard, M., Laudet, A. (2016). Peer-Delivered Recovery Support Services for Addictions in the United States: A Systematic Review. *Journal of Substance Abuse Treatment*. 63:1-9. <https://doi.org/10.1016/j.jsat.2016.01.003>

This systematic review identifies, appraises, and summarizes the evidence on the effectiveness of peer-delivered recovery support services for people in recovery from alcohol and drug addiction. Nine studies met criteria for inclusion in the review. They were assessed for quality and outcomes including substance use and recovery-related factors. Despite significant methodological limitations found in the included studies, the body of evidence suggests salutary effects on participants. Current limitations and recommendations for future research are discussed.

Bush, D. M., & Lipary, R. N. (2015). *Substance Use and Substance Use Disorder by Industry*. Rockville, MD: The CBHSQ Report: April 16, 2015. Substance Abuse and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality <https://www.ncbi.nlm.nih.gov/books/NBK343542/>

Substance use negatively affects U.S. industry through lost productivity, workplace accidents and injuries, employee absenteeism, low morale, and increased illness. Research shows that the rate of substance use varies by occupation and industry. METHOD: Combined 2003- 2007 and 2008-2012 National Survey on Drug Use and Health (NSDUH) estimates for past month heavy alcohol use, past month illicit drug use and past year substance use disorder (SUD) for full-time employees aged 18-64 in 19 industry categories were analyzed. RESULTS: Combined data from 2008-2012 indicate an annual average of 8.7% of full-time workers aged 18 to 64 used alcohol heavily, 8.6% used illicit drugs, and 9.5% had SUD. The highest rates of heavy alcohol use were found in the mining (17.5%) and construction industries (16.5%). The highest rates of illicit drug use were found in the accommodations and food services industry (19.1%). Workers in the accommodations and food services industry (16.9%) had the highest SUD rates. Between the two time periods, rates of illicit drug use increased in the accommodations and food services industry (from 16.9 to 19.1%) and in the educational services industry (from 3.7 to 4.8%), and decreased among workers in the construction services industry (from 13.9 to 11.6%). Decreases were seen in the past year's SUD rates in construction (from 17.3 to 14.3%), management (from 13.8 to 11.4%), wholesale trade (from 13.4 to 10.4%), and manufacturing (from 10.4 to 9.3%). CONCLUSION: The prevalence of substance use and SUD is not consistent across industries. The lowest rates of heavy alcohol use, illicit drug use, and SUD were generally seen in education, health care and social assistance, and public administration. Higher rates were generally seen in mining, construction, and accommodations and food services industries. When heavy alcohol use, use of illicit drugs, and SUD are examined over time, it appears that some industries have had a reduction in rates; however, there were increases as well.

Choi, B. (2018). Job strain, long work hours, and suicidal ideation in US workers: a longitudinal study. *International Archives of Occupational and Environmental Health*(91), 865–875.

<https://doi.org/10.1007/s00420-018-1330-7>

PURPOSE: To investigate whether chronic psychosocial work stressors (low job control, high job demands, job strain, low supervisor and coworker support, job insecurity, and long work hours) are longitudinally associated with suicidal ideation in a working population. **METHODS:** Five-hundred seventy-eight workers (aged 34–69) were chosen for this analysis from those who participated in both project 1 (2004–2006 at baseline) and project 4 (2004–2009 at follow-up) of the Midlife Development in the United States II study. The median time interval between the two projects was 26 months (range 2–62 months). **RESULTS:** About 11% of the workers reported suicidal ideation at follow-up, while 3% of them reported moderate/severe suicidal ideation at follow-up. After controlling for age, marital status, race, family history of suicide, and suicidal ideation at baseline, low skill discretion and job strain (a combination of low job control and high job demands) were associated with total suicidal ideation. After excluding those with suicidal ideation at baseline from analysis and further controlling for other work stressors, job strain was strongly associated with moderate/severe suicidal ideation: ORs, 4.29 (1.30–14.15) for quartile-based job strain and 3.77 (1.21–11.70) for median-based job strain. Long work hours (> 40 h/week vs. ≤ 40 h/week) also increased the likelihood for moderate/severe suicidal ideation: OR 4.06 (1.08–15.19). **CONCLUSIONS:** Job strain and long work hours were longitudinally associated with moderate/severe suicidal ideation. Increasing job control and ensuring optimal level of work demands, including 40 h or less of work per week may be an important strategy for the prevention of suicide in working populations.

