The Impact of Opioids on the Workforce in Wyoming

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Submitted to:
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Executive Summary

Overview

The opioid epidemic is a nationwide public health crisis. Although Wyoming's rates of opioid use and opioid use disorder (OUD) are similar to or lower than national rates, opioid-involved overdose deaths in Wyoming have been increasing since 2019, in part due to the use of illicitly manufactured fentanyl.[1] The consequences have lasting impacts on the families and communities across Wyoming.

The impact of the opioid epidemic extends into the workforce: working-age adults have the highest rates of opioid use, OUD, and overdose deaths in Wyoming.[2] The data indicate high opioid dispensing rates and overdose deaths in construction, mining, and oil and gas industries compared to other industries. Jobs that are labor intensive, as is the case for the industries noted above, have an increased risk of injuries, accidents, and fatalities.[3] These types of issues increase the likelihood that employees will use prescription or illicit opioids to manage the pain so that they can continue working to support themselves and their families. This increases the risk of developing OUD and can lead to opioid-related overdoses.[4] Opioid use also impacts businesses by leading to decreased productivity, absenteeism, employee turnover, reduction in job performance, and therefore, a company's overall viability.[5]

There is an urgent need to understand the relationship between opioids and the workforce and develop effective prevention strategies to ensure employee safety and well-being. This led to the Community Prevention Unit of the Wyoming Department of Health Public Health Division contracting with TriWest Group in January 2024 to assess the impact of opioid use on the workforce in Wyoming. The purpose of the assessment was to learn more about the connection between opioid and other substance use and the workplace, and to gain insight into what Wyoming employers are currently doing to address opioid use in their companies. The assessment included a mixed methods approach (environmental scan, surveys, interviews, and focus groups) and a review of best practices to prevent and address opioid

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[1] Wambeam, R., Canen, E., Kato, M., & Despain, L. H. (2024). *Understanding opioid overdoses and deaths: Wyoming's comprehensive opioid/fentanyl needs assessment*. Wyoming Survey & Analysis Center, University of Wyoming.
[2] Wambeam, R., Canen, E., Kato, M., & Despain, L. H. (2024).
[3] U.S. Bureau of Labor Statistics. (n.d.). *Economic news release: Census of fatal occupational injuries summary, 2022*.
[4] Asfaw A, & Boden LI. (2020). Impact of workplace injury on opioid dependence, abuse, illicit use and overdose: a 36-month retrospective study of insurance claims. *Occup Environ Med*, *77*(9), 648-653. https://doi.org/10.1136/oemed-2020-106535
[5] Kim, B., Kim, M., & Park, G. (2024, January). *The opioid crisis and the role of employers*. Stanford Institute for Economic Policy Research. https://siepr.stanford.edu/publications/policy-brief/opioid-crisis-and-role-employers

and other substance use concerns and to promote a culture of health and safety in the workplace.

Summary of Best Practices and Recommendations

The assessment and review of best practices revealed several strategies to guide employer efforts and also informed recommendations for state partners to participate in addressing the complex challenges inherent to the impact of opioids on the workplace. These findings and recommendations are summarized below and described in more detail in the full report.

Findings indicated that a comprehensive approach includes an employer investing in elements from across the continuum of care, and incorporates elements of the following eight strategies and best practices:

- Limit exposure to hazards and unhealthy or unsafe behaviors
- Provide employee and supervisor training
- Develop written substance use policy
- Provide comprehensive healthcare and pharmacy coverage
- Provide employee or member assistance program
- Develop policies and practices to facilitate treatment and recovery
- Support employees' return to work
- Build a culture that supports overall wellness

However, findings also suggested that employers do not have to implement every strategy or best practice from the list above to begin improving safety and reducing the negative effects of opioid misuse. The strategies can be tailored for each specific company and industry depending on their needs, available opportunities, and readiness.

Along with employers implementing strategies to prevent and respond to opioid use issues in their respective workplaces, the Wyoming Department of Health Community Prevention Unit, prevention specialists, and other public health and behavioral health partners can play a role in addressing the opioid crisis. The recommendations listed below and detailed in the full report are intended to inform the state's efforts to reduce opioid exposure and prevent adverse opioid-related outcomes in Wyoming's workforce.

- Identify new and support existing workplace prevention champions, including employers, employee representatives, trade associations, and other partners, to promote and implement opioid prevention initiatives.
- Develop and disseminate industry-specific education and awareness resources that focus on the risks of opioid use; promote effective prevention programs; and address common misconceptions about safety, pain management, and recovery.

- Connect employers and employee groups to existing state and local prevention, harm reduction, treatment, and recovery resources.
- Identify and reduce barriers to implementing effective opioid prevention strategies.
- Evaluate the effectiveness of workplace opioid prevention programs across different industries.

Introduction

In January 2024, the Community Prevention Unit of the Wyoming Department of Health Public Health Division (WDH-PHD) engaged TriWest Group to assess the impact of opioid use on the workforce in Wyoming. The purpose was to understand how opioid and other substance use affects the workplace—focusing on construction, mining, and oil and gas industries—and to identify policies and procedures employers are already successfully using to prevent and address opioid and other substance use concerns and promote a culture of health and safety. The assessment included an analysis of state and federal data sources; a review of literature; interviews with trade associations, state agencies, and other partners; a survey of employers; and identification of best practices for workplace prevention and safety. Findings and recommendations from this report can guide efforts to reduce opioid exposure and prevent adverse opioid-related outcomes in Wyoming's workforce.

Focus on Construction, Mining, and Oil and Gas Industries
WDH-PHD selected these industries because of data showing high opioid dispensing rates and overdose deaths compared to other industries.

Background

Overview

The national opioid epidemic is a public health crisis that has affected communities across the United States, leaving no state untouched by its devastating effects. Since the late 1990s, the misuse of prescription opioids, heroin, and synthetic opioids such as fentanyl has increased rapidly, leading to widespread substance misuse, substance use disorder, overdose, and in many cases, death.

Although Wyoming's rates of opioid use and opioid use disorder (OUD) are similar to or lower than national rates, opioid-involved overdose deaths in Wyoming have increased since 2019, partially a result of the use of illicitly manufactured fentanyl.[6] Non-fatal overdoses, overdose deaths, and other opioid-related problems have long-lasting consequences for families and communities across the state, indicating an urgent need for effective prevention and intervention strategies.

Wyoming Is Experiencing the Fourth Wave of the Opioid Crisis
The start of the national opioid crisis is the result of overprescribing of opioid analgesics in the mid-1990s. Prescription opioid death rates started to decrease after regulatory measures were put into place and improvements in prescribing practices were made. However, a second wave began around 2010 with an increase in overdose deaths from heroin, followed shortly by the third

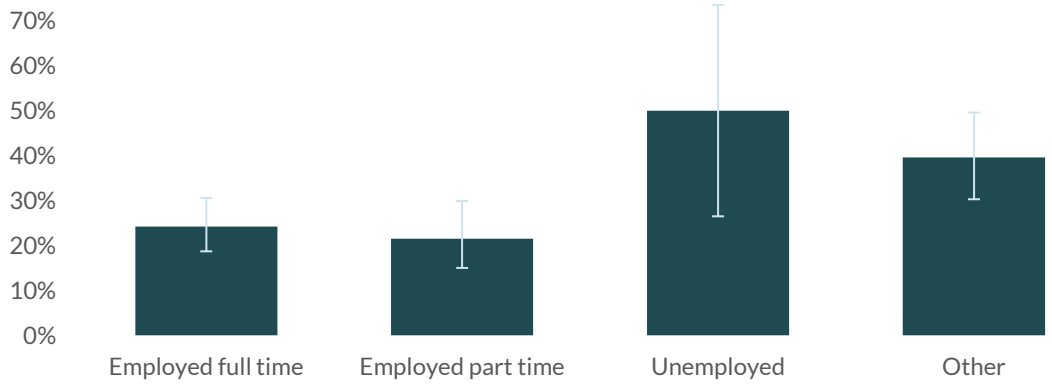
[6] Wambeam, R., Canen, E., Kato, M., & Despain, L. H. (2024).

wave: a sharp rise in deaths from synthetic opioids, primarily illicitly manufactured fentanyl.[7] Wyoming, along with most other states, is currently experiencing the fourth wave of the opioid crisis, characterized by increasing overdose deaths involving both fentanyl and methamphetamines.[8]

The public health impact of the opioid epidemic extends into the workforce. Although self-reported use of opioids is not different by employment status (Figure 1), working-age adults have the highest rates of OUD, and overdose deaths in Wyoming.

Figure 1. The percentage of Wyoming adults who report use of any opioids in the past year by employment status.

The percentage of adults who reported use of any opioids in the past 12 months, 2021-2022



Substance Abuse and Mental Health Services Administration. (2022). *National Survey on Drug Use and Health*. https://www.samhsa.gov/data/data-we-collect/nsduh-national-survey-drug-use-and-health

Among adults in the working age group, those with identifiable industries and occupations that can be categorized under the North American Industry Classification System (NAICS) are especially relevant, suggesting that they were employed at least at the time of their death. The construction, mining, and oil and gas sectors are three of the most prevalent industries linked to fatal overdoses in Wyoming.[9] The opioid crisis also has had negative implications for economic productivity and workforce stability among major industries in the state (i.e., mining, construction, agriculture, and tourism). Employers face workforce challenges associated with substance use such as labor shortages, increased absenteeism, decreased productivity, workplace impairment and safety concerns, and higher healthcare

[7] U.S. Centers for Disease Control and Prevention. (2024, April 5). *Understanding the opioid overdose epidemic.* https://www.cdc.gov/overdose-prevention/about/understanding-the-opioid-overdose-epidemic.html
[8] Ciccarone, D. (2021, July). The rise of illicit fentanyl, stimulants and the fourth wave of the opioid overdose crisis. *Current Opinion in Psychiatry*, *34*(4), 344–350. https://doi.org/10.1097/YCO.0000000000000717
[9] Wyoming Department of Health. (n.d.). Drug overdose data.

costs.[10,11] Considering these factors, the workplace and particularly these industries have been recognized as a focus for prevention efforts.

Workplace Prevention

Prevention is a crucial component of a comprehensive strategy to address the opioid crisis in Wyoming. Evidence-based prevention practices include education of youth in schools; training for healthcare providers on safe prescribing practices; access to non-opioid alternatives for pain management; and increased availability of medications to reverse opioid overdose and treat OUD. Employers can also play a key role in preventing and reducing use of opioid, alcohol, and other substances among employees. Examples of effective strategies include drug-free workplace policies; messages to reduce stigma associated with substance use and help-seeking; education to raise awareness of risks; wellness initiatives; initiatives to address workplace safety, stress, injury, and other conditions that may contribute to opioid use; employee assistance programs; and peer support programs.[12]

Working in collaboration with public health professionals, prevention coalitions, and local community partners, employers can be positioned to implement effective policies and practices to prevent and address opioid use in the workplace. Industries that are physically demanding have greater risk of opioid-related problems because of factors such as higher rates of injuries that lead to acute or chronic pain, stress and fatigue associated with shift work, isolation, low job security, and limited sick leave policies that lead employees to work while in pain. However, all workplaces may benefit from implementing policies and practices that improve workplace safety.

In this report, we (TriWest Group) explore the background of the opioid crisis in Wyoming with a specific focus on the workforce. We detail the unique characteristics and challenges of the opioid crisis in the state to inform policymakers and prevention partners on their efforts to prevent and mitigate the impact of opioids on Wyoming's communities and economy.

We begin with a description of our assessment methodology. The subsequent Findings section includes an examination of:

- data on opioid use, opioid prescribing rates, and other related issues in Wyoming
- workforce trends and characteristics

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[10] National Safety Council. (2021). *Position/Policy statement: Opioids and employers*. https://www.nsc.org/getattachment/06a888eb-d368-4fed-bbb9-1cd4915cf0a3/w-opioids-and-employers-169

[11] Paris, J., Rowley, C., & Frank, R. G. (2023, April 17). *The economic impact of the opioid epidemic*. Brookings. https://www.brookings.edu/articles/the-economic-impact-of-the-opioid-epidemic/

[12] U.S. Department of Labor, Employment and Training Administration. (n.d.). *Preventing substance use in the workforce*. https://www.dol.gov/agencies/eta/RRW-hub/Getting-started/Preventing-substance-use

- workplace risk factors that contribute to opioid use
- economic and operational costs of opioid use on businesses

Next, we provide a summary of existing policies and procedures used by Wyoming employers to address opioid concerns, followed by a description of best practices and related tools for preventing opioid-related issues in the workplace.

The report concludes with a set of actionable recommendations for the Wyoming Department of Health and other key partners and representatives involved in prevention efforts. These recommendations aim to guide the development and implementation of effective strategies that support employer's efforts to prevent opioid misuse and related concerns among Wyoming's workforce.

Methods

This assessment involved a mixed methods approach beginning with an environmental scan to identify national, state, and local data sets and sources related to opioids in the workplace and to examine evidence-based practices and policies. We examined publicly available datasets, academic publications, reports from the Wyoming Department of Health Public Health Division's Community Prevention Unit, and grey literature (e.g., community health needs assessments, governmental and industry reports, presentations, briefings).

To understand the impact of opioids and other concurrent substance use on the workplace, and to identify existing policies and procedures employers and communities use to address opioid use, we interviewed representatives from trade associations, state agencies, prevention coalitions, law enforcement, and behavioral health provider organizations as well as other local partners and national experts from research institutions. Appendix A provides a list of individuals who participated in these interviews and focus groups. We used a semi-structured interview guide to ensure that we covered topics of interest while also exploring emerging themes.

Table 1 includes the data sources we reviewed, summarized, and analyzed.

Table 1. Quantitative data sources

Data Source	TriWest Analysis
Substance Abuse and Mental Health Services Administration (SAMHSA) National Survey on Drug Use and Health (NSDUH)	Estimated pain reliever and opioid misuse and OUD in the past year at the state and county levels as available

Data Source	TriWest Analysis
Centers for Disease Control and Prevention (CDC) Wide-Ranging Online Data for Epidemiologic Research (WONDER)	Analyzed state- and county-level opioid-involved overdose death rates by year and available demographic characteristics
Bureau of Labor Statistics (BLS) Local Area Unemployment Statistics, Quarterly Census of Employment and Wages	Estimated state- and county-level labor force characteristics including unemployment/employment rates and average annual wages by industry
Wyoming Administration and Information Economic Analysis Division (EAD) County Economic Profiles	Summarized state- and county-level industry and occupational trends
CDC Opioid Dispensing Rate Maps	Developed county-level map to contrast opioid-involved overdose deaths and opioid dispensing rates and to identify regions of interest
CDC Naloxone and Buprenorphine Dispensing Rate Maps	Characterized the availability of OUD treatment at the state level
CDC National Institute for Occupational Safety and Health Absences in the Workplace and Worker Non-Fatal Injuries and Illnesses Charts	Described state-level rates of absenteeism, illness, and injury
Office of National Drug Control Policy High Intensity Drug Trafficking Areas (HIDTA)	Developed county-level map of Wyoming HIDTAs to compare to other socioeconomic, demographic, and opioid characteristics
United States Census Small Area Health Insurance Estimates (SAHIE)	Estimated state- and county-level health insurance rates
State Epidemiology Outcomes Workgroup (SEOW) Community Epidemiological Profiles	Summarized data related to opioids and the workforce from community epidemiological profiles
Wyoming Department of Health Drug and Opioid Overdose Dashboards	Synthesized existing data in the context of other data and literature

Finally, we developed and distributed a web-based survey to employers—with assistance from the Wyoming Business Alliance, the Associated General Contractors of Wyoming, and Community Prevention Specialists—to collect additional information about workplace policies, procedures, and resources to promote wellness and prevent and address opioid and other substance use-related concerns.

Limitations

The information we received about the policies, procedures, and resources used by Wyoming employers should not be considered representative of all employers in Wyoming. The input we obtained from Wyoming employers is limited. Nine employers, with over 1,000 employees combined, completed the web-based survey. We supplemented the employer input with interviews with other relevant representatives in the state and subject matter experts (see Appendix A), a review of the academic and grey literature, and analysis of available data.

The data that we analyzed and reviewed were limited to publicly available data sources.

