

# Opioids in the Montana Workforce: Exploring the Relationship Between Opioids and Workers' Industry & Occupation

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Montana Department of  
**LABOR & INDUSTRY**

# Purpose

Examine the association between opioid prescribing among injured workers and opioid-related overdose deaths in Montana by industry and occupation and to understand if the trends seen nationally and among other states are similar within the Montana workforce.

## Previous Research:

- **Construction and mining industries** were more likely than other industries to receive an opioid prescription for pain, as well as higher rates of receiving opioids on a longer-term basis, higher rates of opioid prescriptions with a morphine equivalent dose of  $\geq 50$ , and higher rates of having at least a 60-day supply of opioids within a 90-day period (Thumula et al., 2018).
- Using the National Survey on Drug Use and Health for survey years 2012 through 2014, which included over 77,000 employed participants, found that the prevalence of pain medication use disorder across all participants was 0.8%, and industry sectors with higher than average prevalence included workers employed in **entertainment, recreation and food service industries (1.6%), followed by construction (1.3%), mining (1.0%), and other services (1.0%)** (Gopleurd, et al., 2017).
- CDC analyzed data from the National Occupational Mortality Surveillance and found that **construction occupations** had the highest mortality rates for both prescription opioid-related overdose deaths and for heroin-related overdose deaths. Other occupations with high prescription opioid-related overdose deaths included **mining, oil and gas extraction, and health care practitioners** (Morano et al., 2018).
- Massachusetts Department of Public Health found that both the **construction industry sector and construction and extraction occupations** had significantly higher rates of opioid-related overdose deaths compared to other industries and occupations (Hawkins et al., 2018).
- Data from the Ohio Department of Health showed that **construction workers** were seven times more likely to experience an opioid-related overdose death (Dissell, 2017).

## Two primary sources of data:

- Montana workers' compensation data from the National Council on Compensation Insurance (NCCI)
- Death certificate data from the Montana Department of Public Health and Human Services (DPHHS)

# Injured Worker Opioid Prescribing in Workers' Compensation



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# Data Overview

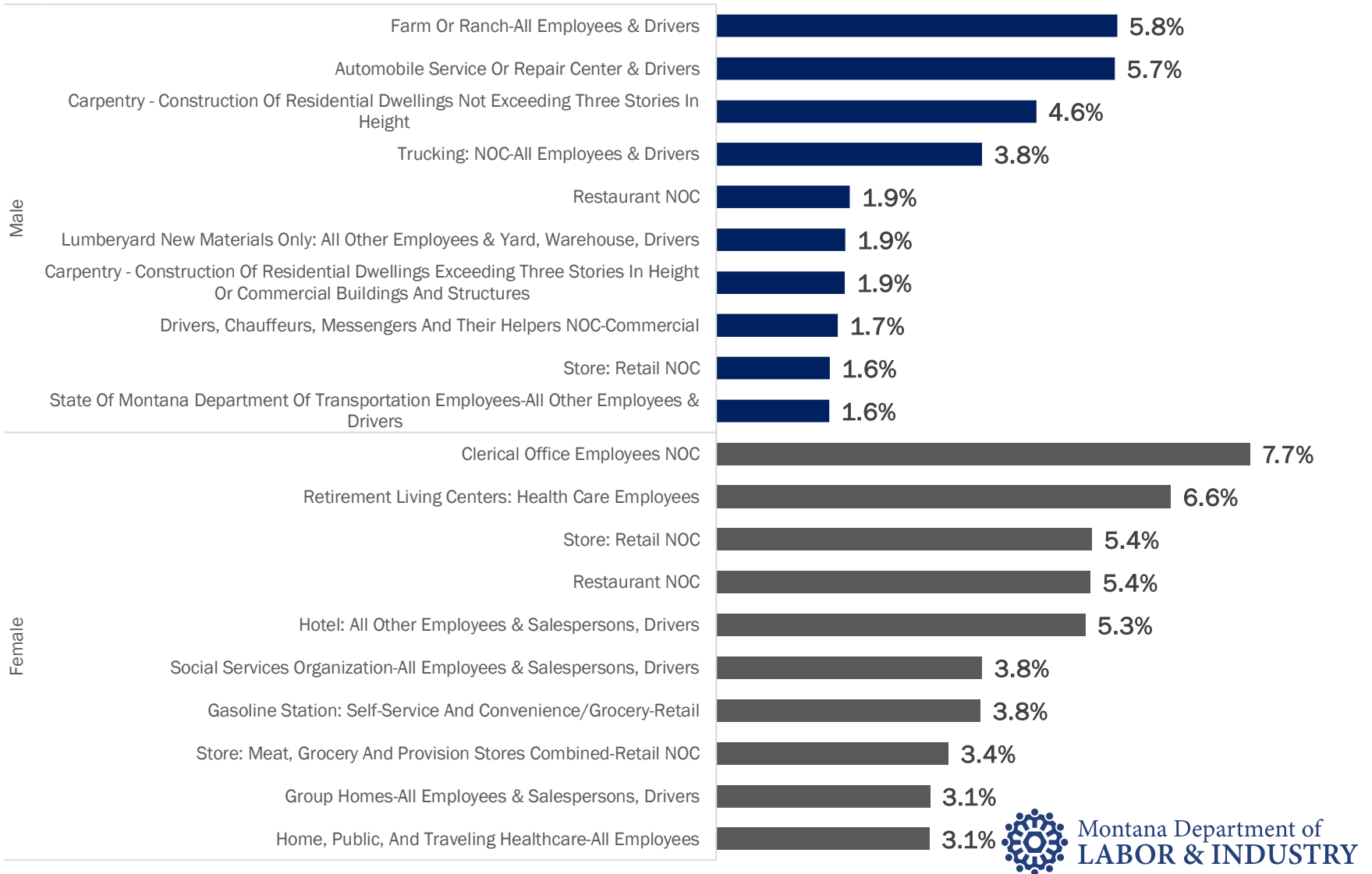
- **Requested NCCI data on opioid claims for service years 2012-2017**
  - Includes information by NCCI class codes and NCCI industry groups
  - Opioid claims occurred across 363 class codes, 24,482 total across all service years
- **On average:**
  - ≈4,000 opioid claims/year
  - 65% of opioid claims were for males
  - 31% of opioid claims were for individuals age 45-54
  - 18% of opioid claims were for claims greater than 10 years mature
- **Examined the data in two ways:**
  - Overall Distribution
  - Distribution Within a Single Class Code