Dale, A. M., Buckner-Petty, S., Evanoff, B. A., & Gage, B. F. (2021). Predictors of long-term opioid use and opioid use disorder among construction workers: Analysis of claims data. *American Journal of Industrial Medicine*, 64(1), 48-57. <https://doi.org/10.1002/ajim.23202>

BACKGROUND: Construction workers have high rates of work-related musculoskeletal disorders, which lead to frequent opioid use and opioid use disorder (OUD). This paper quantified the incidence of opioid use and OUD among construction workers with and without musculoskeletal disorders. **METHODS:** The researchers conducted a retrospective study using union health claims from January 2015 to June 2018 from 19,909 construction workers. Claims for diagnoses of chronic musculoskeletal disorders, acute musculoskeletal injuries, musculoskeletal surgery, and other conditions were linked to new opioid prescriptions. The researchers examined the effects of high doses (≥50 morphine mg equivalents per day), large supply (more than 7 days per fill), long-term opioid use (60 or more days supplied within a calendar quarter), and musculoskeletal disorders, on the odds of a future OUD. **RESULTS:** There were high rates (42.8% per year) of chronic musculoskeletal disorders among workers, of whom 24.1% received new opioid prescriptions and 6.3% received long-term opioid prescriptions per year. Workers receiving opioids for chronic musculoskeletal disorders had the highest odds of future OUD: 4.71 (95% confidence interval 3.09-7.37); workers prescribed long-term opioids in any calendar quarter had a nearly 10-fold odds of developing an OUD. **CONCLUSIONS:** Among construction workers, opioids initiated for musculoskeletal pain were strongly associated with incident long-term opioid use and OUD. Musculoskeletal pain from physically demanding work is likely one driver of the opioid epidemic in occupations like construction. Prevention of work injuries and alternative pain management are needed for workers at risk for musculoskeletal injuries.

Dissell, Rachel. (2017, November 5). Opioid Overdose Deaths – Which jobs are at risk? Retrieved from: *The Plain Dealer*:

https://www.cleveland.com/metro/2017/11/opioid_overdose_deaths_which_j.html

This article from the Cleveland Plain Dealer revealed that construction workers in Ohio were more than seven times likely than the average worker to die of an opioid related overdose during the time period of 2010-2016. It links to other articles and breaks down overdose death for some specific construction job categories like roofing and drywalling. It also cites the Ohio Bureau of Workers' compensation to discuss that construction workers were more likely to receive opioids for pain compared to other industries. The Plain Dealer aggregated state death certificates in order to report these findings.

Dong, X. S., Brooks, R. D., Brown S., Harris W. (2022). Psychological distress and suicidal ideation among male construction workers in the United States. *American Journal of Industrial Medicine*.65(5)396-408. <https://doi.org/10.1002/ajim.23340>

BACKGROUND: Male workers in the US construction industry have a higher suicide rate than other workers in the nation. However, related research on this population remains sparse. This study evaluated psychological distress and suicidal ideation in these workers, and possible underlying factors. **METHODS:** Data from the National Survey of Drug Use and Health from 2008 to 2014 were analyzed. Stratified and multiple logistic regression analyses were conducted to examine factors associated with psychological distress and suicidal ideation among male construction workers aged ≥ 18 years ($n = 12,034$). **RESULTS:** Nearly one-third (29.6%) of male construction workers in the United States experienced psychological distress (23.8% graded as moderate, 5.8% as severe), and 2.5% reported suicidal ideation in the past year. Higher odds of serious psychological distress and suicidal ideation were found among workers who were younger, worked part-time, missed workdays due to injury or illness, or were in poor health. Illicit opioid use (odds ratio [OR] = 1.87, 95% confidence interval [CI]: 1.22–2.89) and alcohol dependence or abuse (OR = 2.64, 95% CI: 1.74–3.99) significantly escalated the odds of suicidal ideation. The odds of suicidal ideation among workers with serious psychological distress were 33 times higher than those having no or minor psychological distress (OR = 32.91, 95% CI: 19.82–54.65) when other factors were constant. **CONCLUSIONS:** Occupational and non-occupational factors were associated with construction workers' psychological distress and suicidal ideation. Both illicit opioid use and alcohol dependence or abuse were risk factors, and psychological distress was a strong predictor for suicidal ideation. To improve workers' mental health, it is necessary to integrate workplace injury prevention with illicit opioid-use reduction programs and suicide prevention.

Dong, X. S., Brooks, R. D., Rodman, C., Rinehart, R., and Brown, S. (2022). Pain and Prescription Opioid Use Among US Construction Workers: Findings From the 2011–2018 Medical Expenditure Panel Survey. *American Journal of Public Health* 112, S77_S87 <https://doi.org/10.2105/AJPH.2021.306510>

BACKGROUND: To examine prescription opioid and nonopioid analgesic use among US construction workers and their associations with pain conditions and sociodemographic factors. **METHODS:** The researchers analyzed for about 9000 (weighted 11.5 million per year) construction workers who responded to the Medical Expenditure Panel Survey from 2011 to 2018, applying both descriptive statistics and multiple logistic regression procedures in the analyses. **RESULTS:** An estimated 1.2 million (10.0%) of construction workers used prescription opioid analgesics annually. The adjusted odds of prescription opioid use were significantly higher for workers suffering from work-related injuries (adjusted odds ratio [AOR] = 3.82; 95% confidence interval [CI] = 2.72, 5.37), non-work-related injuries (AOR = 3.37; 95% CI = 2.54, 4.46), and musculoskeletal disorders (AOR = 2.31; 95% CI = 1.80, 2.95) after we controlled for potential confounders. Adjusted odds of prescription opioid use were also higher among workers with poorer physical health (AOR = 1.95; 95% CI = 1.42, 2.69) or

mental health disorders (AOR = 1.95; 95% CI = 1.41, 2.68). CONCLUSIONS: Work- and non-work-related injuries and musculoskeletal disorders significantly increased prescription opioid use among construction workers. To prevent opioid use disorders, multipronged strategies should be approached.