Findings

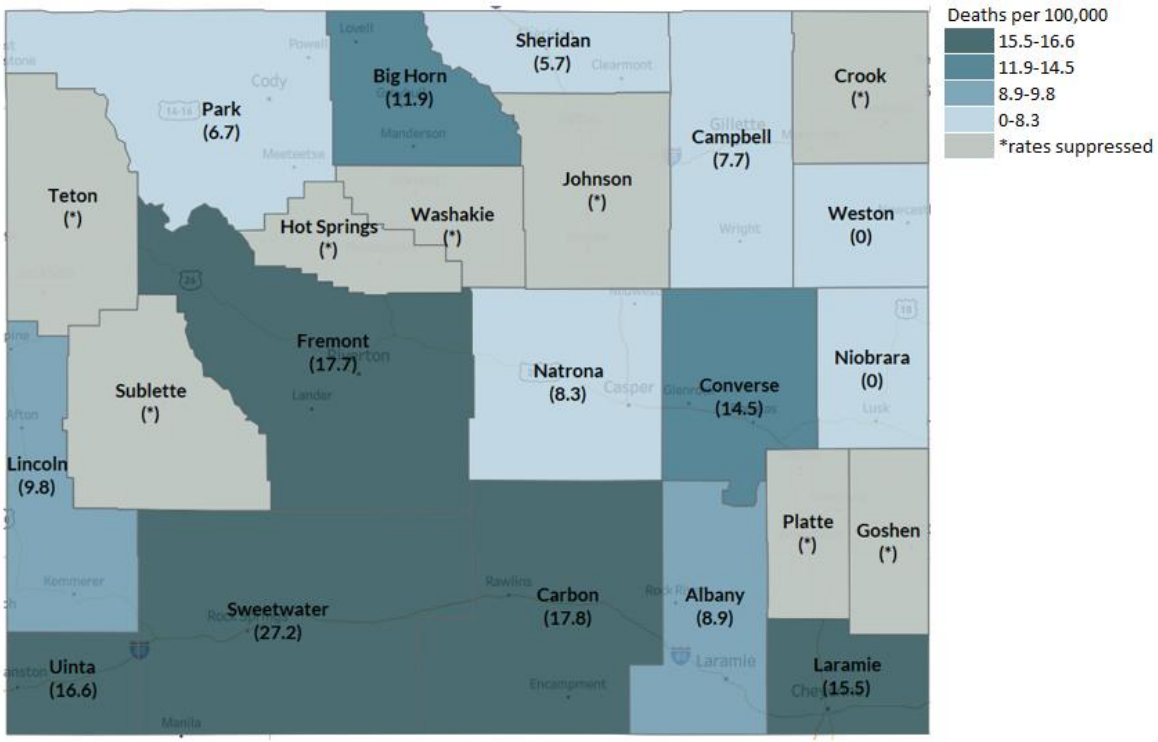
Opioids and the Workplace

The Opioid Epidemic in Wyoming

Between 2019 and 2023, opioid-involved overdose deaths increased by 82% in Wyoming.[13] Although other substances, such as stimulants (including methamphetamine), remain a concern in Wyoming, opioids are involved in a larger percentage of overdose deaths than any other drug. In 2023 the rate of opioid-involved overdose deaths in Wyoming was 1.6 times higher than the rate of stimulant-involved overdose deaths (14.4 vs. 8.7 per 100,000).[14] In combined years 2019-2023, across Wyoming counties, the opioid-involved death rates were highest in Sweetwater, Carbon, Fremont, Uinta, and Laramie.

Figure 2. Sweetwater, Carbon, Fremont, Uinta, and Laramie counties have the highest rate of opioid-involved overdose deaths in Wyoming.*

The rate of opioid-involved overdose deaths per 100,000 people, 2019-2023



Wyoming Vital Statistics Annual Resident Death File, analyzed by WDH-PHD.
*Crook, Johnson, Hot Springs, Goshen, Platte, Teton, Sublette, and Washakie Counties had fewer than 5 deaths. Rates based on counts less than five are considered unstable and are suppressed.

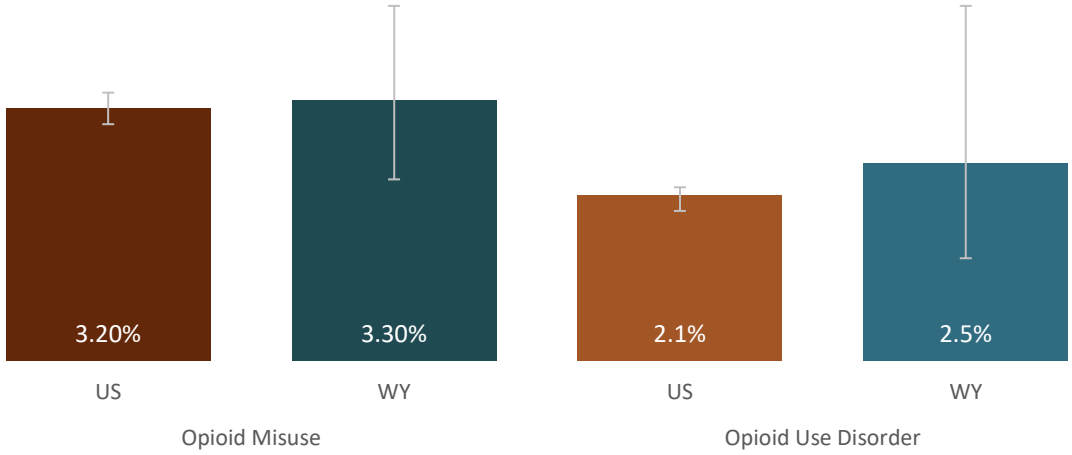
[13] Wyoming Department of Health. (n.d.). *Drug overdose data*. https://health.wyo.gov/publichealth/prevention/substanceabuseandsuicide/opioid-information-wyoming/drug-overdose-data/
[14] Wyoming Department of Health. (n.d.).

Wyoming Department of Health. (n.d.). Drug overdose data. https://health.wyo.gov/publichealth/prevention/substanceabuseandsuicide/opioid-information-wyoming/drug-overdose-data/

The percentage of adults aged 18 and older in Wyoming who reported misuse of opioids or have OUD each year is comparable to the national average (see Figure 3).[15] Applying Wyoming's rate to its population reveals that roughly 18,000 individuals aged 18 and older misused opioids and roughly 12,000 met the criteria for OUD annually—populations larger than many cities and counties in Wyoming.

Figure 3. The percentage of Wyoming adults who report misuse of opioids or have opioid use disorder is comparable to the national average.

The percentage of adults who reported misuse of opioids or have opioid use disorder, Wyoming and the US, 2021-2022



Substance Abuse and Mental Health Services Administration. (2021/2022). *National Survey on Drug Use and Health*. https://www.samhsa.gov/data/data-we-collect/nsduh-national-survey-drug-use-and-health

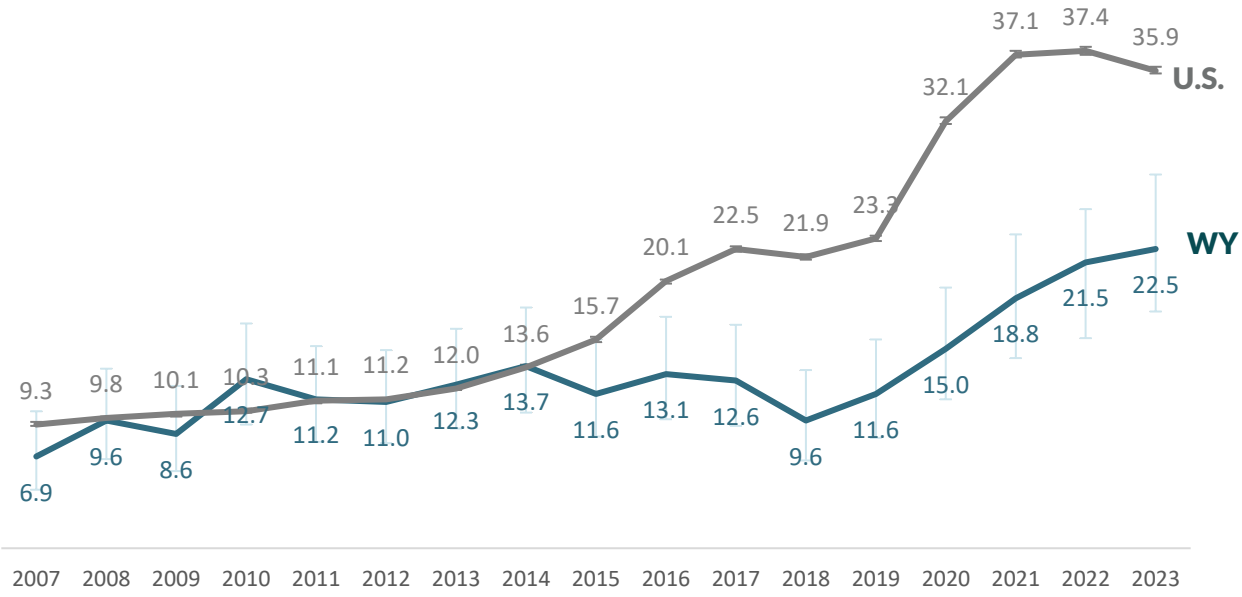
Wyoming's opioid-involved overdose death rate has been lower than the national rate since 2015 (see Figure 4). However, between 2018 and 2023, the opioid-involved overdose death rate among people ages 18 to 65 increased by 134% in Wyoming compared to 64% nationally.[16]

[15] Substance Abuse and Mental Health Services Administration. (2021-2022). *National Survey on Drug Use and Health*. https://www.samhsa.gov/data/data-we-collect/nsduh-national-survey-drug-use-and-health

[16] U.S. Centers for Disease Control and Prevention, National Center for Health Statistics. (2021). *Mortality data on CDC WONDER*. https://wonder.cdc.gov/mcd.html

Figure 4. Wyoming's rate of opioid-involved overdose deaths in working-age adults increased by 134% from 2018 to 2023 but remained below the national average.

The rate of opioid-involved overdose death in adults 18 to 65 years of age per 100,000 people, 2007-2023



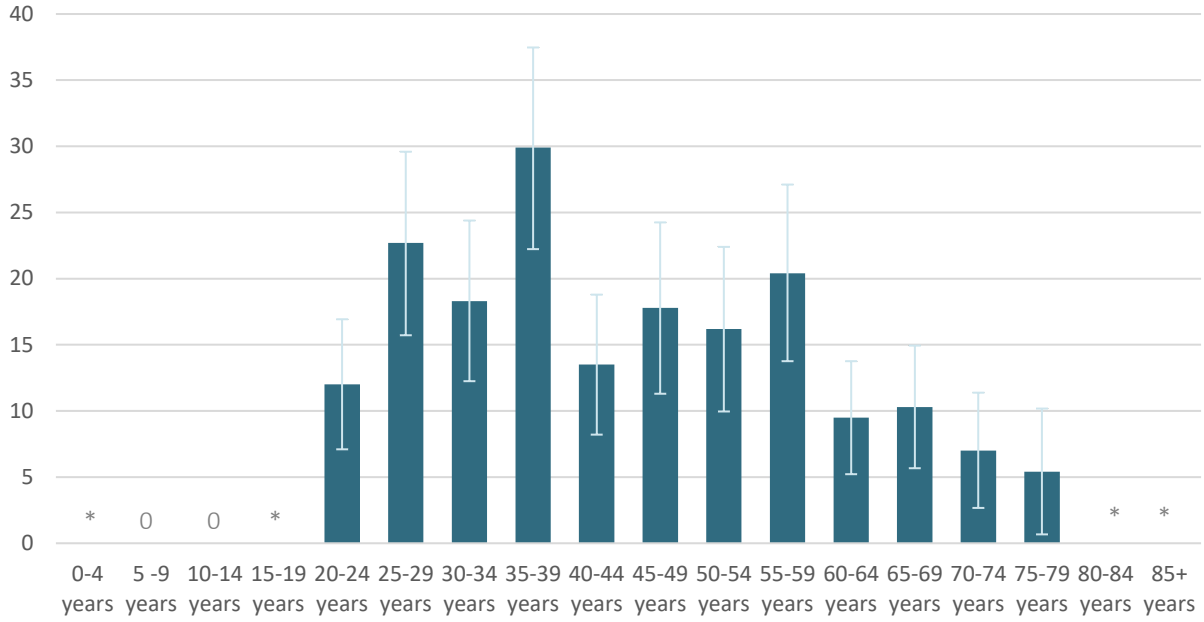
Wyoming Vital Statistics Annual Resident Death File, analyzed by WDH-PHD.

Wyoming's opioid-involved overdose death rate among people ages 18 to 65, the age group that predominates the workforce (see Figure 5), is among the highest. Males between the ages of 35 and 39 and 45 and 54 had the highest opioid-involved overdose death rates between 2017 and 2021.[17]

[17] Wyoming Department of Health. (n.d.). *Drug overdose data*. https://health.wyo.gov/publichealth/prevention/substanceabuseandsuicide/opioid-information-wyoming/drug-overdose-data/

Figure 5. Wyoming working-age adults have some of the highest rates of opioid-involved overdose deaths.

The rate of opioid-involved overdose death by age group per 100,000 people, 2019-2023



Wyoming Vital Statistics Annual Resident Death File, analyzed by WDH-PHD.
*Rates based on counts less than five are considered unstable and are suppressed.

Impact of Fentanyl

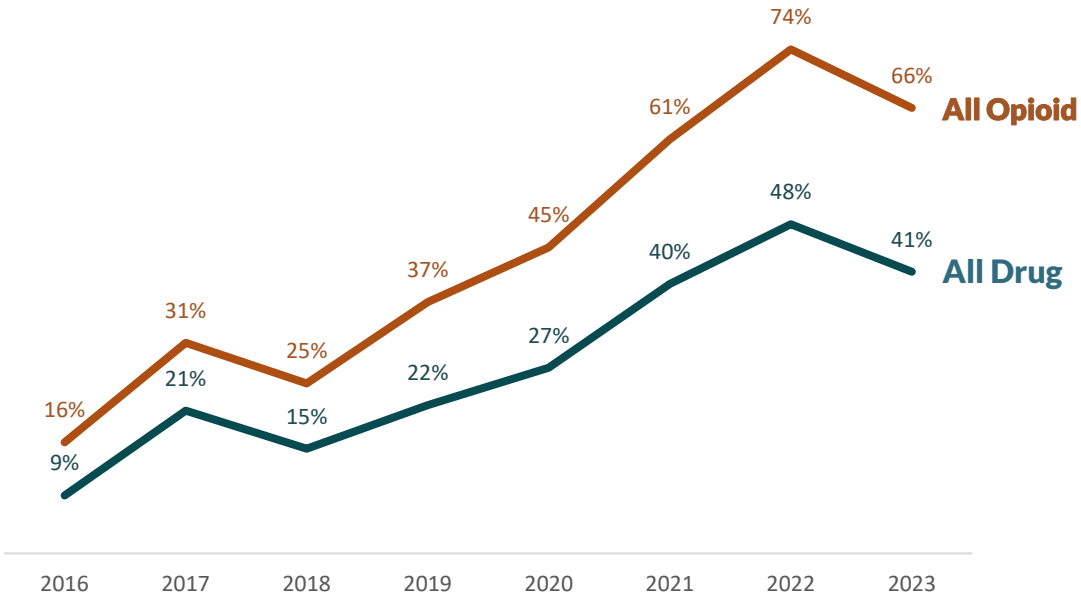
Since 2013, the national increase in opioid-involved overdose deaths has largely resulted from synthetic opioids such as fentanyl, which can be legally prescribed to treat severe pain and are used as a low-cost, more potent additive or replacement in illicitly manufactured drugs.

In Wyoming, synthetic opioids were involved in 41% of all drug overdose deaths and 66% of opioid-involved overdose deaths in 2023 (see Figure 6).[18]

[18] Wyoming Department of Health. (n.d.).

Figure 6. Three quarters of opioid-involved overdose deaths and almost half of all drug overdose deaths involved at least one synthetic opioid.

The percentage of Wyoming drug and opioid-involved overdose deaths involving synthetic opioids, 2016-2023

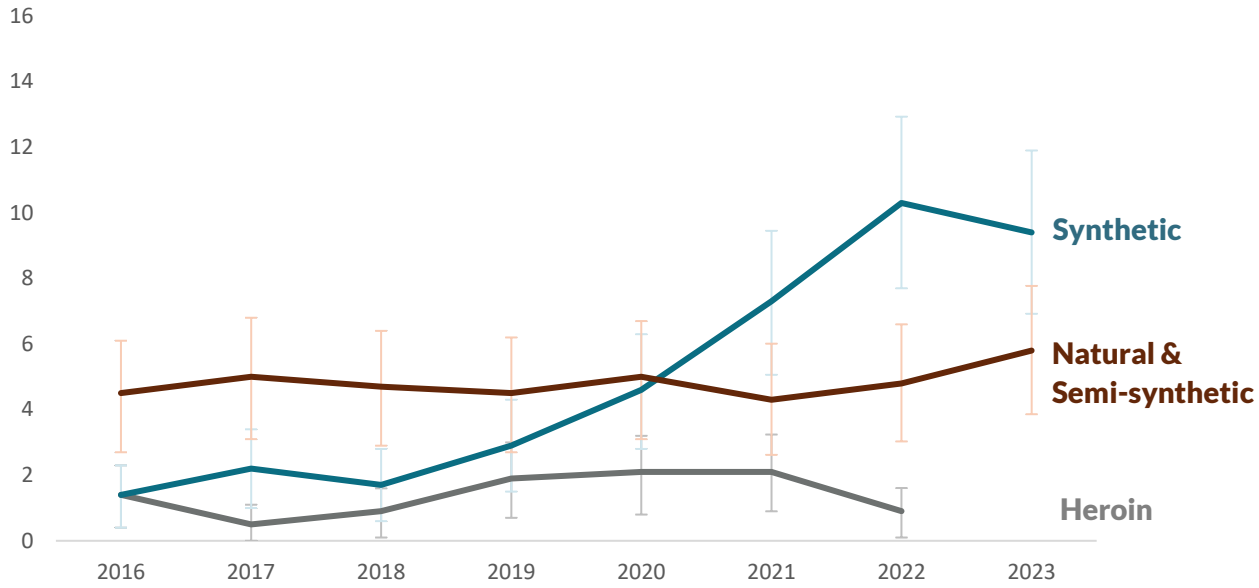


Wyoming Vital Statistics Annual Resident Death File, analyzed by WDH-PHD. https://health.wyo.gov/publichealth/prevention/substanceabuseandsuicide/opioid-information-wyoming/drug-overdose-data/

According to data and interviews with partners, illicit synthetic opioids entered the drug supply in Wyoming later than in many regions in the U.S. (see Figure 4 for national overdose rates compared to Wyoming rates) and are now the primary drivers of opioid-involved overdose deaths (see Figure 7). Understanding Wyoming's synthetic opioid trend helps to explain the lower but increasing overdose death rates in Wyoming related to the U.S. and indicates signs of possible future trends. However, prevention and intervention have the potential to change the current trajectory of opioid-involved overdose deaths in Wyoming.