# NCCI Class Codes with Largest Overall Share of Opioid Claims

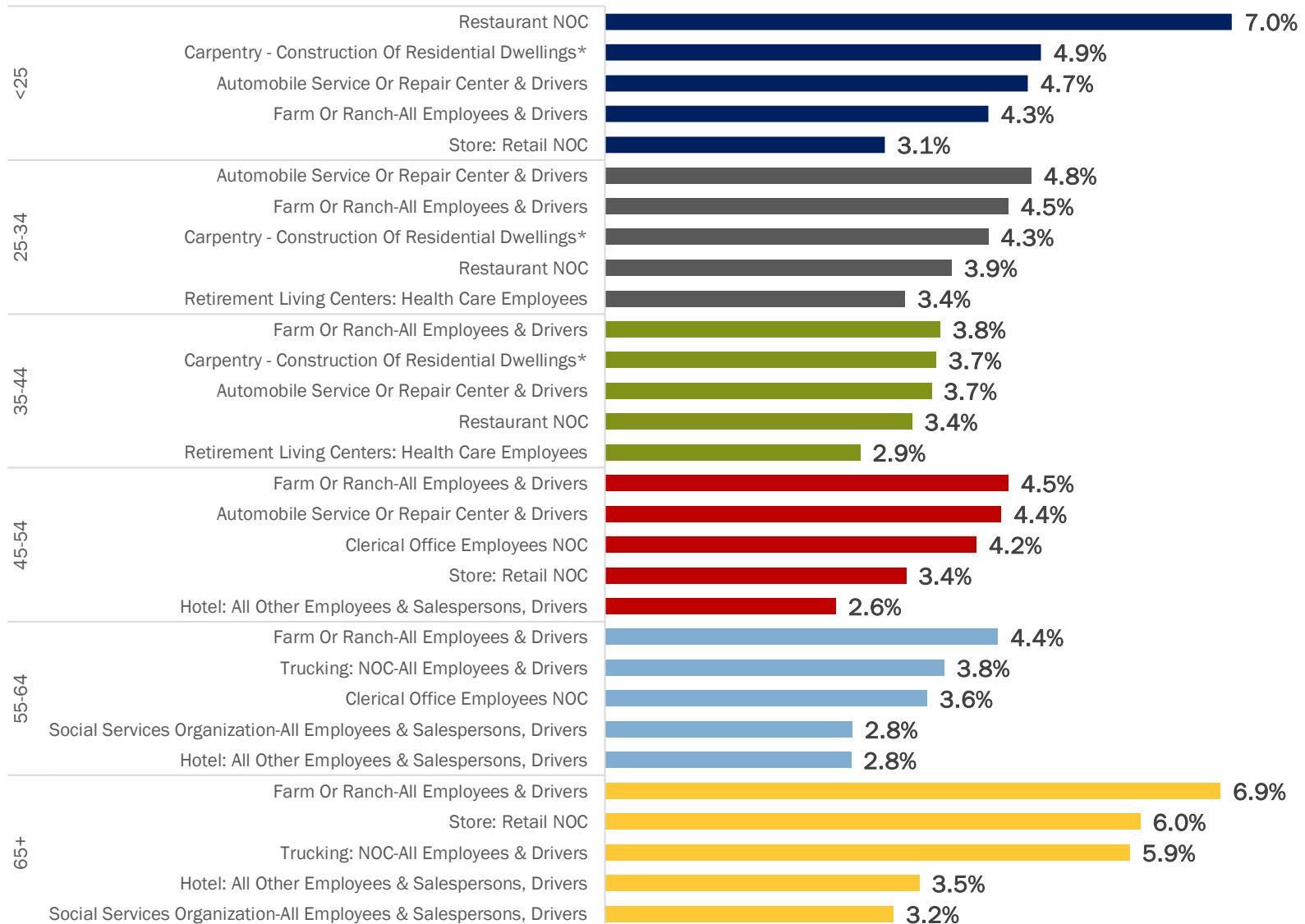
- Every service year, 28 class codes comprise >50% of all opioid claims

