

2012 Workforce Services Department Epidemiology Report on Occupational Fatalities and Non-fatal Injuries

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Executive Summary

Wyoming has a rich cultural and economic heritage with roots in agriculture, mining, oil and gas extraction and alternative energy development along with traditional economies of manufacturing, construction, healthcare, technology, and education. The State has had historically high rates of occupational fatalities and also ranks high in other measures of non-fatal occupational injuries. Consistent and reliable tracking of certain measures allows the state to measure progress on achieving safer work environments compared to historical norms or other states. This report provides an update of 2012 workplace fatalities by industry and a brief narrative description of the circumstances of the deaths. Also presented are data from the Wyoming Worker's Compensation Program that provides an opportunity to track certain non-fatal workplace injuries.

There are likely many reasons for the historically high rates of fatal workplace injuries in the State; however, the high proportion of the Wyoming workforce employed in high risk occupations and industries appears to be the major factor driving Wyoming's high rates of injuries compared to other states. A large proportion of Wyoming's workforce is employed in industries such as agriculture, mining and oil and gas extraction, construction, manufacturing, and transportation. These industries have historically experienced higher rates of occupational fatalities and injuries than other industries.

Many of the same industries that yield high fatality rates also lead in serious, non-fatal injuries, including: construction; mining, quarrying, and oil and gas extraction; retail trade; transportation and warehousing; and manufacturing, but also include healthcare and social assistance; and the accommodation and food services industries.

The purpose of this report is to identify opportunities to make improvements in workplace safety in the State. High risk industries are identified. Trends for hospitalization, amputations, burn injuries requiring hospitalization, high medical cost worker's compensation claims, and long-term disability are examined. The State has established several workplace safety groups—the Wyoming Oil and Gas Industry Safety Alliance, the Wyoming Refinery Safety Alliance, the Wyoming Transportation Safety Coalition and many others. Considerable progress has been made in workplace safety and health, however, more work remains to be done.

Wyoming Employment Demographic Profile

In both Wyoming and the U.S., over 92% of the civilian workers employed from 2001 to 2009 were between the ages of 18 and 64 years. Slightly more men than women were employed during this time period (54.3% men vs. 45.7% women). Over 96.2% of civilian workers were reported as white in the state. Approximately 291,000 persons were employed in the most recent Current Population Survey.

Figure 1.