Figure 7. The rate of overdose deaths involving synthetic opioids is higher than overdose deaths involving heroin or natural and semi-synthetic opioids in Wyoming.[19]

Opioid-involved overdose death rate per 100,000 people by opioid type, 2016-2023



Wyoming Vital Statistics Annual Resident Death File, analyzed by WDH-PHD. Heroin rates in 2023 are suppressed.

U.S. Centers for Disease Control and Prevention. (n.d.). *Overdose prevention: Understanding the opioid overdose epidemic.* https://www.cdc.gov/overdose-prevention/about/understanding-the-opioid-overdose-epidemic.html?CDC_AAref_Val=https://www.cdc.gov/opioids/basics/epidemic.html

Polysubstance Use

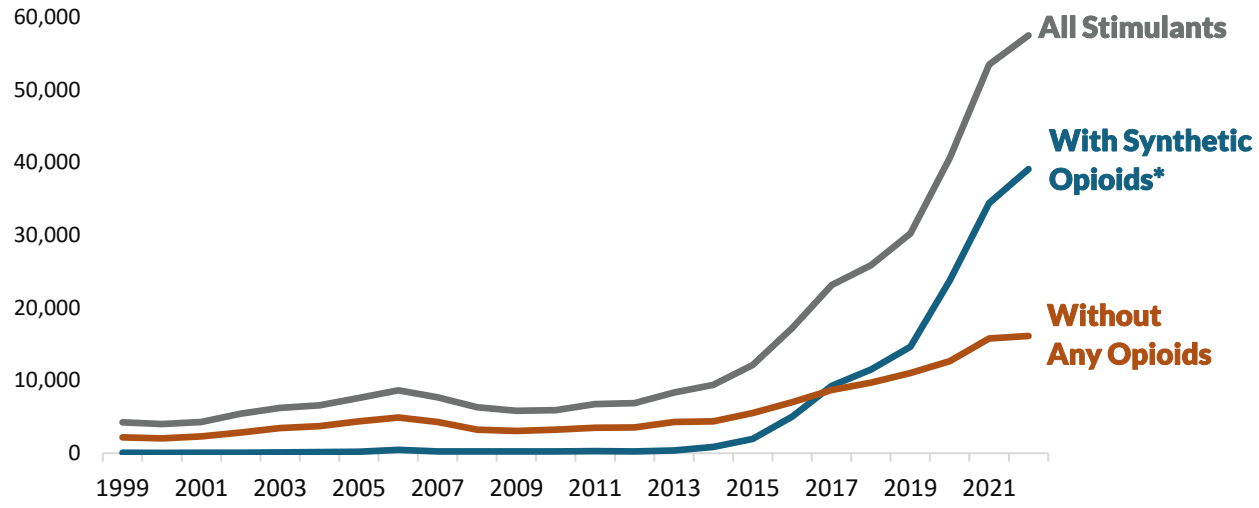
National evidence shows that increases in drug overdose death rates, such as stimulants (including cocaine and methamphetamine) and benzodiazepines, have been driven primarily by opioid involvement (i.e., combination of opioids with other drugs).[20]

[19] U.S. Centers for Disease Control and Prevention. (n.d.). Overdose prevention: Understanding the opioid overdose epidemic. https://www.cdc.gov/overdose-prevention/about/understanding-the-opioid-overdose-epidemic.html?CDC_AAref_Val=https://www.cdc.gov/opioids/basics/epidemic.html

[20] U.S. Centers for Disease Control and Prevention, National Center for Health Statistics. (2024). *Drug overdose death rates.* https://nida.nih.gov/research-topics/trends-statistics/overdose-death-rates

Figure 8. In 2022, more than half of overdose deaths involving stimulants in the U.S. also involved synthetic opioids, such as fentanyl.

The total number of overdose deaths involving stimulants (cocaine and psychostimulants with abuse potential) in the U.S. by opioid involvement and year, 1999-2022



*Does not include methadone

U.S. Centers for Disease Control and Prevention, National Center for Health Statistics. (2024). *Drug overdose death rates*. https://nida.nih.gov/research-topics/trends-statistics/overdose-death-rates

Rates of Prescribing, Pain Reliever Misuse, Emergency Department Visits, and Inpatient Hospitalizations

Despite the increase in opioid-involved overdose deaths and the pervasiveness of fentanyl in the drug supply in Wyoming, opioid prescribing,[21] self-reported pain-reliever misuse,[22] opioid-involved non-fatal overdose emergency department (ED) visits,[23] and opioid-related inpatient hospital discharges[24] have declined in recent years.

Prescribing Rates. The decrease in the number of opioid prescriptions is in part the result of growing awareness about the risk of opioid misuse and OUD as well as updated prescribing guidelines from the CDC. The number of grams of opioids delivered to Wyoming pharmacies, most of which were either oxycodone or fentanyl, also declined from 188,000

[21] Wyoming Prevention Depot. (n.d.). *Prescription drug abuse toolkit: County profiles*. Wyoming Department of Health and the Wyoming Survey & Analysis Center at the University of Wyoming. https://www.wyomingpreventiondepot.org/rxtoolkit/wyoming/#:~:text=The%20steady%20rise%20in%20treatment,rates%20are%20stabilizing%20or%20declining.

[22] Substance Abuse and Mental Health Services Administration. (2022). Estimates from 2021 to 2022 are not comparable to estimates from previous years because of changes in NSDUH survey methodology.

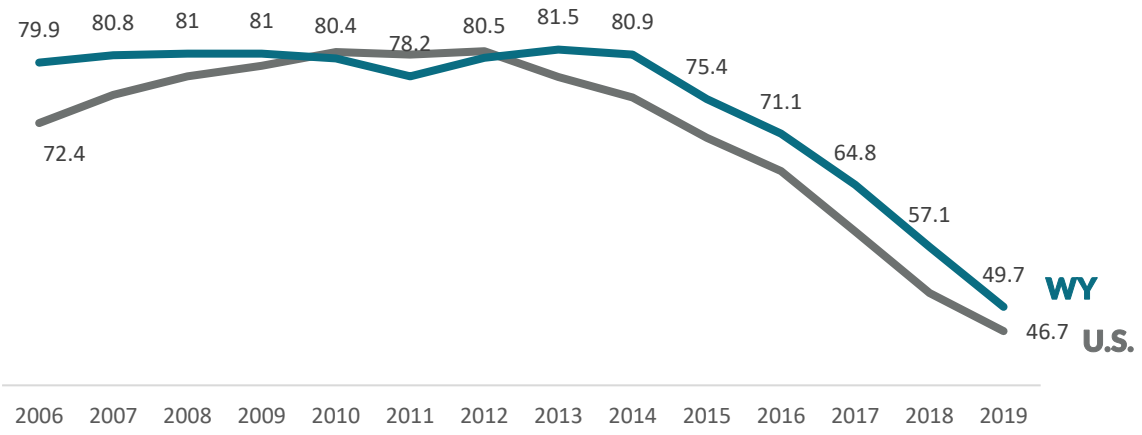
[23] Wambeam, R., Canen, E., Kato, M., & Despain, L. H. (2024).

[24] Wambeam, R., Canen, E., Kato, M., & Despain, L. H. (2024).

grams in 2018 to 138,000 grams in 2022, though opioid dispensing rates remain slightly higher than the national average (see Figure 9).[25] This decrease in opioid prescriptions is vital because research shows that areas with more prescription pain pills per capita have higher death rates from illicit opioids even years later.[26]

Figure 9. Even though the rate of retail opioid prescriptions dispensed per person is decreasing, Wyoming pharmacies dispensed more opioid prescriptions per person than the U.S. in 2019.

The rate of retail opioid prescriptions dispensed per 100 people, 2006-2019*



*Based on a sample of roughly 50,000 retail (non-hospital) pharmacies, that dispense approximately 90% of all retail prescriptions in the U.S.
Wyoming Prevention Depot. (n.d.). *Prescription Drug Abuse Toolkit: Wyoming Overview.* https://www.wyomingpreventiondepot.org/rxtoolkit/wyoming/#wyProfile

However, as of 2022, the average morphine milligram equivalent (MME)—the potency of an opioid dose—delivered to pharmacies per person was higher in Wyoming than the U.S. average (see Table 2). At the same time, the average MME of methadone in Wyoming, predominantly used for the treatment of OUD, was less than one-tenth of the U.S. average.[27] Wyoming does not have any opioid treatment programs certified by SAMHSA to dispense methadone.

[25] Wambeam, R., Canen, E., Kato, M., & Despain, L. H. (2024).
[26] Rich, S., & Ovalle, D. (2023, September 12). *Overdoses soared even as prescription pills plunged*. The Washington Post. https://www.washingtonpost.com/investigations/2023/09/12/us-overdose-deaths-opioid-crisis/
[27] Wambeam, R., Canen, E., Kato, M., & Despain, L. H. (2024).

Table 2. The average MME per person for opioids delivered to pharmacies in Wyoming (except methadone) was more potent than in the U.S.[28]

Morphine milligram equivalent (MME) in Wyoming and the U.S. by opioid prescription type

Opioid Prescription	Wyoming Average MME	U.S. Average MME
Oxycodone	177.1	133.5
Fentanyl	58.5	50.8
Hydrocodone	50.6	49.3
Morphine	39.4	26.0
Methadone	17.3	215.7

Wambeam, R., Canen, E., Kato, M., & Despain, L. H. (2024).

In 2023, 1,961 workers' compensation claimants had an opioid prescription (see Table 3).[29]

Table 3. Nearly two thousand workers' compensation claimants had an opioid prescription in 2023.

The number of workers' compensation claims in Wyoming, 2021-2023

Year	Number of Workers' Compensation Claims	Number of Workers' Compensation Claims With a Prescription	Number of Unique Workers' Compensation Claimants With an Opioid Prescription*
2021	9,690	3,507	1,450
2022	9,507	4,763	2,119
2023	9,767	4,623	1,961

*Includes only prescriptions filled in Wyoming pharmacies.

Data provided by the Wyoming Department of Health (June 20, 2024; amended August 12, 2024).

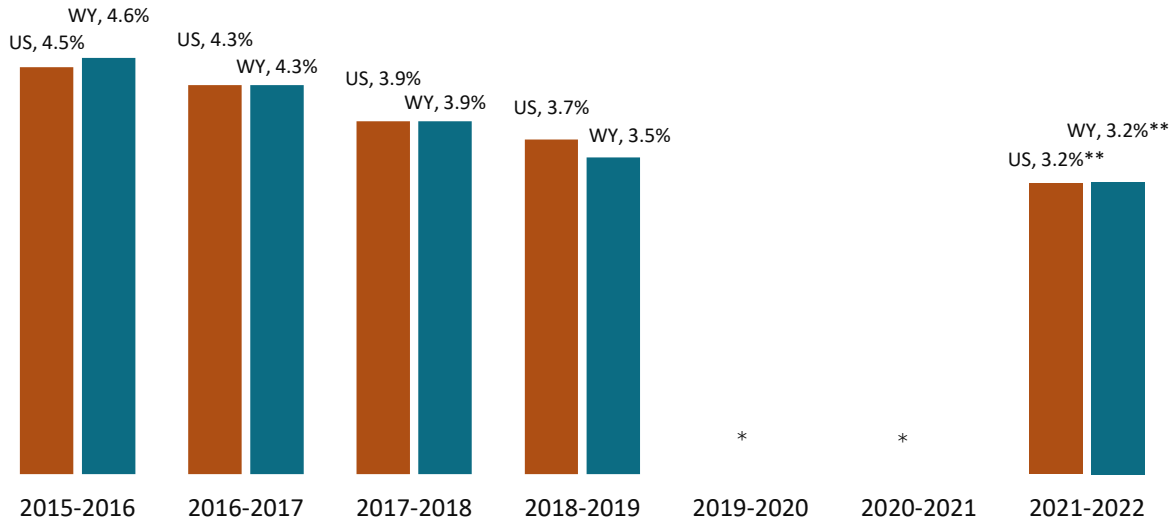
Pain Reliever Misuse. There have been small reductions in pain reliever misuse among people in Wyoming ages 18 and older, comparable to national trends (see Figure 10).

[28] Wambeam, R., Canen, E., Kato, M., & Despain, L. H. (2024).

[29] Data provided by Melissa Taylor of the Wyoming Department of Health (June 20, 2024).

Figure 10. Self-Reported pain reliever misuse is decreasing in Wyoming and the U.S.

The percentage of adults 18 years of age and over who reported pain reliever misuse in the past year, 2015-2022



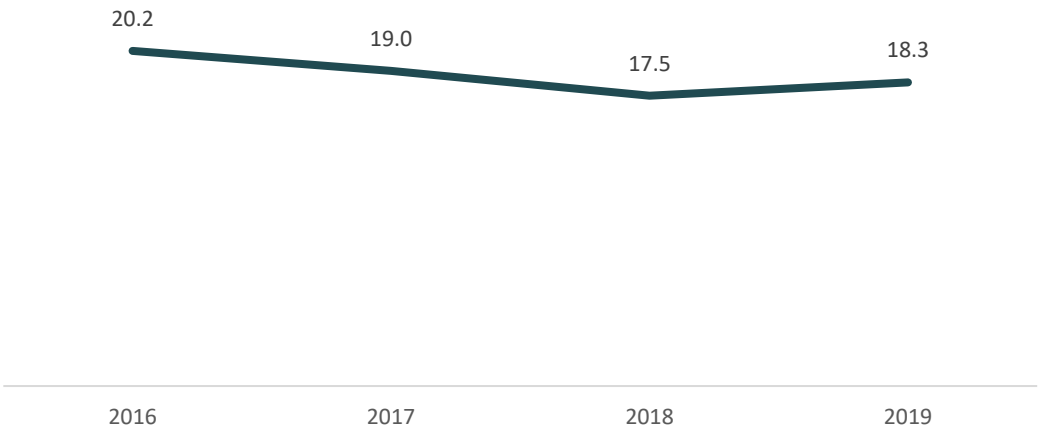
*Data is unavailable for 2019 to 2020 and 2020 to 2021 due to methodological concerns.
**Estimates of pain reliever misuse from 2021 to 2022 are not comparable to past years because of methodological changes in the NSDUH.
Substance Abuse and Mental Health Services Administration. (2022). *National Survey on Drug Use and Health*. https://www.samhsa.gov/data/data-we-collect/nsduh-national-survey-drug-use-and-health

ED Visits and Inpatient Hospitalizations for Non-Fatal Overdoses. Opioid-related ED visits and inpatient hospitalizations for non-fatal overdose modestly declined from 2016 to 2019 in Wyoming (see Figure 11 and Figure 12). Individuals ages 25 to 34 had the highest rate of ED visits,[30] whereas older individuals (those 60–80 years of age) had the highest rate of inpatient hospitalizations. Rates of both non-fatal overdose ED visits and inpatient hospitalizations were higher among women, whereas rates of overdose deaths were higher among men.[31] Crook, Niobrara, Sublette, and Teton counties did not have healthcare facilities which contributed to the non-fatal overdose data. For this reason, non-fatal opioid-involved overdose trends may not be representative of all communities in Wyoming. Further, the non-fatal opioid-involved overdose data is only reflective of in-state hospitalizations among Wyoming residents.

[30] Wyoming Department of Health. (n.d.). *Drug overdose data*. https://health.wyo.gov/publichealth/prevention/substanceabuseandsuicide/opioid-information-wyoming/drug-overdose-data/
[31] Wyoming Department of Health. (n.d.). *Drug overdose data*. https://health.wyo.gov/publichealth/prevention/substanceabuseandsuicide/opioid-information-wyoming/drug-overdose-data/

Figure 11. Emergency department visits for opioid-involved non-fatal overdoses in Wyoming declined from 2016 to 2019.