		Mean			Mean
<b>Good and Services</b>			<b>Contracting</b>		
0006	Farm Or Ranch--All Employees & Drivers	4.4%	5645	Carpentry - Construction Of Residential Dwellings Not Exceeding Three Stories In Height	3.0%
8380	Automobile Service Or Repair Center & Drivers	3.9%	5403	Carpentry - Construction Of Residential Dwellings Exceeding Three Stories In Height Or Commercial Buildings And Structures	1.2%
9079/ 9082	Restaurant NOC	3.1%			
8017	Store: Retail NOC	3.0%	5183	Plumbing NOC & Drivers	1.1%
9052	Hotel: All Other Employees & Salespersons, Drivers	2.5%	9421	State Of Montana Department Of Transportation Employees--All Other Employees & Drivers	1.1%
8824	Retirement Living Centers: Health Care Employees	2.5%	<b>Office and Clerical</b>		
8864	Social Services Organization-All Employees & Salespersons, Drivers	1.9%	8810	Clerical Office Employees NOC	3.2%
8006	Gasoline Station: Self-Service And Convenience/Grocery-Retail	1.8%	8833	Hospital: Professional Employees	1.2%
8033	Store: Meat, Grocery And Provision Stores Combined-Retail NOC	1.8%	8742	Salespersons Or Collectors-Outside	1.1%
8842	Group Homes-All Employees & Salespersons, Drivers	1.4%	8832	Physician & Clerical	1.1%
8834	State Of Montana Asylum, Hospital, Home, And Special School--Not Correctional--All Other Employees & Drivers	1.4%	<b>Miscellaneous</b>		
8232	Lumberyard New Materials Only: All Other Employees & Yard, Warehouse, Drivers	1.3%	7219	Trucking: NOC-All Employees & Drivers	2.6%
9015	Building Or Property Management - All Other Employees	1.2%	7380	Drivers, Chauffeurs, Messengers And Their Helpers NOC-Commercial	1.3%
8835	Home, Public, And Traveling Healthcare--All Employees	1.1%	7721	State Of Montana Penal Or Correctional Institution--All Other Employees & Drivers	1.0%
9014	Janitorial Services By Contractors - No Window Cleaning Above Ground Level & Drivers	1.1%			
9083	Restaurant: Fast Food	1.0%			
8010	Store: Hardware	1.0%			

# NCCI Class Codes with Largest Overall Share of Opioid Claims **by Gender**



# NCCI Class Codes with Largest Overall Share of Opioid Claims by Age at Injury



# Overall Distribution is Limiting...

...because it does not control for the size of the workforce in a given class code.

Assumption: Farm & Ranch class code likely has a high rate of opioid claims.