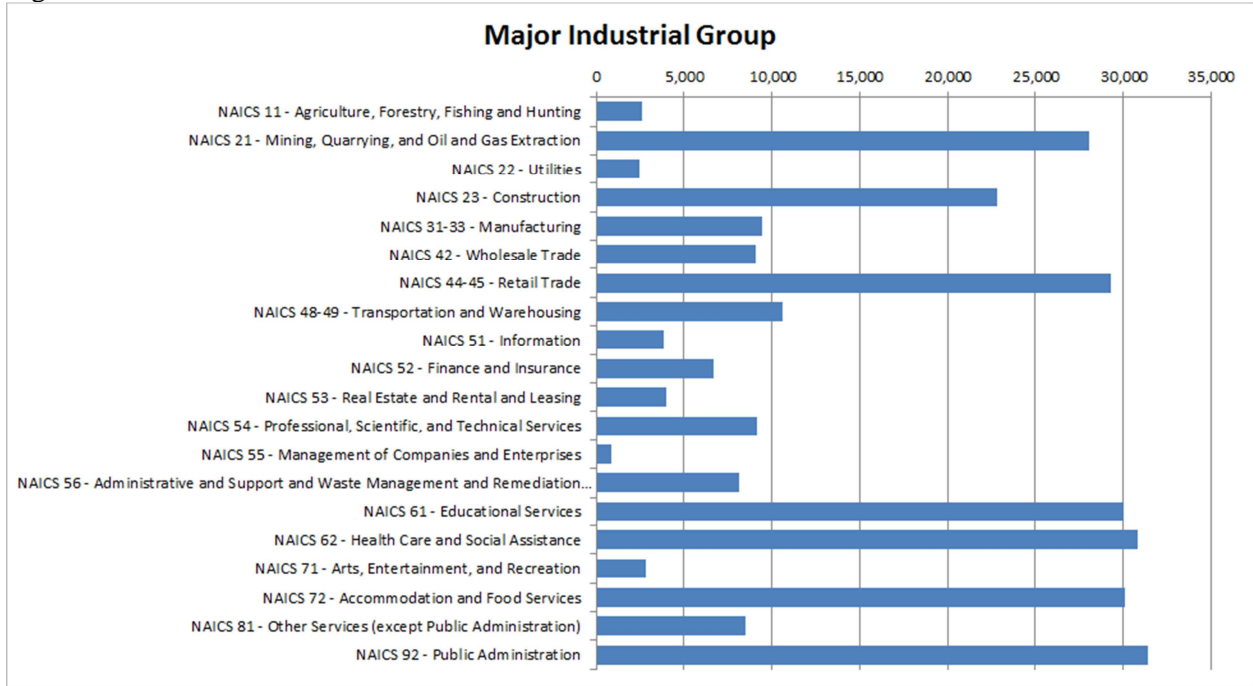
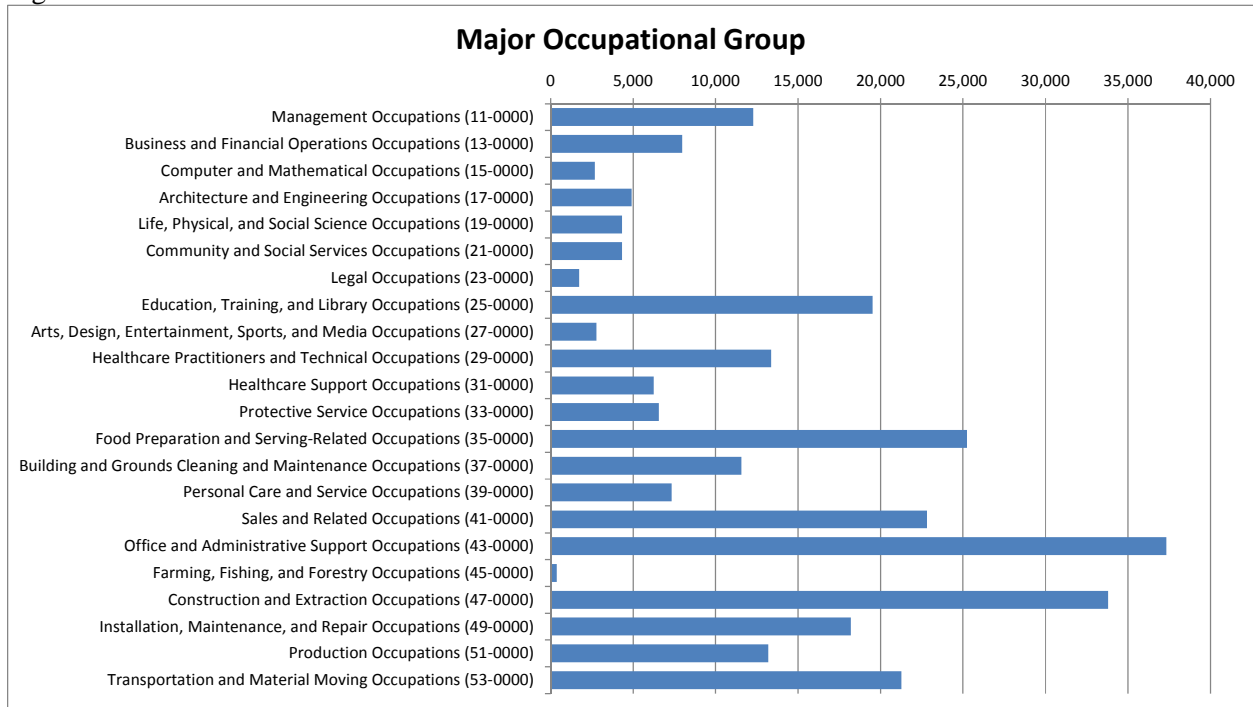


Figure 2.