Dong, X. S., Brooks, R.D., Brown, S. (2020). Musculoskeletal disorders and prescription opioid use among U.S. construction workers. *Journal of Occupational and Environmental Medicine* 62(11):973-979. <https://doi.org/10.1097/jom.0000000000002017>

BACKGROUND: Musculoskeletal disorders (MSDs) and opioid use are a combined burden for construction safety and health. This study examines both issues among construction workers using a large population-based survey. METHODS: The prevalence of MSDs in construction was estimated using multi-year data from the Medical Expenditure Panel Survey. Prescription opioid use among workers with MSDs was compared to those without MSDs. RESULTS: About 34% of construction workers had at least one MSD symptom. Compared to those without MSDs, prescription opioid use tripled (aOR = 3.28, 95% CI: 2.44 to 4.41) among construction workers with MSDs. CONCLUSIONS: MSDs are prevalent among construction workers, and prescription opioid use significantly increased among workers with MSDs. It is critical to adopt ergonomic solutions in construction to reduce MSDs, and support workers in injury recovery with effective pain management.

Dong, X. S., Brooks, R. D., Cain, C. T. (2020) Prescription opioid use and associated factors among US construction workers. *American Journal of Industrial Medicine*, 63(10):868-877. <https://doi.org/10.1002/ajim.23158>

BACKGROUND: Construction workers are among the segments of the US population that were hit hardest by the opioid prescription and overdose deaths in the past decades. Factors that underlie opioid use in construction workers have been compartmentalized and isolated in existing studies of opioid use and opioid overdose, but they ignore the overall context of their use. This study examines prescription opioid use and its association with a variety of occupational and non-occupational factors in construction workers in the United States. METHODS: Data from the 2011-2017 Medical Expenditure Panel Survey (n = 7994) were analyzed. The prevalence of prescribed opioid use and the association with occupational and non-occupational characteristics among construction workers were examined in four multiple logistic regression models. RESULTS: The odds of prescription opioid use for workers with occupational injuries was more than triple that of their non-injured counterparts when demographics and occupational factors were controlled (odds ratio = 3.38, 95% confidence interval: 2.38-4.81). Odds of prescription opioid use were higher in older construction workers, workers who were white, non-Hispanic, working part-time, and in poorer health, while Hispanic workers and those without health insurance were much less likely to report prescription opioid use. CONCLUSIONS: Prescription opioid use among construction workers encompasses both occupational and non-occupational factors. As an insight into opioid use among construction workers becomes clearer, effectively responding to the opioid crisis remains a challenge.

Dong, X. S., Brooks, R. D., & Cain, C. T. (2019). *Overdose Fatalities at Worksites and Opioid Use in the Construction Industry* Silver Spring: CPWR-The Center for Construction Research and Training. <https://www.cpwr.com/wp-content/uploads/2020/06/Quarter4-QDR-2019.pdf>

Unintentional overdose fatalities in the construction industry jumped from 7 deaths in 2011 to 65 deaths in 2018, a nine-fold increase in eight years. Between 2011 and 2017, one in four (25.3%) construction workers with work-related injuries used prescribed opioid pain relievers, compared to approximately one in ten (8.9%) of their counterparts who were not injured. Older construction workers were more likely to use prescribed opioid pain relievers, while younger construction workers

were more likely to use illicit drugs. Uninsured construction workers were less likely to use prescribed opioid pain relievers, but more likely to use illicit drugs than their insured counterparts.

Dong, X. S., Wang, X., Largay, J. A., Sokas, R. (2015). Long-term health outcomes of work-related injuries among construction workers—findings from the National Longitudinal Survey of Youth. *American Journal of Industrial Medicine*, 58(3):308-318. <https://doi.org/10.1002/ajim.22415>

BACKGROUND: This study examined the relationship between work-related injuries and health outcomes among a cohort of blue-collar construction workers. MATERIALS and METHODS: Data were from the National Longitudinal Survey of Youth, 1979 cohort (NLSY79; n = 12,686). A range of health outcomes among blue-collar construction workers (n = 1,435) were measured when they turned age 40 (1998-2006) and stratified by these workers' prior work-related injury status between 1988 and 2000. Univariate and multivariate analyses were conducted to measure differences among subgroups. RESULTS: About 38% of the construction cohort reported injuries resulting in days away from work (DAFW); another 15% were injured but reported no DAFW (NDAFW). At age 40, an average of 10 years after injury, those with DAFW injury had worse self-reported general health and mental health, and more diagnosed conditions and functional limitations than those without injury. This difference was statistically significant after controlling for major demographics. DISCUSSION: Adverse health effects from occupational injury among construction workers persist longer than previously documented.

