

WORK-RELATED FATAL INJURIES IN WYOMING 2012-2017

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Occupational Epidemiology Program

Wyoming Department of Workforce Services



Contents

Acronyms/Definitions.....3

Executive Summary4

 Background.....4

 Results4

 State-wide Progress.....5

 State-wide Opportunities5

 Non-fatal Occupational Injury Data.....5

Background.....6

Methods7

Results – All Industry Overview7

Results - Industry Specific Summaries..... 13

Interpretation and Discussion 20

Statewide Progress..... 22

Statewide Opportunities 22

Conclusion 23

Acknowledgements 24

Contact 24

Appendix A: Detailed Methods for Occupational Epidemiology Fatality Data Collection and Classification 25

Appendix B: 2017 Occupational Injury Fatality Narratives..... 29

References..... 32

Acronyms/Definitions

ATV	All-Terrain Vehicle (also known as a quad or four-wheeler)
BLS	Bureau of Labor Statistics
CFOI	Census of Fatal Occupational Injuries
DWS	Wyoming Department of Workforce Services
MSHA	Mine Safety and Health Administration
NAICS	North American Industry Classification System
OSHA	Occupational Safety and Health Administration
SOII	Survey of Occupational Injuries and Illnesses
State Mines	Wyoming State Mine Inspector Office
UTV	Utility Task Vehicle (also known as a side-by-side utility vehicle)
WCSR	Workers' Compensation Safety and Risk Unit
WHP	Wyoming Highway Patrol

Executive Summary

Background

Federal Occupational Fatality Monitoring

The federal Census of Fatal Occupational Injuries (CFOI) is the national gold-standard for tracking occupational injury fatalities and providing state-to-state and state-to-national comparisons. **In 2017, the CFOI identified 20 fatalities in Wyoming, and a fatality rate of 7.7 workers per 100,000 full-time equivalent employees.** This was the third highest rate among all states and significantly higher than the overall national rate of 3.5 that year (Figure 1, p. 6).

State Occupational Fatality Monitoring

The Wyoming Department of Workforce Services (DWS) State Occupational Epidemiology has collected and reported state data on workplace injury fatalities since 2012. **This state effort provides greater detail on Wyoming's workplace fatalities than what is currently available from the federal CFOI.** Data from Wyoming's state program and federal CFOI are collected using similar methods and sources, but are not directly comparable due to possible differences in case ascertainment and classification. The state program typically identifies slightly fewer fatalities compared to the federal program (Figure 2, p.7).

This is the third annual state report that summarizes multiple years of occupational fatality data, highlighting trends and causes among select high-risk industries. Due to possible changes in case classifications and interpretation, findings in this report replace findings in previously published reports. This report also includes brief descriptions of workplace injury fatalities identified in 2017 (Appendix B). Descriptions of deaths that occurred in previous years are available in prior reports.

Results

In 2017, State Occupational Epidemiology identified 20 workplace fatalities; this is a reduction from the 27 fatalities identified in 2016 using the same methods (Figure 2, p.7). Most of the high-risk industry groups monitored experienced stability or a decrease in the number of fatalities from 2016 to 2017, except for the Transportation & Warehousing industry, which experienced an increase (Figure 3, p. 8). **In 2017, no fatalities were identified in the industries of Manufacturing and Oil & Gas Extraction and Production.**

During the period 2012-2017, 163 total occupational fatalities were identified by the state. The Transportation and Warehousing industry accounted for the largest proportion (n=45, 28%), followed by the Agriculture, Forestry, Fishing and Hunting industry (n=28, 17%), and the Oil & Gas Extraction and Production industries (n=24, 15%). (See Appendix A for industry group definitions)

The All Industries Summary (p. 12) provides a detailed overview of all occupational fatalities that occurred in Wyoming during 2012-2017. Of the 163 deaths identified, 29% came under OSHA for in-depth investigation and 74% were Wyoming residents. **In these state data, half of all fatalities were due to motor vehicle crashes (n=82, 50%).** A significant portion of these (n=22 of 82) were incidents that occurred off-road, road-side, during vehicle maintenance, or that involved an employee hit as a pedestrian on a job site. Those 22 deaths included eight ATV/UTV crashes, seven of which occurred in the ag-related industries. Of the 54 motor vehicle crashes

that were roadway travel motor vehicle crashes, 37% of victims (n=20) were not properly restrained with a seat belt.

Industry-specific summary pages are provided to highlight the varied and numerous opportunities for targeted prevention among Wyoming's known high-risk industries. For example, motor vehicle crashes involving a pedestrian or on a worksite (i.e., ATV/UTV crashes) are the leading cause of fatality in the agricultural-related industries (p. 14), while roadway travel motor vehicle crashes are the leading cause of fatality among oil and gas extraction and production workers (p. 17).

State-wide Progress

In recent years, several steps have been taken to improve worksite health and safety and reduce occupational deaths in Wyoming. These include the restructuring of the Department of Workforce Services technical consultation programs, the actions of industry and safety alliances to increase training and education and outreach to employers and workers, and continued funding and success of the state Safety Grants program.

State-wide Opportunities

The priority issues highlighted by state occupational fatality data include motor vehicle crashes, ATV and UTV safety, and falls from height. These topics should be prioritized for prevention efforts with various evidence-based strategies, including establishment of a primary seat belt law, expanding ATV and UTV rider safety training, and increasing promotion and use of employer-based safety and Stop Work Authority programs.

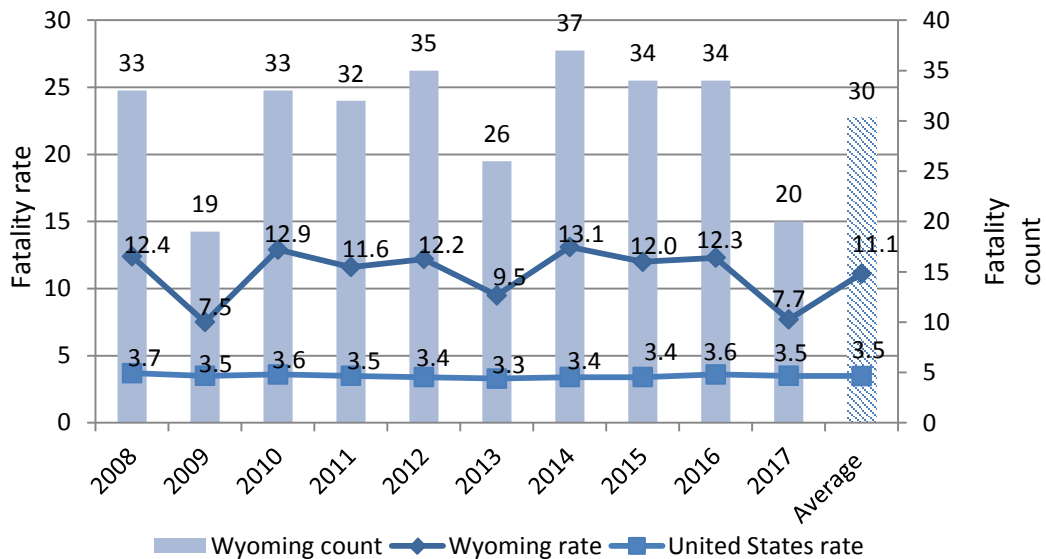
Non-fatal Occupational Injury Data

Data on non-fatal occupational injuries are not included in this report. Current sources of non-fatal occupational injury and illness data include the U.S. Department of Labor Bureau of Labor Statistics (BLS) Survey of Occupational Injuries and Illnesses (SOII), as well as some prior reports of DWS Occupational Epidemiology and the DWS Research & Planning Section.^{1,2,3,4} Developing and expanding non-fatal occupational injury reporting continues to be a goal of the State Occupational Epidemiology program.

Background

According to the U.S. Department of Labor Bureau of Labor Statistics (BLS) Census of Fatal Occupational Injuries (CFOI), Wyoming consistently has one of the highest occupational fatality rates in the country. On average from 2008-2016, we experienced 30 worker deaths per year, an average rate of 11.1 per 100,000 full time equivalent workers (FTE) (Figure 1). This average rate is over three times higher than the national average of 3.5 per 100,000 FTE during the same period. Wyoming has not experienced a sustained change in the annual rate of worker deaths since 2008. (Statistical fatality rates for Wyoming are not available prior to 2008.)

Figure 1: (Federal Data) Number and rate of fatal occupational injuries per 100,000 full-time equivalent (FTE) workers, Wyoming and the United States, 2008-2017



Source: U.S. Department of Labor, Bureau of Labor Statistics, Census of Fatal Occupational Injuries.

These federal CFOI data are recognized as the official statistical record of workplace fatality counts and rates for Wyoming and the United States. However, much of the federal data published for Wyoming do not contain sufficient detail to identify specific prevention strategies or priorities. For these reasons, the Department of Workforce Services (DWS) State Occupational Epidemiology conducts independent fatality tracking to produce more detailed reporting of workplace fatalities in Wyoming. State-collected data for occupational fatalities that occurred in 2012-2017 are included in this report.