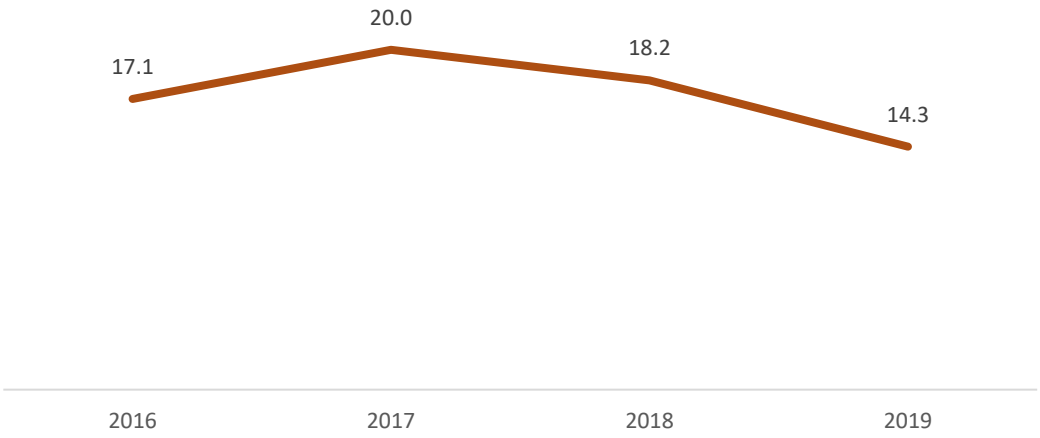
The rate of emergency department visits for opioid-involved non-fatal overdoses per 100,000 residents, 2016-2019



Wyoming Department of Health. (n.d.). *Drug overdose data*. https://health.wyo.gov/publichealth/prevention/substanceabuseandsuicide/opioid-information-wyoming/drug-overdose-data/

Figure 12. Inpatient hospital discharges for opioid-involved non-fatal overdoses in Wyoming declined from 2017 to 2019.

The rate of inpatient hospital discharges for opioid-involved non-fatal overdoses per 100,000 residents, 2016-2019



Wyoming Department of Health. (n.d.). *Drug overdose data*. https://health.wyo.gov/publichealth/prevention/substanceabuseandsuicide/opioid-information-wyoming/drug-overdose-data/

County-Level Comparisons and Distinctions

Opioid dispensing and opioid-involved overdose death rates vary by county in Wyoming (see

Figure 13). From 2006 to 2019, the top three pharmacies by volume were Walgreens' locations in the cities of Cheyenne (Laramie County), Casper (Natrona County), and Gillette (Campbell County).[32] This mirrors large population centers. See Tables 13 and 14 in Appendix B to view the map data in table format.

According to the CDC's opioid dispensing rate maps, Hot Springs, Sweetwater, and Natrona counties were in the top five counties in Wyoming with the highest opioid dispensing rate per person every year from 2019 to 2022.[33] Washakie, Uinta, Carbon, and Park counties were often in the top five counties over the same period. Geographic differences in opioid prescribing and opioid-involved overdose deaths correlate with other factors such as the distribution of providers and medical services (e.g., hospitals and emergency medical services) and other socioeconomic and demographic characteristics (e.g., health insurance rates, income, employment characteristics, and care-seeking behaviors).

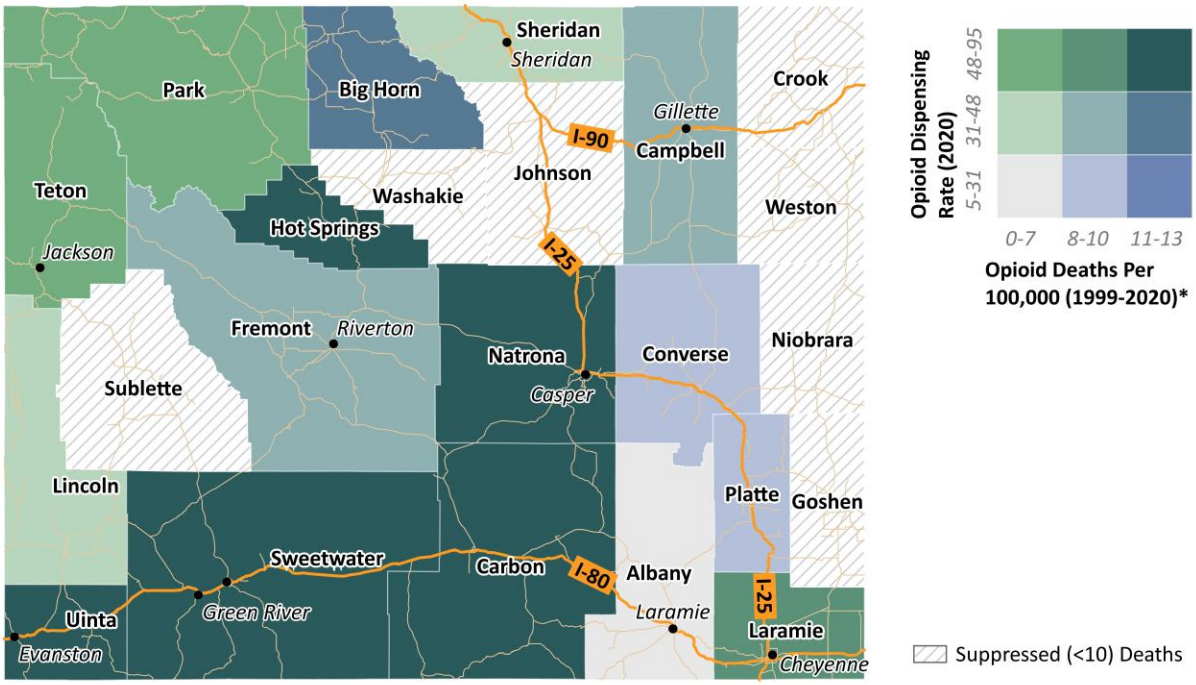
> In Wyoming, counties with higher opioid dispensing rates had higher opioid-involved overdose death rates. Hot Springs, Natrona, Carbon, Sweetwater, and Uinta counties had the highest opioid-involved overdose death rates and highest opioid dispensing rates in Wyoming.

[32] Rich, S., Moody, P., Schaul, K. (2023, September). *How deeply did prescription opioid pills flood your county? See here.* The Washington Post. https://www.washingtonpost.com/investigations/interactive/2023/opioid-epidemic-pain-pills-sold-oxycodone-hydrocodone?itid=cb_box_NAIEWV4DVRCEFLJR44AL2HEF64_1

[33] U.S. Centers for Disease Control and Prevention. (2024, March 19). *United States dispensing rate maps*. https://www.cdc.gov/overdose-prevention/data-research/facts-stats/us-dispensing-rate-maps.html?CDC_AAref_Val=https://www.cdc.gov/drugoverdose/rxrate-maps/index.htm

Figure 13. Five Wyoming counties (Hot Springs, Natrona, Carbon, Sweetwater, and Uinta) have high rates of opioid dispensing and opioid-involved overdose deaths.*

The rate of opioid-involved overdose deaths per 100,000 people (1998-2020); the rate of opioid dispensing per 100 people (2020)



*Converse, Hot Springs, Lincoln, Teton, and Platte counties had fewer than 20 deaths and rates may be unreliable.

U.S. Centers for Disease Control and Prevention. (2024, March 19). *United States dispensing rate maps.* https://www.cdc.gov/overdose-prevention/data-research/facts-stats/us-dispensing-rate-maps.html?CDC_AAref_Val=https://www.cdc.gov/drugoverdose/rxrate-maps/index.htm

U.S. Centers for Disease Control and Prevention, National Center for Health Statistics. (2024). *Drug overdose death rates.* https://nida.nih.gov/research-topics/trends-statistics/overdose-death-rates

Washakie, Sweetwater, Uinta, Hot Springs, and Carbon had the highest number of opioid-involved, non-fatal overdose ED visits from 2016 to 2019. Hot Springs, Carbon, Sweetwater, Fremont, and Natrona had the highest number of opioid-related, non-fatal overdose inpatient hospitalizations from 2016 to 2019 (see Table 4).

Table 4. Sweetwater and Carbon counties are among the counties with the highest rates of opioid-involved dispensing, overdose deaths, and non-fatal overdose ED visits and inpatient hospitalizations.

Top Five Counties	Opioid Dispensing per 100 People 2020	Opioid-Involved Overdose Deaths per 100,000 People, All Ages 2018–2022	Opioid-Involved, Non-Fatal Overdose ED Visits per 100,000 Residents 2016–2019	Opioid-Involved, Non-Fatal Overdose Inpatient Hospitalizations per 100,000 Residents 2016–2019
1	Hot Springs (94.7)	Sweetwater (22.8)	Washakie (50.2)	Hot Springs (43.7)
2	Sweetwater (70.9)	Fremont (17.2)	Sweetwater (39.9)	Carbon (36.3)
3	Natrona (68.9)	Washakie (13.6)	Uinta (33.1)	Sweetwater (33.0)
4	Carbon (59.8)	Laramie (12.7)	Hot Springs (32.7)	Fremont (26.4)
5	Uinta (59.4)	Carbon (11.7)	Carbon (26.4)	Natrona (26.3)

U.S. Centers for Disease Control and Prevention. (2024, March 19). *United States dispensing rate maps.* https://www.cdc.gov/overdose-prevention/data-research/facts-stats/us-dispensing-rate-maps.html?CDC_AAref_Val=https://www.cdc.gov/drugoverdose/rxrate-maps/index.htm
U.S. Centers for Disease Control and Prevention, National Center for Health Statistics. (2024). *Drug overdose death rates.* https://nida.nih.gov/research-topics/trends-statistics/overdose-death-rates
Wambeam, R., Canen, E., Kato, M., & Despain, L. H. (2024).

Sweetwater and Carbon counties are in the top five counties with the highest rates of opioid dispensing, opioid-involved overdose deaths, opioid-involved non-fatal overdose ED visits, and opioid-involved non-fatal overdose inpatient hospitalizations (Table 4). Hot Springs County was in the top five counties for the highest rates of three of the four measures presented above: opioid dispensing, opioid-involved non-fatal overdose ED visits, and opioid-involved non-fatal overdose inpatient hospitalizations (Table 4).

These findings are supported by a recent ranking of the opioid-involved overdose vulnerability of counties in Wyoming, which concluded that Hot Springs, Carbon, Natrona,

Fremont, and Sweetwater counties were at the highest risk, followed by Uinta, Converse, Big Horn, Washakie, and Platte counties.[34]

HIDTA counties are designated by the White House Office of National Drug Control Policy due to illegal drug production, manufacturing, importation, or distribution in the area. In addition to resources from state, local, and Tribal law enforcement agencies, HIDTAs receive federal resources to mitigate the harmful effects of drug-related activities.[35]

In addition to opioid-involved overdose deaths from legal prescribed opioids, opioid-involved overdose deaths can be the result of licit opioids that are manufactured and obtained illegally (e.g., fentanyl) or illicit opioids (e.g., heroin) that are not captured in the opioid dispensing rate data cited above. Wyoming has six counties designated as High-Intensity Drug Trafficking Areas (HIDTA) (see Figure 14),[36] all of which fall along major interstates (i.e., I-25, I-80, and I-90). Albany, which is a designated HIDTA, has both low opioid dispensing rates and low opioid-involved overdose death rates relative to the rest of Wyoming. Of the counties in Wyoming with the highest number of drug-related arrests per 100,000 people from 2016 to 2019 (Carbon, Converse, Campbell, and Hot Springs), only Campbell was designated a HIDTA.[37]

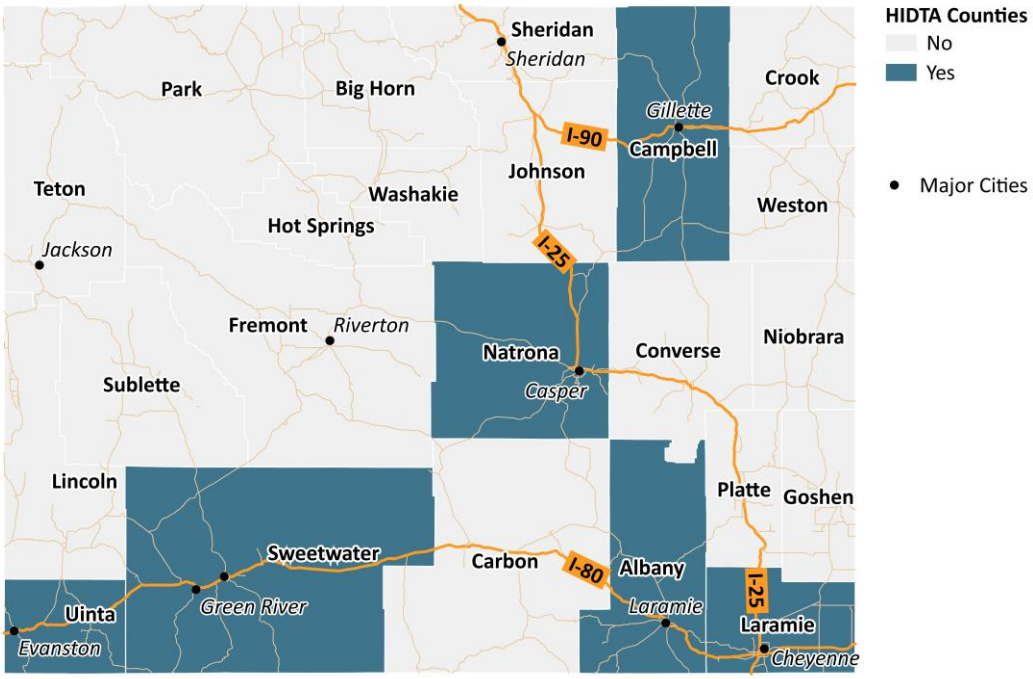
[34] Pustz, J., Shrestha, S., Newsky, S., Taylor, M., Fowler, L., Van Handel, M., Lingwall, C., & Stopka, T. J. (2022). Opioid-Involved overdose vulnerability in Wyoming: Measuring risk in a rural environment. *Substance Use & Misuse, 57*(11), 1720–1731. https://doi.org/10.1080/10826084.2022.2112229

[35] Office of National Drug Control Policy. (n.d.). *High-intensity drug trafficking areas program.* https://www.whitehouse.gov/ondcp/grant-programs/hidta/

[36] Office of National Drug Control Policy. (n.d.). *High-intensity drug trafficking areas: Wyoming.* https://www.hidtaprogram.org/wyoming.php

[37] Pustz, J., Shrestha, S., Newsky, S., Taylor, M., Fowler, L., Van Handel, M., Lingwall, C., & Stopka, T. J. (2022).

Figure 14. Campbell, Natrona, Sweetwater, Uinta, Albany, and Laramie are designated high-intensity drug trafficking areas in Wyoming.



Office of National Drug Control Policy. (n.d.). *High-intensity drug trafficking areas program*. https://www.whitehouse.gov/ondcp/grant-programs/hidta/

Access to Treatment

In 2022, an estimated 22% of adults 18 years and older in Wyoming needed substance use treatment compared to 20% in the U.S.; of those, 70% reported they did not receive the treatment they needed.[38]

According to the Wyoming Department of Health, there are 90 certified substance use disorder (SUD) treatment providers in Wyoming. Most facilities and providers are clustered around densely populated areas. Laramie County has 22 certified SUD treatment providers, the highest number in Wyoming. Natrona County has 18 certified SUD treatment providers.

Treatment for OUD, especially with medications such as methadone, can be difficult to access for most Wyoming residents. The nearest opioid treatment programs are located out of state.[39] Methadone is typically administered daily, meaning that those seeking care would need to drive long distances every day to access treatment. Buprenorphine and naltrexone,

[38] Substance Abuse and Mental Health Services Administration. (2022). *National Survey on Drug Use and Health*. https://www.samhsa.gov/data/data-we-collect/nsduh-national-survey-drug-use-and-health

[39] Pustz, J., Shrestha, S., Newsky, S., Taylor, M., Fowler, L., Van Handel, M., Lingwall, C., & Stopka, T. J. (2022).

also used to treat OUD, are more geographically accessible for many residents but still disproportionately located in or near cities and residents with higher average incomes. Eight behavioral health centers, covering 21 counties, receive funding assistance to provide medication assisted treatment and wrap around services.

Wyoming's rurality plays a part in limiting access to emergency medical services, which can take added time to respond to calls in many areas of the state. Depending on the type of opioid, dose, individual tolerance, polysubstance involvement, and other factors, opioid overdose can take minutes to become fatal, making rapid intervention essential for preventing death. The availability of naloxone, a highly effective medication used to reverse opioid overdose that can be administered without medical training, is also vital. In Wyoming, 60% of reported naloxone administrations resulted in the reversal of life-threatening opioid-induced respiratory depression.[40] Naloxone administrations that are not already reported under an existing Wyoming Department of Health system can be reported directly through the Naloxone Administration Survey and are included in the data below. However, administrations by emergency medical services (EMS) and fire departments are reported through the Wyoming Ambulance Trip Reporting System (WATRS) and are not captured in the below data. Furthermore, individuals who are not first responders may not report naloxone administrations if they are fearful of consequences and stigma related to opioid use or do not know how to report. For these reasons, the data below are an undercount of the number of naloxone administrations in Wyoming.

Naloxone administrations and orders in Wyoming have increased according to the most recent publicly available data. These increases suggest a greater need for naloxone as opioid overdose deaths and misuse rise and a growing awareness and acceptance of naloxone as a life-saving intervention. Access to naloxone in the workplace is particularly important given the rurality of many worksites in Wyoming. Between 2018 and 2023, Laramie, Sweetwater, Washakie, Albany, and Campbell counties had the highest number of reported naloxone administrations in Wyoming (see Table 5).[41]

[40] Wambeam, R., Canen, E., Kato, M., & Despain, L. H. (2024).
[41] Wambeam, R., Canen, E., Kato, M., & Despain, L. H. (2024).