FrameWorks Institute (2020). *Reframing opioid use reduction in the construction industry (A Pertinent Findings Memo)*. Washington, DC: FrameWorks Institute. https://www.cpw.com/wp-content/uploads/Reframing_Primary_Prevention_Opioid_Use_Reduction_Construction.pdf

The memo first summarizes research from FrameWorks' investigations into the widespread patterns in public thinking that are likely to impede audience reception of messages about primary prevention, opioid use, and effective responses in the construction sector. Next, it discusses how the issue's current dominant framing practices may be exacerbating the public's confusion about or disengagement from the issue. The final section provides a set of evidence-based guidelines and recommendations for framing the issue more effectively and models how to use the strategies.

Franklin, G., Sabel, J., Jones, C. M., Mai, J., Baumgartner, C., Banta-Green, C. J., Neven, D., & Tauben, D. J. (2015). A comprehensive approach to address the prescription opioid epidemic in Washington State: milestones and lessons learned. *American journal of public health*, 105(3), 463–469. <https://doi.org/10.2105/AJPH.2014.302367>

An epidemic of morbidity and mortality has swept across the United States related to the use of prescription opioids for chronic noncancer pain. More than 100 000 people have died from unintentional overdose, making this one of the worst manmade epidemics in history. Much of health care delivery in the United States is regulated at the state level; therefore, both the cause and much of the cure for the opioid epidemic will come from state action. The researchers detail the strong collaborations across executive health care agencies, and between those public agencies and practicing leaders in the pain field that have led to a substantial reversal of the epidemic in Washington State.

Gates, L.B., Akabas, S. H. (2007). Developing strategies to integrate peer providers into the staff of mental health agencies. *Administration and Policy in Mental Health and Mental Health Services Research*; 34(3), 293-306. <https://doi.org/10.1007/s10488-006-0109-4>

This study informs new strategies that promote integration of peer providers into the staff of social service agencies. Executive directors, human resource managers, supervisors and co-workers at 27 agencies in New York City were interviewed in-depth. Focus groups with peers were conducted. Consistent with previous research, respondents identified attitudes toward recovery, role conflict and

confusion, lack of policies and practices around confidentiality, poorly defined job structure and lack of support as problems that undermined integration. Emerging from the data are strategies related to human resource policies and practices and workgroup relationships and operations that can improve employment of peer staff.

Hall, A. (2021). Reducing Substance Use and Improving Mental Health Among Construction Workers: An Interview With Chris Trahan Cain. *Journal of Advanced Academics*, 31(3), 82–114. <https://doi.org/10.4219/jaa-2006-345>

Construction workers, their unions, and the construction industry face important challenges in addressing substance use disorders and mental health issues. To examine these issues further, we spoke with Chris Trahan Cain, Executive Director of CPWR—The Center for Construction Research and Training, a nonprofit organization that is affiliated with North America’s Building Trades Unions and the National Institute for Occupational Safety and Health. As the chair of the North America’s Building Trades Unions opioid task force, she has been working with construction unions and employers to develop primary, secondary, and tertiary prevention methods to help combat the opioid epidemic, other substance use disorders and to improve worker mental health.

Hardiman, E.R., Gourdine, D.L., Carpenter, J. (2005). An Evaluation of Peer-Delivered Mental Health Disaster Relief Services in New York City. Retrieved from The New York State Office of Mental Health/Project Liberty: <https://power2u.org/wp-content/uploads/2017/09/ProjectLibertyEvaluation.pdf>

This report provides a description of an evaluation of the Project Liberty Peer Initiative (PLPI), a peer-delivered program in New York City designed to provide mental health supports in the wake of the 9/11 public disaster. Organizing and delivering a comprehensive set of mental health supports for populations directly affected by such a disaster is an incredibly complex endeavor. A variety of supports and methods of support delivery are necessary in order to reach a maximum number of people in effective ways. The PLPI program represents an innovative and successful effort to provide a range of mental health supports to individuals with psychiatric disabilities, a population thought to be particularly vulnerable to the impacts of trauma and the potential recurrence of posttraumatic stress-related symptoms.

Hawkins, D., Roelofs, C., Laing, J., Davis, L. (2019). Opioid-related overdose deaths by industry and occupation – Massachusetts, 2011-2015. *American Journal of Industrial Medicine*, 62(10), 815-825. <https://doi.org/10.1002/ajim.23029>

BACKGROUND: Thousands of people in the United States continue to die from opioid overdoses every year. Work-related injuries and other factors associated with work may increase exposure to opioids and, subsequently, opioid-related overdose deaths (OROD). This study sought to determine whether OROD rates differed by industry and occupation and explored work-related factors that might contribute to these differences. METHODS: The researchers coded industry and occupation information on death certificates for all OROD among Massachusetts residents from 2011 to 2015. We estimated rates of OROD by industry and occupation using Massachusetts employment data. National survey data were used to explore whether work-related factors known to vary by occupation (occupational injury and illness, job insecurity, and paid sick leave) correlate to observed differences in OROD. RESULTS: Several industries and occupation groups had rates of OROD that were significantly higher than the rates for other workers. Construction workers and fishing workers stood out for having OROD rates many times higher than the average for all workers. Occupation groups with high rates of occupational injuries and illnesses, high job insecurity, and low availability of paid sick leave had higher rates of OROD. CONCLUSIONS: These findings underscore the need for policy and educational

interventions to reduce OROD tailored to the needs of high rate worker populations. Interventions should address workplace hazards that cause injuries for which opioids are prescribed, as well as best practices in medical management and return to work following injury, safer prescribing, enhanced access to treatment for opioid use disorders, and overdose prevention education.