The industry and occupation distributions in Wyoming for 2012 are shown in the Figures 1 and 2 (data provided by Tony Glover, Research and Planning, Wyoming Workforce Services). An occupation is defined as a regular activity performed for payment that occupies one’s time. The 2010 Standard Occupational Classification (SOC) system is used by Federal statistical agencies to classify workers into occupational categories for the purpose of collecting, calculating, or disseminating data. All workers are classified into one of 840 detailed occupations according to their occupational definition. An industry is defined as the production of an economic good or service within an economy. The North American Industry Classification System (NAICS) is the standard used by Federal statistical agencies in classifying business establishments for the purpose of collecting, analyzing, and publishing statistical data related to the U.S. business economy. When the terms occupation or industry are used in this report, they are referring to these standardized definitions.

Workplace fatalities

For several years, Wyoming has been among the highest states in the nation for workplace fatality rates. Rates are a measure of the number of fatalities divided by the working population at risk. For States with a small population like Wyoming, only a few deaths can increase the state rate considerably. State rates are measured through a federal system maintained by the Bureau of Labor Statistics (BLS) Census of Fatal Occupational Injuries (CFOI). This system has tracked workplace fatalities for over 20 years and provides fatality rates by state and by industry. The CFOI does not assign reasons for events. Deaths at work may be recorded as associated with accidents, suicide, or homicide. In some cases, sudden illnesses may contribute to accidental deaths. Wyoming ranked second behind North Dakota for 2011.

Workplace fatalities are identified through a number of data sources: news clippings, death certificates provided by the Wyoming Department of Health, police crash reports provided by numerous police agencies through the Wyoming Department of Transportation, the Mine Safety and Health Administration, Wyoming County Coroners, Wyoming Occupational Health and Safety Administration (WY-OSHA), the National Transportation Safety Administration. Standard definitions of workplace fatalities are followed in order to make determinations on the work-relatedness of a fatality. For wage and salary jobs, the CFOI Program obtains the NAICS industry code from the employer’s unemployment insurance record.

With the establishment of a State Occupational Epidemiologist, additional details of workplace fatalities can now be provided. Table 1 shows the 2012 Workplace Fatalities by Industry. Note that there may be some differences with the CFOI data. Table 2 shows a line listing of deaths with a brief narrative describing the circumstances at the time of the injury. Not surprisingly, transportation events lead the industry classification of deaths. This has been true for many years in Wyoming.

Table 1. Occupational Fatalities by Industry Sector or Circumstance, January-December 2012.

Transportation		16
Plane crash	4	
Helicopter crash	1	
Agriculture		5
Construction		3
Oil and Gas*		3
Caretaker		1
Wholesale Trade		1
Other		<u>2</u>
Total		31

(*Occurred in the industries in support of oil and gas industry, not in drilling or production. Data provided by the Vital Statistics Section of the Wyoming Department of Health, Traffic Safety Section of the Wyoming Department of Transportation, Wyoming County Coroners, the National Transportation Safety Board, various news services, and the Occupational Safety and Health Administration of the Wyoming Department of Workforce Services.)

Table 2 Line Listing of Occupational Fatalities, January-December, 2012

Transportation

63 year old male volunteer member of a rescue crew died in a helicopter crash in Bridger Teton National Forest, WY resident.

43 year old male, unrestrained driver of semi that left roadway and rolled down an embankment, blunt chest trauma, truck driver, TX resident.

60 year old male had a rollover crash in a semi-tractor trailer, pinned in truck, TX resident.

49 year old male- unrestrained driver of tow truck, BAC 0.16, truck driver rolled his vehicle on I-80, OR resident.

60 year old male -decedent and his wife were killed when the truck carrying a load of bentonite lost brakes on a steep hill, crashed through guard rail and fell down an embankment. He and his wife were ejected from the tractor, probably unrestrained, FL resident.

36 year old male lost truck brakes on Teton pass coming in to Jackson. Truck/trailer was overweight, OR resident.

38 year old male crashed truck/trailer on I-80 14 miles east of Laramie during foggy/icy conditions, PA resident.

65 year old male was loading a wrecker operating the winch when struck by another motorist driving a pick-up. Pick-up driver arrested for DUI. Decedent was a WY resident.

72 year old male found next to his truck with a head wound. His truck was parked at highway 372 and county road 11 near a mining operation. The trucker was going to pick up a load of soda ash. The hatch was open on the top of the truck and the trucker presumably fell from the truck during icy conditions, OSHA case investigation, ID resident.