Table 5. Laramie, Sweetwater, Washakie, Albany, and Campbell counties have the highest number of reported naloxone administrations in Wyoming.

The number of reported naloxone administrations and the rate of opioid-involved overdose deaths per 100,000 people for select counties in Wyoming

County	Reported Naloxone Administrations 2018–2023[42*]	Opioid-Involved Overdose Deaths per 100,000 People, All Ages, 2018–2022
Laramie	28	12.7
Sweetwater	18	22.8
Washakie	14	13.6
Albany	13	8.7
Campbell	12	7.1

Wambeam, R., Canen, E., Kato, M., & Despain, L. H. (2024).

*These data represent the number of reported naloxone administrations.

Workforce Trends and Characteristics in Wyoming

Although the opioid crisis affects all communities and age groups, it has a concentrated effect on working-age adults. Opioid misuse among employees affects the overall stability and health of the workforce and economic productivity. Conversely, the workplace greatly affects workers' use and misuse of opioids. Before discussing the relationship between the workforce and opioid use, we summarize workforce trends and characteristics in Wyoming, focusing on the mining, oil and gas, and construction industries. Although there are categorical and meaningful differences between the mining and oil and gas industries, for the purposes of this section, we will report on them together to reflect available data.

Wyoming experienced job and population growth between 2022 and 2023, recovering from large industry declines and unemployment increases throughout the COVID-19 pandemic. Northern counties, such as Park, Big Horn, Sheridan, Johnson, and Crook, experienced the largest population increases from 2020 to 2023 (ranging from 3.4% to 6.2%).[43] From 2020 to 2023, Wyoming's unemployment rate fell to under 3%, with 65% of Wyomingites over the age of 16 participating in the labor force (compared to 63% nationally).[44] Over the same period, the number of workers receiving unemployment insurance benefits declined by 1.3%.

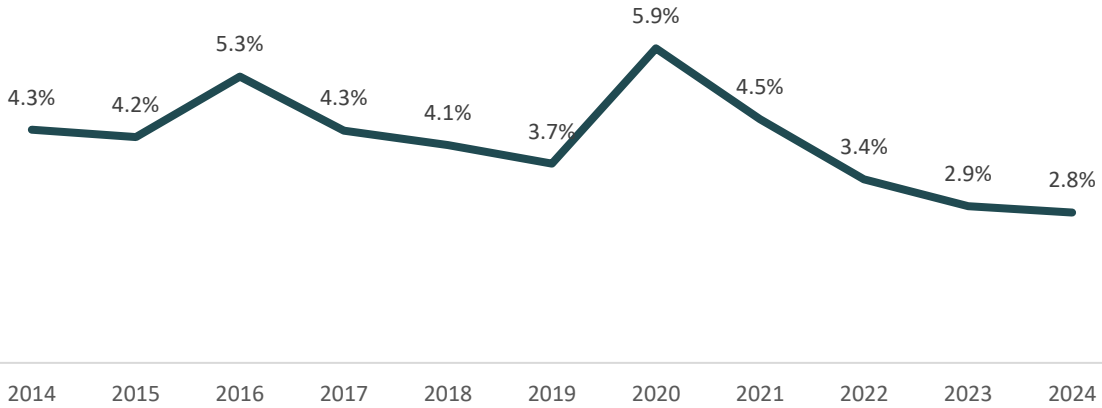
[42] The 2023 data is based on a partial year, from January 1 to December 13, 2023.

[43] Bullard, D., Cowan, C., Cruz, J., Glover, T., Halama, M., Hauf, D., Knapp, L., McGrath, C., Moore, M., & Yetter, L. (2024, June). *2024 Wyoming workforce annual report*. Wyoming Department of Workforce Services, Research and Planning Division. https://doe.state.wy.us/lmi/annual-report/2024/2024_Annual_Report.pdf

[44] U.S. Census Bureau. (2020). *QuickFacts: United States; Wyoming*. https://www.census.gov/quickfacts/fact/table/US,WY/PST045223

Figure 15. As of 2024, Wyoming's annual average unemployment rate has declined to below pre-pandemic levels.

The annual average unemployment rate, or the percentage of people 16 years of age and older in the labor force who are unemployed and looking for work, 2014-2024



*Beginning of the SARS-CoV-2, also known as COVID-19, pandemic.

U.S. Bureau of Labor Statistics. (n.d.). *Local area unemployment statistics*. https://www.bls.gov/lau/

In 2023, most Wyoming jobs were in the private sector, with leisure and hospitality, trade, and healthcare having the highest number of jobs (see Table 6).[45] Twenty-three percent of the average monthly employment in Wyoming was in federal, state, and local government.

Table 6. The mining industry, which had the highest average annual wage, and the construction industry made up almost a fifth of employment in Wyoming's private sector in 2023.

The average monthly employment, percentage of monthly employment, and annual wages by industry and sector in 2023

Industry Sector	Average Monthly Employment	Percentage of Monthly Employment	Average Annual Wage
Wyoming	278,582	100%	$59,064
Private	213,364	77%	-
Leisure and Hospitality	38,195	18%	$27,473
Retail Trade	30,256	14%	$36,940
Health Care and Social Assistance	25,821	12%	$51,907
Construction	22,330	11%	$67,262

[45] Bullard, D., Cowan, C., Cruz, J., Glover, T., Halama, M., Hauf, D., Knapp, L., McGrath, C., Moore, M., & Yetter, L. (2024, June).

Industry Sector	Average Monthly Employment	Percentage of Monthly Employment	Average Annual Wage
Professional Business Services	21,679	10%	$78,469
Trade, Transportation, and Utilities	20,475	10%	$74,491
Mining (including oil and gas)	17,079	8%	$104,566
Financial Activities	11,538	5%	$81,494
Manufacturing	10,428	5%	$77,976
Agriculture, Forestry, Fishing, and Hunting	2,750	1%	$41,961
Other Services, Except Public Administration	7,291	3%	$47,497
Information	3,178	2%	$72,405
Educational Services	2,289	1%	$43,372
Unclassified	54	<1%	-
Government	65,218	23%	-
Federal	7,871	12%	$82,944
State	12,233	18%	$65,636
Local	45,114	69%	$53,796

Wyoming Department of Workforce Services, Research and Planning Division. *2024 Wyoming workforce annual report*. https://doe.state.wy.us/lmi/annual-report/2024/2024_Annual_Report.pdf

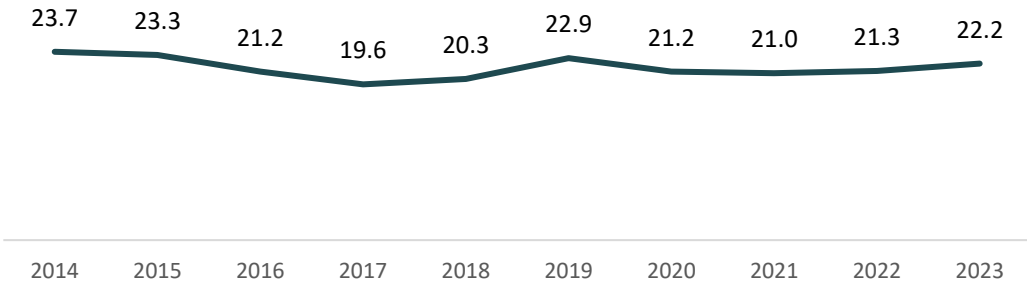
Construction and mining (including oil and gas) made up 11% and 8% of jobs in 2023, respectively. Mining had the highest average annual wage ($104,566), much higher than the state average ($59,064). The average annual wage for construction ($67,262) was also higher than the state average.

Construction employment grew by 5.0% between 2022 and 2023, adding over 1,000 jobs. Mining (including oil and gas extraction) employment rose by 4.8%, or nearly 800 jobs, between 2022 and 2023. Combined with leisure and hospitality and professional business services, these four sectors accounted for roughly half of all new Wyoming jobs in 2023.[46]

[46] Bullard, D., Cowan, C., Cruz, J., Glover, T., Halama, M., Hauf, D., Knapp, L., McGrath, C., Moore, M., & Yetter, L. (2024, June).

Figure 16. The number of people employed in construction has remained relatively stable, at just above 20,000 employees, since 2014.

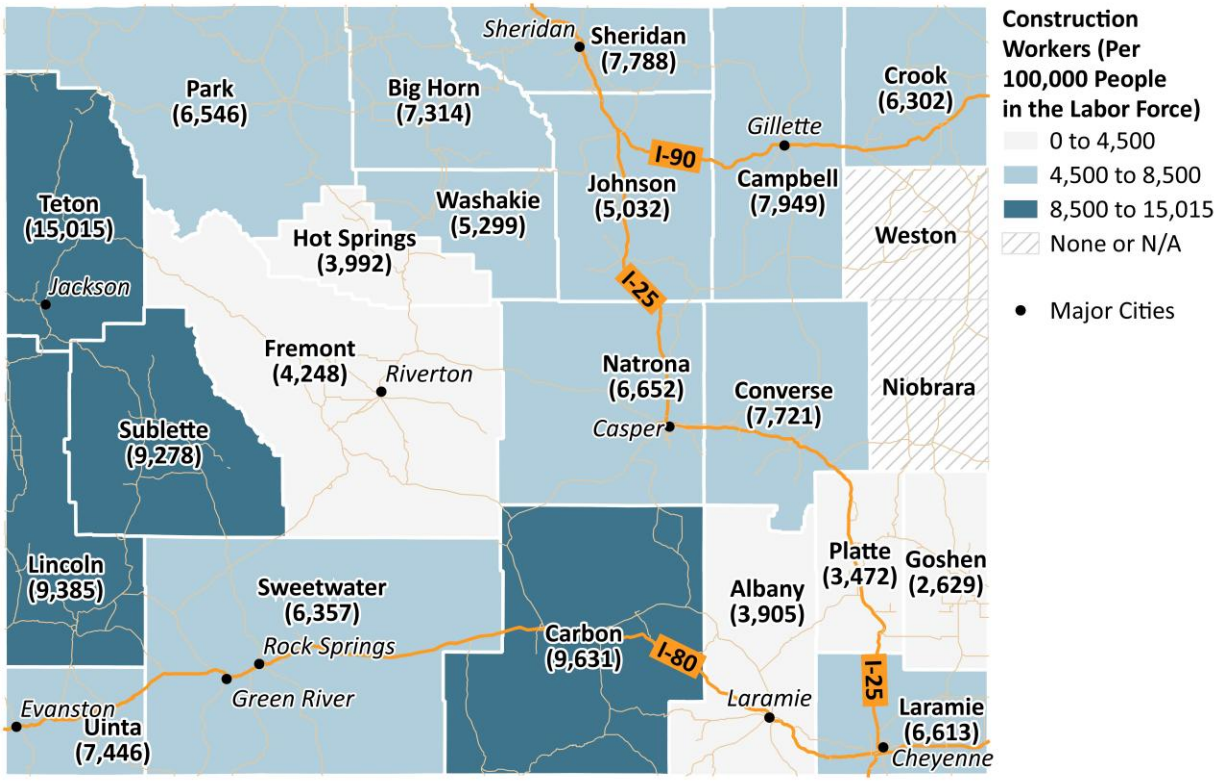
The total number of Wyoming construction employees in the thousands, 2014-2023



*Beginning of the SARS-CoV-2, also known as COVID-19, pandemic.
U.S. Bureau of Labor Statistics. (n.d.). *State and area employment, hours, and earnings*. https://data.bls.gov/timeseries/SMS56000002000000001?amp%253bdata_tool=XGtable&output_view=data&include_graphs=true. Rounded to the nearest thousandth.

Figure 17. Teton, Sublette, Lincoln, and Carbon counties have the most construction workers.

The number of construction employees per 100,000 people in the labor force by county



U.S. Bureau of Labor Statistics. (n.d.). *Quarterly census of employment and wages: Employment and wages data viewer*. https://data.bls.gov/cew/apps/data_views/data_views.htm#tab=Tables

Teton, Lincoln, Sublette, and Carbon counties had the highest number of construction workers per 100,000 people in the labor force.[47] The large number of construction workers in Teton, Lincoln, and Sublette counties is largely driven by the energy sector as well as infrastructure growth in the recreation and tourism industries. See Table 15 in Appendix B to view the map data in table format.

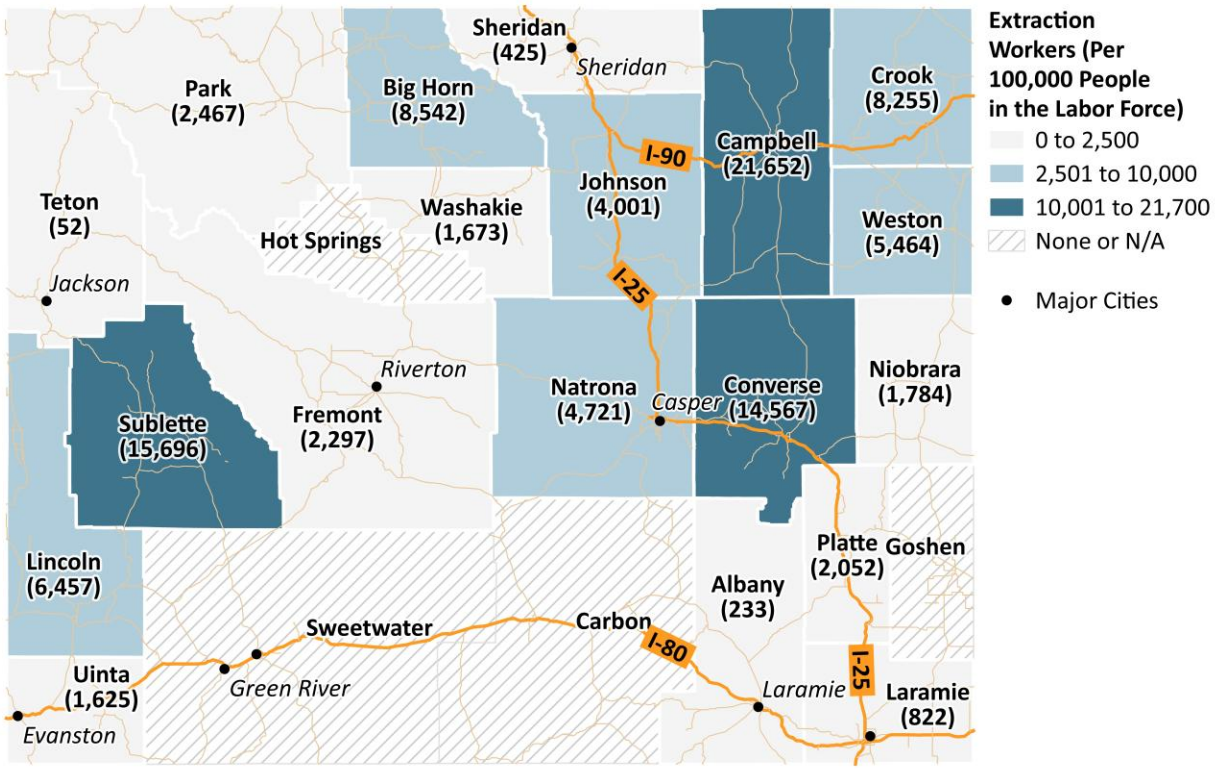
Figure 18. The number of people employed in mining and logging has declined, from 27,000 in 2014 to 17,000 in 2023.

The total number of Wyoming mining and logging employees in the thousands, 2014-2023

U.S. Bureau of Labor Statistics. (n.d.). *Quarterly census of employment and wages: Employment and wages data viewer*. https://data.bls.gov/cew/apps/data_views/data_views.htm#tab=Tables

[47] U.S. Bureau of Labor Statistics. (n.d.). *Quarterly census of employment and wages: Employment and wages data viewer*. https://data.bls.gov/cew/apps/data_views/data_views.htm#tab=Tables

Figure 19. Campbell, Sublette, and Converse counties have the most extraction workers.
The number of extraction employees per 100,000 people in the labor force by county



U.S. Bureau of Labor Statistics. (n.d.). *Quarterly census of employment and wages: Employment and wages data viewer*. https://data.bls.gov/cew/apps/data_views/data_views.htm#tab=Tables

Campbell, Converse, and Sublette counties had the highest number of extraction workers per 100,000 people in the workforce.[48] Campbell and Converse counties overlap with the Powder River Basin, known for coal production. Sublette County falls within the Greater Green River Basin, known for its oil and natural gas production.[49] See Table 16 in Appendix B to view the map data in table format.

Although people from all regions, economic classes, races, and occupations can be affected by opioids, certain industries—such as construction and mining—have increased risks for opioid misuse. Work-related risk factors are detailed in the next section.