The information provided in this report offers the most complete and updated state-compiled data on occupational fatalities. Data within this report may differ from previous state occupational fatality reports as case details and classifications are subject to change upon review or when new information becomes available. The information may also differ from the federal CFOI due to differing case definitions and classifications. However, previous state reports have demonstrated that these state occupational fatality data closely follow the overall trends and distribution reported by the federal CFOI.⁵

Methods

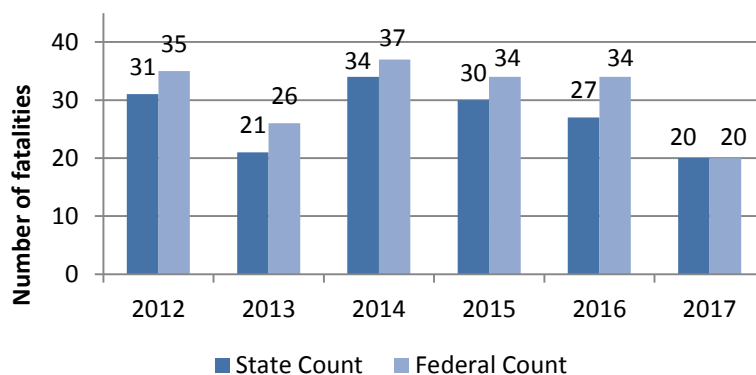
Detailed methods and case definitions for state occupational fatality monitoring are provided in Appendix A. Key concepts to note while reviewing this report are as follows:

- Fatalities which resulted from traumatic injury or acute exposure at work were included in this report. Deaths caused by natural disease or chronic illness or exposure were excluded.
- Deaths that occurred out-of-state, but as the result of an in-state workplace injury or exposure, were included.
- Industry classification for each fatality was assigned based on the industry within which the victim was working at the time of death. This may differ from the industry of the employer.
 - The industry group Oil & Gas Extraction and Production includes oil and gas extraction workers, as well as victims working in other industries when the worker's employment was directly connected to oil and gas extraction or production.
- The classification of lead investigating agency was assigned using a hierarchical framework to highlight state regulatory agency involvement.

Results – All Industry Overview

The DWS State Occupational Epidemiology identified 20 work-related injury fatalities in 2017 and 163 total fatalities during the period 2012-2017 (Figure 2). Detailed case narratives for each of the 2017 fatalities identified are presented in Appendix B. Case narratives for fatalities that occurred in 2012-2016 are published in previous state reports. Compared to federal occupational fatality reporting, the state typically identifies slightly fewer deaths each year (Figure 2). This discrepancy is likely due to the federal program having expanded research capacity and access to fatality records. Confidentiality restrictions prohibit the federal program from sharing information with the state.

Figure 2:
Number of Occupational Injury Fatalities by Calendar Year,
State Occupational Epidemiology and Federal Census of Fatal Occupational Injuries,
Wyoming, 2012-2017

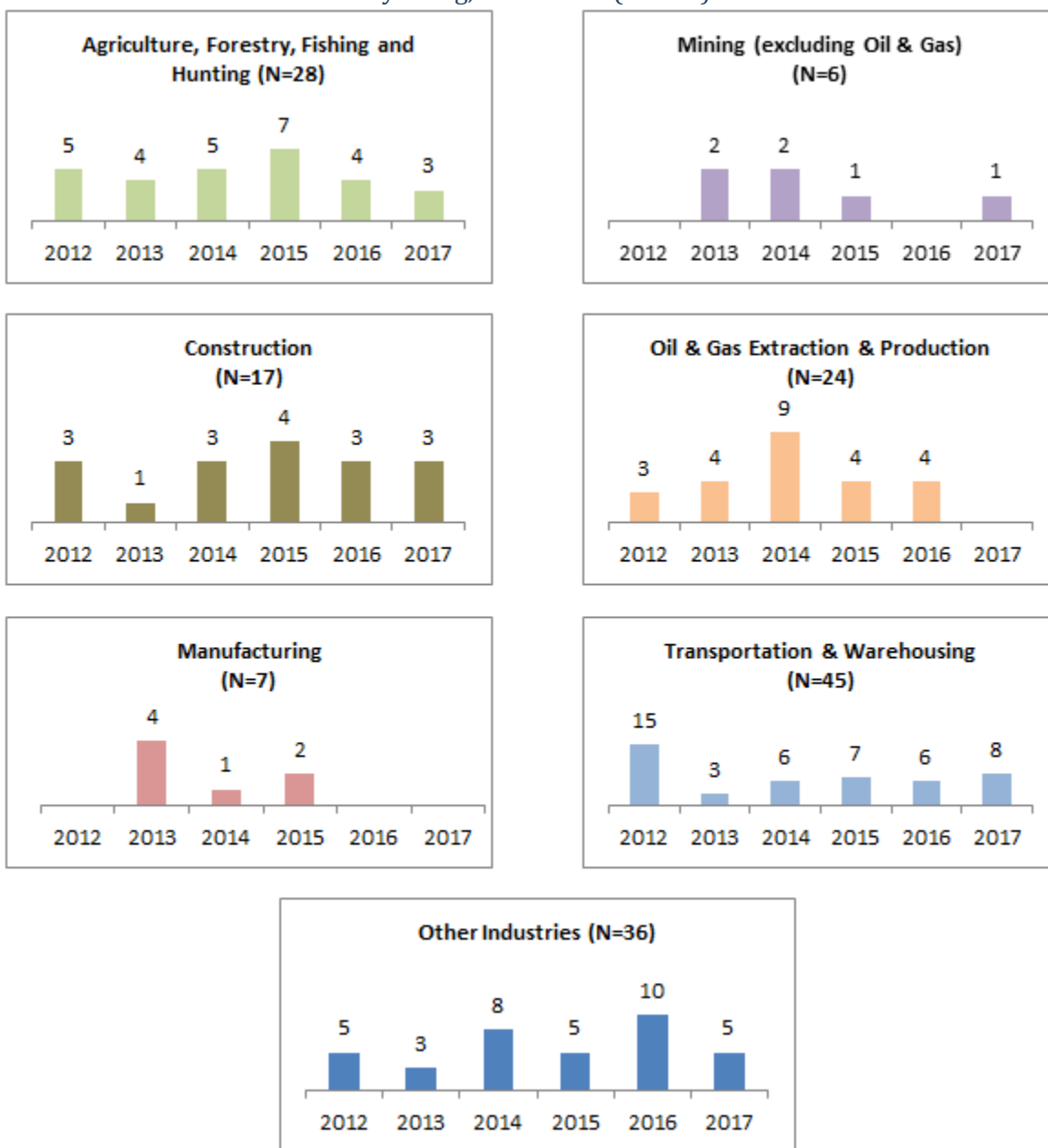


Sources:

State Count: Wyoming Department of Workforce Services, State Occupational Epidemiology;
Federal Count: U.S. Department of Labor, Bureau of Labor Statistics, Census of Fatal Occupational Injuries

Figure 3 provides an overview of state-identified fatalities by year by industry of work. Focusing on 2017 results, these data show that no fatalities were identified in 2017 in the industries of Manufacturing, and Oil & Gas Extraction and Production. The Transportation and Warehousing industry experienced the highest number of fatalities in 2017, accounting for eight of the 20 total fatalities. There were three agriculture-related and three construction-related fatalities identified in 2017. More detail on the fatality trends within each industry group are provided in the one-page industry summaries (Page 12-19).

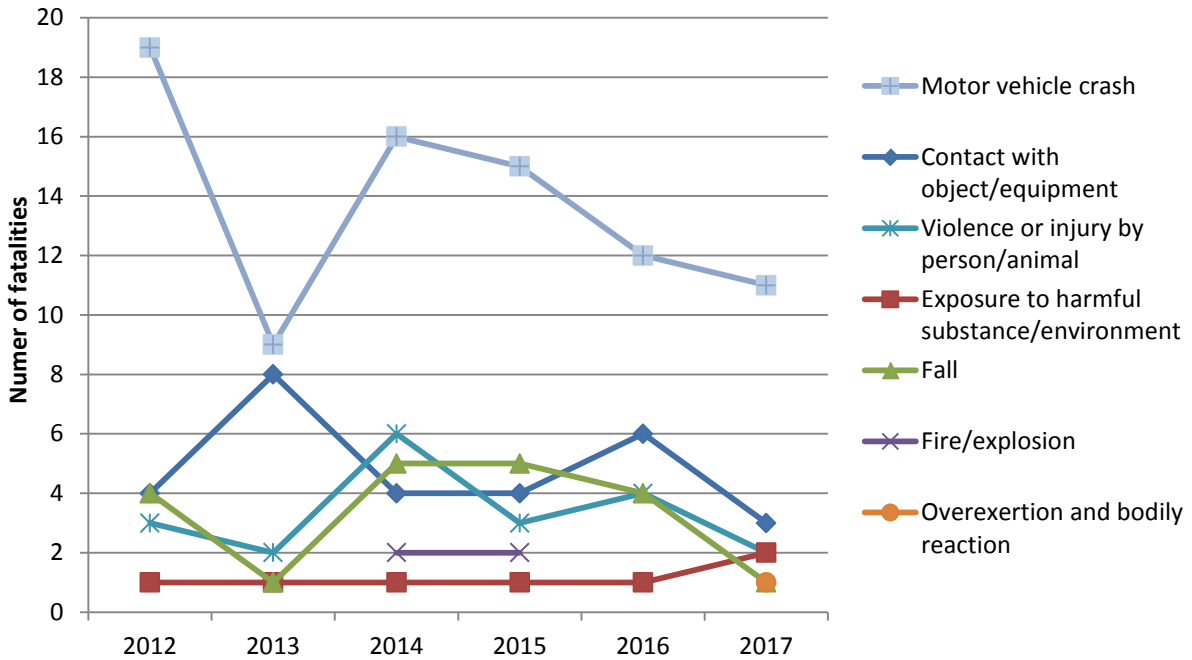
Figure 3: Number of occupational injury fatalities by industry group by year, Wyoming, 2012-2017 (N=163)



Source: Wyoming Department of Workforce Services, State Occupational Epidemiology

Figure 4 provides an overview of occupational fatalities by general cause in Wyoming. Motor vehicle crashes accounted for 82 (50%) of all state-identified fatalities during 2012-2017. This includes roadway travel crashes, pedestrian or worksite involved crashes, and aircraft crashes. The data indicate a slight downward trend in occupational motor vehicle fatalities in recent years, from 16 in 2014 to 11 in 2017. Overexertion and bodily reaction was a new event type added in 2017, accounting for one work-related fatality in 2017. Data for the detailed causal event and exposure categories are provided in the industry summary pages (Page 12-19).