	Farm & Ranch Employment	Health Care Employment
American Community Survey, U.S. Census Bureau	5% of all employment in MT found within Agriculture, Forestry, Fishing and Hunting industry	14% in Health Care and Social Assistance industry
American Community Survey, U.S. Census Bureau	1.7% of all employment in MT found within Farming, Fishing, and Forestry occupations	8.3% of all employment in MT found within Health Care occupations
Occupational Employment Statistics, BLS	0.4% of all employment in MT found within Farming, Fishing, and Forestry occupations	9.3% of all employment in MT found within Health Care occupations

$$\frac{\uparrow \text{ \# of Opioid Claims }}{\downarrow \text{ \# of Workers }} =$$

Relatively  $\uparrow$  Rate of Opioid Claims

$$\frac{\uparrow \text{ \# of Opioid Claims }}{\uparrow \text{ \# of Workers }} =$$

Relatively  $\downarrow$  Rate of Opioid Claims



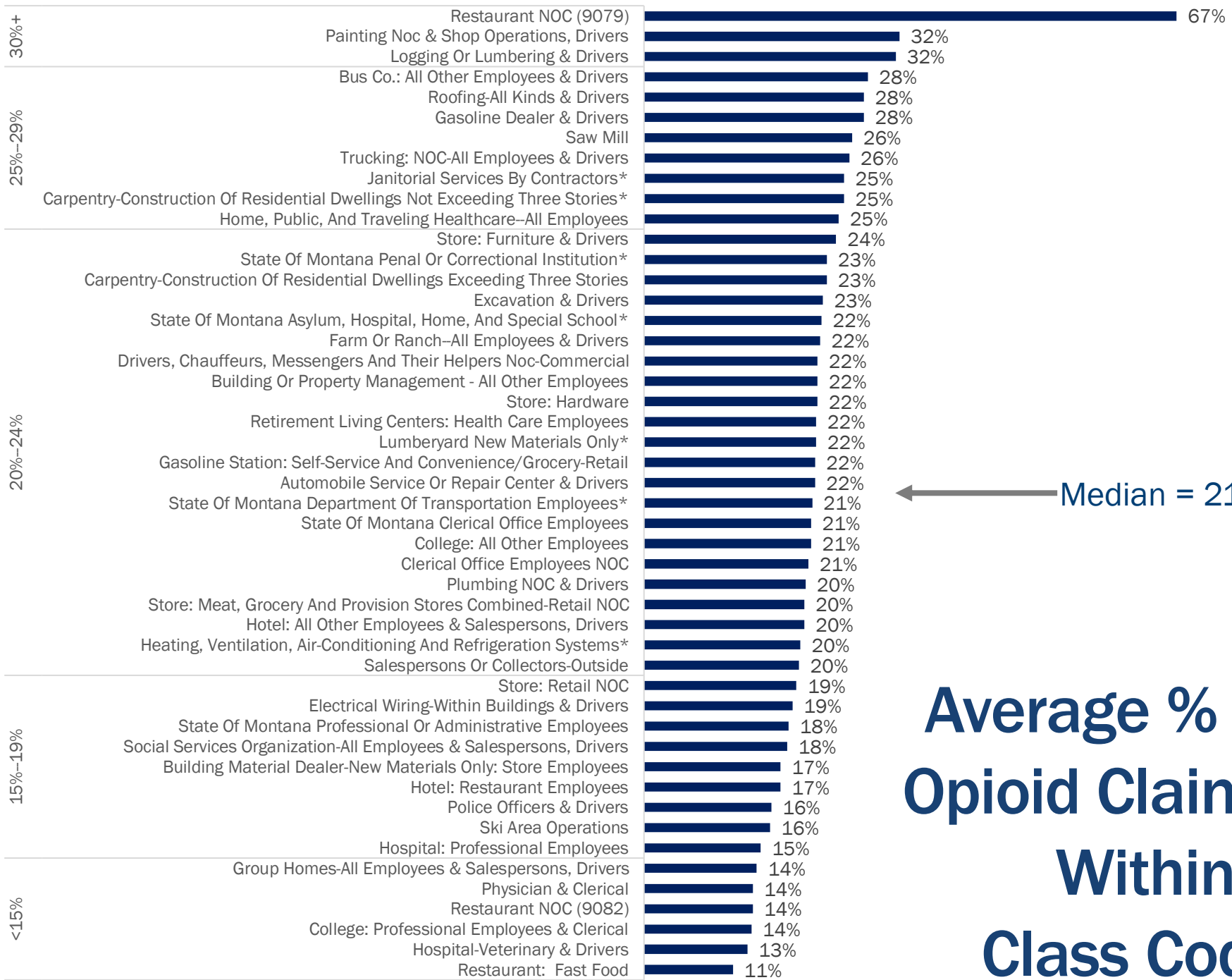
# Opioid Claims by NCCI Class Code – Distributions Within a Single Class Code

Only includes class codes that averaged 20 or more opioid claims annually between service years 2012-2017