30 year old male was attempting to position a JLG man-lift on to a trailer, the operator lost control of the man-lift and two tires of the lift slipped off the trailer. The operator was ejected from the lift's basket and struck a metal object sustaining fatal injuries, WY resident.

80 year old male driver of a log hauling tractor/trailer run over by the semi-tractor trailer he was chaining. He was stopped along a logging road where he had dropped off paper work prior to leaving the logging area. The tires were not chocked and the brakes were not working or failed to hold the truck in a parked position, MT resident.

30 year old male driver of eastbound Fed Ex tractor trailer towing two trailers, for reasons unknown, entered the median and collided with several wooden fence posts. Skid marks in the grass indicate the driver steered right in an attempt to re-enter the roadway but strong winds at the

time may have contributed to the tractor and trailers overturning onto the left side and sliding into the westbound lanes blocking the roadway. Driver was pinned in the vehicle, UT resident.

65 year old owner of aviation company and flight school killed in a plane crash, four east Texas men travelling on business, TX resident.

21 year old male pilot and employee of flight school killed in a plane crash, four east Texas men travelling on business, TX resident.

52 year old male owner of plane that crashed, four east Texas men travelling on business, TX resident

29 year old male owner of a rental company killed in a plane crash, four east Texas men travelling on business, TX resident.

Agriculture

31 year old male was repairing electrical switches on flat bed hay truck with the bed raised, the bed suddenly fell on the deceased with crushing injuries to chest, occupation-manager Ag feed lot, WY resident.

82 year old M, slipped on ice while feeding his cows, striking the back of his head and sustaining an intracranial injury, agriculture-related-ranching, WY resident.

80 year old male ran over by tractor while attempting to jump start, rancher, WY resident.

61 year old male had crushing injuries from being trapped in a trailer with a bull, WY resident.

55 year old female transporting show rabbits crashed on I-80, WA resident.

Construction

57 year old male was working on HVAC and tripped and fell into fan intake, multiple blunt and sharp force injuries, OSHA case investigation, WY resident.

33 year old male fell off ladder/scaffolding while installing doors on a second floor of a multi-unit complex being constructed, operations manager/carpenter, OSHA case investigation, CO resident.

20 year old male working in a trench box, struck by bucket of backhoe, OSHA case investigation, WY resident.

Oil and Gas

62 year old male crushed by tote that fell from a forklift in a warehouse, general industry that serves oil and gas, OSHA case investigation, WY resident.

50 year old male employee was positioning a tractor trailer to load dry cement in a company yard. Apparently, the driver was attempting to knock ice from the brakes underneath the tractor when it began moving and rolled over the driver, WY resident.

Suicide

Wholesale Trade

60 year old male crashed pickup on I-80. Salesman-oil and gas, driver veered into median, overcorrected, seat belted, WY resident.

Caretaker

42 year old male property caretaker found frozen outside his residence. Hypothermia, CO resident.

Other

Homicide

63 year old male volunteer of a civic organization was killed in a motor vehicle crash near Thermopolis, CO resident.

As in the past, transportation-related fatalities lead the types of workplace fatalities. Fifty-two percent of all fatalities were in the transportation sector. A single business-related plane crash and a helicopter rescue crash accounted for 5 fatal events. These fatalities are followed by agriculture-related fatalities and construction fatalities.

Almost all of the work-related deaths occurred in males and 16 (48%) of cases were age 55 years of age or older as compared to only 18.1 percent of the persons who worked at any time in 2012 in Wyoming fell into that age category. Seventeen (55%) of the fatalities occurred in non-state residents compared to only 13.7% of all people who worked in Wyoming were non-residents (Research and Planning, Wyoming Workforce Services Department, 2012 demographics).

The 2012 work-related fatalities were comprised disproportionately of older males who are non-residents working in some form of transportation or with heavy equipment. The numbers in this report may differ from Federal CFOI numbers due to differences in access to information and criteria for inclusion. These data are to supplement the CFOI data and should be used to identify safety improvement policies.