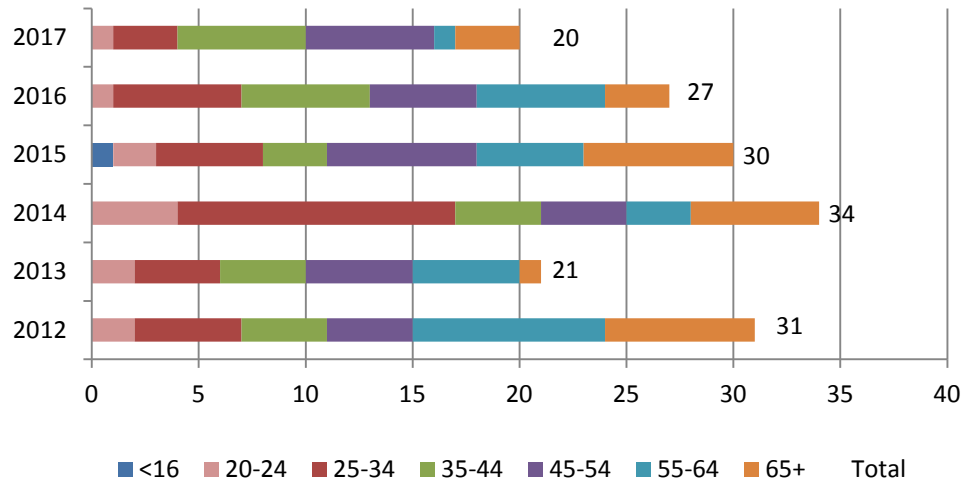
Figure 4: Number of occupational injury fatalities by general event or exposure type by year, Wyoming, 2012-2017 (N=163)



Source: Wyoming Department of Workforce Services, State Occupational Epidemiology

Figure 5 describes the number of occupational fatalities by age group by year. The age distribution of workers varied slightly each year and there were no clear patterns observed. 2015 was the only year that saw a worker under the age of 16 years old killed on the job. Since 2012, no workers ages 16-19 years old have been killed on the job.

Figure 5: Number of occupational injury fatalities by age group by year, Wyoming, 2012-2017 (N=163)



Source: Wyoming Department of Workforce Services, State Occupational Epidemiology

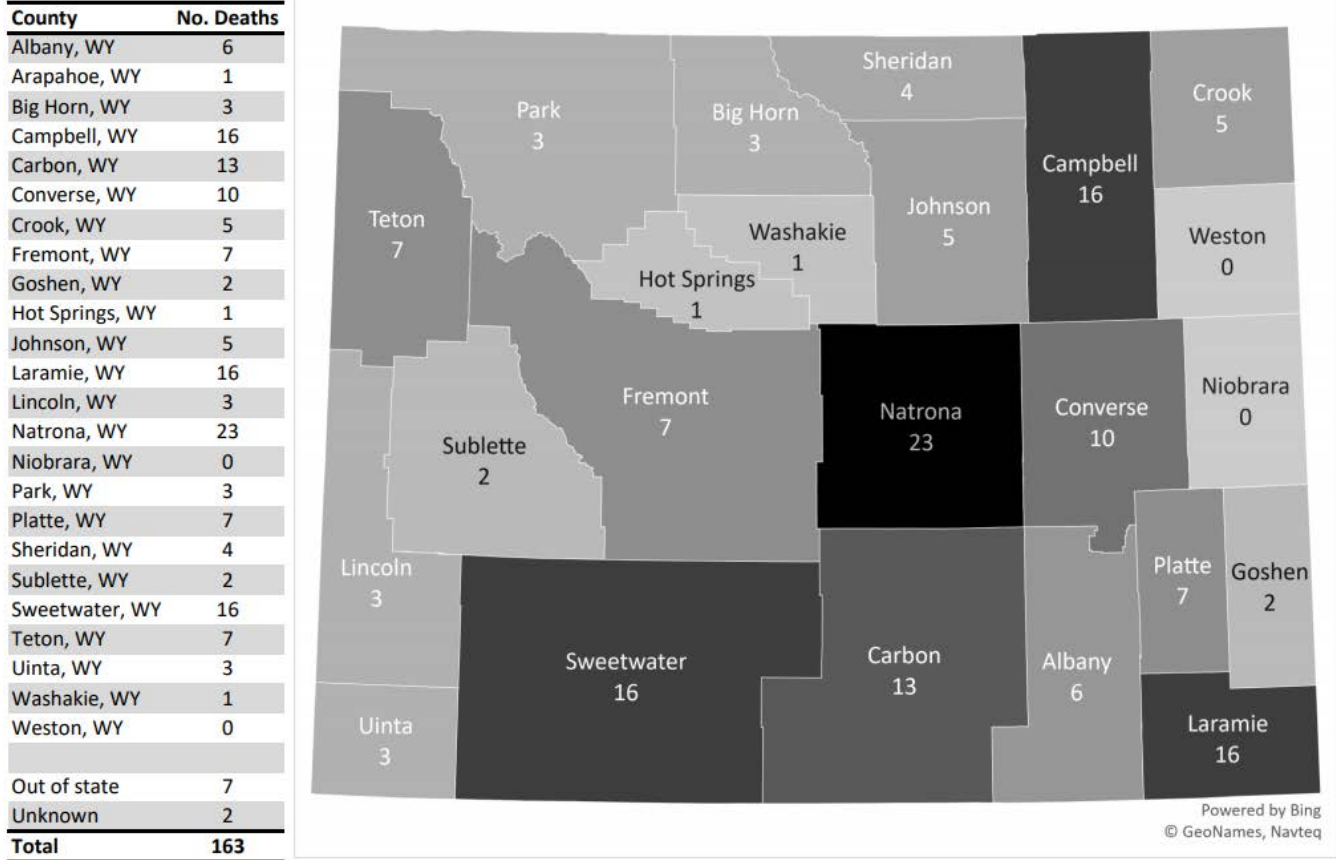
During the period 2012-2017, the Wyoming Occupational Safety and Health Administration (OSHA) had jurisdiction to conduct a full investigation for 48 (29%) of the 163 work-related fatalities, the Wyoming Highway Patrol (WHP) investigated 55 (34%), and 45 (28%) were investigated by local authorities (county coroners and local law enforcement).

Figure 6: Lead investigating agency for occupational fatalities in Wyoming, 2012-2017

Lead Investigating Agency	Count	Percent
Wyoming Highway Patrol (WHP)	55	34%
Wyoming OSHA	48	29%
Local Authorities	45	28%
Other	9	6%
State Mines	6	4%
Total	163	100%

During the period 2012-2017, Natrona County had the highest number of occupational fatalities, followed by Campbell, Laramie, and Sweetwater Counties (Figure 7). These are also the four most populous counties in Wyoming.

Figure 7: Number of occupational fatalities by county of death, Wyoming, 2012-2017



Source: Wyoming Department of Workforce Services, State Occupational Epidemiology

All Industries Summary 2012-2017

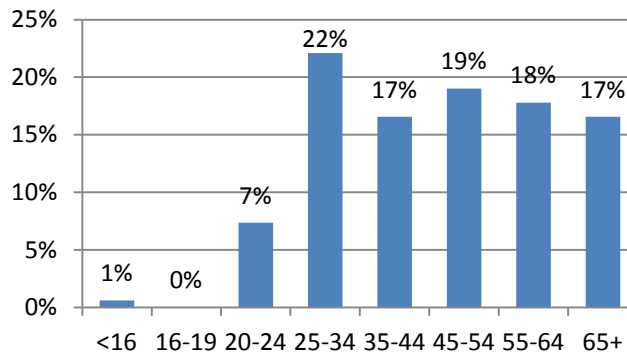
Total Occupational Injury Deaths = 163

SUMMARY

According to state data, 163 workers died as the result of on-the-job injury or acute exposure in Wyoming during the years 2012-2017. **This was an average of 27 workers per year, and one worker every 14 days.** Most workers were male (92%) and residents of Wyoming (74%). Wyoming OSHA had jurisdiction to investigate 29% of these deaths.

The leading causes of death were roadway travel motor vehicle crashes (MVC) (33%), MVC on a worksite or involving a pedestrian (13%), contact with an object or equipment (18%), and fall from height (10%). For more detail on individual fatalities, refer to the case descriptions provided in Appendix B.

