



Opioids: A Workplace Hazard

Introduction:

The increasing prevalence of opioid abuse and its effects has merited attention from health professionals, government agencies, community organizations, and the media. Relatively little of this attention has been directed towards the role of occupational health. There is ample expert research pointing to workplace injury as a major factor contributing to the opioid epidemic. However, work injuries and solutions that focus on them receive less public interest and discussion than other aspects of the epidemic.

We believe addressing the opioid epidemic in the context of occupational health could be uniquely effective. Perhaps most notably, reducing unnecessary work injury is a preventative measure, eliminating avenues by which people are exposed to opioids at all. Additionally, promoting occupational health approaches could help reshape public perception of the epidemic and reduce stigma.

Background

Opioids are a class of drugs commonly used to treat pain, which includes prescription opioids, heroin, and fentanyl. Prescription opioids such as oxycodone and hydrocodone can be highly addictive, leading to dependence, overdose, and death. Heroin, derived from the opium poppy plant, produces a strong euphoric effect, but is also highly addictive and can cause overdose and death. Fentanyl, a synthetic opioid, is up to 100 times more potent than morphine and has become a major contributor to the current opioid epidemic.

The increased prevalence of opioids over the past decade has been characterized by "three waves." These waves are: 1) overprescription of prescription opioids in the 1990s and early 2000s; 2) the subsequent widespread availability of heroin; and 3) the increased availability of synthetic opioids such as fentanyl. These nationwide trends have been mirrored at the local level, with many communities experiencing significant increases in opioid-related overdoses and deaths.

The vast majority of opioid misuse involves prescription drugs, rather than heroin or other illicit opioids. In 2020, out of 9.5 million people who had misused opioids, 9.3 million (97.5%) had used pain relievers, and 8.6 million (90.5%) had used pain relievers only, with no exposure to heroin.¹ Even when prescription opioids are used without a prescription, they are still often being used to treat pain. The majority of respondents in the most recent National Survey on Drug Use and Health reported relieving physical pain as the reason for their most recent misuse of pain drugs.² The use of prescription opioids to treat pain, even when used

¹ 2020 NSDUH Annual National Report. SAMHSA, US Dept. of Health and Human Services. <https://www.samhsa.gov/data/report/2020-nsduh-annual-national-report>

² Ibid.

illicitly, suggests the importance of injuries, including work injuries and strain, for understanding the epidemic.

To combat the opioid epidemic, it is essential to promote effective prevention and treatment strategies. This includes implementing prescription drug monitoring programs to prevent overprescription of opioids, improving access to medication-assisted treatment, and expanding harm reduction programs such as overdose prevention education and distribution of naloxone, a medication that can reverse opioid overdoses. In addition to these more widely known policies, we believe addressing the opioid epidemic through an occupational health lens would be effective and should be more actively explored.

Occupation and Opioids

Opioids are prescribed, used off prescription, and abused to treat pain that can arise from any number of conditions. However, growing evidence uniquely links work related pain to opioids.

Opioids are disproportionately prescribed for work related conditions. In 2022, the CDC released a first of its kind study, comparing prescription rates for injuries across a national, ten year sample of injuries. Occupational injuries accounted for more than 20% of all injury caused health conditions, and these conditions were 33% more likely to have an opioid prescribed. When opioids were prescribed, prescription lengths were more than a month longer for

occupational injuries than other injuries.³ Similar studies on smaller population samples support these findings.⁴⁵⁶⁷⁸

Despite frequent opioid prescription for work injuries, it's not clear that they even serve their intended purpose. A 2009 study of worker's compensation claims for lower back pain found that the majority of claimants received and filled an opioid prescription. However, the researchers suggest that "opioid therapy did not arrest the cycle of pain."⁹ Further, the same study, as well as a similar 2008 study, found that claimants prescribed opioids were at higher risk of chronic work loss and long term disability claims.¹⁰ That risk increased even more with length of prescription and strength of the drug prescribed. For those who do return to work, there can also be risks from use of prescribed opioids on the job due to impaired cognitive and physical abilities.¹¹