- Total = 48 class codes

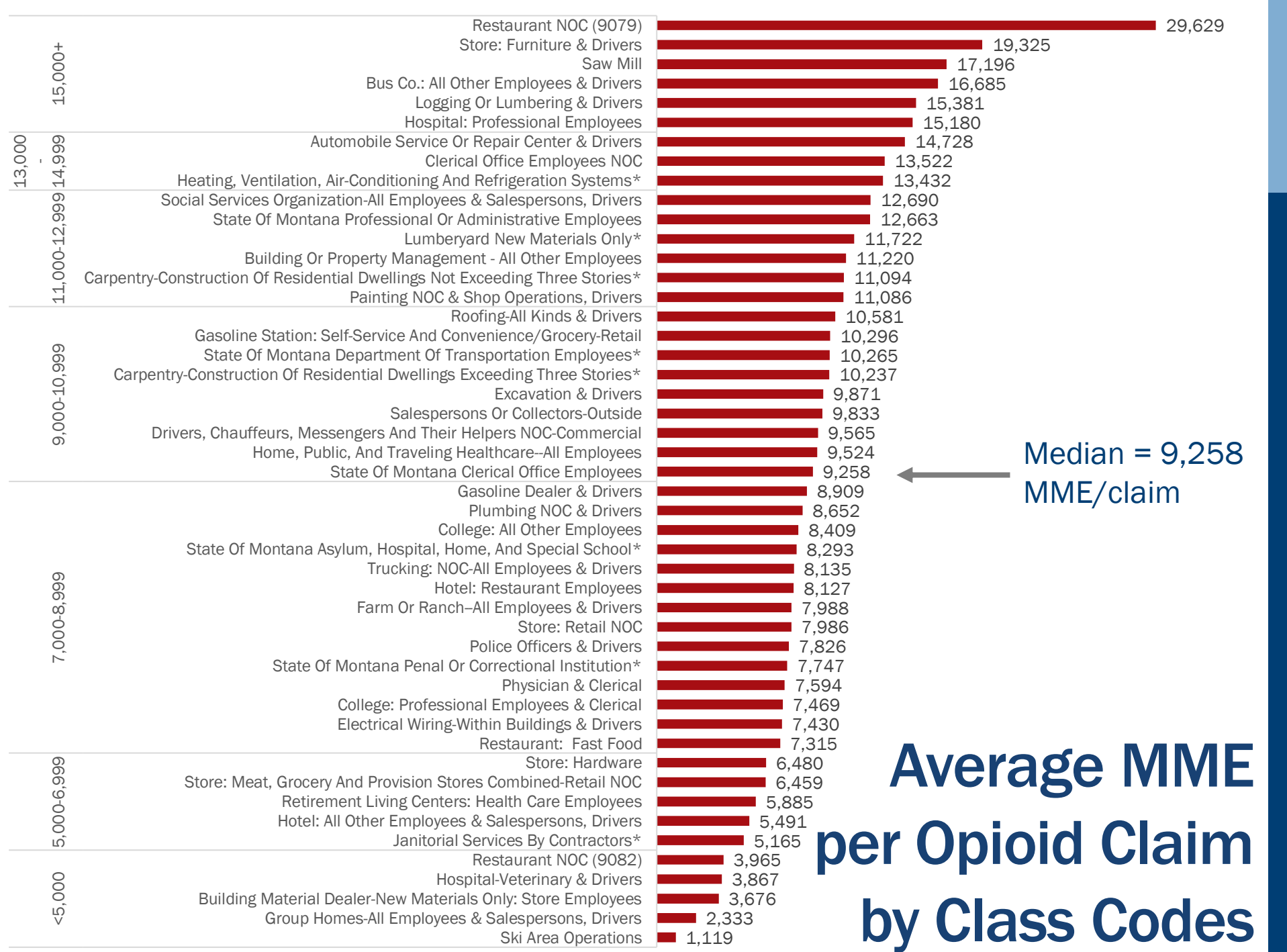
## CDC Recommendations

- Caution when prescribing **>50 MME/day**, avoid prescribing **>90 MME/day**
- For acute pain, prescribe no more than needed for the expected duration of pain and notes that **3 days is generally sufficient, while 7 days is rarely necessary**
- Reference:
  - 7-day prescription at 50 MME/day = **350 MME**
  - 7-day prescription at 90 MME/day = **630 MME**



← Median = 21%

# Average % of Opioid Claims Within a Class Code



# Opioid Claims by NCCI Class Code – Distributions Within a Single Class Code (cont'd)

Utilizing higher than recommended MME?