Percent of Fatalities by Age Group



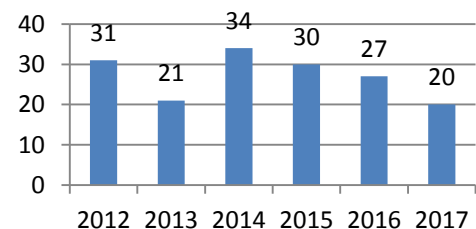
Of 163 fatalities:

- 150 (92%) male
- 106 (74%) Wyoming residents
- **Jurisdiction**
 - 55 (34%) WHP
 - 48 (29%) OSHA
 - 45 (28%) Local Auth.
 - 9 (6%) Other
 - 6 (4%) State Mines

Detailed Event/Exposure Type	Number	Percent
Contact with object/equipment	29	18%
Exposure - drowning	4	2%
Exposure to harmful environments	1	1%
Exposure to harmful substances	2	1%
Fall (from height)	17	10%
Fall (same level)	3	2%
Fire/explosion	4	2%
Motor Vehicle Crash (aircraft)	6	4%
Motor Vehicle Crash (roadway travel)	54	33%
Motor Vehicle Crash (pedestrian/worksite)	22	13%
Violence - suicide at work	9	6%
Violence or injury by animal	7	4%
Violence or injury by person	4	2%
Overexertion and bodily reaction	1	1%
Total	163	100%

- Of the 54 roadway travel MVCs, 20 (37%) of victims were not belted. Seat belt use was unknown for 7 (13%) of victims.
- Of the 22 pedestrian/worksite MVCs, 8 were ATV/UTV roll-overs or crashes, 4 were hit while working on a road-side, 4 were victims of backing vehicles, 3 were doing maintenance on a vehicle when it rolled on top of them, and 3 were victims of other equipment roll-over crashes (tractors, heavy machinery).
- Of the 17 falls from height, 5 fell from a stationary platform/scaffolding, 5 from a roof, 2 from a truck, 1 from a ladder, 2 from a mobile platform, and 2 from another source.

Number of Fatalities by Year



Results - Industry Specific Summaries

The following pages provide an overview of occupational fatalities by select, high risk industry group. Fatalities occurring within the many other industries (i.e. Education, Public Administration, etc.) are not summarized on one page due to high variability in the nature and cause of death, and the difficulty identifying common industry-based prevention strategies among such varied employment. However, the complete case narratives for these other industry fatalities are provided in Appendix B.

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Industry: Agriculture, Forestry, Fishing and Hunting 2012-2017

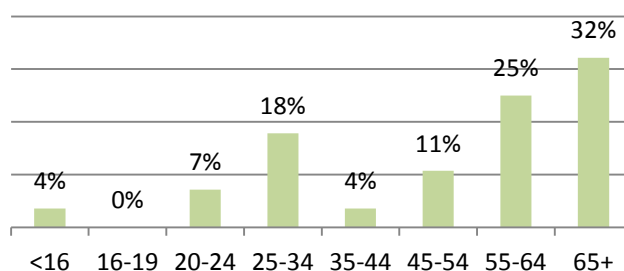
Total Occupational Injury Deaths = 28

SUMMARY

During 2012-2017, 28 workers were killed in the Agriculture, Forestry, Fishing and Hunting industry in Wyoming. Most were male (89%), residents of Wyoming (93%), and age 55 or older (57%). This is the only industry that experienced the death of a worker younger than 16 years old during this time period. Only 5 (18%) of the 28 fatalities were under Wyoming OSHA jurisdiction for a complete fatality investigation.

The leading causes of death in this industry sector were a motor vehicle crash (MVC) occurring on a worksite or involving a pedestrian (32%), contact with an object or equipment (25%), and injury by animal (25%).

Percent of Fatalities by Age Group



Of 28 fatalities:

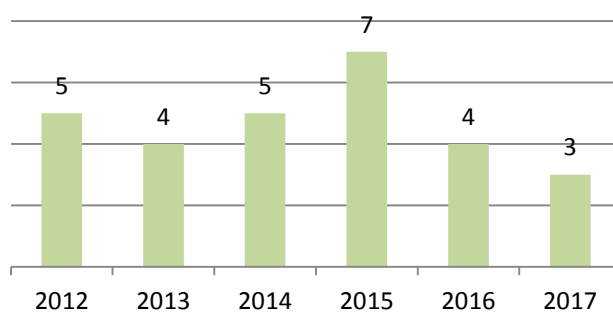
- 25 (89%) male
- 26 (93%) Wyoming residents
- Jurisdiction:
 - 5 (18%) OSHA
 - 1 (3%) WHP
 - 22 (79%) Local Authorities

Detailed Event/Exposure Type	Number	Percent
Contact with object/equipment	7	25%
Exposure - drowning	2	7%
Exposure to harmful environments		
Exposure to harmful substances		
Fall (from height)	1	4%
Fall (same level)	1	4%
Fire/explosion		
Motor Vehicle Crash (aircraft)		
Motor Vehicle Crash (roadway travel)	1	4%
Motor Vehicle Crash (pedestrian/worksite)	9	32%
Violence - suicide at work		
Violence or injury by animal	7	25%
Violence or injury by person		
Overexertion and bodily reaction		
Total	28	100%

MORE DETAIL

- Of the 9 pedestrian/worksite MVC victims, 7 were ATV/UTV roll-overs or crashes, 1 was doing maintenance on a vehicle when it rolled, and 1 was victim of a tractor roll-over.
- Of the 7 workers killed by animal injury, 4 were victims of a cow/bull encounter, 2 of a horse, and 1 of a bear in the wild.
- Both drowning victims fell into irrigation ditches or canals. One was known to be wearing waders at the time.

Number of Fatalities by Year



Industry: Construction

2012-2017

Total Occupational Deaths = 17

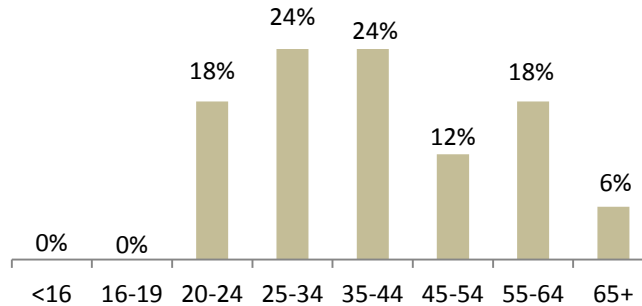
SUMMARY

During 2012-2017, 17 workers were killed in the Construction industry in Wyoming. Most were male (94%), residents of Wyoming (88%). Most were of typical working age, between 20 to 64 years old.

Thirteen (76%) of the 17 fatalities were under Wyoming OSHA jurisdiction for a complete fatality investigation.

The leading causes of death in this industry were a fall from height (41%), contact with an object or equipment (29%), and a motor vehicle crash (MVC) involving a pedestrian or on a worksite (18%).

Percent of Fatalities by Age Group



Of 17 fatalities:

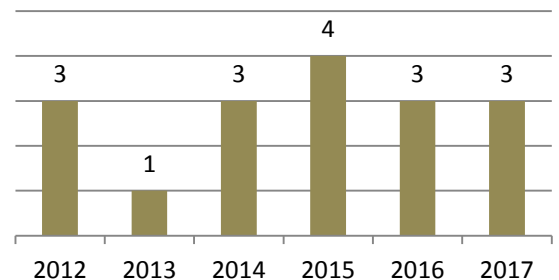
- 16 (94%) male
- 15 (88%) Wyoming residents
- Jurisdiction:
 - 13 (76%) OSHA
 - 2 (12%) WHP
 - 2 (12%) Local Authorities

Detailed Event/Exposure Type	Number	Percent
Contact with object/equipment	5	29%
Exposure - drowning		
Exposure to harmful environments		
Exposure to harmful substances		
Fall (from height)	7	41%
Fall (same level)		
Fire/explosion		
Motor Vehicle Crash (aircraft)		
Motor Vehicle Crash (roadway travel)	2	12%
Motor Vehicle Crash (pedestrian/worksite)	3	18%
Violence - suicide at work		
Violence or injury by animal		
Violence or injury by person		
Overexertion and bodily reaction		
Total	17	100%

MORE DETAIL

- Of the 7 falls from height, 3 fell from a stationary platform/scaffolding, 2 from a roof, 1 from a mobile platform/lift, and 1 was undetermined in available reports.
- Of the 3 pedestrian involved or worksite MVCs, 2 were victims of a backing vehicle, and 1 was struck by a moving vehicle while working on a road-side.
- 3 of the 5 “contact” injury fatalities occurred during the movement of material or equipment in a trench or excavated area.

Number of Fatalities by Year



Industry: Mining (excluding oil & gas) 2012-2017

Total Occupational Deaths = 6

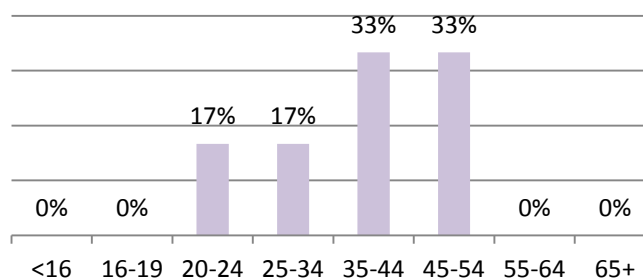
SUMMARY

During 2012-2017, six workers were killed in non-oil and gas mining industries in Wyoming. All were male, most were residents of Wyoming (66%), and all were typical working ages between 20 and 54 years old.

One fatality recorded in 2015 was the latent result of an injury that occurred in 2007. The Wyoming State Mine Inspectors investigated all of the incidents at the time of injury.