[48] U.S. Bureau of Labor Statistics. (n.d.). Q*uarterly census of employment and wages: Employment and wages data viewer*. https://data.bls.gov/cew/apps/data_views/data_views.htm#tab=Tables
[49] Wyoming State Geological Survey. (2024). *Wyoming's oil and gas basins*. https://main.wsgs.wyo.gov/energy/oil-gas/oil-gas-basins

Workplace Risk Factors That Contribute to Opioid Misuse

Work-Related Injuries or Accidents

Jobs that are labor intensive—involving physical exertion, use of machinery and equipment, long work hours, and changes in work shifts—come with an increased risk of injuries, accidents, and fatalities.[50]

Work-related musculoskeletal disorders (MSDs)—non-fatal injuries of the muscles, nerves, tendons, joints, cartilage, and spinal discs—can result from overexertion, repetitive motions, heavy lifting, and regular exposure to whole-body vibration.[51] These types of work-related injuries can lead workers to manage pain with self-medicated prescription opioids, which can in turn lead to substance misuse.[52,53] In 2020, 42.3 per 10,000 full-time workers in Wyoming experienced a work-related injury that led to an MSD.[54] Nationally, approximately one-third of construction workers have an MSD; prescription opioid use was 3 times higher among these workers, compared to those without an MSD.[55]

> Workers in mining have higher rates of non-fatal injuries and cumulative strain relative to workers in most other industries.[56]

[50] U.S. Bureau of Labor Statistics. (n.d.). *Economic news release: Census of fatal occupational injuries summary, 2022*. https://www.bls.gov/news.release/cfoi.nr0.htm

[51] U.S. Centers for Disease Control and Prevention. (2020, February). *Work-related musculoskeletal disorders & ergonomics*. https://www.cdc.gov/workplacehealthpromotion/health-strategies/musculoskeletal-disorders/index.html

[52] National Academies of Sciences, Engineering, and Medicine; Health and Medicine Division; Board on Health Sciences Policy; Committee on Pain Management and Regulatory Strategies to Address Prescription Opioid Abuse; Phillips JK, Ford MA, Bonnie RJ, editors. (2017 Jul 13). *Pain Management and the Opioid Epidemic: Balancing Societal and Individual Benefits and Risks of Prescription Opioid Use*. 2 Pain Management and the Intersection of Pain and Opioid Use Disorder. Washington (DC): National Academies Press (US). Available from: https://www.ncbi.nlm.nih.gov/books/NBK458655/

[53] 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 worker: Analysis of claims data. *American Journal of Industrial Medicine*, *64*(1), 48–57. https://doi.org/10.1002/ajim.23202

[54] CPWR, The Center for Construction Research and Training. (2023). *Musculoskeletal disorders in construction* [dashboard]. https://www.cpwr.com/research/data-center/data-dashboards/musculoskeletal-disorders-in-construction/

[55] Dong, X. S., Brooks, R., & Brown, S. (2020, November). Musculoskeletal disorders and prescription opioid use among US construction workers. *Journal of Occupational and Environmental Medicine*, *62*(11), 973–979. https://doi.org/10.1097/JOM.0000000000002017

[56] Arif, A. A., & Adeyemi, O. (2020, March). The prevalence of chronic diseases among current and ex-miners in the United States. *Journal of Occupational and Environmental Medicine*, *62*(3), 227–231. https://doi.org/10.1097/JOM.0000000000001809

In a study of 27 states, which did not include Wyoming, workers in mining (including both oil and gas); construction; and the agriculture, forestry, and fishing industries were more likely than workers in other industries to receive an opioid prescription for pain management following a work injury.[57] Workers with broken bones, carpal tunnel syndrome, and neurologic back pain received opioid prescriptions for pain relief at higher rates than workers with other types of injuries. The heavy lifting, repetitive movements, exposure to whole-body vibration, and use of heavy machinery on construction, mining, and extraction jobs contribute to these types of injuries. Workers with neurologic back pain injuries were most likely to receive prescriptions for high-dose opioids on a long-term basis.

Employees with limited access to paid sick leave may rely on opioids after occupational injuries to manage pain and continue working, making them more vulnerable to OUD. The rate of opioid-related deaths is higher in industries with low access to paid sick leave and low job security.[58,59]

Receiving prescriptions for high doses of opioid medications and using prescription opioid medications over a long period of time increases the risk of developing OUD. Workers in mining and construction are prescribed opioid pain medications for longer durations than workers in other occupations.[60] In one study, 15% of construction workers who were prescribed opioids for pain management became long-term users, which made them 10 times more likely to develop OUD.[61] Nationally, there was a nine-fold increase in opioid-involved overdose deaths among construction workers between 2011 and 2018.[62]

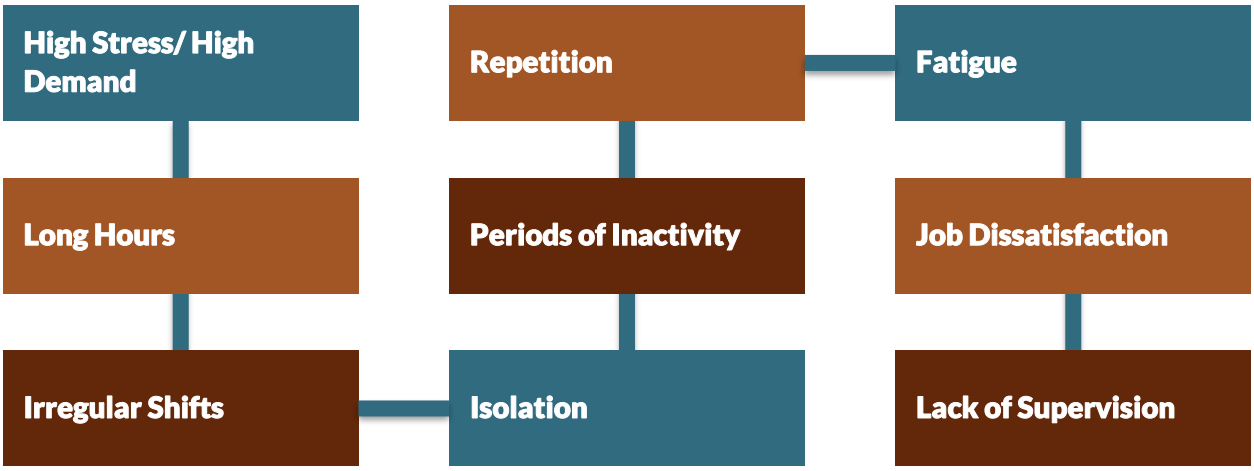
The risk of opioid-involved death is nearly 2 times higher for injured workers compared to non-injured workers.[63] A higher percentage of healthcare practitioners[64] and workers in

[57] Thumala, V., & Liu, T.-C. (2018, December). *Correlates of opioids dispensing*. Workers Compensation Research Institute. https://www.wcrinet.org/images/uploads/files/wcri8394.pdf
[58] Paris, J., Rowley, C., & Frank, R. G. (2023, April 17).
[59] Massachusetts Department of Public Health Occupational Health Surveillance Program. (2018). *Opioid-related overdose deaths in Massachusetts by industry and occupation, 2011-2015*. https://www.mass.gov/doc/opioid-related-overdose-deaths-in-massachusetts-by-industry-and-occupation-2018-2020-0/download
[60] Morano, L. H., Steege, A. L., & Luckhaupt, S. E. (2018, August 24). Occupational patterns in unintentional and undetermined drug-involved and opioid-involved overdose deaths—United States, 2007–2012. *Morbidity and Mortality Weekly Report*, *67*(33): 925–930. http://dx.doi.org/10.15585/mmwr.mm6733a3
[61] Dale, A. M., Buckner-Petty, S., Evanoff, B. A., & Gage, B. F. (2021).
[62] Dong, X. S., Brooks, R. D., & Cain, C. T. (2019). *Overdose fatalities at worksites and opioid use in the construction industry*. CPWR, The Center for Construction Research and Training. https://www.cpwr.com/wp-content/uploads/2020/06/Quarter4-QDR-2019.pdf.
[63] Asfaw, A., & Boden, L. I. (2020).
[64] This category includes occupations such as physicians, nurse practitioners, physician assistants, registered nurses, physical therapists, and occupational therapists.

construction, extraction, and healthcare support[65] have experienced fatal opioid-involved overdoses compared to other occupational groups.[66]

> Workplace deaths due to unintentional overdose have increased 619% in the U.S. since 2011.[67] A CDC analysis from 21 states (Wyoming was not included in this study) found that overdose deaths were particularly concentrated in the construction and extraction industries.[68]

Figure 20. Factors contributing to substance use in the workplace.



Work-Related Stressors

Other work-related factors beyond injuries can contribute to substance use in the workplace. Working in certain industries—such as construction, mining, extraction, agriculture, and health care—can involve stressful situations, inconsistent work schedules or irregular shifts, repetitious duties, isolation, fatigue, and difficult physical demands.

Partners and subject matter experts corroborated that these same factors contribute to substance use in the Wyoming workplace. They also mentioned that the construction, mining, and extraction industries often involve noisy environments that lead to mental overload. Partners frequently identified shift work, which can involve working 12+ hours at a time, and working overnight or alternating with different day schedules, as a concern as it is associated with health hazards, mental health concerns, and an increased risk for workplace accidents. Working nights and/or second shift also increases the likelihood that employees will miss out on family functions and social interactions, considered to be protective factors

[65] This category includes occupations such as home health aides, nursing assistants, and medical assistants.
[66] Morano, L. H., Steege, A. L., & Luckhaupt, S. E. (2018, August 24).
[67] U.S. Department of Labor, Bureau of Labor Statistics, in cooperation with state, New York City, District of Columbia, and federal agencies, Census of Fatal Occupational Injuries.
[68] Morano, L. H., Steege, A. L., & Luckhaupt, S. E. (2018, August 24).

against substance misuse. Many employees in these industries work far away from their homes and communities, which contributes to social isolation and mental distress.

"The work we do takes a toll on the body and mind…"
-Interviewee, Construction Industry

Employer's policies, procedures, and benefits can also affect workers negatively, potentially leading to job dissatisfaction and substance use. For example, if an employer does not offer adequate sick leave, employees may return to work before they have recovered from an injury, increasing the chances that they will continue relying on an opioid prescription or other substances to manage the pain.

The Effects of Opioid Misuse on the Workplace

In addition to affecting the health and well-being of workers, opioids affect businesses' productivity and costs. In a National Safety Council survey, 75% of employers reported that opioids have affected their workplace.[69] Opioid use and OUD among the workforce can lead to decreased productivity, increased absenteeism and turnover, and reduced overall job performance, all of which reduces a company's operational efficiency and worsens financial outcomes.[70,71]

Lost productivity because of OUD costs U.S. employers between $21 and $26 billion annually in expenses related to absenteeism, disability claims, and other costs.[72]

Opioid use poses serious safety risks in the workplace, including impaired cognitive function, slower reaction times, and risk for unintentional overdose, which can increase the likelihood of accidents in physically demanding industries.[73]

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[69] B2B International (2019, February). *National Employer Survey 2019: Opioid Usage in the Workplace.* A research report for the National Safety Council. https://www.nsc.org/getmedia/d7221a2a-a6a5-4348-a092-02ed41e9d251/ppw-survey-methodology.pdf

[70] NORC at the University of Chicago and the National Safety Council. (n.d.). *Substance use disorders by occupation.* https://www.nsc.org/getmedia/9dc908e1-041a-41c5-a607-c4cef2390973/substance-use-disorders-by-occupation.pdf

[71] Kim, B., Kim, M., & Park, G. (2024, January).

[72] Davenport, S., Weaver, A., & Caverly, M. (2019, October). *Mortality and longevity: Economic impact of non-medical opioid use in the United States*. Society of Actuaries. https://www.soa.org/globalassets/assets/files/resources/research-report/2019/econ-impact-non-medical-opioid-use.pdf

[73] National Safety Council. (n.d.). *Implications of opioid use disorders for employers: Employers can make a difference.* https://www.nsc.org/workplace/safety-topics/respond-ready-workplace/implications-of-opioid-use-disorders-for-employers

According to the National Safety Council, a construction company with 100 employees in Wyoming faces an estimated $160,573 in annual costs—from lost time, job turnover and retraining, and healthcare—associated with unaddressed substance use in the workforce.[74] A Wyoming mining company with 100 employees faces an estimated $104,467 in annual costs associated with unaddressed substance use.

As a result of the opioid crisis, employers face an increased economic burden because of higher healthcare expenses for treating OUD and related health concerns as well as costs associated with increased employee turnover.[75,76] The crisis has tightened labor markets, making it difficult for employers to find qualified candidates who can pass drug screenings, leading to understaffing issues. On average, employees with SUD are absent from work 50% more days per year—primarily because of illness and injury—compared to workers without SUD.[77] Furthermore, they exhibit an average turnover rate that is 44% higher than the turnover rate for the workforce as a whole.

Prevention of opioid-related issues in the workplace requires a comprehensive approach that balances productivity needs with employee health and safety considerations. As the opioid crisis continues to evolve in Wyoming, businesses must be proactive in their strategies to prevent and mitigate the impact of opioids on their workforce, costs, and operations. As detailed in the following section, employers across sectors and industries can take action by implementing policies and programs to reduce risk factors, providing employee benefits, increasing access to treatment, and supporting employees in recovery.[78]

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[74] National Safety Council. (n.d.). *NSC employer cost calculator substance use: A substance use cost calculator for employers.* https://www.nsc.org/forms/substance-use-employer-calculator?state1=40&industry=3&employee1=100&multiState=false

[75] Henke, R. M., Ellsworth, D., Wier, L., & Snowdon, J. (2020). Opioid use disorder and employee work presenteeism, absences, and health care costs. *Journal of Occupational and Environmental Medicine*, *62*(5), 344–349. https://doi.org/10.1097/JOM.0000000000001830

[76] NORC at the University of Chicago and the National Safety Council. (n.d.). *Turnover and substance use: What it costs and what can be done.* https://www.nsc.org/getmedia/f0f21705-d144-4717-acd0-eabb35484c47/turnover.pdf

[77] Goplerud, E., Hodge, S., & Benham, T. (2017). A substance use cost calculator for US employers with an emphasis on prescription pain medication misuse. *Journal of Occupational and Environmental Medicine, 59*(11), 1063–1071. https://doi.org/10.1097/JOM.0000000000001157

[78] Shaw, W. S., Roelofs, C., & Punnett, L. (2020, July 8). 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

Preventing Opioid Misuse and Promoting Safety and Wellness

Policies and Procedures Used by Wyoming Employers

According to representatives from trade associations and other contributors, the construction, mining, and extraction industries have developed strong cultures of safety. Although they are predominantly oriented toward preventing physical injuries, employers have also become aware of the increased risks for suicide and mental health problems faced by their employees.

The employers who completed our survey indicated that they have drug-free workplace policies that include guidelines regarding prescription drugs and alcohol. The Wyoming Department of Workforce Services, which oversees Wyoming OSHA, offers employers a 10% discount on their workers' compensation premium for implementing drug and alcohol testing policies through a Drug and Alcohol Discount Program. This program requires testing all hires prior to employment, when there is reasonable suspicion of substance use, after a work-related accident, and annually for a 20% random sample of employees. Each employer is also required to provide at least 1 hour of training related to substance use in the workplace for all employees annually and 2 hours of training for supervisors annually. In their drug and alcohol testing policies, they are also required to include consequences for employees who refuse testing and for employees who have a positive test result. In our interviews with state agencies and industry associations, we found that most construction and extraction employers in Wyoming have a zero-tolerance policy, meaning that employees are terminated if they fail a drug or alcohol test. We heard about exceptions to this, such as when an employer paid for rehabilitation for a long-term employee and then welcomed them back under a monitoring program.

Industry Safety Standards

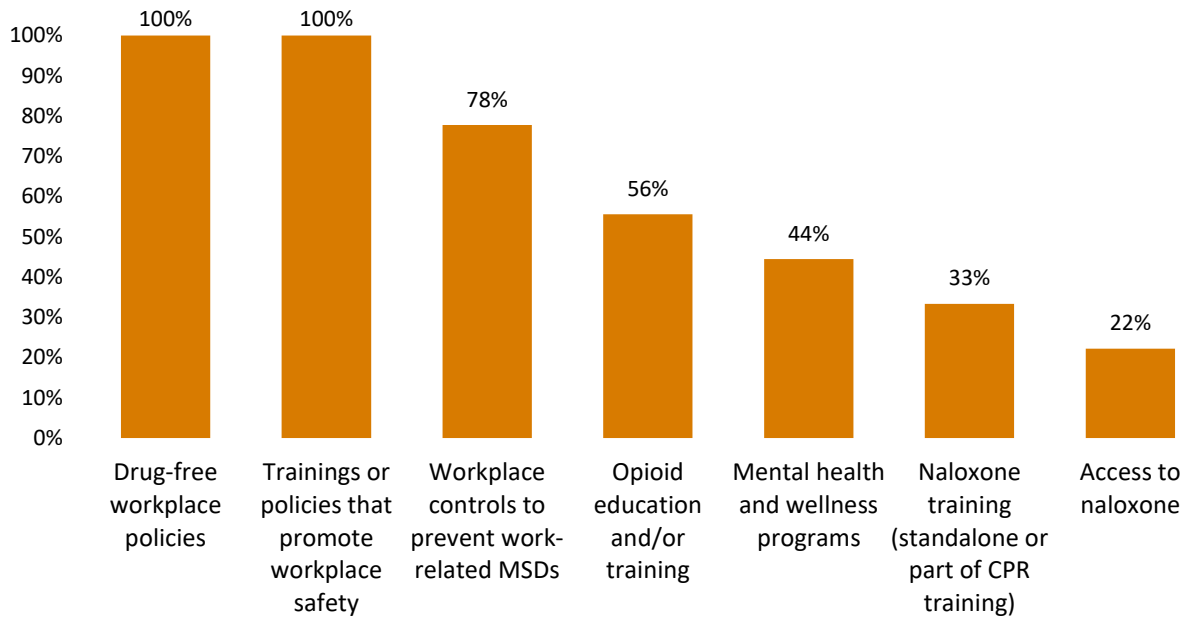
The construction and oil and gas extraction industries are subject to Wyoming Occupational Safety and Health Administration (OSHA) standards and rules, as well as the Federal General Industry (29 CFR 1910) and Construction Industry (29 CFR 1926) Standards. The Mine Safety and Health Administration (MSHA) enforces health and safety standards for the mines. Surface mines are inspected by MSHA at least twice a year and underground mines are inspected at least four times per year. OSHA prioritizes inspections based on situations of imminent danger, reports of severe injuries or illnesses, worker complaints, referrals of hazards from other agencies, high-hazard industries, high rates of injuries and illnesses, and follow-up to confirm that violations have been addressed.