Utilizing opioids on a longer-term/chronic basis?

Small number of claims in each class codes consuming the majority of MME?

By service year, the % of opioid claims was trending down across *all* class codes and average MME was decreasing across *almost all* class codes

# What's going on with Restaurants?

	% of Opioid Claims Within Class Code	Average MME per Opioid Claim
Restaurant NOC - 9079	67%	29,629
Restaurant NOC - 9082	14%	3,965

Rate Filing  
Change Effective  
July 1, 2005



Pre July 1, 2005:  
Restaurant NOC - 9079

Post July 1, 2005:  
Restaurant NOC - 9082  
Restaurant: Fast Food - 9083  
Bar, Discotheque, Lounge, Night Club or Tavern - 9084



# Opioid-Related Overdose Deaths

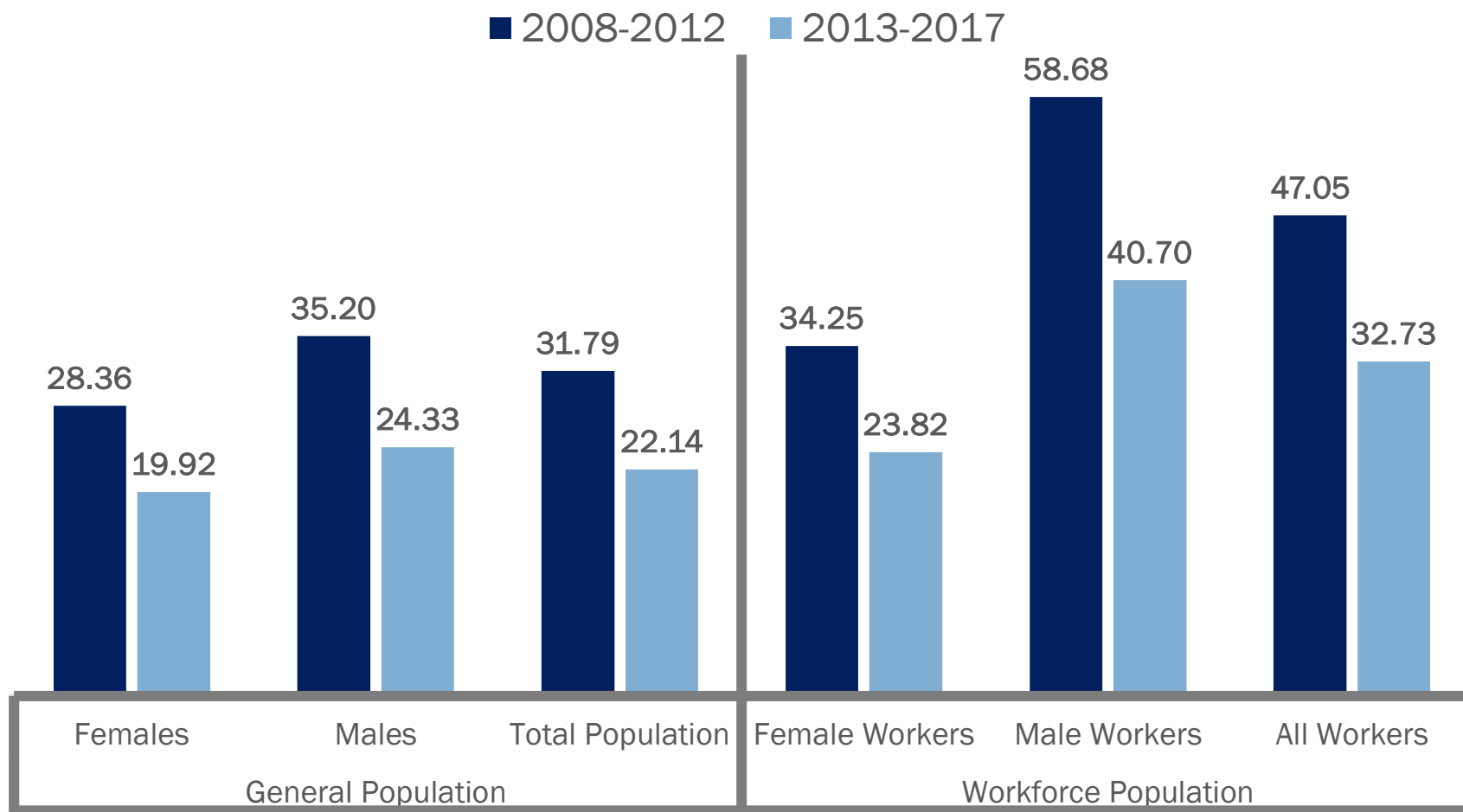


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# Data Overview

- Requested death certificate data from the Montana Department of Public Health and Human Services (DPHHS) from 2008-2017
  - Includes information on industry (NAICS) and occupation (SOC)
  - Total number of opioid-related overdose deaths:
    - By industry = 388
    - By occupation = 384
- **Between 2008 and 2017:**
  - 65% of all opioid-related overdose deaths were male
  - 91% were between the ages of 25 and 64
    - 29% were between ages 45 to 54
- **American Community Survey 5-year estimates utilized to calculate rates**
  - Issue: **small counts**