The leading cause of death in this industry was a motor vehicle crash (MVC) occurring on a worksite or involving a pedestrian.

Percent of Fatalities by Age Group



Of 6 fatalities:

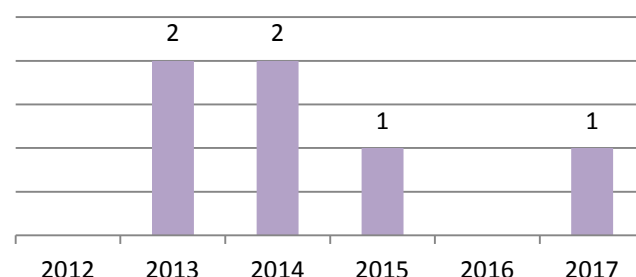
- 6 (100%) male
- 4 (66%) Wyoming residents
- Jurisdiction
 - 6 (100%) State Mines

Detailed Event/Exposure Type	Number	Percent
Contact with object/equipment	2	33%
Exposure - drowning		
Exposure to harmful environments		
Exposure to harmful substances		
Fall (from height)		
Fall (same level)		
Fire/explosion		
Motor Vehicle Crash (aircraft)		
Motor Vehicle Crash (roadway travel)		
Motor Vehicle Crash (pedestrian/worksite)	3	50%
Violence - suicide at work	1	17%
Violence or injury by animal		
Violence or injury by person		
Overexertion and bodily reaction		
Total	6	100%

MORE DETAIL

- Of the 3 victims of motor vehicle crashes occurring on a worksite or involving a pedestrian, 2 were operating equipment that rolled off an embankment, and 1 was struck by motorized equipment backing up.

Number of Fatalities by Year



Industry: Oil & Gas Extraction and Production 2012-2017

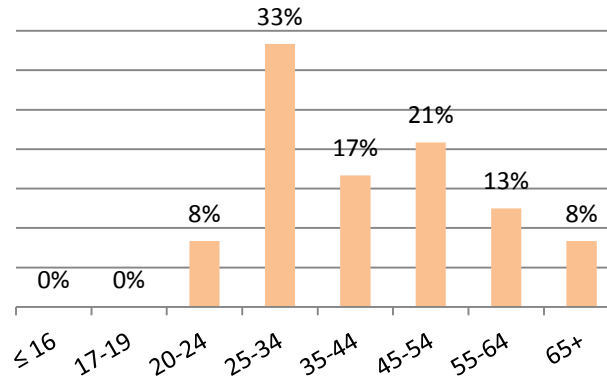
Total Occupational Deaths = 24

SUMMARY

During 2012-2017, 24 workers were killed in Oil & Gas Extraction and Production industries in Wyoming. **There were no fatalities in these industries in 2017.** All workers were male, most were residents of Wyoming (67%). The largest proportion of deaths was in the 25-34 age group (33%). Wyoming OSHA had jurisdiction to fully investigate 10 (42%) of the incidents.

The leading cause of death in this industry was roadway travel motor vehicle crashes (MVC), killing 11 (46%) workers in these industries. Contact with an object or equipment was the second leading cause, resulting in seven deaths.

Percent of Fatalities by Age Group



Of 24 fatalities:

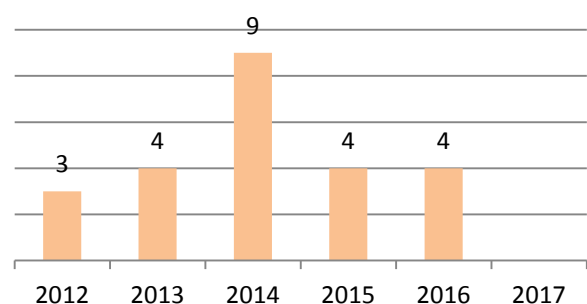
- 24 (100%) male
- 16 (67%) Wyoming residents
- Jurisdiction
 - 10 (42%) OSHA
 - 11 (46%) WHP
 - 3 (12%) Local Authorities

Detailed Event/Exposure Type	Number	Percent
Contact with object/equipment	7	29%
Exposure - drowning		
Exposure to harmful environments		
Exposure to harmful substances		
Fall (from height)	1	4%
Fall (same level)		
Fire/explosion	1	4%
Motor Vehicle Crash (aircraft)		
Motor Vehicle Crash (roadway travel)	11	46%
Motor Vehicle Crash (pedestrian/worksites)	2	8%
Violence - suicide at work	2	8%
Violence or injury by animal		
Violence or injury by person		
Overexertion and bodily reaction		
Total	24	100%

MORE DETAIL

- Of the 11 roadway travel MVCs, 6 (55%) victims were not using a seat belt at the time of the crash, and seat belt use was unknown for one victim.
- Of the 2 pedestrian involved or worksite MVCs, 1 was victim of a backing vehicle, and 1 was killed by a vehicle that rolled on him while conducting maintenance underneath.
- Deaths by contact with an object/equipment were caused by various things, including the falling block of an oil rig, a tote that fell from a forklift, moving parts of a well pump, and a falling drill pipe.

Number of Fatalities by Year



Industry: Transportation and Warehousing 2012-2017

Total Occupational Deaths = 45

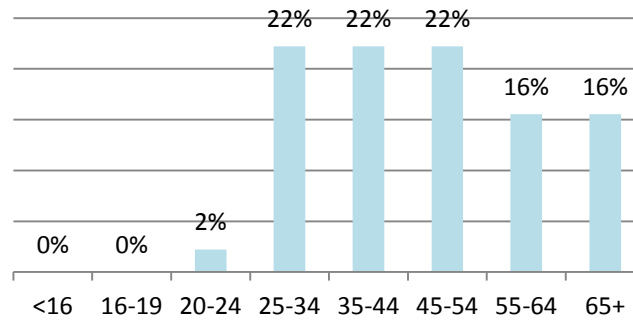
SUMMARY

During 2012-2017, 45 workers were killed in the Transportation and Warehousing industries in Wyoming. Most were male (93%), most were residents of other states (69%).

Wyoming OSHA had jurisdiction to fully investigate 6 (13%) of the incidents. Thirty-one (69%) incidents were investigated by the highway patrol or local traffic officers.

Excluding aircraft deaths, roadway travel motor vehicle crashes (MVC) were the leading cause of death (64%), followed by pedestrian or worksite crashes (9%), and fall from height (7%).

Percent of Fatalities by Age Group



Of 45 fatalities:

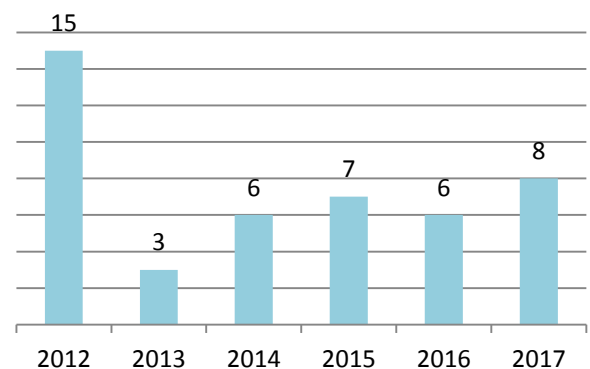
- 42 (93%) male
- 14 (31%) Wyoming residents
- Jurisdiction
 - 6 (13%) OSHA
 - 31 (69%) WHP
 - 4 (9%) Local Authorities
 - 4 (9%) Other

Detailed Event/Exposure Type	Number	Percent
Contact with object/equipment	2	4%
Exposure - drowning		
Exposure to harmful environments		
Exposure to harmful substances		
Fall (from height)	3	7%
Fall (same level)		
Fire/explosion		
Motor Vehicle Crash (aircraft)	4	9%
Motor Vehicle Crash (roadway travel)	29	64%
Motor Vehicle Crash (pedestrian/worksite)	4	9%
Violence - suicide at work	2	4%
Violence or injury by animal		
Violence or injury by person	1	2%
Overexertion and bodily reaction		
Total	45	100%

MORE DETAIL

- Of the 29 roadway travel MVC victims, 26 (90%) were drivers or passengers in heavy trucks (>26K pounds) and 9 (31%) were not using a seat belt at the time of the crash.
- Of the 3 falls from height, two of the victims had fallen from their trucks or trailers while securing loads or doing some other exterior maintenance.
- Of the 4 workers killed as pedestrians in motor vehicle crashes, three were struck by another vehicle while doing road-side maintenance or assistance work. One was chaining his truck when it rolled.

Number of Fatalities by Year



Industry: Manufacturing 2012-2017

Total Occupational Deaths = 7

SUMMARY

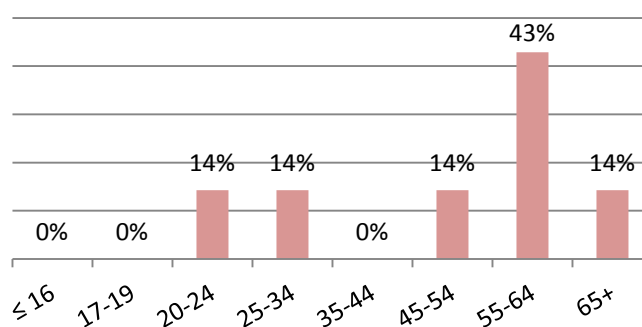
During 2012-2017, seven workers were killed in the Manufacturing industry in Wyoming; **no deaths occurred in the most recent two year period.** Most were male (71%), most were residents of Wyoming (86%).