Harduar, Morano L., Steege, A. L., Luckhaupt, S.E. (2018). Occupational Patterns in Unintentional and Undetermined Drug-Involved and Opioid-Involved Overdose Deaths — United States, 2007–2012. *MMWR Morbidity and Mortality Weekly Report*, 67:925–930. <http://dx.doi.org/10.15585/mmwr.mm6733a3>

What is already known about this topic? A majority of the U.S. population participates in the workforce. A person's job affects both physical and psychological well-being. The opioid epidemic negatively affects workers, workplaces, and employers. What is added by this report? During 2007–2012 proportional mortality ratios (PMR) for heroin-related overdose deaths (1.46) and methadone-related overdose deaths (1.34) were highest for the construction occupation group. PMRs for natural and semisynthetic opioids were highest for the extraction (1.39) and health care practitioner (1.81) occupation groups. What are the implications for public health practice? Identification of occupations associated with drug overdose deaths further characterizes the opioid epidemic. Incorporating workplace research and targeted interventions might benefit the opioid epidemic response.

Hazle, M.C., Saxon, A.J., Hill, K.P. Buprenorphine in safety-sensitive positions. (2022, January 14) *American Journal of Drug and Alcohol Abuse*. <https://doi.org/10.1080/00952990.2021.2003809>.

The permissibility of buprenorphine in safety-sensitive positions is a controversial topic. As an opioid medication, concerns have arisen regarding the potential for impairment and any effects that this would have on an employee's ability to safely perform job duties. While there are no definitive guidelines on the use of buprenorphine for those employed in safety-sensitive lines of work, most employers do not permit its use under any circumstance due to the potential risk of harm to the public. In addition to overlooking the fact that buprenorphine is a well-established and life-saving treatment for opioid use disorder (OUD), there are many flaws in making this determination. For one, buprenorphine is a partial mu opioid agonist which makes it inherently unique in comparison to other opioids. Most studies on impairment have examined acute use of full agonist opioids instead of chronic dosing of buprenorphine. Furthermore, assessments of impairment are not tailored to the tasks required of specific positions. Importantly, policies banning buprenorphine may contribute to treatment discontinuation and stigma, which can lead to relapse and overdose. Considering the morbidity and mortality associated with OUD, along with the surge in overdose deaths during the COVID19 pandemic, buprenorphine policies should be considered carefully. Given the lack of evidence showing definitive and specific impairments as a result of chronic buprenorphine use, coupled with the consequences of universal bans on its use, determinations on the permissibility of buprenorphine treatment for safety-sensitive positions should be made on a case-by-case basis.

Henn, M., Barber, C., Zhang, W., Staley, M., Azrael, D. & Miller, M. (2022) Identifying Occupation Groups for Suicide Prevention: A Statewide Data Linkage Study. *Archives of Suicide Research*. <https://doi.org/10.1080/13811118.2021.2020699>

To identify suicide rates by occupation category in Utah and describe the hospital history and circumstances of suicide decedents in the occupation category that had the state's highest rate and highest number of suicides: Construction and Extraction. METHOD: The researchers used data on suicide decedents from the National Violent Death Reporting System (NVDRS) for 2005-2015 ($n = 4,590$) to calculate sex- and occupation-specific suicide rates among adults 18-65 years old in Utah. For working-age men who died by suicide during the years 2014-2015 ($n = 623$), we linked NVDRS data

with decedents' hospital histories. RESULTS: One in five working-age men who took their life in Utah worked in Construction and Extraction, the single Bureau of Labor Statistics occupation category with both the highest number ($n = 719$) and rate of suicides (86.4/100,000 men vs. a range of 15.3-66.2 for other occupations). For females, there was no occupation group that had both high rates of suicide and high numbers of suicides compared with other occupations, so there was no clear occupation group to focus on in the same way there was for men. Using linked data for 2014-2015 deaths, 58% of men in Construction and Extraction who died by suicide had been diagnosed in the hospital in the past three years with a substance abuse or mental health problem, and a quarter (25%) tested positive for opioids on post-mortem examination. Nearly half (48%) of 2014-2015 male suicide decedents in Construction and Extraction were reported to have intimate partner problems, about a quarter (26%) had a criminal problem, a quarter (25%) were unemployed, and over half (54%) died by gunshot. CONCLUSIONS: Linked data identified Construction and Extraction as a potentially high-impact occupation group for suicide prevention and suggested potential contexts for intervention. Construction and Extraction stands out as an occupation group with a very high number and rate of suicides. Two-thirds of male decedents in Construction and Extraction had a substance abuse problem. For Utah females, there were no occupations with both high rates and high numbers of suicides.

