

MONTANA

Occupational Injuries & Illnesses

2021 REPORT



Montana Department of
LABOR & INDUSTRY

M O N T A N A

Occupational Injuries & Illnesses

2 0 2 1 R E P O R T

State of Montana

Greg Gianforte, Governor

Montana Department of Labor & Industry

Laurie Esau, Commissioner

Prepared by:

Peggy Coggeshall, Statistician

(406) 444-3297

Jacquie Haney, Research Analyst I

(406) 444-3235

For more information contact:

Data Management Section

PO Box 4140

Helena, MT 59624-1728

(406) 444-3297

The Montana Department of Labor & Industry (DLI) gratefully acknowledges all employers who responded to our survey. Without their participation, this report would not have been possible.

The Montana Department of Labor & Industry is committed to providing access to our documents for individuals with disabilities. If the format of any information within this document interferes with your ability to access it due to a disability, please contact dlicommunications@mt.gov for assistance.

Table of Contents

INTRODUCTION	1
SUMMARY	2
Overall Incidence Rates by Major Industry	2
Private Industry Incidence Rates of Nonfatal Injuries and Illnesses, Montana vs. United States	3
Number of Injuries and Illnesses by Industry	3
LOST WORKDAY CASES	4
Number of Nonfatal Occupational Injuries and Illnesses by Selected Industries and Case Type	4
APPENDIX A: INDUSTRY INJURIES AND ILLNESSES DISTRIBUTION.....	5
Table A1: Incidence Rates of Occupational Injuries and Illnesses by Industry Sector & Case Type.....	5
Table A2: Number of Nonfatal Occupational Injuries and Illnesses by Industry Sector & Case Type	7
GLOSSARY OF TERMS	9
SCOPE AND METHODOLOGY OF SURVEY	12
HOW TO COMPUTE INCIDENCE RATES FOR AN ESTABLISHMENT	16

The Occupational Safety and Health Act was passed by Congress in 1970 to “assure as far as possible every working man and woman in the nation safe and healthful working conditions and to preserve our human resources.”

The Survey of Occupational Injuries and Illnesses (SOII) was established to collect and analyze health and safety statistics to evaluate the effectiveness of efforts to reduce work-related injuries and illnesses across the nation. Data users and employers can use the data collected to identify areas and industries in need of improvement, plan education and evaluation programs, and compare incidence rates of nonfatal injuries and illnesses with other firms in the same industry. The Montana Department of Labor & Industry (MTDLI) has collaborated with the U.S. Department of Labor (USDOL) Bureau of Labor Statistics (BLS) for over 30 years to conduct the annual SOII to provide essential work injury and illness statistics for Montana.

A sample of employers are selected to participate in the survey each year. Under the SOII program, employers are required to keep records of all work-related deaths, any diagnosed occupational illness, and any occupational injury that involves loss of consciousness, restriction of work or motion, transfer to another job, or requires medical treatment beyond first aid. These employers are required to maintain an OSHA 300 log and an OSHA 301 supplementary record form to properly record each incident or occurrence in a calendar year. These records must be kept at the worksite for five years and must be available for inspection by USDOL and MTDLI representatives.

Employers with 10 or fewer employees, and employers that conduct business in one of the industries considered low-hazard, are generally exempt from recordkeeping requirements, except when selected by BLS for the SOII. In such cases, employers are required to maintain occupational injury and illness records for the survey year and to provide this information to BLS. The OSHA Act specifically excludes small farms (those with fewer than 11 employees) from data collection. Data from the railroad and mining industries are obtained by BLS from the Federal Railway Administration and the Mine Safety and Health Administration and are therefore not part of BLS data collection from employers. Except where required by state law, state and local governments are not required to maintain logs and submit data to the BLS. In these cases, survey participation is voluntary.

Employers must maintain all necessary records for the year they participate in a SOII survey. Employers are provided pre-notification that they were chosen for participation to ensure they keep records for the upcoming year. The data derived from employer records is used only for statistical purposes. This publication is public and may be reproduced when proper citations are included for the Bureau of Labor Statistics and the Data Management Section at the Montana Department of Labor & Industry.