The largest proportion of deaths was in the 55-64 age group (three deaths, or 43%).

Wyoming OSHA had jurisdiction to fully investigate 5 (71%) of the incidents.

Contact with an object or equipment was the leading cause of death (57%), followed by fall from height (29%), and one roadway travel motor vehicle crash (14%).

Percent of Fatalities by Age Group



Of 7 fatalities:

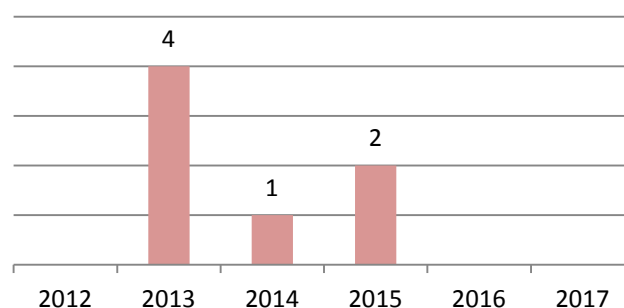
- 5 (71%) male
- 6 (86%) Wyoming residents
- Jurisdiction
 - 5 (71%) OSHA
 - 1 (14%) WHP
 - 1 (14%) Local Authorities

Detailed Event/Exposure Type	Number	Percent
Contact with object/equipment	4	57%
Exposure - drowning		
Exposure to harmful environments		
Exposure to harmful substances		
Fall (from height)	2	29%
Fall (same level)		
Fire/explosion		
Motor Vehicle Crash (aircraft)		
Motor Vehicle Crash (roadway travel)	1	14%
Motor Vehicle Crash (pedestrian/worksite)		
Violence - suicide at work		
Violence or injury by animal		
Violence or injury by person		
Overexertion and bodily reaction		
Total	7	100%

MORE DETAIL

- Deaths by contact with an object/equipment were caused by various things, including entanglement in a vertical lathe, entrapment in a roller blade, and falling into machinery through an access hole.
- Of the two victims who fell from height, one fell from a roof and one from a stationary platform or scaffolding.

Number of Fatalities by Year



Interpretation and Discussion

Overview

Since initiating fatality monitoring in 2012, DWS State Occupational Epidemiology typically identifies fewer work-related fatalities each year compared to the federal CFOI surveillance system. In 2017, the state and federal systems both identified 20 occupational fatalities in Wyoming.⁶ While these state and federal data are not directly comparable, the two systems show similar trends in annual fatality counts and distribution by industry and cause. These observations help to validate DWS state data as a reliable source of provisional workplace fatality information to be used for prevention and intervention planning.

The number of occupational injury fatalities in Wyoming identified by the state is down from 27 in 2016 to 20 in 2017 (Figure 2). Due to small annual numbers, it is difficult to assign any particular causal trend to explain the overall decrease in fatality counts year-to-year. However, a notable reduction in the number of deaths attributed to Oil & Gas Extraction and Production industries likely contributed to the decline (Figure 3) as well as a reduction in nearly every cause category (Figure 4).

Industry

Occupational fatality numbers have been shown to rise and fall with the rise and fall of activity within certain high-risk industries, such as oil & gas extraction.^{7,8} Thus, the fluctuations in industry-specific fatality numbers presented in this report may be associated with increasing or decreasing employment in Wyoming's high-hazard industries. To account for the effect of employment fluctuations, industry-specific fatality rates are a better measure of fatality trends. Industry-specific rates from the federal CFOI data are not consistently available from year-to-year due to small annual numbers. The state fatality tracking program needs to mature with several more years of data in order to calculate stable industry rates.

During the period 2012-2017, the Transportation and Warehousing industry accounted for the largest proportion of occupational fatalities in Wyoming (n=45 of 163, 28%), followed by the Agriculture, Forestry, Fishing and Hunting industry (n=28, 17%), and the tailored Oil & Gas Extraction and Production industry group (n=24, 15%). In 2017, there were no fatalities identified in the Oil & Gas Extraction and Production industry and the Transportation and Warehousing industry had the most fatalities of any single industry group (n=8).

Age Group

While the proportion of workers in any given age group fluctuates slightly each year, this report shows that workers over age 65 accounted for 17% of fatalities during 2012-2017 (All Industries Summary). This age group makes up only about 6% of Wyoming's workforce, thus is over-represented in fatality incidents overall.⁹

The age distribution of occupational fatalities varies greatly by industry. The Agriculture-related industries saw the highest proportion of workers age 65 and older killed on the job (32%), while the Mining industry (excluding oil & gas) saw none (0%). Age-specific, industry-specific employment data and more years of combined fatality data is needed to accurately characterize the age-specific risk in any given industry in Wyoming. However, there is evidence on the national scale that older workers have more severe injury outcomes compared to younger workers, and that older workers experience higher rates of workplace fatality compared to younger workers.^{10,11}

Residency & Location

Overall, 74% of occupational fatality victims during 2012-2017 were Wyoming residents (All Industries Summary). This trend varied among industry. For example, more Agriculture-related and Construction industry victims were in-state residents (93% and 88%, respectively), compared to only 31% of Transportation and Warehousing industry victims. This finding suggests localized prevention efforts in agriculture would reach the appropriate workers and employers, while fatal injury prevention strategies for truck transportation should be tailored to reach incoming out-of-state drivers and traveling workers.

As has been stated in prior reports, the distribution of occupational fatalities by county is likely explained by the underlying population density and industry employment in those areas (Figure 7). Laramie, Natrona, Campbell, and Sweetwater are the top four most populated counties in Wyoming.¹² Natrona, Campbell and Sweetwater Counties have high employment in the natural resources and mining, and construction sectors, while Laramie, Natrona and Sweetwater Counties have high employment in the manufacturing, and transportation and warehousing sectors.¹³ Carbon County is less populated, but contains a significant stretch of Interstate Highway 80 and other roadways that cross mountain passes and experience severe weather impacting travel. Eight of the 13 fatalities (62%) in Carbon County during this period were due to roadway travel or road-side motor vehicle crashes.

Leading Causes and Incident Types

Motor vehicle crashes (MVC) (including roadway, aircraft and worksite/pedestrian crashes) are a leading cause of occupational death in Wyoming and the nation. Total MVCs accounted for 82 (50%) of all fatalities identified in Wyoming during 2012-2017 (Figure 4 and All Industries Summary). This is comparable to the federal CFOI, which reported 47% of Wyoming fatalities as transportation incidentsⁱ during 2012-2017.¹⁴

Of the 54 state-identified work-related roadway travel crashes, 37% of victims were not properly restrained with a seat belt. This is on par with the most recent data on unbelted fatalities among the general Wyoming population (38.1% in 2017).¹⁵ However, 37% is a significant proportion of occupational MVC deaths that could have been prevented with proper use of safety restraints.

All-terrain vehicle (ATV) and utility terrain vehicle (UTV) crash deaths accounted for 29% of all fatalities in the Agriculture, Forestry, Fishing and Hunting industry. During the period 2012-2017, there were eight work-related ATV or UTV crashes resulting in death in Wyoming; seven of these (88%) occurred in the Agriculture-related industries, specifically within ranching operations. Existing data sources for these off-road crashes do not systematically capture potentially relevant information, such as rider experience and training, vehicle size and power, and use of personal protective equipment. Thus, additional study and investigation of these deaths is needed to fully understand causal trends and associations.

Construction workers in Wyoming are more likely to die from a fall from height than other workers. During 2012-2017 in Wyoming, falls from height accounted for 41% of fatalities within the Construction industry, but only 10% of all occupational fatalities combined. Nationally, falls accounted for 40% of all worker deaths in construction in 2017.¹⁶ Falls are known to be the leading cause of fatality in construction nation-wide, but are

ⁱ The federal CFOI definition for transportation incidents also includes roadway, aircraft and pedestrian incidents.

also one of the most preventable, with readily accessible fall prevention planning resources and intervention with proper equipment and training.¹⁷

Statewide Progress

In recent years, there have been numerous steps taken toward the goal of reducing workplace fatality in Wyoming. The following highlights a few of these efforts that are known to the State Occupational Epidemiology program:

- The creation of the Wyoming Workers' Compensation Safety and Risk (WCSR) Unit in 2016 in the Department of Workforce Services has resulted in significant increases in the number of safety consultation visits provided to employers.¹⁸
- The Wyoming Safety Improvement Fund, created by the Legislature in 2012, continues to be fully funded to provide small grants to employers to improve safety in the workplace.¹⁷
- The Wyoming Agricultural Safety Coalition (wyoextension.org/agsafety/), supported in part by a community-initiated outreach grant from the High Plains Center for Agricultural Health and Safety, is working to improve ATV and UTV rider safety among farmers and ranchers with outreach education.
- The Wyoming Oil & Gas Industry Safety Alliance (WOGISA) (wyomingsafety.org/) continues to provide free or low-cost safety and technical training to oil and gas workers around the state. They are actively expanding their reach by promoting resources, news and events online and through social media.
- The Wyoming Construction Safety Alliance (WCSA) (wyconstructionsafety.org/) is operating in partnership with the Cheyenne Roofing Alliance (www.cheyenneroofingalliance.com/) to promote fall prevention with safety stand-down events and by collaborating on fall prevention training during the annual Wyoming Workforce and Safety Summit. The WCSA has developed an active online profile using a website and social media platforms.
- The Wyoming Transportation Safety Coalition continues to meet quarterly and is a premiere partnership forum for tackling hazards faced by truckers in Wyoming with research, communication and state-wide planning. The group is working to develop an online presence with a new website coming soon.
- The Wyoming Seat Belt Coalition (buckleup4lifewy.org/) has continued efforts to increase seat belt usage for all citizens in Wyoming, with recent emphasis placed on branding a strong social media presence.
- The Wyoming Department of Transportation is one of only three locations in the country selected to test and deploy advanced connected vehicle technology (<https://wydotcvp.wyoroad.info/>). This technology aims to improve safety along I-80.
- In 2018, the Wyoming Legislature Joint Transportation Committee revised the Move Over Requirement law (2018 HB0036) to include municipal, public-utility and highway construction or maintenance vehicles. Changes were adopted and became effective as of July 1, 2018.