Kolodny, A., Courtwright, D. T., Hwang, C. S., Kreiner, P., Eadie, J. L., Clark, T. W., and Alexander, G.C. (2015). The Prescription Opioid and Heroin Crisis: A Public Health Approach to an Epidemic of Addiction. *Annual Review of Public Health*. Vol. 36:559-574. <https://doi.org/10.1146/annurev-publhealth-031914-122957>

Public health authorities have described, with growing alarm, an unprecedented increase in morbidity and mortality associated with use of opioid pain relievers (OPRs). Efforts to address the opioid crisis have focused mainly on reducing nonmedical OPR use. Too often overlooked, however, is the need for preventing and treating opioid addiction, which occurs in both medical and nonmedical OPR users. Overprescribing of OPRs has led to a sharp increase in the prevalence of opioid addiction, which in turn has been associated with a rise in overdose deaths and heroin use. A multifaceted public health approach that utilizes primary, secondary, and tertiary opioid addiction prevention strategies is required to effectively reduce opioid-related morbidity and mortality. The researchers describe the scope of this public health crisis, its historical context, contributing factors, and lines of evidence indicating the role of addiction in exacerbating morbidity and mortality, and we provide a framework for interventions to address the epidemic of opioid addiction.

LaMontagne, A. D., Keegel, T., Louie, A. M. and Ostry, A. (2010). Job stress as a preventable upstream determinant of common mental disorders: A review for practitioners and policy-makers. *Advances in Mental Health*, 9(1), 17-35, <https://doi.org/10.5172/jamh.9.1.17>

There is growing recognition of the important role of mental health in the workforce and in the workplace. At the same time, there has been a rapid growth of studies linking job stress and other psychosocial working conditions to common mental disorders, and a corresponding increase in public concern media attention to job stress and its impact upon worker health and well-being. This article provides a summary of the relevant scientific and medical literature on this topic for practitioners and policy-makers. It presents a primer on job stress concepts, an overview of the evidence linking job stress and common mental disorders, a summary of the intervention research on ways to prevent and control job stress, and a discussion of the strengths and weakness of the evidence base. We conclude that there is strong evidence linking job stress and common mental disorders, and that it is a substantial problem on the population level. On a positive note, however, the job stress intervention evidence also shows that the problem is preventable and can be effectively addressed by a combination of work- and worker-directed intervention.

Massachusetts Department of Public Health Occupational Health Surveillance Program (2021); Opioid-related Overdose Deaths in Massachusetts by Industry and Occupation, 2016-2017. Boston. Retrieved from: <https://www.mass.gov/doc/opioid-related-overdose-deaths-by-industry-and-occupation-2016-2017/download>

The purpose of this report is to update the previously published 2018 report to include findings from 2016 and 2017, a period that represents a peak in both count and rate of fatal opioid-related overdose in Massachusetts. This report highlights new findings from 2016-2017 (including, for the first time, toxicology data), as well as provide trends over time and patterns by race/ethnicity for the period of 2011 to 2017.

Peterson, C., Stone, D. M., Marsh, S. M., et al. Suicide Rates by Major Occupational Group — 17 States, 2012 and 2015. (2018). *MMWR Morbidity and Mortality Weekly Report*, 67:1253–1260. <http://dx.doi.org/10.15585/mmwr.mm6745a1>

What is already known about this topic? From 2000 to 2016, the U.S. suicide rate among working aged (16–64 years) adults increased 34% from 12.9 per 100,000 population to 17.3. What is added by this report? 2012 and 2015 National Violent Death Reporting System data from 17 states indicated the major occupational group with the highest male suicide rate was Construction and Extraction (43.6 [2012] and 53.2 [2015]). The Arts, Design, Entertainment, Sports, and Media major occupation group had the highest female suicide rate in 2012 (11.7) and 2015 (15.6). What are the implications for public health practice? A comprehensive approach to suicide prevention, including workplace-based approaches, is needed. CDC’s technical package of strategies to prevent suicide is a resource for communities and workplaces to identify prevention strategies with the best available evidence.

Peterson, C., Sussell, A., Li, J., Schumacher, P. K., Yeoman, K., Stone, D. M. (2020). Suicide Rates by Industry and Occupation — National Violent Death Reporting System, 32 States, 2016. *MMWR Morbidity and Mortality Weekly Report*;69:57–62. <http://dx.doi.org/10.15585/mmwr.mm6903a1>

What is already known about this topic? Suicide among the U.S. working-age population (ages 16–64 years) is increasing; in 2017, nearly 38,000 persons died by suicide. What is added by this report? National Violent Death Reporting System data from 32 states were used to calculate suicide rates for major industry and occupational groups and detailed occupational groups. Five industry groups and six major occupational groups had higher suicide rates than did the overall study population. Suicide rates for detailed occupational groups provide insight into subcategories within major groups. What are the implications for public health practice? Opportunities exist for targeted and broadscale prevention. CDC’s Preventing Suicide: A Technical Package of Policy, Programs, and Practices provides strategies to prevent suicide and can serve as a resource for communities and employers.

Prescription Painkiller Overdoses: A Growing Epidemic, Especially Among Women. (2018, September 4). Retrieved from Centers for Disease Control and Prevention: Vital Signs. <https://www.cdc.gov/vitalsigns/prescriptionpainkilleroverdoses/index.html>

This webpage from the CDC contains a summary of how women as a subgroup have been affected by the opioid overdose epidemic. It contains guidelines for healthcare providers as well as steps state governments, and the national government can take to better protect women from opioid overdose deaths.