BLS began collecting both Days of Job Transfer or Restriction (DJTR) and Days Away From Work (DAFW) case data from employers in the Reference Year (RY) 2021 SOII. BLS will release biennial (i.e., every other year) Case & Demographics (C&D) estimates. The first biennial release of RY 2021-2022 DJTR and DAFW data is scheduled for the fall of 2023. Our report will be released in November and will include both summary and case & demographic data. This publication is always available for your convenience at erd.dli.mt.gov/occupational-safety-health-statistics.

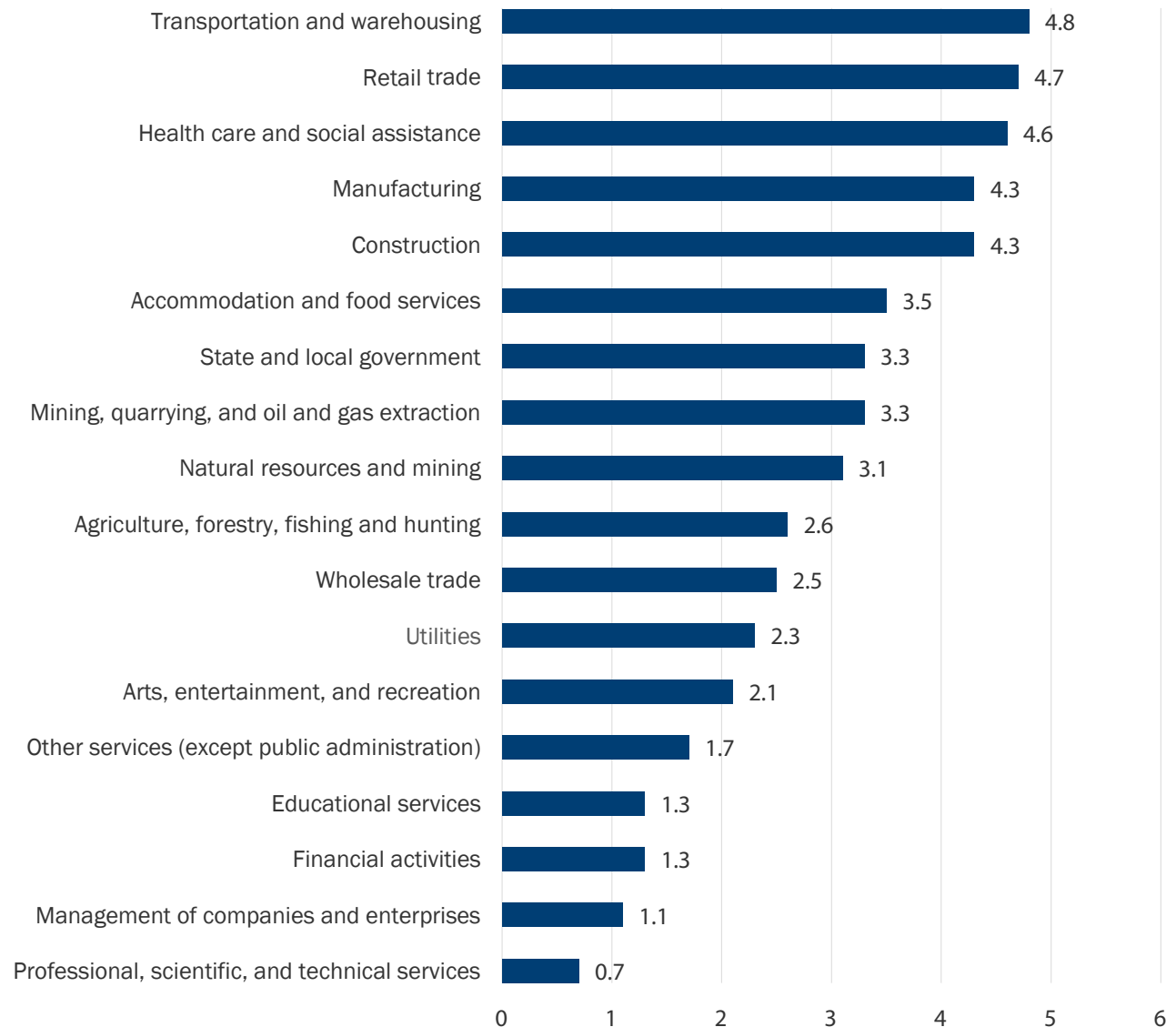


In 2021, employees of Montana businesses in all industries experienced a total of 12,100 Occupational Safety and Health Administration (OSHA) recordable nonfatal occupational injuries and illnesses. This count translates into an overall incidence rate of 3.4 injuries and illnesses per 100 full-time workers. The year 2020 experienced 11,700 injuries and illnesses, translating into a rate of 3.4 injuries and illnesses per 100 full-time workers.