³ Asfaw, Abay PhD; Quay, Brian MS; Bushnell, Tim PhD; Pana-Cryan, Regina PhD. Injuries That Happen at Work Lead to More Opioid Prescriptions and Higher Opioid Costs. *Journal of Occupational and Environmental Medicine* 64(12):p e823-e832, December 2022. | DOI: 10.1097/JOM.0000000000002709

⁴ Dembe A, Wickizer T, Sieck C, et al. Opioid use and dosing in the workers' compensation setting. A comparative review and new data from Ohio. *Am J Ind Med.* 2012;55:313–324. [PubMed: 22068830]

⁵ Kraut A, Raymond CB, Ekuma O, et al. A comparison of opioid use between WCB recipients and other Manitobans for knee, shoulder, back and carpal tunnel release procedures. *Am J Ind Med.* 2016;59:257–263. [PubMed: 26792402]

⁶ Kraut A, Shafer LA, Raymond CB. Proportion of opioid use due to compensated workers' compensation claims in Manitoba, Canada. *Am J Ind Med.* 2015;58:33–39. [PubMed: 25145877]

⁷ Lilley R, Davie G, Langley J, et al. Do outcomes differ between work and non-work-related injury in a universal injury compensation system? Findings from the New Zealand Prospective Outcomes of Injury Study. *BMC Public Health.* 2013;13:995. [PubMed: 24148609]

⁸ Kim J Depression as a psychosocial consequence of occupational injury in the US working population: findings from the medical expenditure panel survey. *BMC Public Health.* 2013;13:1–10. [PubMed: 23280303]

⁹ Volinn, Ernest^{a,*}; Fargo, Jamison D.^{b,1}; Fine, Perry G.^{a,2}. Opioid therapy for nonspecific low back pain and the outcome of chronic work loss. *Pain* 142(3):p 194-201, April 2009. | DOI: 10.1016/j.pain.2008.12.017

¹⁰ Franklin, Gary M. MD, MPH^{**}; Stover, Bert D. PhD^{*}; Turner, Judith A. PhD^{**§}; Fulton-Kehoe, Deborah MPH, PhD^{*}; Wickizer, Thomas M. PhD[†]. Early Opioid Prescription and Subsequent Disability Among Workers With Back Injuries: The Disability Risk Identification Study Cohort. *Spine* 33(2):p 199-204, January 15, 2008. | DOI: 10.1097/BRS.0b013e318160455c

¹¹ Kowalski-McGraw, Michele et al. "Characterizing the Interrelationships of Prescription Opioid and Benzodiazepine Drugs With Worker Health and Workplace Hazards." *Journal of occupational and environmental medicine* vol. 59,11 (2017): 1114-1126. doi:10.1097/JOM.0000000000001154

Perhaps the most concerning research on work safety and opioids relates to overdose deaths. In 2012, researchers analyzed every opioid related death over one year in Utah. Utah requires employers to report work related injuries to a central state agency. 57% of those who died had at least one work injury significant enough to be reported. Among that 57%, the average number of work injuries sustained was three, suggesting a compounding danger.¹²

Another study compared a large national sample of injured workers with no opioid abuse history to non-injured workers with similar jobs and demographics. Over the three years examined, injured workers had drastically higher opioid related death rates. This was especially true for those whose injuries caused them to miss work time; their risk of opioid death increased by 191%.¹³

The risk of opioid deaths increases in more demanding and dangerous industries. In 2021, the Massachusetts Department of Public Health released a study of every known opioid related overdose death in the state in 2016 and 2017. The study categorized the deceased by occupation, finding that occupations with higher injury rates also had higher overdose death rates. This pattern was also observed in an earlier study on deaths from 2011 to 2015, but it was even more pronounced in the most recent research.¹⁴

Two of the most injury prone occupation groups were Construction & Extraction and Farming, Fishing, & Forestry. The rate of opioid overdose deaths in Construction & Extraction

¹² Cheng, Melissa, et al. "Comparison of opioid-related deaths by work-related injury." *American journal of industrial medicine* 56.3 (2013): 308-316.