Reif, S., Braude, L., Lyman, D. R., et al. (2014). Peer Recovery Support for Individuals with Substance Use Disorders: Assessing the Evidence. *Psychiatric Services, 65*(7):853-861.

<https://doi.org/10.1176/appi.ps.201400047>

In recent years, peer recovery support services have become an accepted part of the treatment of substance use disorders, providing a more extensive array of services than typically associated with mutual support groups. Peer providers may help consumers set recovery goals, develop a plan, and work toward and maintain recovery. In this literature review, the last in the Assessing the Evidence Base (AEB) Series, the authors review the evidence supporting peer recovery support services, noting that more research is needed to distinguish the effects of peer recovery support from other recovery support activities.

Roelofs, C., Rodman, C., Rinehart, R., and Cain C (2021). Preventing Opioid-Related Harms in the Construction Industry. *NEW SOLUTIONS: A Journal of Environmental and Occupational Health Policy, 31* (3) 367-372. <https://doi.org/10.1177/10482911211008174>

Construction is one of the industries that has been hit hardest by the opioid crisis, and CPWR has been responding in multiple ways. With support and guidance from the North America's Building Trade Union Opioid Task Force and funding from the National Institute for Occupational Safety and Health, CPWR undertook three projects to promote strategies for reducing opioid use. The first created a communications framework to reframe stigmatizing narratives into effective messages that promote primary prevention—that is, preventing injuries that might lead to prescribing of opioids. The second refined and distributed a one-hour opioid hazard awareness training module, and the third assessed opportunities for and barriers to the expansion and improvement of existing union peer- support programs for treatment and recovery

Rodman, C. P., Rinehart, R., Roelofs C., Davis, L., Cain CT. (2020). *Peer Advocacy for Construction Workers Struggling with Substance Use and Mental Health*. CPWR – The Center for Construction Research and Training, Silver Spring. Retrieved from: https://www.cpwr.com/wp-content/uploads/Peer_Advocacy_Construction_Workers_Struggling_Substance_Use.pdf

This paper presents findings from focused telephone interviews with members of the NABTU Opioids Taskforce to uncover how peer advocacy networks are helping curb opioid use in the construction industry. To our knowledge, this is the first qualitative evaluation of peer advocacy programs in the construction industry. The report discusses key gaps in knowledge and provides questions that could inform a future large-scale evaluation of these important strategies.

Shaw, W. S., Roelofs, C., & Punnett, L. (2020). Work Environment Factors and Prevention of Opioid-Related Deaths. *American Journal of Public Health, 110*(8), 1235–1241.

<https://doi.org/10.2105/AJPH.2020.305716>

Opioid use disorder (OUD) and opioid overdose deaths (OODs) are prevalent among US workers, but work-related factors have not received adequate attention as either risk factors or opportunities for OOD prevention. Higher prevalence of OOD in those with heavy physical jobs, more precarious work, and limited health care benefits suggest work environment and organizational factors may predispose workers to the development of OUD. Organizational policies that reduce ergonomic risk factors, respond effectively to employee health and safety concerns, provide access to nonpharmacologic pain management, and encourage early substance use treatment are important opportunities to improve outcomes. Organizational barriers can limit disclosure of pain and help-seeking behavior, and opioid education is not effectively integrated with workplace safety training and health promotion programs. Policy development at the employer, government, and association levels

could improve the workplace response to workers with OUD and reduce occupational risks that may be contributing factors.

Stone, D. M., Jones, C. M., Mack, K.A. (2021). Changes in Suicide Rates — United States, 2018–2019. *MMWR Morbidity and Mortality Weekly Report*, 70:261–268.

DOI: <http://dx.doi.org/10.15585/mmwr.mm7008a1>

What is already known about this topic? Suicide is preventable. In 2019, approximately 47,500 lives were attributed to suicide. From 2018 to 2019, the suicide rate declined for the first time in more than a decade. What is added by this report? Suicide rates declined overall by 2.1%, among females by 3.2%, and among males by 1.8%, as well as in five states, certain demographic groups, and by certain mechanisms of suicide; however, disparities persist. What are the implications for public health practice? To build on 2019 progress, CDC’s Preventing Suicide: A Technical Package of Policy, Programs, and Practices supports a comprehensive approach to prevention. Implementing such an approach, especially in disproportionately affected populations (e.g., American Indian/Alaska Natives), is needed in all states.

Thumula, V., & Liu, T.-C. (2018). *Correlates of Opioid Dispensing*. Cambridge: Workers Compensation Research

Institute. Retrieved from: <https://www.wcrinet.org/reports/correlates-of-opioid-dispensing>

This study identifies characteristics of injured workers and their employers that are associated with differences in opioid dispensing rates. For example, this study finds that injured workers in certain industries are more likely to receive opioids on a chronic basis. This information might be useful in setting priorities for targeting special interventions to reduce inappropriate opioid prescriptions. This study focuses on the following characteristics: worker (age, gender); injury (type of injury); industry (industry group and employer’s payroll size); location (county-level opioid dispensing rate, urban-rural classification, and health insurance coverage rate). The data used for this analysis included 1.4 million pain medication prescriptions filled within 18 months postinjury for injuries that occurred between October 1, 2014, and September 30, 2015, in 27 states. The states are Arkansas, California, Connecticut, Delaware, Florida, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Missouri, Nevada, New Jersey, New York, North Carolina, Pennsylvania, South Carolina, Tennessee, Texas, Virginia, and Wisconsin.