Wyoming state statute § 30-2-105 prohibits alcohol and controlled substances on mine sites. Drug and alcohol testing policies and procedures tend to follow those used by the construction and extraction industries, with screening at pre-employment, randomly, and upon incident. However, the consequence of a positive test varies by the type and size of the

mine; further, if there is a union, the consequence depends on what is negotiated. Some mines offer employees the chance to pursue rehabilitation, whereas others immediately terminate employees who have tested positive.

We also learned that some employers in Wyoming are addressing topics such as suicide prevention through "toolbox talks" led by safety officers during required safety meetings. Other companies provide behavioral health-related trainings (e.g., "how to recognize when someone is struggling with mental health or substance use") for employees and supervisors during slower seasons. As shown in Figure 21, all employers we surveyed reported that they have drug-free workplace policies and are providing trainings or policies to promote workplace safety; 56% indicated that they provide training or education about opioids and 78% have workplace controls to prevent MSDs.

Figure 21. Employer policies or resources to promote wellness and prevent and address opioid and other substance use-related concerns (n = 9).



The workplace controls to prevent MSDs that employers have in place included:

- engineering controls (e.g., ergonomic workplace redesign)
- administrative controls (e.g., adjustment of work schedules and workload)
- physical activity programs (e.g., stretch-and-flex programs, time off for physical activity)
- personal protective equipment (e.g., back belts)

Only two of the employers we surveyed indicated that they offer access to an employee assistance program (EAP), which can help employers address the substance use concerns of employees. An EAP is a workplace service designed to offer free and confidential

assessments, short-term counseling, and referrals to employees to address issues affecting mental health and well-being. EAPs also consult with employers to address workforce and organizational challenges. Although our survey results are limited by small sample size (n = 9), the representatives we interviewed echoed this finding by reporting that EAPs are not widely available among the construction, extraction, or mining industries or promoted well by employers.

According to the 2024 Wyoming Workforce Annual Report, 65% percent of Wyoming jobs provided medical insurance, 40% provided paid sick leave, 51% provided paid vacation, and 71% provided a retirement plan.[79] The percentage of construction jobs with benefits was much lower: 54% provided medical insurance, 15% provided paid sick leave, 48% provided paid vacation, and 60% provided a retirement plan. Conversely, the mining and natural resource industries had higher percentages of jobs with benefits. For instance, 90% provided medical insurance, and 54% provided paid sick leave.[80]

Accordingly, there are opportunities for employers to prevent opioid misuse and promote safety and wellness by modifying policies, implementing new strategies, and providing additional resources.

[79] Bullard, D., Cowan, C., Cruz, J., Glover, T., Halama, M., Hauf, D., Knapp, L., McGrath, C., Moore, M., & Yetter, L. (2024, June).
[80] Bullard, D., Cowan, C., Cruz, J., Glover, T., Halama, M., Hauf, D., Knapp, L., McGrath, C., Moore, M., & Yetter, L. (2024, June).

Best Practices To Address Opioid Issues in the Workplace

This section provides an overview of best practices to promote a culture of safety and wellness, reduce opioid misuse, and prevent OUD in the workforce. A comprehensive approach includes elements from across the continuum of care, from prevention and early intervention to treatment, recovery, and returning to work.[81] However, employers do not have to implement every strategy or best practice to begin improving safety and reducing the negative effects of opioid misuse. The eight strategies and best practices enumerated below can be tailored for each specific company and industry.

Figure 22. Strategies and best practices to address opioid issues in the workplace

Limit Exposure to Hazards and Unhealthy or Unsafe Behaviors

An essential primary prevention approach limits exposure to hazards and alters unhealthy or unsafe behaviors to prevent injury. This approach enhances workers' well-being, increases productivity for the company, and can help decrease the need for opioid prescriptions.

Reducing exposure to hazards starts by evaluating risk and taking proper action. This may include using routine workplace inspections; conducting ergonomic evaluations; interviewing injured workers; or reviewing workers' compensation records, incident reports,

[81] Dale, A. M., Biver, S., & Kurtz, S. (n.d.). *Workplace guidelines to prevent opioid and substance abuse for the construction trades*. https://hwc.public-health.uiowa.edu/wp-content/uploads/Workplace-Opioid-Prevention-Program-Guidelines-for-Construction_v3.0.pdf

or OSHA logs.[82,83] These assessments are intended to identify and solve potential issues before they result in harm.
OSHA's Occupational Injury and Illness Recordkeeping regulations require workplaces to maintain OSHA Form 300 logs that track work-related injuries and illnesses. Organizations can analyze this information (name, date, department, title, injury/illness type, lost work time, and amount of restricted work time) to understand workplace trends and identify improvements to prevent similar incidents in the future.[84]

Safety and ergonomics programs have been found to reduce staff turnover, decrease absenteeism, and improve productivity, thereby offering return on investment for the employer.[85] There are readily available resources to conduct ergonomic evaluations (see Table 7 and Table 8), which have been found to be cost effective as they reduce workers' compensation claims and other related costs.[86]

Table 7. Safety and ergonomic resources – mining

Mining
ErgoMine audit tool is specifically designed for mining. It includes hazard checklists, MSD risk factor evaluation forms, and a tool to document and track corrective actions to address identified issues. The audits include specific operations at surface mining and processing facilities. Based on entries, ErgoMine makes recommendations to solve any existing hazards and ideas for ergonomic improvements.[87]
Simple Solutions for Surface Mine Workers offers ideas for how to decrease exposure to MSD risk factors and remove opportunities for slips, trips, and falls.[88]

[82] Le, A. (2021). *It is time to implement primary prevention.* https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8505780/
[83] American Public Health Association. (2020, October 24). *A public health approach to protecting workers from opioid use disorder and overdose related to occupational exposure, injury, and stress.* https://www.apha.org/policies-and-advocacy/public-health-policy-statements/policy-database/2021/01/13/protecting-workers-from-opioid-use-disorder
[84] National Institute of Environmental Health Sciences. (n.d.). *Opioids and the workplace: Prevention and response: Preventing workplace injury and stress can help stop the opioid crisis.* https://tools.niehs.nih.gov/wetp/public/hasl_get_blob.cfm?ID=12326
[85] American Public Health Association. (2020, October 24).
[86] Siddharthan, K., Nelson, A., Tiesman, H., & Chen, F. (2005). Cost effectiveness of a multifaceted program for safe patient handling. In K. Henriksen (eds.) et al., *Advances in patient safety: From research to implementation (Volume 3: Implementation issues).* Agency for Healthcare Research and Quality (US).
[87] Nasarwanji, M. Pollard, J. P., Dempsey, P. G., Cole, G., Fritz, J., Britton, J., Young, M., Kocher, L., Whitson, A., & Wolf, C. (2021, March). *Mining product: ErgoMine.* U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health. https://www.cdc.gov/niosh/mining/works/coversheet1906.html
[88] Pollard, J. P., Dempsey, P. G., Nasarwanji, M., & Porter, W. (2018, March). *Mining product: Simple solutions for surface mine workers.* U.S. Department of Health and Human Services, Centers for Disease Control and

Table 8. Safety and ergonomic resources – construction

Construction
Revised NIOSH Lifting Equation is a tool used to calculate risk for MSDs. Able to calculate risk for single and multiple manual lifting tasks, it can decrease the risk of lower back injuries. Using the tool, organizations can assess risk, establish guidelines for designing safe lifting tasks, increase workers' awareness about their tasks, and gather data for further research and improvement.[89]

Employers can also help prevent opioid use and promote recovery by placing individuals who have experienced a job-related injury in a less physically demanding role until they have fully healed.

Provide Employee and Supervisor Training

Another early prevention approach is providing employee and supervisor education on opioids and the risk of OUD and how to reduce substance misuse. Employee trainings can be included in new employee orientations and as part of refreshers for current employees. Ideally, opioid education is also integrated with workplace safety trainings and/or health promotion programs. Another option is to incorporate it into shorter safety talks[90] that happen at the beginning of a shift or during weekly meetings.

It is important to provide frequent and ongoing education to employees to ensure this issue remains at the forefront in case an issue may arise where they need access to this information. These trainings should at a minimum focus on the risks of opioids and ensure that all employees are aware of related company policies.[91] Additional training topics include alternative pain management approaches, how to access confidential care, how to discuss prescriptions with physicians, how to ask for non-opioid pain treatment options, how to access EAP benefits and community resources, and how to administer naloxone.[92]

Prevention, National Institute for Occupational Safety and Health. https://www.cdc.gov/niosh/mining/works/coversheet2036.html

[89] National Institute for Occupational Safety and Health. (2024). *Revised NIOSH lifting equation*. https://www.cdc.gov/niosh/ergonomics/about/RNLE.html

[90] Roelofs, C. (2022). *Employer guide to preventing opioid harms in the stone, sand, and gravel mining sector*. Center for the Promotion of Health in the New England Workplace, University of Massachusetts, Lowell. https://www.uml.edu/docs/Opioid_Harm_Prevention_Employer_Guide_tcm18-358052.pdf

[91] Cooper, R., & Bixler, E. A. (2021). Comprehensive workplace policies and practices regarding employee opioid use. *New Solutions: A Journal of Environmental and Occupational Health Policy. 31*(3), 219–228. https://doi.org/10.1177/10482911211037905

[92] A full list of topics that can be included in comprehensive opioid education programs can be found in Shaw, W. S., Roelofs, C., & Punnett, L. (2020, July 8).

There are many industry-specific resources available (see Table 9). These resources are ideally accompanied by sessions that discuss company-specific programs and policies related to substance use.

Table 9. Employee training resources

Opioid-Related Training Resources by Industry	
Mining	Opioid Hazard Awareness Training
Construction	Opioid Awareness Training Program
General	Opioids & Substance Use: Workplace Prevention & Response

Supervisors and managers should also receive training on identifying signs of impairment and how to intervene.[93] There are many available resources to support this best practice (see Table 10 for examples).

Table 10. Supervisor training resources

Training Resources for Supervisors
1. Reasonable Suspicion Training for Supervisors Video
2. National Safety Council Opioids at Work Employer Toolkit: Training Supervisors
3. National Association of Home Builders Supervisor Training: Addressing Opioid Misuse at the Worksite Intervention Toolkit

Develop Written Substance Use Policy

Another important prevention approach is to develop a written workplace substance use policy.[94,95] The substance use policy should explain the rationale behind the policy, consequences for violating the policy, and clear expectations for workplace behavior. A comprehensive substance use policy ensures that employees are well informed and provides legal protection in the case of incidents.[96] The policy should be reviewed by legal counsel, human resources, and, if relevant, labor relations. For workplaces that already have substance use policies in place, review of these policies regularly will ensure they are comprehensive and up to date.

The substance use policy should include information about prescription opioid use at work and relevant restrictions on workplace tasks for individuals who are taking prescriptions. The Americans with Disabilities Act (ADA) outlines what employers can ask an employee

[93] Cooper, R., & Bixler, E. A. (2021).
[94] Dale, A. M., Biver, S., & Kurtz, S. (n.d.).
[95] Roelofs, C. (2022).
[96] Kentuckiana Health Collaborative. (2019). *Opioids and the workplace: An employer toolkit for supporting prevention, treatment, and recovery (Online).* https://khcollaborative.org/member-resources/opioids-the-workplace/

regarding prescriptions. Table 11 details resources on what employers can legally ask workers before hire, after an offer, and during employment regarding prescriptions, along with other resources on substance use policies.

Table 11. Substance use policy resources

Substance Use Policy Resources
1. SAMHSA's Guidance on Drug-Free Workplace Policies
2. National Safety Council Opioids at Work Employer Toolkit: Sample Policy
3. Employer Guide to Preventing Opioid Harms in the Stone, Sand, and Gravel Mining Sector: Drug-Free Workplace Policy (p. 20) and Enhanced Drug-Free Workplace Policy (p. 22)
4. RTI Guidance on What Employers Can Ask Employees About Prescribed Drug Use

Drug-free workplace policies do not have to include drug and alcohol testing. MSHA does not mandate drug testing.[97] For organizations that conduct drug testing, it is best practice to develop a "second chance" or non-punitive drug testing practice (see callout box below). The purpose of a drug-free workplace policy is to ensure that workers are not contributing to an unsafe work environment. The policy should outline the circumstances in which employees will be tested, testing procedures, and the consequences of a positive test result.

> Non-punitive drug testing practice: "A professionally administered workplace program will include comprehensive drug testing but will refer those with positive tests for evaluation and appropriate treatment rather than punishing them."[98]

Steps to create a drug testing policy:[99]

- review applicable state (and if relevant, federal) legal requirements
- determine drug testing procedures
- inform employees (and job applicants) of the policy
- choose a lab to conduct testing
- research treatment options in the area

The policy's goal is to discourage the use of drugs, identify workers who are using, and identify those who may have a problem and need support and/or treatment.[100] Testing should not be used punitively or without reasonable suspicion. Reasonable suspicion is "direct observation of impairment or failure to participate in a random drug test."[101] OSHA

[97] Roelofs, C. (2022).
[98] American Public Health Association. (2020, October 24).
[99] Dale, A. M., Biver, S., & Kurtz, S. (n.d.).
[100] Dale, A. M., Biver, S., & Kurtz, S. (n.d.).
[101] Roelofs, C. (2022).

regulations state that post-accident testing is not allowed unless the accident could have been related to the employee's impairment.

"Second chance" substance use policies allow workers with positive tests to retain their job and return to work upon completion of treatment. These policies can encourage self-disclosure of substance use and allow employees to obtain appropriate support without the fear of dismissal. This best practice requires a lot of work on the part of the employer and employee to overcome the hurdle of stigma surrounding behavioral health in general and substance use in particular.

> Employers should advise workers at the time of an injury about alternative pain treatments. To accomplish this, human resources staff, union representatives, and other personnel need to be prepared to have these discussions. Employers should provide workers with talking points to prepare them for conversations with their healthcare provider and a list of opioids by brand and generic names to help them recognize the medications they are prescribed.[102] Resources are available on the WDH Overdose Prevention website.

Provide Comprehensive Healthcare and Pharmacy Coverage

An essential practice to promote a culture of safety and wellness in the workplace is to provide comprehensive healthcare coverage for medical and behavioral health needs. Coverage should include evidence-based treatment across the continuum from prevention to recovery. Pharmaceutical benefits should include equal coverage of non-opioid and opioid treatment options.[103]

Healthcare providers, pharmacy benefits managers, and workers' compensation plans should use CDC prescribing guidelines and encourage alternative pain treatments.[104,105]

In addition to bolstering healthcare coverage for non-opioid treatments for pain, employers should also consider benefits that provide access to effective OUD treatment. Employers may need to coordinate with health insurers and benefit managers to increase access to OUD treatment.[106] Some small employers without the capacity to provide comprehensive

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[102] American Public Health Association. (2020, October 24).

[103] There is substantial evidence that the use of other pain management methods can be effective for chronic pain (e.g., physical or occupational therapy, acupuncture, cognitive behavioral therapy). Dowell, D., Ragan, K. R., Jones, C. M., Baldwin, G. T., & Chou, R. (2022, November 4). CDC clinical practice guideline for prescribing opioids for pain — United States, 2022. *Morbidity and Mortality Weekly Report (MMWR) Recommendations and Reports*, *71*(3), 1–95. http://dx.doi.org/10.15585/mmwr.rr7103a1

[104] Dale, A. M., Biver, S., & Kurtz, S. (n.d.).

[105] Cooper, R., & Bixler, E. A. (2021).

[106] Shaw, W. S., Roelofs, C., & Punnett, L. (2020, July 8).

healthcare and pharmacy coverage have developed innovative solutions, such as bringing primary care providers on-site for employee wellness checks at regular intervals.

Provide Employee or Member Assistance Program

Another best practice is to provide employee assistance programs (EAPs), ideally expanded EAPs, that provide confidential and barrier-free access to mental health services.[107] EAPs can provide workers with resources and referrals. EAP professionals can also assist with employee-employer agreements, which may include time off to receive treatment, an extension of benefits, and return to work plans. These agreements may include expectations for compliance drug testing.[108] If employers do not extend employees health insurance benefits, EAPs may be able to help employees access treatment and recovery services through other avenues. Findings from our key informant interviews confirmed what we found in the literature: though many employers offer EAPs, workers often do not know about EAPs or how to access them.[109,110] Employers can regularly review EAP usage reports and can increase awareness and utilization by reminding employees about what EAPs offer and how to access services.