The industries with the higher 2021 incidence rates per 100 full-time workers were transportation and warehousing with 4.8, retail trade with 4.7 and health care and social assistance with 4.6. The industries with lower incidence rates were professional, scientific and technical services with 0.7 incidence rates per 100 full-time workers, and management of companies & enterprises with 1.1

Below is a graph of nonfatal incidence rates of injuries and illnesses per 100 full-time workers by major industry sector for Montana, 2021.

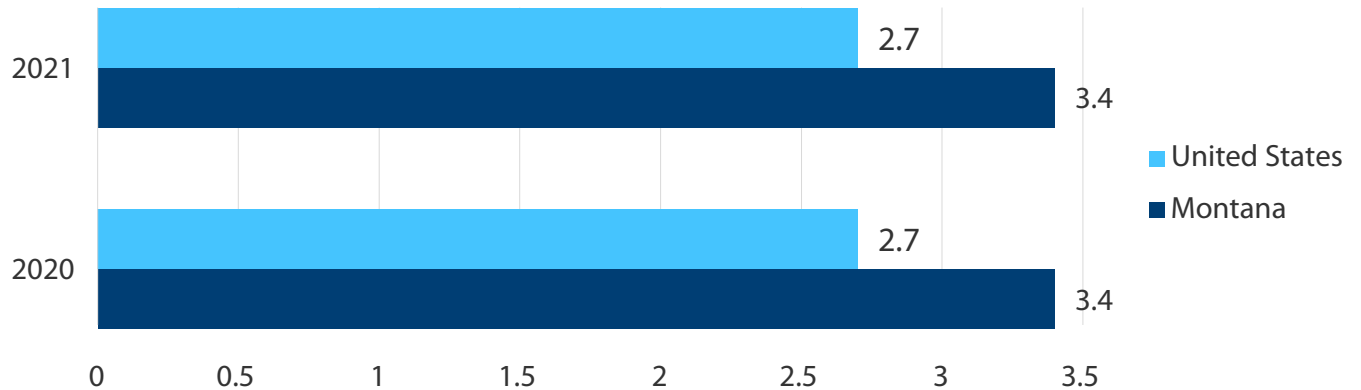
Overall Incidence Rates by Major Industry



Montana consistently has higher rates of nonfatal injuries and illnesses than the national average. The national private industry incidence rate for 2021 was 2.7 injuries and illnesses per 100 full-time workers, as shown in the below figure.

Private Industry Incidence Rates of Nonfatal Injuries and Illnesses

Montana vs. United States



Incidence rates are set for 100 full-time workers. The formula for computing the incidence rate is as follows:

$$(N/EH) \times 200,000$$

N = Number of injuries and/or illnesses or lost workdays

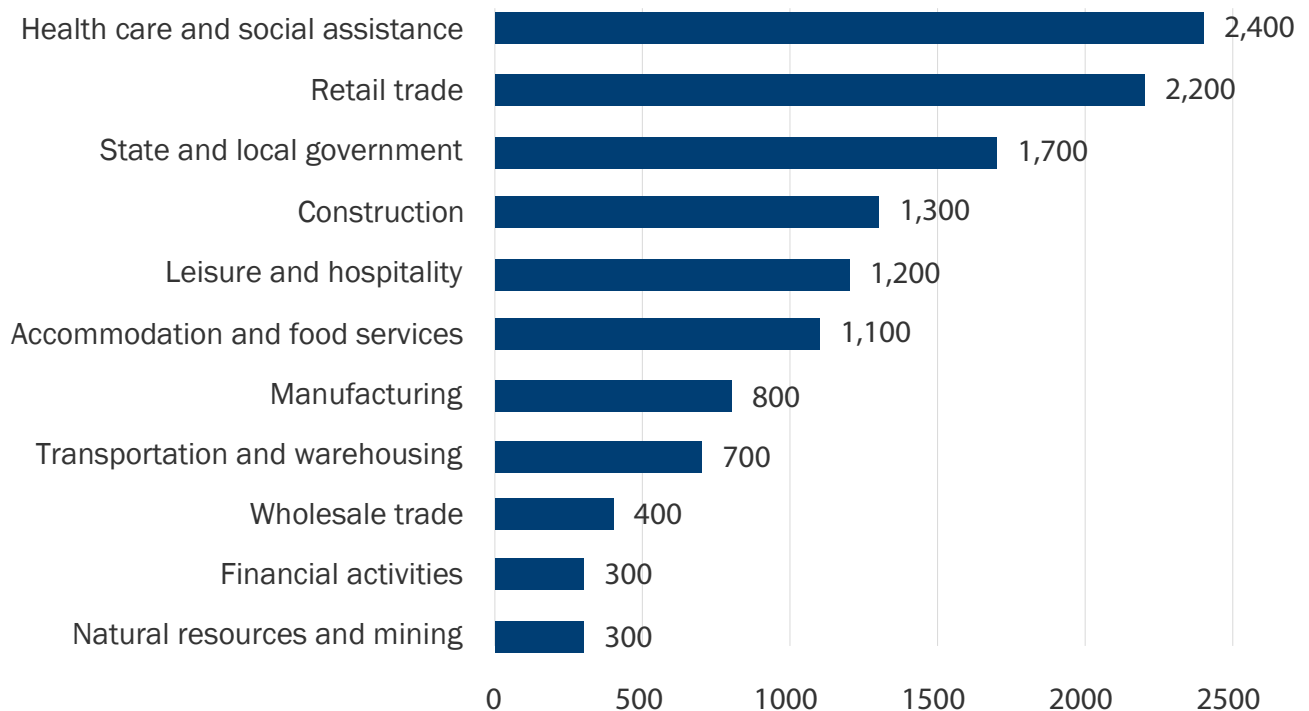
EH = total hours worked by all employees during calendar year

200,000 = base for 100 full-time equivalent

(Workers working 40 hours per week, 50 weeks per year)

Number of Injuries and Illnesses

By Industry



Total recordable cases involve days away from work, days of job transfer or days of restricted activity, or both. This indicator is a measure of the injury or illness severity. Using this as a measure of severity, the injuries and illnesses reported in Montana are similar to those reported elsewhere. In Montana private industry 2021, of the 10,400 total recordable cases, 5,600 reported job transfer or restriction cases, with 3,800 reporting at least one day away from work.

Number of Nonfatal Occupational Injuries and Illnesses

By Selected Industries and Case Type

	NAICS Sector	Total Recordable Cases	Total DAFW/DJTR Cases	Lost Workday Cases
Total All Industries		12,100	6,300	4,300
Total Private Industry		10,400	5,600	3,800
Agriculture, Forestry, Fishing and Hunting	11	100	100	*
Mining, Quarrying and Extraction	21	200	100	100
Utilities	22	100	*	*
Construction	23	1,300	600	400
Manufacturing	31-33	800	500	300
Wholesale Trade	42	400	200	100
Retail Trade	44-45	2,200	1,300	800
Transportation and Warehousing	48-49	700	400	300
Information	51	*	*	*
Finance Activities	52	300	200	200
Real Estate, Rental and Leasing	53	*	100	100
Professional, Scientific and Technical	54	100	100	*
Management of Companies	55	*	*	*
Educational & Health Services	61	*	*	*
Health Care and Social Assistance	62	2,400	1,200	900
Arts, Entertainment and Recreation	71	100	100	100
Accommodations and Food Services	72	1,100	500	300
Other Services, except Public Administration	81	200	100	100
State and Local Government	92	1,700	700	500