# MT Rate of Opioid-Related Overdose Deaths per 100,000 – General vs. Working Population



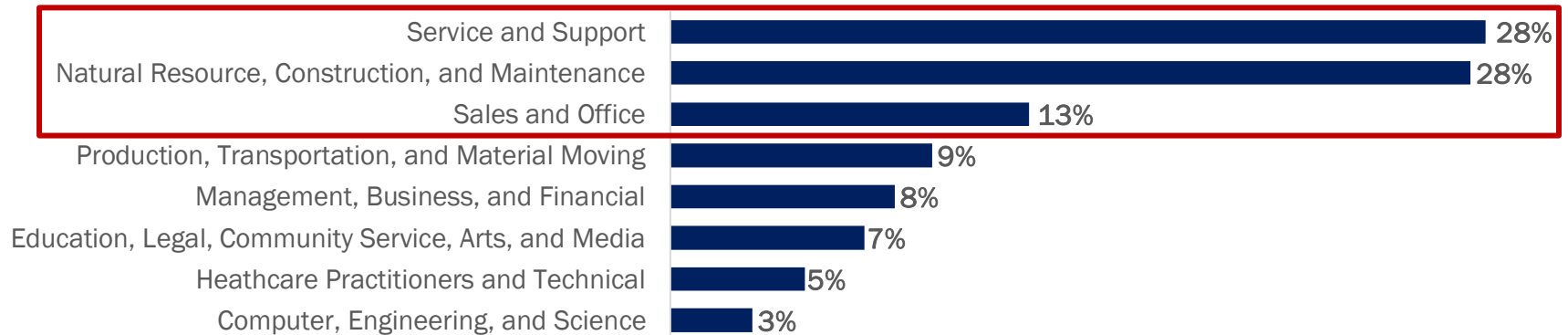


# Opioid-Related Overdose Deaths by Industry (2008-2017)



	2008-2017 Percent of Total Deaths	2008-2012 Rate per 100,000 Workers	2013-2017 Rate per 100,000 Workers
Construction	17%	94.59	70.83
Health Care and Social Assistance	14%	47.00	33.51
Accommodation and Food Services	13%	68.96	55.00
All Workers	100%	47.05	32.73

# Opioid-Related Overdose Deaths by Occupation (2008-2017)



	2008-2017 Percent of Total Deaths	2008-2012 Rate Per 100,000 Workers	2013-2017 Rate Per 100,000 Workers
Service and Support	28%	69.51	48.73
Healthcare Support	4%	-	-
Protective Services	2%	-	-
Food Preparation and Serving Related	9%	-	-
Building and Grounds Cleaning	8%	-	-
Personal Care and Service	6%	-	-
Natural Resource, Construction, and Maintenance	28%	111.73	64.06
Farming, Fishing, and Forestry	3%	-	-
<b>Construction and Extraction</b>	<b>20%</b>	<b>142.15</b>	<b>78.10</b>
Installation, Maintenance, and Repair	5%	-	-
Sales and Office	13%	22.02	20.70
Sales and Related	8%	-	-
Office and Administrative Support	4%	-	-
All Workers	100%	47.05	32.73

# Final thoughts

- Montana resembled other states in terms of opioid-related overdose deaths; NCCI data has not been utilized this way previously
- Injury type *not* controlled for
  - Median medical benefits for wage-loss claims 2013-2017:
    - All claims: \$8,300
    - Construction Industry: \$9,051
    - Farm & Ranch Class Code: \$14,041
  - Thumula et al. (2018) controlled for injury type and construction and mining were *still* more likely than other industries to receive an opioid prescription for pain
- Geographical differences?
- No causal references can be made
- Any correlation between a workers' compensation claim and opioid-related overdose death also unclear
  - Of the opioid-related overdose deaths where industry and/or occupation were identified, 23% filed a workers' compensation claim in the 5 years prior, of which 7% involved wage-loss (MT, DLI)

# Resources

## **Opioids at Work Employer Toolkit** – <https://www.nsc.org/pages/prescription-drug-employer-kit>

In their employer toolkit, the National Safety Council has put together research and resources to educate both workers and employers and to assist employers in implementing a workplace program on opioids. The toolkit includes “sample policies, fact sheets, presentations, safety talks, posters, white papers, reports, videos and more”.