Non-fatal Injuries

Tracking non-fatal work-related injuries is hindered by the fact that there is no single system that will allow the tracking of all injuries. Wyoming is fortunate, however, in that it is one of four states that have a monopolistic system for worker's compensation claims. In most other states, it would be difficult or impossible to track worker's compensation claims through the myriad insurance company systems that provide for worker's compensation claims. While many workers are not covered by Wyoming worker's compensation—federal workers, large companies that are self-insured, and most out-of-state workers--the system does provide for a large proportion of Wyoming workers, especially those in high-risk industries. This system has detailed information on worker's compensation claims and has the benefit that it has been in place for many years, so that historical information is available. Data available from the Worker's Compensation Program are summarized below.

Table 3. Worker's Compensation Claims and Various Health Conditions by Year, 2005-2012

YEAR	2005	2006	2007	2008	2009	2010	2011	2012
Claims	16301	16292	16421	16081	13567	14178	14464	12979
Hospitalizations	1082	1086	1027	1038	898	815	1025	617
Amputations	33	29	31	39	22	20	30	20
Burns with Hospitalization	26	18	24	18	12	13	18	25
High Medical Cost Claim (\$250,000)	24	27	24	16	13	12	10	5
Long-Term Disability (>90 days)	1029	1063	1099	1079	993	961	943	866

Data extracted from the Worker's Compensation files courtesy of A. Michler, July, 2012.

Data from Table 3 show Worker's Compensation Claims for Various Health Conditions. Total claims activity has been on a downward trend since 2005. Noteworthy are the number of hospitalizations per year. Hospitalizations are frequently very costly and obviously represent time away from work and family, friends, and co-workers. While the number of hospitalizations has dropped for 2012, in prior years approximately 1000 claims per year were for hospitalization of a claimant. Similarly, long-term disability claims have dropped in the last few years, but averaged about 1000 claims per year in earlier years. High medical cost claims have dropped in recent years, however, this is likely due to the fact that claimants with recent severe injuries are still accruing medicals costs associated with their claim. Claims for amputations and burns with hospitalization don't show a clear trend during 2005-2012.

The Worker's Compensation utilization rate was 3.6% for 2012 using the 12,979 claims divided by the total number of persons who worked at any time in that year (Tom Gallagher, Research and Planning, Wyoming Workforce Services, personal communication).

Table 4. Worker's Compensation Claims for Various Health Conditions by Industry, 2005-2012

	Claims*	Hospitalizations	Amputations	Burns with Hospitalization	High Medical Cost Claims (>\$250,000)	Long-Term Disability (>90 days)
Agriculture, Forestry, Fishing, and Hunting (11)	1803	272	9	5	2	144
Mining, Quarrying, and Oil and Gas Extraction (21)	9669	1318	78	51	24	1263
Utilities (22)	965	68		2	2	58
Construction (23)	11393	1338	51	21	29	1582
Manufacturing (31-33)	5775	439	25	28	13	437
Wholesale Trade (42)	3614	276	4	6	5	297
Retail Trade (44-45)	7625	528	5	4	6	617
Transportation and Warehousing (48-49)	4158	485	14	9	14	660
Information (51)	765	52			3	41
Finance and Insurance (52)	328	18				9
Real Estate and Rental and Leasing (53)	973	103			2	96
Professional, Scientific, and Technical Services (54)	928	74	1	3		60
Management of Companies and Enterprises (55)	18	2	1			1
Admin. and Support and Waste Mgmt. and Remed. Svcs (56)	1780	168	6	2	1	215
Educational Svcs (61)	3892	279	6	1	3	303
Health Care and Social Assistance (62)	11111	575	1	4	6	773
Arts, Entertainment, and Recreation (71)	887	73	4			86
Accommodation and Food Svcs (72)	9366	479	3		6	509
Other Svcs (except Public Admin.) (81)	2780	184	3		5	192
Public Administration (92)	9204	278	4		1	201

*Claims were for the period Jan 1, 2005 to June 30, 2013. Data extracted from Worker's Compensation files courtesy of A. Michler, July, 2012.