DAFW (Days Away From Work) DJTR (Days Job Transfer or Restriction)

Total Recordable Injuries include those with restricted days, job transfer days, other recordable injuries, and/or lost workdays. Lost workday cases include only those that result in days away from work. Totals include data for industries not shown separately. Because of rounding, components may not add to totals.

*Data too small to be displayed or didn't meet publication criteria.

Please note that there is no 2021 Case and Demographics (C&D) data released this year: Biennial C&D Estimation will begin next year, starting with 2021-2022 data.

Table A1 | Appendix A

Incidence Rates¹ of Occupational Injuries and Illnesses
By Industry Sector & Case Type

Industry ²	NAICS code ³	Total	Cases with days away from work, job transfer, or restriction			Other
			Total	Cases with days away from work ⁴	Cases with job transfer or restriction	
All industries including state & local government ⁵		3.4	1.7	1.2	0.5	1.6
Private industry ⁵		3.4	1.8	1.2	0.6	1.6
Goods-producing ⁵		4.1	2.1	1.5	0.6	2.0
Natural resources & mining ^{5,6}		3.1	1.5	1.2	0.2	1.6
Agriculture, forestry, fishing and hunting ⁵		2.6	2.1	1.8	--	--
Animal production and aquaculture ⁵	112	3.3	3.0	--	--	--
Support activities for agriculture and forestry	115	2.3	--	--	--	--
Mining, quarrying, & oil & gas extraction ⁶		3.3	1.2	1.0	--	--
Oil & gas extraction	211	--	--	--	--	--
Mining (except oil & gas) ⁷	212	2.5	1.6	1.3	--	0.9
Construction		4.3	2.0	1.5	0.5	2.3
Construction		4.3	2.0	1.5	0.5	2.3
Construction of buildings	236	4.4	2.4	1.5	1.0	2.0
Heavy & civil engineering construction	237	1.7	1.1	0.4	0.7	0.6
Specialty trade contractors	238	5.1	2.1	1.9	0.2	3.0
Manufacturing		4.3	2.5	1.6	0.9	1.8
Manufacturing		4.3	2.5	1.6	0.9	1.8
Food manufacturing	311	7.7	5.2	2.7	2.4	2.6
Beverage and tobacco product manufacturing	312	2.5	--	--	--	1.5
Wood product manufacturing	321	6.6	3.5	2.2	1.4	3.1
Nonmetallic mineral product manufacturing	327	3.2	2.1	2.0	--	--
Miscellaneous manufacturing	339	2.5	1.2	--	--	1.3
Service providing		3.2	1.7	1.2	0.6	1.5
Trade transportation & utilities		4.2	2.5	1.5	1.0	1.7
Wholesale trade		2.5	1.3	0.8	0.5	1.2
Merchant wholesalers, durable goods	423	1.9	1.1	--	0.4	0.8
Merchant wholesalers, nondurable goods	424	3.8	1.9	1.2	0.6	2.0
Retail trade		4.7	2.8	1.6	1.2	1.9
Motor vehicle and parts dealers	441	4.5	2.5	1.6	0.9	2.0
Furniture and home furnishings stores	442	2.4	2.4	--	--	--
Building material & garden equipment & supplies dealers	444	4.9	2.4	1.1	1.4	2.4
Food and beverage stores	445	6.9	4.9	3.4	1.5	2.0
Gasoline stations	447	2.0	1.2	0.8	0.4	0.8
General merchandise stores	452	7.1	4.0	1.9	2.1	3.1
Transportation & warehousing ⁸		4.8	3.1	1.8	1.3	1.7
Air transportation	481	3.8	--	--	--	--
Truck transportation	484	4.1	3.1	1.3	1.8	1.0
Warehousing and storage	493	--	8.6	--	--	--
Utilities		2.3	1.0	0.6	--	1.3