## **Using Naloxone to Reverse Opioid Overdose in the Workplace: Information for Employers and Workers** –

<https://www.cdc.gov/niosh/docs/2019-101/background.html>

Naloxone is a life-saving drug capable of reversing the effects of an opioid overdose. In 2017, Montana expanded access to naloxone by allowing pharmacies to distribute naloxone without a prescription. The National Institute for Occupational Safety and Health (NIOSH) developed information to assist employers in deciding whether to establish a naloxone use program in the workplace.

## **Workplace Solutions: Medication-Assisted Treatment for Opioid Use Disorder** –

<https://www.cdc.gov/niosh/docs/wp-solutions/2019-133/pdfs/2019-133.pdf?id=10.26616/NIOSH PUB2019133>

Medication-assisted treatment (MAT) combines medication and behavioral therapy to treat opioid use disorder. NIOSH provides information for workers in understanding and accessing MAT and for employers wishing to support workers with opioid use disorder.

## **#FarmTownStrong** – <https://farmtownstrong.org/>

Recognizing the challenges of treating opioid misuse in rural areas, the National Farmers Union and American Farm Bureau Federation partnered together to create #FarmTownStrong, a campaign which highlights the impacts of opioids to agriculture and ranch workers and provides education and resources for those seeking treatment.

## **Resources to Prevent Opioid Deaths in Construction** – <https://www.cpwr.com/research/opioid-resources>

With an association between opioid-related overdose deaths and construction established at both the state and national level, the Center for Construction Research and Training compiled a list of opioid-related resources for construction workers and employers.

# References

Dissell, R. (November 5, 2017). *Ohio construction workers seven times more likely to die of an opioid overdose in 2016*. The Plain Dealer. Retrieved from [https://www.cleveland.com/metro/2017/11/ohio\\_construction\\_workers\\_seven\\_times\\_more\\_likely\\_to\\_die\\_of\\_an\\_opioid\\_overdose\\_in\\_2016.html](https://www.cleveland.com/metro/2017/11/ohio_construction_workers_seven_times_more_likely_to_die_of_an_opioid_overdose_in_2016.html)

Dowell D, Haegerich TM, & Chou R. (March 2016). *CDC Guideline for Prescribing Opioids for Chronic Pain — United States, 2016*. Centers for Disease Control and Prevention. MMWR Recomm Rep 2016;65(No. RR-1):1–49. DOI: <http://dx.doi.org/10.15585/mmwr.rr6501e1>

Goplerud, E., Hodge, S., & Benham, T. (November 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. doi: 10.1097/JOM.0000000000001157

Harduar Morano L, Steege AL, & Luckhaupt SE. (August 2018). *Occupational Patterns in Unintentional and Undetermined Drug-Involved and Opioid-Involved Overdose Deaths — United States, 2007–2012*. MMWR Morb Mortal Wkly Rep 2018;67:925–930. DOI: <http://dx.doi.org/10.15585/mmwr.mm6733a3>

Hawkins D, Roelofs C, Laing J, Davis L. (July 2019). *Opioid-related Overdose Deaths by Industry and Occupation — Massachusetts, 2011–2015*. Am J Ind Med. 2019;1-11. <https://doi.org/10.1002/ajim.23029>

Montana Department of Labor and Industry, Employment Relations Division. (2019). Workers' Compensation Administrative Database.

National Council on Compensation Insurance. (September 2018). *Medical Data Report: Opioid Utilization Supplement – Montana*. Retrieved from: [https://www.ncci.com/Articles/Pages/II\\_MedicalDataReportState\\_MT.aspx](https://www.ncci.com/Articles/Pages/II_MedicalDataReportState_MT.aspx)

Thumula, V., & Liu T. (December 24, 2018). *Correlates of Opioid Dispensing*. Workers' Compensation Research Institute. Retrieved from: <https://www.wcrinet.org/reports/correlates-of-opioid-dispensing>

U.S. Department of Labor, Bureau of Labor Statistics. *Incidence rates of nonfatal occupational injuries and illnesses involving days away from work by selected worker and case characteristics and industry, Montana, private industry, 2011 - 2017*. Survey of Occupational Injury and Illness. Retrieved from: <https://data.bls.gov/>

# Thank you!/Questions?

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