¹³ Asfaw, Abay, and Leslie I. Boden. "Impact of workplace injury on opioid dependence, abuse, illicit use and overdose: a 36-month retrospective study of insurance claims." *Occupational and environmental medicine* 77.9 (2020): 648-653.

¹⁴ Massachusetts Department of Public Health.
<https://www.mass.gov/doc/opioid-related-overdose-deaths-in-massachusetts-by-industry-and-occupation-2018-2020-0/download>

occupations was six times higher than the average rate, and the overdose death rate in Farming, Fishing, and Forestry was seven times higher than the average.¹⁵

Solutions

The links between opioids and work related injury and pain are clear. Dangerous or unsafe working conditions increase risk of opioid prescription, abuse, and death. However, interventions aimed at the workplace may be especially effective in reducing the scale of the opioid epidemic.

Workplace focused interventions are promising first and foremost for their ability to prevent opioid use at all. By improving safety conditions on the job and reducing injury rates, we can reduce the number of people who begin to use opioids to relieve work related pain. Targeted work can be done to improve safety in high risk industries and jobs. In addition to addressing injury hazards, it may be effective to increase awareness of ergonomic practices and ways to avoid repetitive strain. Given the high prescription rates for non-specific back and joint pain, strain can be just as problematic as acute injury.

The workplace is also a useful target for information specifically about opioids. The vast majority of opioid and pain relief drug users in the workforce are actively employed. (See Tables 1 and 2.) Work is where most adults spend much of their waking time. Education in the workplace can be effective for informing workers of both the risks of using opioids, even when prescribed, and for providing resources they can access if they do have a substance problem. The success of many Employee Assistance Programs (EAPs) suggests that the social

¹⁵Ibid.

environment of the workplace can be a powerful support system for individuals with substance issues or addictions.

Finally, by championing work focused solutions, we can help reduce the stigma surrounding the opioid epidemic. The stigma around drug use and addiction is an impediment to drug users who may otherwise seek help, as well as an impediment to non-users who may otherwise provide support or empathy. This stigma includes harmful beliefs about substance use being caused by laziness or individual moral failings. By addressing this issue in the workplace and connecting it to work related injuries, we can break down these beliefs. It's clear that opioid use can originate from over-work, difficult and demanding work, and working in the most dangerous conditions. Bringing these connections to light is a powerful tool for fighting the opioid epidemic and making workplaces safer overall.

Tables

Past Year Substance Activity	Full-Time	Part-Time	Part-Time or Full-Time	Unemployed
Any Use of Prescription Pain Relievers	73.68%	19.89%	93.57%	6.43%
Misuse of Prescription Pain Relievers	72.58%	17.89%	90.46%	9.52%
Misuse of Opioids	70.83%	17.45%	88.28%	10.33%

Past Year Substance Activity	Full-Time	Part-Time	Part-Time or Full-Time	Unemployed
Any Use of Prescription Pain Relievers	73.02%	19.38%	92.40%	7.60%
Misuse of Prescription Pain Relievers	67.27%	23.24%	90.51%	9.51%
Misuse of Opioids	65.82%	22.74%	88.56%	9.79%

¹⁶ 2020 NSDUH Detailed Tables. SAMHSA, US Dept. of Health and Human Services.
<https://www.samhsa.gov/data/report/2020-nsduh-detailed-tables>.

¹⁷ Work Force figures exclude “students, persons keeping house or caring for children full time, retired or disabled persons, or other persons not in the labor force.”

¹⁸ Ibid.

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