Table A1 (continued) | Appendix A

Industry ²	NAICS code ³	Total	Cases with days away from work, job transfer, or restriction			Other
			Total	Cases with days away from work ⁴	Cases with job transfer or restriction	
Information	511	--	--	--	--	--
Information		--	--	--	--	--
Publishing industries (except internet)		--	--	--	--	--
Financial activities	713	1.3	1.0	1.0	--	--
Real estate and rental and leasing		--	2.4	2.3	--	--
Professional & business services		1.0	0.6	0.5	--	0.5
Professional, scientific, and technical services		0.7	0.3	0.2	--	0.4
Management of companies and enterprises		1.1	0.9	0.9	--	--
Educational & health services		4.4	2.2	1.6	0.5	2.3
Educational services		1.3	0.6	0.5	--	0.7
Health care & social assistance		4.6	2.3	1.7	0.6	2.4
Leisure & hospitality		3.3	1.4	0.9	0.5	1.8
Arts, entertainment, & recreation		2.1	1.2	0.7	0.5	0.9
Amusement, gambling, & recreation industries		2.4	1.3	0.8	0.5	1.1
Accommodation & food services	721	3.5	1.5	1.0	0.5	2.0
Accommodation		4.1	2.4	1.4	1.1	1.7
Food services & drinking places	722	3.3	1.2	0.9	0.3	2.1
Other services (except public administration)	811	1.7	1.1	0.9	--	0.7
Other services (except public administration)		1.7	1.1	0.9	--	0.7
Repair & maintenance		2.7	1.6	1.6	--	--
Religious, grantmaking, civic, professional, and similar organizations		1.1	0.6	0.3	--	0.6
State and local government ⁵		3.3	1.4	0.9	0.4	1.9
State government ⁵		2.2	1.4	0.8	0.6	0.8
Local government ⁵		4.0	1.4	1.0	0.4	2.6

¹ Incidence rates represent the number of injuries and/or illnesses per 100 full-time workers and were calculated as: $(N / EH) \times 200,000$ where,

N = number of injuries and/or illnesses

EH = total hours worked by all employees during the calendar year

200,000 = base for 100 full-time equivalent workers (working 40 hours per week, 50 weeks per year).

² Totals include data for industries not shown separately.

³ Data are coded using the North American Industry Classification System (NAICS). For more information on the version of NAICS used in this year, see our Handbook of Methods concepts page: <https://www.bls.gov/opub/hom/soi/concepts.htm>.

⁴ Days-away-from-work cases include those that result in days away from work with or without job transfer or restriction.

⁵ Excludes farms with fewer than 11 employees.

⁶ Data for Mining (Sector 21 in the North American Industry Classification System) include establishments not governed by the Mine Safety and Health Administration (MSHA) rules and reporting, such as those in oil and gas extraction and related support activities. Data for mining operators in coal, metal, and nonmetal mining are provided to BLS by the Mine Safety and Health

Administration, U.S. Department of Labor. Independent mining contractors are excluded from the coal, metal, and nonmetal mining industries. These data do not reflect changes the Occupational Safety and Health Administration made to its recordkeeping requirements effective January 1, 2002; therefore, estimates for these industries are not comparable to estimates of other industries.

⁷ Data for mining operators in this industry are provided to BLS by the Mine Safety and Health Administration, U.S. Department of Labor. Independent mining contractors are excluded. These data do not reflect the changes the Occupational Safety and Health Administration made to its recordkeeping requirements effective January 1, 2002; therefore estimates for these industries are not comparable to estimates in other industries.

⁸ Data for employers in rail transportation are provided to BLS by the Federal Railroad Administration, U.S. Department of Transportation.

⁹ Data too small to be displayed.

NOTE: Because of rounding, components may not add to totals. Dash indicates data do not meet publication guidelines.