Table 4 shows the Worker's Compensation claims for various health conditions by major industry classification. Hospitalizations, amputations, burns with hospitalization, high medical cost claims (\$250,000), and long-term disability (>90days of paid lost work time) were chosen because they represent the more serious injuries that are occurring. Construction and Mining, Quarrying, and Oil and Gas Extraction lead the industry categories for numbers of claimants with hospitalization followed by Health Care and Social Assistance, Retail Trade, Transportation and Warehousing, and Accommodation and Food Services. Mining, Quarrying, and Oil and Gas Extraction, and Construction lead the industry categories for amputations followed by Manufacturing and Transportation and Warehousing. Mining,

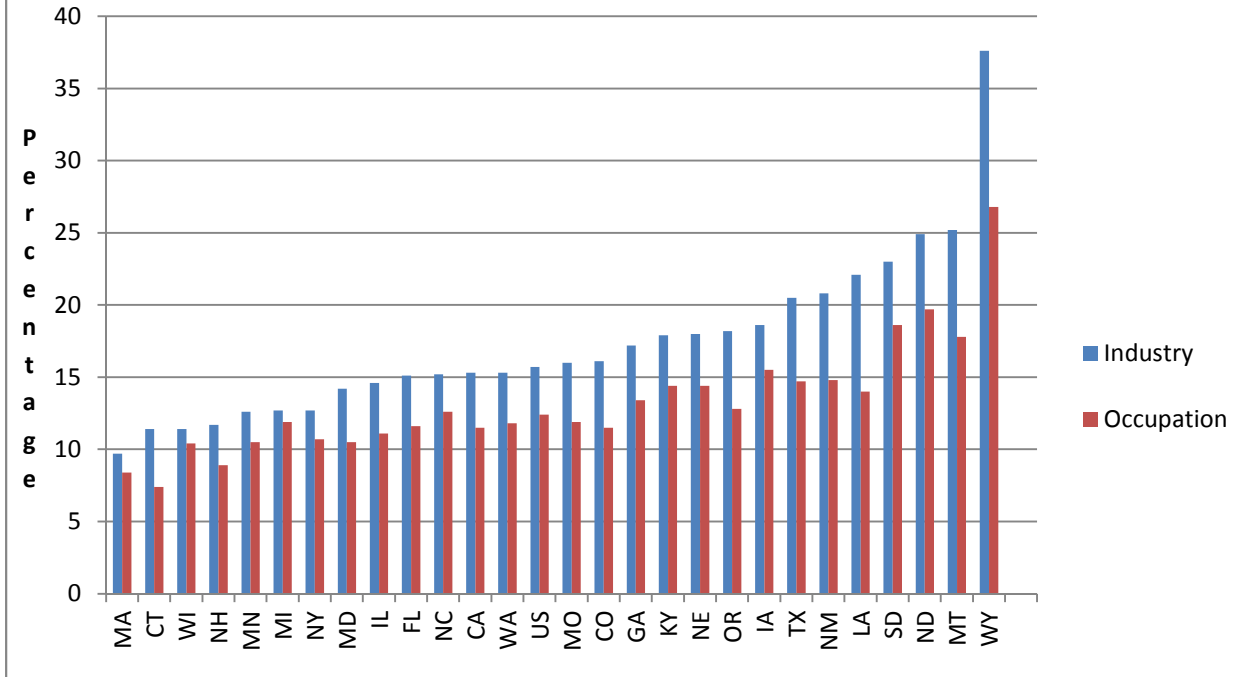
Quarrying, and Oil and Gas Extraction lead the industry categories for burns with hospitalization followed by Manufacturing and Construction industries. High medical cost claims (>\$250,000) are led by Construction and the Mining, Quarrying, and Oil and Gas Extraction followed by Warehousing and Manufacturing industries. Long-term disability, as defined by 90 or more days of paid lost work time, is led by the Construction industry followed by Mining, Quarrying, and Oil and Gas Extraction industry and Health Care and Social Assistance industries. Transportation and Warehousing, Retail Trade, Accommodation and Food Services, Manufacturing, and Educational Services all have significant numbers of claimants with long-term disability. Long-term disabilities are especially important from an individual perspective because they represent both significant medical costs as well as disability wage replacement. These tend to be the most costly of all work-related injuries.

Other systems exist that may provide useful information for tracking work-related injuries and those systems are being reviewed for their utility in this endeavor. The Wyoming Hospital Association has a hospital discharge registry that provides information on all hospital discharges in the state. While there are limitations on the information this system can provide, it is being examined for its potential to track injuries not identified through worker's compensation claims. In addition, the Wyoming Department of Health has two systems that may provide useful information in tracking workplace injuries: the Emergency Medical Services run tracking system, and the Wyoming Hospital Trauma System. Both of these systems have been implemented statewide and use industry standard software. While not designed for this purpose, they may still be useful, particularly in identifying workplaces with serious injury episodes and injury events not covered by Wyoming worker's compensation.