Statewide Opportunities

Despite several successes and areas of progress, there are still key opportunities for action to prevent occupational fatalities in Wyoming. The following highlight a few of most critical needs:

- Improvements in driver safety are needed across all industries and especially in the trucking and oil and gas industries. Employers in these industries should place additional emphasis on implementing policies and programs that support driver safety.^{19,20}
- Wyoming also has the opportunity to enact a primary seat belt law.ⁱⁱ There is a long record of evidence that seat belts save lives and reduce traumatic injury in the event of a crash, that primary seat belts laws increase use of safety restraints among passengers and drivers, and that states that have primary seat belt laws have lower rates of motor vehicle crash fatalities than those with only secondary laws.^{21,22,23,24,25,26,27}
- Efforts should continue to improve ATV/UTV safety in Wyoming, especially in ranching. In addition to increasing education and voluntary training opportunities, efforts could consider state laws that may have impact, such as required safety training for new operators, use of helmets and possible age restrictions. Examples of such policies are tracked by the national ATV Safety Institute.²⁸
- Every employer in the state should have a current health and safety program that includes the minimum core elements recommended by OSHA.²⁹ These core elements can be scaled up or down to fit each employer's unique situation, and cross-walked with mandatory requirements set forth by OSHA or other regulatory agencies. Some states have legislation requiring safety and health programs for certain employers; this approach could be considered in Wyoming.³⁰
- Stop Work Authority programs should be more heavily promoted and implemented across all sectors, especially among small employers and sub-contractors in high risk industries.³¹
- Efforts should continue to expand surveillance and research of occupational injuries, with a focus on fatal and severe injuries. More data is essential to accurately characterize causes and contributing factors and to inform prevention efforts.

Conclusion

The federal CFI data indicate there has been no consistent trend (down or up) in the annual number of occupational fatalities in Wyoming since 1992.³² The annual rate of occupational fatalities in Wyoming also has not shown any sustained change since 2008 (Figure 1).

This report provides the most comprehensive, detailed data on workplace fatalities in Wyoming to highlight priority issues. There are numerous evidence-based strategies to improve outcomes related to motor vehicle crashes, ATV and UTV safety, and falls from height. These topics should be prioritized for prevention efforts.

Intervention and prevention needs and strategies vary greatly by industry sector, which underscores the need for Wyoming's industry safety alliances and state partnerships to remain active and engaged in the effort to reduce occupational fatalities. The DWS State Occupational Epidemiology program is an active participant on all of the alliances and coalitions mentioned, along with numerous other public health and community partners. Work will continue to identify and promote solutions to reducing the occurrence of occupational fatalities in Wyoming.

ⁱⁱ Wyoming currently has a secondary seat belt law, meaning that law enforcement may issue a ticket for not wearing a seat belt only when the driver has been stopped for another citable traffic infraction.

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- Wyoming Department of Health, Vital Statistics Services
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- Wyoming County Coroners
- Various Local Law Enforcement Offices

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- Workers' Compensation Division
- State Mine Inspector

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Appendix A: Detailed Methods for Occupational Epidemiology Fatality Data Collection and Classification

Data sources

Information was collected from a variety of sources for each fatality case, including:

- Workers' compensation claims
- Death certificates (State Vital Records)
- Coroners' reports
- Motor vehicle crash reports filed with the Wyoming Highway Patrol
- Wyoming OSHA and State Mines investigation records
- Newsprint and online media

Inclusion criteria

- Deaths for which traumatic injury or acute exposure during work was the primary cause of death were included.
 - Motor vehicle crash fatalities are typically included if the vehicle occupied by the victim was company-owned, the crash investigators annotated the victim was traveling for work at the time of the crash, and/or the fatality was recorded with OSHA or workers' compensation. Workers killed during a non-traditional, work-required commute in a personal vehicle (i.e., traveling with a work crew or over excessive distances) could also be included, although these cases are much more difficult to identify in existing data sources.
- Fatalities with latency between date of injury or acute exposure and the date of death were also included if the traumatic injury or exposure was deemed the originating, underlying cause of death. Note, however, latent injury and exposure deaths are often more difficult to identify in data sources available. Thus, these deaths are likely under-represented in these data.
- Deaths that occurred out-of-state, but as a result of an in-state workplace injury or exposure, were also included if identified. This is because critical injuries in rural areas of Wyoming may be stabilized and transported to a neighboring state trauma care center. Deaths that occur at an out-of-state center are certified in that state. These types of cases are relatively rare in occupational fatality tracking; however, they are essential for understanding fatal injury causes within the originating state. Note deaths that occurred out-of-state, but as a result of an in-state injury, may not have been captured in early reports of the DWS State Occupational Epidemiologist.

Exclusion criteria

Deaths caused by natural disease (e.g. heart failure), or chronic illness or exposure (e.g. asbestosis, silicosis, black lung) were excluded from this report. Data sources and methods used for traumatic injury and acute exposure deaths differ from those that could be used to more reliably identify deaths with a long latency between exposure and diagnosis of illness.

Workers killed in motor vehicle crashes during traditional commutes are also excluded.

Industry categorization

Industry categories were assigned based on the industry within which the victim was working at the time of death. **In most cases, the industry category assigned was the same industry as the victim's employer and follows the grouping scheme of the 2012 North American Industry Classification System (NAICS).**³³

Tailored Category: Oil & Gas Extraction and Production

This report includes a tailored industry group called Oil & Gas Extraction and Production. This category does primarily include victims that were employed by oil and gas extraction industries (NAICS 211, 213111, and 213112), but it also includes victims within other industries when the worker's employment was directly connected to oil and gas extraction or production. Workers employed in the Petroleum Refinery (NAICS 32411) and Pipeline Transportation (NAICS 486) industries were included, as well as select workers from other industries identified as directly engaged with oil and gas extraction or production activity.

This approach to enumerate oil and gas fatalities was used because oil and gas activities are significant components of Wyoming's economy. The path of production from crude oil and gas to finished product is highly fragmented by up-, mid- and down-stream operations; multiple site locations for a single employer; and several layers of subcontracting. As such, efforts to enumerate fatalities within this broad and diverse industry require deviating from standard NAICS grouping. This approach also supports similar national efforts to enumerate fatalities connected to oil and gas activity.³⁴

Fatalities were grouped within one of the following major industry categories:

- Agriculture, Forestry, Fishing and Hunting (NAICS 11)
- Construction (NAICS 23)
- Manufacturing (NAICS 31-33)
- Mining (excluding oil and gas) (NAICS 21, excluding 211, 213111, 213112)
- Oil & Gas Extraction and Production (NAICS 211, 213111, 213112; Petroleum Refinery 32411; Pipeline Transportation 486; Cases within other industries when identified as directly connected to oil and gas activity.)
- Transportation and Warehousing (NAICS 48, excluding Pipeline Transportation 486)
- Other (all other NAICS)

Note there are numerous limitations in classifying industry, including possible misclassification in the data sources available and lack of detailed information needed for accurate identification.

General and detailed causal event/exposure categories

Fatality cause categories were assigned in two tiers: a general description was assigned to match event/exposure categories typically presented in the federal CFI data³⁵ and, as able, a more detailed category was assigned. Some general categories do not have corresponding detailed categories due to numbers that are too small to split or no apparent trends or patterns that would facilitate creation of a detailed category.

General Fatality Cause Categories with Corresponding Detailed Cause Categories

General Event/Exposure Type	Detailed Event/Exposure Type
Contact with object/equipment	Contact with object/equipment
Exposure to harmful substances/environments	Exposure - drowning Exposure to harmful substances Exposure to harmful environments
Fall	Fall (from height) Fall (same level)
Fire/explosion	Fire/explosion
Motor vehicle crashes	Motor vehicle crash (aircraft) Motor vehicle crash (roadway travel) Motor vehicle crash (pedestrian/worksite)
Violence or injury by person/animal	Violence or injury by animal Violence or injury by person ⁱⁱⁱ Violence - suicide at work
Overexertion and bodily reaction	Overexertion and bodily reaction

Additional detail on motor vehicle crashes:

- ❖ Motor vehicle crash (roadway travel) includes drivers and passengers of vehicles that were killed in a crash while traveling on a public roadway.
- ❖ Motor vehicle crash (pedestrian/worksite) includes victims that were struck by a moving or rolling vehicle on a road-side or on a job site. The vehicle involved could be an automobile, ATV, UTV, or other moving vehicle or equipment. This category also includes drivers and passengers of vehicles that crashed on a worksite or private property; these were typically ATV, UTV or tractor crashes or roll-overs.
- ❖ Workers killed by a vehicle or parts of a vehicle that fell or was lowered onto them are captured under the category of contact with object or equipment.