SOURCE: U.S. Bureau of Labor Statistics, U.S. Department of Labor, Survey of Occupational Injuries and Illnesses in cooperation with Montana Department of Labor & Industry, Employment Standards Division, October 12, 2022

Table A2 | Appendix A

Number of Nonfatal Occupational Injuries and Illnesses
By Industry Sector & Case Types

Industry ¹	NAICS code ²	Total	Cases with days away from work, job transfer, or restriction			Other
			Total	Cases with days away from work ³	Cases with job transfer or restriction	
All industries including state & local government ⁴		12.1	6.3	4.3	2.0	5.8
Private industry ⁴		10.4	5.6	3.8	1.7	4.8
Goods-producing ⁴		2.4	1.2	0.9	0.3	1.2
Natural resources & mining ^{4,5}		0.3	0.1	0.1	(⁸)	0.1
Agriculture, forestry, fishing and hunting ⁴		0.1	0.1	(⁸)	--	--
Animal production and aquaculture ⁴	112	(⁸)	(⁸)	--	--	--
Support activities for agriculture and forestry	115	(⁸)	--	--	--	--
Mining, quarrying, & oil & gas extraction ⁵		0.2	0.1	0.1	--	--
Oil & gas extraction	211	--	--	--	--	--
Mining (except oil & gas) ⁶	212	0.1	0.1	(⁸)	--	(⁸)
Construction		1.3	0.6	0.4	0.1	0.7
Construction		1.3	0.6	0.4	0.1	0.7
Construction of buildings	236	0.3	0.2	0.1	0.1	0.2
Heavy & civil engineering construction	237	0.1	0.1	(⁸)	(⁸)	(⁸)
Specialty trade contractors	238	0.8	0.3	0.3	(⁸)	0.5
Manufacturing		0.8	0.5	0.3	0.2	0.3
Manufacturing		0.8	0.5	0.3	0.2	0.3
Food manufacturing	311	0.2	0.1	0.1	0.1	0.1
Beverage and tobacco product manufacturing	312	(⁸)	--	--	--	(⁸)
Wood product manufacturing	321	0.2	0.1	0.1	(⁸)	0.1
Nonmetallic mineral product manufacturing	327	(⁸)	(⁸)	(⁸)	--	--
Miscellaneous manufacturing	339	(⁸)	(⁸)	--	--	(⁸)
Service providing		8.0	4.4	3.0	1.4	3.7
Trade transportation & utilities		3.4	2.0	1.2	0.8	1.4
Wholesale trade		0.4	0.2	0.1	0.1	0.2
Merchant wholesalers, durable goods	423	0.2	0.1	--	(⁸)	0.1
Merchant wholesalers, nondurable goods	424	0.3	0.1	0.1	(⁸)	0.1
Retail trade		2.2	1.3	0.8	0.6	0.9
Motor vehicle and parts dealers	441	0.4	0.2	0.1	0.1	0.2
Furniture and home furnishings stores	442	(⁸)	(⁸)	--	--	--
Building material & garden equipment & supplies dealers	444	0.3	0.2	0.1	0.1	0.2
Food and beverage stores	445	0.6	0.4	0.3	0.1	0.2
Gasoline stations	447	0.1	0.1	(⁸)	(⁸)	(⁸)
General merchandise stores	452	0.5	0.3	0.1	0.2	0.2
Transportation & warehousing ⁷		0.7	0.4	0.3	0.2	0.3
Air transportation	481	(⁸)	--	--	--	--
Truck transportation	484	0.2	0.2	0.1	0.1	0.1
Warehousing and storage	493	--	(⁸)	--	--	--
Utilities		0.1	(⁸)	(⁸)	--	(⁸)