High Risk Industries/Occupations

Workers in certain industries and occupations sustain fatal injuries at much higher rates than the overall workforce. Historical data from the Census of Fatal Occupational Injuries was used to identify high-risk industries and occupations. The proportion of the workforce that is employed in these high-risk industries and occupations varies by state. This variation can help explain differences in injury mortality rates among states. High-risk industries and occupations for 2008 were chosen for the data in Figure 3 from the Current Population Survey. Thirty industries had fatality rates greater than 9.5 per 100,000 workers in 2003---more than double the national rate which was 4.0 per 100,000 workers---according to the Bureau of Labor Statistics, Census of Fatal Occupational Injuries. Fifty-seven occupations had fatality rates greater than 9.5 per 100,000 workers. Figure3 shows that Wyoming has the highest percentage of workers employed in high risk industries and occupations of all the states that reported data in the United States for 2009 (Council of State and Territorial Epidemiologists, Occupational Health Indicators, www.cste.org).

Figure 3. Percentage of Workers Employed in Occupations and Industries with High Risk for Occupational Mortality by State and U.S., 2009



The Federal CFOI system allows the identification of high-risk industries and occupations across the United States. State-level surveillance allows for more detailed summaries of events leading to work-related deaths since the CFOI system cannot release this level of detail. The CFOI is a nationwide system with standard definitions and methodologies for data collection and analysis. Both systems are needed to identify solutions to workplace injuries and deaths.

Support to Workplace Safety Groups and Efforts

Wyoming has demonstrated leadership in various industries in attempting to promote workplace safety. The Wyoming Occupational Safety and Health Administration (OSHA) have supported safety efforts with specific groups for several years. There are several notable groups that have made workplace safety a primary concern for their organization. The Wyoming Oil and Gas Industry Safety Alliance (WOGISA) has been active for several years now and developed a formal partnership with the Wyoming OSHA. WOGISA has regular membership meetings and strongly supports safety practices in the oil and gas industry. Another related organization—the Wyoming Refinery Safety Alliance—was formed last year and has been meeting regularly since its inception. They have identified a need for an in-state training program and are working with state colleges to develop an appropriate training program for refinery workers. Wyoming mines are regulated by both federal and state agencies and have led safety efforts for many years. Because of the high proportion of transportation-related fatalities, Governor Mead formed a Transportation Coalition to address the State’s needs in this area. The group has met several times and is reviewing the circumstances of individual crashes/events, locations, and factors that led to the events. The group will make recommendations to improve Wyoming’s transportation safety record. The construction industry has safety groups that the state is supporting as well.

Several state agencies have an interest in workplace safety including the Workforce Services Department, the Department of Health, and the Department of Transportation. These agencies work collaboratively on data sharing and efforts to improve safety efforts.

In addition, the Wyoming State Legislature has shown support to workplace safety by adding 7 new OSHA positions with the Workforce Services Department. All OSHA inspectors have been trained and began work in December, 2012. The Legislature appropriated \$500,000 for the biennium to create a Safety Fund for employers. This fund allows employers to access up to \$10,000 with a 10 percent match for safety training and safety equipment. The Legislature recently approved an incentive program for employers to receive discounts on worker's compensation premiums by utilizing existing safety programs.

It will take time for these safety initiatives to impact Wyoming's workplace fatality and injury rates. The high proportion of Wyoming workers employed in high risk industries and occupations suggest that rapid declines in injury rates are not likely.

Plans for Future Efforts

Additional analyses are planned looking at injuries associated with specific industries for future reports. Quick identification of industries/employers with serious injury events may lead to quicker OSHA investigations and interventions to improve workplace safety. Establishing a routine culture of safety in all industries is required to drive down injury rates across the workforce.

Additional data sources from the Department of Health---the Emergency Medical Services run reports, and the Trauma Registry---offer potential to identify workplace injuries that might be missed by the Worker's Compensation System, and also provide quicker identification of industries and employers with significant workplace injury issues.