Tracy K., Wallace, S. P. (2016). Benefits of peer support groups in the treatment of addiction. *Substance Abuse and Rehabilitation*, 7:143-154. <https://doi.org/10.2147/SAR.S81535>

Peer support can be defined as the process of giving and receiving nonprofessional, nonclinical assistance from individuals with similar conditions or circumstances to achieve long-term recovery from psychiatric, alcohol, and/or other drug-related problems. Recently, there has been a dramatic rise in the adoption of alternative forms of peer support services to assist recovery from substance use disorders; however, often peer support has not been separated out as a formalized intervention component and rigorously empirically tested, making it difficult to determine its effects. This article reports the results of a literature review that was undertaken to assess the effects of peer support groups, one aspect of peer support services, in the treatment of addiction. **METHODS:** The authors of this article searched electronic databases of relevant peer-reviewed research literature including PubMed and MedLINE. **RESULTS:** Ten studies met our minimum inclusion criteria, including randomized controlled trials or pre-/post-data studies, adult participants, inclusion of group format, substance use-related, and US-conducted studies published in 1999 or later. Studies demonstrated associated benefits in the following areas: 1) substance use, 2) treatment engagement, 3) human immunodeficiency virus/hepatitis C virus risk behaviors, and 4) secondary substance-related behaviors

such as craving and self-efficacy. Limitations were noted on the relative lack of rigorously tested empirical studies within the literature and inability to disentangle the effects of the group treatment that is often included as a component of other services. **CONCLUSION:** Peer support groups included in addiction treatment shows much promise; however, the limited data relevant to this topic diminish the ability to draw definitive conclusions. More rigorous research is needed in this area to further expand on this important line of research.

U.S. Food and Drug Administration (FDA). (2019, April 4). *FDA identifies harm reported from sudden discontinuation of opioid pain medicines and requires label changes to guide prescribers on gradual, individualized tapering.* Retrieved from: <https://www.fda.gov/drugs/drug-safety-and-availability/fda-identifies-harm-reported-sudden-discontinuation-opioid-pain-medicines-and-requires-label-changes>

This article is an announcement by the FDA which warns health care professionals and patients of the dangers of abruptly discontinuing an opioid medication. Specifically, it states that rapid discontinuation can result in uncontrolled pain or withdrawal symptoms. In turn, these symptoms can lead patients to seek other sources of opioid pain medicines, which may be confused with drug-seeking for abuse. Patients may attempt to treat their pain or withdrawal symptoms with illicit opioids, such as heroin, and other substances.

Resources

CPWR (2021) Hazard Alert: Opioid Deaths in Construction

<https://www.cpwr.com/wp-content/uploads/HA-Opioids.pdf>

<https://www.cpwr.com/wp-content/uploads/publications/spanish/Opioids-Hazard-Alert-Spanish.pdf>

CPWR (2020) Hazard Alert: Suicide Prevention in Construction.

<https://www.cpwr.com/wp-content/uploads/Suicide-Prevention-Hazard-Alert.pdf>

<https://www.cpwr.com/wp-content/uploads/Suicide-Prevention-Hazard-Alert-SP.pdf>

CPWR (2020). Infographic: Start a Conversation.

https://www.cpwr.com/wp-content/uploads/suicide_prevention_infographic_1-start_a_conversation.pdf

https://www.cpwr.com/wp-content/uploads/suicide_prevention_infographic_1-start_a_conversation-SP.pdf

CPWR (2020). Infographic: Reach Out.

https://www.cpwr.com/wp-content/uploads/suicide_prevention_infographic_2-reach_out.pdf

https://www.cpwr.com/wp-content/uploads/suicide_prevention_infographic_2-reach_out-SP.pdf

CPWR (2021). Opioid Awareness Training Program

<https://www.cpwr.com/research/research-to-practice-r2p/r2p-library/other-resources-for-stakeholders/mental-health-addiction/opioid-resources/opioid-awareness-training-program/>

CPWR (2018). Physicians' Alert: Pain Management for Construction Workers.

https://www.cpwr.com/wp-content/uploads/publications/publications_handouts-and-toolbox-talks_physicians-alerts_opioids.pdf

CPWR (2020). Toolbox Talk: Opioid Deaths in Construction

https://www.cpwr.com/wp-content/uploads/publications/publications_TT-Opioids.pdf

https://www.cpwr.com/wp-content/uploads/publications/publications_spanish_TT-SP-Opioides.pdf

CPWR (2021). Toolbox Talk: Suicide Prevention in Construction.

<https://www.cpwr.com/wp-content/uploads/TT-Suicide-Prevention.pdf>

<https://www.cpwr.com/wp-content/uploads/TT-SP-Suicide-Prevention.pdf>