Develop Policies and Practices To Facilitate Treatment and Recovery

Although primary prevention of opioid misuse is essential and the focus of this report, it is important for workplaces to be prepared if workers develop an OUD. Developing policies and practices to facilitate treatment and recovery is a crucial strategy to help employees and to promote a culture of wellness.

The first step for employers is to become aware of the resources and support available and to enable employee access. Below are examples of evidence-based best practices for treatment and recovery used for OUD and SUD.[111]

- medications to treat OUD (sometimes referred to as medication-assisted treatment [MAT]) (see example of MAT in callout box below).
- substance use screening, brief intervention, and referral to treatment (SBIRT)
- therapeutic interventions, e.g., motivational interviewing, contingency management, and cognitive behavioral therapy
- peer support services to enhance treatment and improve outcomes

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[107] Cooper, R., & Bixler, E. A. (2021).
[108] Roelofs, C. (2022).
[109] National Safety Council. (2022, May). *COVID-19 impact & innovation member survey report: NSC research snapshot.* https://www.nsc.org/getmedia/124368a8-6d94-4e6a-ba78-f8d7e3bbc101/covid-impact-innovation-eap-snapshot.pdf
[110] Cooper, R., & Bixler, E. A. (2021).
[111] Vine, M., Staatz, C., Blyler, C., & Berk, J. (2020, February 26). *The role of the workforce system in addressing the opioid crisis: A review of the literature*. Mathematica. https://www.dol.gov/sites/dolgov/files/OASP/evaluation/pdf/WorkforceOpioids_LitReview_508.pdf

MAT Innovation To Promote Access to Treatment in Rural Areas
The hub and spoke model is a promising approach to expand access to MAT, especially in rural areas. The model uses coordinated care networks to make MAT available through providers ("spokes"), which can include physician assistants, nurse practitioners, and primary care providers. These providers are connected with regional opioid treatment facilities ("hubs") that coordinate care and offer training and ongoing support to "spoke" providers.[112]

Another step employers can take is to support the distribution of naloxone and provide appropriate training on administering naloxone. Naloxone is available over the counter in Wyoming. The general public can administer naloxone in an overdose emergency. Employers can target naloxone trainings to the person responsible for first aid at a worksite; incorporate trainings into workplace emergency preparedness programs; or offer stand-alone, brief awareness and how-to trainings during a staff huddle or meeting.[113,114] Trainings do not need to be long or in-depth to teach how to spot signs of an overdose and how to administer naloxone. More detailed information on using naloxone in the workplace is available in Using Naloxone to Reverse Opioid Overdose in the Workplace: Information for Employers and Workers.

Support Employees' Return to Work

In addition to supporting employees' treatment and recovery, employers should also support employees' return to work. "Alternatives to discipline" programs are successful in helping workers with SUD recover and return to work. Although this may seem only beneficial to the employee and a disruption to the employer, supporting individuals in their recovery return to work is in the best interest of the employer.

Research shows there are advantages to maintaining people in recovery on the payroll, including benefits to the business's bottom line and higher workplace performance. Supporting and retaining an employee with a substance use issue (regardless of whether a workplace injury preceded the substance use) can be a sound investment considering the time, effort, and money required to hire and train new employees. According to 2022 benchmarking data from the Society for Human Resource Management, it costs on average $4,700 to hire a new employee; the costs are slightly higher for mining ($5,044) and slightly

[112] Simpatico, T. A. (2015). Vermont responds to its opioid crisis. *Preventive Medicine*, *80*, 10–11. https://doi.org/10.1016/j.ypmed.2015.04.002 As cited in Vine, M., Staatz, C., Blyler, C., & Berk, J. (2020, February 26).
[113] Shaw, W. S., Roelofs, C., & Punnett, L. (2020, July 8).
[114] National Safety Council. (n.d.). *Respond ready workplace: Naloxone for opioid overdose: Preparing for overdoses saves lives*. https://www.nsc.org/workplace/safety-topics/respond-ready-workplace/home#:~:text=Naloxone%20is%20a%20drug%20that,to%20help%20save%20a%20life.

lower for construction ($4,400).[115,116] Further, workers in recovery miss fewer days of work, are less likely to look for other jobs, and have lower turnover rates than the general workforce.[117]

Companies can benefit from efforts to invest in and retain employees. This is especially true in a tight labor market with workforce shortage issues. For more information on how to support employees, refer to Preparing for an Employee's Return to Work After Prescription Drug Misuse.

Build a Culture That Supports Overall Wellness

Developing a culture that supports employees' wellness, often referred to as a culture of care or culture of health and wellness, influences and interacts with each of the best practices described above. It involves building buy-in at the leadership level to develop policies, programs, and education that support the well-being of the workforce.[118,119]

The overall goal of a culture of care is to reduce stigma and support recovery. Reducing stigma allows workers to discuss issues, get the help they need, and avoid workplace incidents or injuries. Although there is no one way to develop a culture of care, it often includes providing paid time off, flexible schedules, or work policies that allow employees to schedule necessary appointments and receive medical and behavioral health care.

A Note About Legal Implications

It is important that employers or unions consult with an attorney before finalizing their substance use prevention program to ensure that all policies and practices are in accordance with federal and state labor laws and regulations. This includes ensuring that the program is protecting workers' health privacy, including drug test results, details about injuries, treatment plans, and return to work plans. This also includes protecting workers with disability including those with SUD. According to ADA regulations, employers must provide reasonable accommodations to employees. A worker who is taking prescription opioids or medication for SUD may qualify for an accommodation. Some employers are required to offer Family Medical Leave Act benefits, in which employees receive time off for medical or family reasons without the risk of losing their health insurance. However, requirements differ depending on the size and other characteristics of the company.[120,121]

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[115] Navarra, K. (2022, April 11). *The real costs of recruitment*. Society for Human Resource Management. https://www.shrm.org/topics-tools/news/talent-acquisition/real-costs-recruitment
[116] Goplerud, E., Hodge, S., & Benham, T. (2017).
[117] Goplerud, E., Hodge, S., & Benham, T. (2017).
[118] Roelofs, C. (2022).
[119] Dale, A. M., Biver, S., & Kurtz, S. (n.d.).
[120] Roelofs, C. (2022).
[121] Dale, A. M., Biver, S., & Kurtz, S. (n.d.).

Barriers to Implementing Best Practices

Production pressures, time constraints, high turnover, and high numbers of temporary or seasonal workers are all factors within the construction, mining, and extraction industries that can pose barriers to fostering a culture of care and safety and preventing OUD.

Key informants mentioned additional hurdles that could prevent employers from implementing best practices, including:

- stigma surrounding substance use, help-seeking, and the use of naloxone to reverse overdoses
- lack of understanding or training on identifying and addressing substance use-related issues
- lack of access to community resources, such as a limited supply of medications for OUD, which is exacerbated by the long distance some individuals have to travel[122]
- financial barriers for small businesses to providing access to beneficial programs and resources, such as EAPs
- cultural and linguistic barriers, specifically for the Spanish-speaking workforce
- misalignment of perspectives and priorities between employees and employers or leadership

"We're 'tough guys'; we don't talk about our feelings or issues."

-Interviewee

Key informants also acknowledged potential disregard for the safety professionals who would deliver OUD prevention trainings, given the frequency of the mandatory safety trainings they deliver. Employees may grow to mistrust safety professionals if they are seen as enforcers of compliance rather than as champions for worker safety.

Some of the punitive policies and procedures implemented by employers, especially zero-tolerance drug and alcohol policies, also present obstacles to adopting best practices. These policies deter employees who are struggling with substance use from acknowledging that they need help because they risk losing their jobs if they do so.

[122] Pustz, J., Shrestha, S., Newsky, S., Taylor, M., Fowler, L., Van Handel, M., Lingwall, C., & Stopka, T. J. (2022).

Recommendations

Workplace health and safety are critical components of Wyoming's economy and the well-being of its communities. The Wyoming Department of Health Community Prevention Unit, prevention specialists, and other public health and behavioral health partners can play a pivotal role in combatting the opioid crisis by addressing the complex challenges of opioid use prevention and behavioral health promotion in the workplace. The recommendations outlined below are intended to inform the Department of Health's efforts to reduce opioid exposure; prevent OUD; and create healthier, safer, and more productive workplaces that benefit the workforce, businesses, and communities across Wyoming.

1. Identify new and support existing workplace prevention champions, including employers, employee representatives, trade associations, and other partners, to promote and implement opioid prevention initiatives.

   Identify and develop a network of workplace prevention champions in Wyoming to promote best practices, disseminate messages and resources, and support the implementation of policies and practices. Workplace prevention champions can include business leaders who are early adopters of prevention best practices and individuals who possess an understanding of industry-specific considerations and an interest in workforce safety and well-being, such as trade associations, union representatives, employees who are in recovery from SUD, healthcare professionals, workers' compensation insurers, and community prevention specialists.

   Initiate relationships with champions by hosting discussions that bring together employers, employees, health experts, and decision-makers from state and local agencies to discuss the unique challenges faced by different industries and work collaboratively to develop solutions. Engage champions to adapt prevention programs to specific workplace needs and local conditions, build buy-in and engagement among employers and the workforce, facilitate industry-specific working groups, and encourage the implementation of best practices. Facilitate opportunities for champions to share lessons learned across employers and industries in order to address emerging challenges. Consider incentive programs or recognition awards for employers who implement comprehensive prevention initiatives.

2. Develop and disseminate industry-specific education and awareness resources that focus on the risks of opioid use; promote effective prevention programs; and address common misconceptions about safety, pain management, and recovery.

Disseminate clear, science-based information to increase understanding of opioid prevention and recovery. Highlight the vulnerability of workers in physically demanding jobs to opioid concerns and overdose risk because of higher rates of injury and pain management needs. Integrate opioid prevention strategies into other workplace initiatives, safety programs, and mental health initiatives (e.g., suicide prevention programs). Address misconceptions about OUD recovery (e.g., that people in recovery from OUD are at a higher risk for workplace accidents and injuries) and identify considerations for hazardous or safety-sensitive work where high safety standards are necessary.

Identify opportunities to disseminate such resources in partnership with other state agencies, trade associations, and business groups and use partners' communication channels to reach workers statewide. Identify exemplar businesses that can share success stories with other employers and lessons learned that can be applied and adapted to address opioid prevention needs in other industries.

Consider targeted education and awareness campaigns in the counties with the highest opioid-involved overdose death rates and highest opioid dispensing rates (i.e., Hot Springs, Natrona, Carbon, Sweetwater, and Uinta).

3. Connect employers and employee groups to existing state and local prevention, harm reduction, treatment, and recovery resources.

Create strong links between employers and state and local resources, such as the 988 Suicide and Crisis Lifeline, Wyoming 211, the state's NARCAN® naloxone dispensing program, community behavioral health treatment providers, and Recover Wyoming. Ensure that employers and workers have awareness of and access to resources and support services.

4. Identify and reduce barriers to implementing effective opioid prevention strategies.

Develop a comprehensive strategy that incorporates policy changes and aligns with evidence-based practices for overdose prevention and treatment. Seek avenues to expand access to alternatives to opioids for pain management, MAT

for OUD, and harm reduction services (i.e., naloxone distribution programs) in all regions of the state.

5. Evaluate the effectiveness of workplace opioid prevention programs across different industries.

Develop metrics to measure the effectiveness of opioid and other workforce prevention initiatives, monitor the implementation and integration of best practices, identify areas for quality improvement, and demonstrate the value of prevention efforts to partners and collaborators. Evaluation measures may include reduced opioid use and overdoses, reduced number of opioid prescriptions dispensed, reduced opioid-related ED visits and inpatient hospitalizations, and increased employee retention and participation in health programs. Consider evaluating long-term outcomes such as reduced overdose deaths, reduced healthcare costs, and improved productivity. Prioritize employee feedback and integrate data from various sources—including vital records, the prescription drug monitoring program, and workers' compensation—into the evaluation plan and account for differences across industries (e.g., policies, regulations) while maintaining a common set of measures for comparison. Regular reporting and analysis of these metrics can help the Department of Health and other partners monitor and improve prevention strategies.

By implementing these recommendations, the Wyoming Department of Health can make progress toward preventing opioid misuse, thereby contributing to a healthier and safer workforce in Wyoming.

Appendix A. Interview and Focus Group Participants

Table 12. List of interview and focus group participants

Participants	Organization(s)
Karen Bebensee	Wyoming Department of Workforce Services
Jason Wolf	Wyoming Department of Workforce Services
Community Prevention Specialists (two focus groups)	Wyoming Department of Health, Community Prevention Unit
Erica Mathews	Wyoming Department of Health, Behavioral Health Division
Hailey Hayden	Wyoming Overdose Response Strategy Office
Casey Patterson	Wyoming Overdose Response Strategy Office
Angela Vaughn	Wyoming Rx Abuse Stakeholders, Cheyenne Regional Medical Center
Matt Martineau	Wyoming Board of Pharmacy
Heather Kroupa	Wyoming State Mine Inspector's Office
Rhea Parsons	Wyoming Prevention Action Alliance, Wyoming Association of Sheriffs and Chiefs of Police
Renny MacKay	Wyoming Business Alliance
Pete Obermueller	Petroleum Association of Wyoming
Dan Benford	Associated General Contractors of Wyoming
Larissa Skinner	Mountain Pacific Quality Health
Mitch Baker	Pullen Services
Max Margolis	Construction Suicide Prevention Partnership
Ann Marie Dale	Washington University School of Medicine, Healthy Work Center
Cora Roelofs	CPWR – Center for Construction Research and Training
Chris Rodman	CPWR – Center for Construction Research and Training

Appendix B. Tables Associated With Maps

Table 13. The rate of opioid-involved overdose deaths per 100,000 people by county (2019-2023)

County	Opioid-Involved Overdose Deaths per 100,000 People [95%CI]
Albany County	8.9 [4.65 - 13.08]
Big Horn County	11.9 [3.08 - 20.69]
Campbell County	7.7 [4.13 - 11.24]
Carbon County	17.8 [8.12 - 27.47]
Converse County	14.5 [5.51 - 23.51]
Crook County	Suppressed
Fremont County	17.7 [11.86 - 23.62]
Goshen County	Suppressed
Hot Springs County	Suppressed
Johnson County	Suppressed
Laramie County	15.5 [12.07 - 18.96]
Lincoln County	9.8 [3.73 - 15.91]
Natrona County	8.3 [5.43 - 11.07]
Niobrara County	0.0
Park County	6.7 [2.53 - 10.8]
Platte County	Suppressed
Sheridan County	5.7 [1.97 - 9.44]
Sublette County	Suppressed
Sweetwater County	27.2 [20.17 - 34.31]
Teton County	Suppressed
Uinta County	16.6 [8.69 - 24.46]
Washakie County	Suppressed
Weston County	0.0

Table 14. The rate of opioid-involved overdose deaths per 100,000 people (1999-2020) and the rate of opioid dispensing rate per 100 people by county (2020)

County	Opioid-Involved Overdose Deaths per 100,000 People	Opioid Dispensing per 100 People
Albany County	8.9	26.3
Big Horn County	11.9	32.4
Campbell County	7.7	37.3
Carbon County	17.8	59.8
Converse County	14.5	27.3
Crook County	Suppressed	5.7
Fremont County	17.7	41.3
Goshen County	Suppressed	15.9
Hot Springs County	Suppressed	94.7
Johnson County	Suppressed	30.2
Laramie County	15.5	51.2
Lincoln County	9.8	41.9
Natrona County	8.3	68.9
Niobrara County	0.0	5.4
Park County	6.7	55.1
Platte County	Suppressed	16.7
Sheridan County	5.7	33.4
Sublette County	Suppressed	32.7
Sweetwater County	27.2	70.9
Teton County	Suppressed	50.9
Uinta County	16.6	59.4
Washakie County	Suppressed	40.7
Weston County	0.0	6.6

Table 15. The number of construction employees per 100,000 people in the labor force by county

County	Employees per 100,000 People
Albany County	3,905
Big Horn County	7,314
Campbell County	7,949
Carbon County	9,631
Converse County	7,721
Crook County	6,302
Fremont County	4,249
Goshen County	2,630
Hot Springs County	3,993
Johnson County	5,032
Laramie County	6,614
Lincoln County	9,385
Natrona County	6,653
Niobrara County	0
Park County	6,547
Platte County	3,472
Sheridan County	7,789
Sublette County	9,279
Sweetwater County	6,358
Teton County	15,015
Uinta County	7,446
Washakie County	5,299
Weston County	0

Table 16. The number of extraction employees per 100,000 people in the labor force by county

County	Employees per 100,000 People
Albany County	233
Big Horn County	8,543
Campbell County	21,653
Carbon County	0
Converse County	14,568
Crook County	8,255
Fremont County	2,298
Goshen County	0
Hot Springs County	0
Johnson County	4,002
Laramie County	822
Lincoln County	6,458
Natrona County	4,721
Niobrara County	1,784
Park County	2,467
Platte County	2,053
Sheridan County	425
Sublette County	15,697
Sweetwater County	0
Teton County	53
Uinta County	1,625
Washakie County	1,673
Weston County	5,465