Lead investigating agency

When a workplace death occurs, multiple agencies (local, state and/or federal) may invoke authority for an on-scene or in-depth investigation. For the purpose of this report, lead investigating agency was assigned based on a hierarchical framework to prioritize identifying state regulatory agency involvement:

- **Wyoming OSHA or State Mines:** As the state agencies with regulatory authority over workplace safety, OSHA or State Mines were selected if they conducted an on-scene investigation. These agencies typically do not share authority over the same workplace deaths.
 - **Wyoming Highway Patrol (WHP)** was noted for any motor vehicle crash for which the crash was recorded with the WHP and WY OSHA did not investigate. It is possible that both agencies would investigate a road-side or pedestrian occupational fatality – in that instance, the death would be noted as an OSHA investigation case.

ⁱⁱⁱ Meaning intentional injury and homicides

- **Local Authorities** was assigned when the death was investigated and recorded only by the local coroner's office (through vital records) and/or the local law enforcement agency.
- **Other** typically applies to cases where a federal regulatory agency investigated without any state agency involvement, such as deaths investigated by the Federal Aviation Administration. These deaths were also likely investigated by local authorities.

Note that Wyoming OSHA typically does not have or does not exercise jurisdiction to conduct an on-scene or in-depth investigation of the following types of fatalities:

- Roadway travel motor vehicle crashes
- Incidents within agricultural industries when there are less than 10 employees
- Mine site incidents covered by the State Mine Inspector and/or MSHA
- Sole owner/operator deaths
- Deaths for which there was greater than 30 days between the injury incident and death
- Suicides at work

Case narratives

Case descriptions follow this general structure:

Occupation. Brief summary of event. Possible contributing factors, if known. Vehicle position and seat belt use, if applicable. Any additional notes on case status or inclusion determination. Employer industry (NAICS 2012), if known. State of residency.

Fatal case descriptions for years 2012-2016 were completed prior to the development of this narrative structure thus may not follow the same construct and may not contain as much information. Case narratives may or may not be updated after their initial completion.

Appendix B: 2017 Occupational Injury Fatality Narratives

Brief narratives for 2017 occupational injury fatalities are provided below. Narratives for prior years (2012-2016) were published in previous iteration of this report, available online: <http://wyomingworkforce.org/data/epidemiology/>

Agriculture, Forestry, Fishing and Hunting, 2017 (N=3)	
Motor Vehicle Crash (pedestrian/worksite)	A weed sprayer (company owner/co-owner) killed in an ATV rollover crash. Reports indicate the ATV rolled while being driven on an incline (side of a hill) and the victim did not have formal training on ATV use and was not wearing a helmet. The ATV was mounted with a rear sprayer and a front, hose reel sprayer. The victim was on the job with another employee, but they had separated to cover different sections of the property. OSHA investigated. Employer industry: Soil Preparation, Planting, and Cultivating (NAICS 115112). Wyoming resident.
Motor Vehicle Crash (pedestrian/worksite)	A ranch manager killed in an ATV roll-over crash. The victim was alone at the time riding on a rural, gravel road. Evidence suggested the ATV struck a rock causing it to roll. The victim was not wearing a helmet. Employer Industry: Lessors of Other Real Estate Property (NAICS 531190). Wyoming resident.
Violence or injury by animal	A rancher was rammed by a cow while working on the family ranch. Employer industry: Cattle Farming and Ranching (NAICS 1121). Wyoming resident.
Construction, 2017 (N=3)	
Contact with object/equipment	A municipality maintenance worker was crushed by a trench shield when it fell from overhead rigging during the install maneuver. The OSHA investigation indicated some of the rigging components were not being used as intended by the manufacturer and the rigging had not been adequately inspected. The involved employees had been adequately trained in the fundamentals of rigging. Employer industry: Public Administration (NAICS 92). Wyoming resident.
Contact with object/equipment	A high-scaler was struck in the head by a falling rock during a roadside slope scaling operation. The OSHA investigation indicated a dragging winch line dislodged the rock during the task of bringing a high angle drill up the slope. The victim was reportedly wearing a hard hat, and passed away two weeks after the injury. Employer Industry: Other Specialty Trade Contractors (NAICS 2389). Out of state resident.
Fall (from height)	A municipality maintenance worker fell approximately 20 feet when the scissor lift he was working in was knocked over by a moving basketball hoop. The OSHA investigation indicated the basketball hoop was being raised and lowered into position for repair by another employee who did not have a sightline to the employee in the scissor lift. Employer industry: Public Administration (NAICS 92). Wyoming resident.

Manufacturing, 2017 (N=0)	
Mining (excluding oil & gas), 2017 (N=1)	
Contact with object/equipment	An underground coal miner killed while installing roof support on a longwall recovery face. The investigation report from the Mine Safety and Health Administration is available online. It states the mine operator did not have effective policies, procedures or controls in place to protect miners working in that scenario. Employer Industry: Bituminous Coal Underground Mining (NAICS 212112). Wyoming resident.
Oil & Gas Extraction and Production, 2017 (N=0)	
Transportation and Warehousing, 2017 (N=8)	
Motor Vehicle Crash (roadway travel)	A semi-truck driver killed in a multi-truck crash on Interstate Highway 80 during icy and snow-blowing conditions. The road was dark and unlighted. The victim collided with another tractor-trailer combination that had jack-knifed and was blocking both lanes of travel. Evidence suggests the trailer of the victim's truck came unhooked during the collision and struck the back of the cab, crushing it and causing fatal injuries. Employer Industry: Specialized Freight Trucking, Long Distance (NAICS 484230). Out of state resident.
Motor Vehicle Crash (roadway travel)	A semi-truck driver lost control during strong winds. The two trailer rig was blown over and the victim was not belted and was partially ejected. The road had been recently closed to light weight, high profile vehicles due to strong winds. Road conditions were otherwise dry and dark (unlighted). Employer Industry: General Freight Trucking, Long Distance (NAICS 484122). Wyoming resident.
Motor Vehicle Crash (roadway travel)	A semi-truck driver killed in a single vehicle crash. The victim and his partner driver attempted to switch places while the truck was in motion on the highway, resulting in the vehicle running off the road and the load shifting and entering through the rear of the cab. The vehicle stayed upright. Road conditions were clear, dry and dark (unlighted). Employer Industry: Truck Transportation (NAICS 484). Out of state resident.
Motor Vehicle Crash (roadway travel)	A construction manager killed in a semi-truck crash. He was the driver of a flatbed style semi when the front tire of the truck tractor failed, causing him to lose control and the truck to roll. He was properly restrained. Road conditions were clear, dry and daylight. Employer industry: Construction (NAICS 23). SD resident.
Motor Vehicle Crash (roadway travel)	A semi-truck driver lost control of his vehicle when a front tire of the truck tractor failed. The truck ran off the road and rolled multiple times. Road conditions were clear, dry and daylight. The crash occurred on a two-lane highway and the victim was properly seat-belted. Employer Industry: Truck Transportation (NAICS 484). Out of state resident.

Motor Vehicle Crash (roadway travel)	A semi-truck driver hauling heavy machinery apparently lost control while traveling down a two-lane canyon road, resulting in a rollover crash. No other vehicles were involved in the crash. At the time of investigation, it was believed that the driver and/or employer failed to obtain the required state permits for oversized load transport on this particular route. Road conditions were clear, dry and daylight. The victim was properly seat-belted. Driver inexperience, speed and possible brake failure were also possible contributors. Employer Industry: Truck Transportation (NAICS 484). Out of state resident.
Motor Vehicle Crash (roadway travel)	A semi-truck driver hauling heavy machinery on a flatbed was killed in a single vehicle crash. For unknown reasons, the truck left the roadway, struck a culvert and rolled onto the driver's side. Road conditions were clear, dry and daylight. Possible medical condition was investigated as a contributing factor, but findings were inconclusive. Victim was not seat-belted. Employer industry: Specialized Freight Trucking (NAICS 4842). Wyoming resident.
Suicide at work	Suicide. Wyoming resident.
Other Industries, 2017 (N=5)	
Exposure - drowning	A kayak guide capsized while assisting a client who had capsized during a guided tour of Yellowstone Lake. The guide succumbed to exposure and hypothermia. Reports indicate the victim and other guides on the tour had not been adequately trained in rescue techniques for kayaks, and were not wearing proper PPE for cold water kayaking. OSHA investigated. Employer industry: All Other Amusement & Recreation Industries (NAICS 713990). Out of state resident.
Exposure to harmful substance	A firefighter died from cancer believed to be caused by exposures from fighting fires. Employer Industry: Fire Protection (NAICS 922160). Wyoming resident.
Motor Vehicle Crash (roadway travel)	A civil engineer traveling for work swerved to avoid a deer on an interstate highway, resulting in a single vehicle roll-over crash. Road conditions were clear, dry and dusk. Employer Industry: Public Administration (NAICS 92). Wyoming resident.
Motor Vehicle Crash (roadway travel)	A bookkeeper traveling for work died as the result of a motor vehicle crash. The victim was hit by a drunk driver. Employer Industry: Automotive Body, Paint and Interior Repair and Maintenance (NAICS811121). Wyoming resident.
Overexertion and bodily reaction	A respiratory therapist died from medical complications related to patient lifting injuries sustained over 10 years ago. Employer Industry: General Medical & Surgical Hospitals (NAICS 622110). Wyoming resident.

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