Table A2 (continued) | Appendix A

Industry ¹	NAICS code ²	Total	Cases with days away from work, job transfer, or restriction			Other
			Total	Cases with days away from work ³	Cases with job transfer or restriction	
Information	511	--	--	--	--	--
Information		--	--	--	--	--
Publishing industries (except internet)		--	--	--	--	--
Financial activities		0.3	0.2	0.2	--	--
Real estate and rental and leasing		--	0.1	0.1	--	--
Professional & business services		0.4	0.2	0.2	--	0.2-
Professional, scientific, and technical services		0.1	0.1	(⁸)	--	0.1
Management of companies and enterprises		(⁸)	(⁸)	(⁸)	--	--
Educational & health services		2.5	1.2	0.9	0.3	1.3
Educational services		(⁸)	(⁸)	(⁸)	--	(⁸)
Health care & social assistance		2.4	1.2	0.9	0.3	1.2
Leisure & hospitality		1.2	0.5	0.4	0.2	0.7
Arts, entertainment, & recreation	713	0.1	0.1	0.1	(⁸)	0.1
Amusement, gambling, & recreation industries		0.1	0.1	(⁸)	(⁸)	0.1
Accommodation & food services		1.1	0.5	0.3	0.2	0.6
Accommodation	721	0.3	0.2	0.1	0.1	0.1
Food services & drinking places	722	0.8	0.3	0.2	0.1	0.5
Other services (except public administration)		0.2	0.1	0.1	--	0.1
Other services (except public administration)		0.2	0.1	0.1	--	0.1
Repair & maintenance	811	0.1	0.1	0.1	--	--
Religious, grantmaking, civic, professional, and similar organizations	813	0.1	(⁸)	(⁸)	--	(⁸)
State and local government ⁴		1.7	0.7	0.5	0.2	1.0
State government ⁴		0.5	0.3	0.2	0.1	0.2
Local government ⁴		1.3	0.4	0.3	0.1	0.8

¹ Totals include data for industries not shown separately.

² Data are coded using the North American Industry Classification System (NAICS). For more information on the version of NAICS used in this year, see our Handbook of Methods concepts page: <https://www.bls.gov/opub/hom/soi/concepts.htm>.

³ Days-away-from-work cases include those that result in days away from work with or without job transfer or restriction.

⁴ Excludes farms with fewer than 11 employees.

⁵ Data for Mining (Sector 21 in the North American Industry Classification System) include establishments not governed by the Mine Safety and Health Administration (MSHA) rules and reporting, such as those in oil and gas extraction and related support activities. Data for mining operators in coal, metal, and nonmetal mining are provided to BLS by the Mine Safety and Health Administration, U.S. Department of Labor. Independent mining contractors are excluded from the coal, metal, and nonmetal mining industries. These data do not reflect changes the Occupational Safety and Health Administration made to its recordkeeping requirements effective January 1, 2002; therefore, estimates for these industries are not comparable to estimates of other industries.

⁶ Data for mining operators in this industry are provided to BLS by the Mine Safety and Health Administration, U.S. Department of Labor. Independent mining contractors are excluded. These data do not reflect the changes the Occupational Safety and Health Administration made to its

recordkeeping requirements effective January 1, 2002; therefore estimates for these industries are not comparable to estimates in other industries.

⁷ Data for employers in rail transportation are provided to BLS by the Federal Railroad Administration, U.S. Department of Transportation.

⁸ Data too small to be displayed.

NOTE: Because of rounding, components may not add to totals. Dash indicates data do not meet publication guidelines.

SOURCE: U.S. Bureau of Labor Statistics, U.S. Department of Labor, Survey of Occupational Injuries and Illnesses in cooperation with Montana Department of Labor & Industry, Employment Standards Division, October 06, 2022

Annual summary - Consists of a copy of the occupational injury and illness totals for the year from the OSHA No. 300, and the following information: the calendar year covered, company name, establishment address, certification signature, title, and date.

Annual survey - Each year the Bureau of Labor Statistics conducts an annual Survey of Occupational Injuries and Illnesses to produce national statistics. The OSHA injury and illness records maintained by employers serve as the basis for this survey.

Cooperative program - A program jointly conducted by the states and the federal government to collect occupational injury and illness statistics.

Employee - One who is employed in the business of his or her employer affecting commerce.

Employer - Any person engaged in a business affecting commerce that has employees.

Establishment - A single physical location where business is conducted or where services or industrial operations are performed; the place where the employees report for work, operate from, or from which they are paid.

Exposure - The reasonable likelihood that a worker is or was subject to some effect, influence, or safety hazard; or in contact with a hazardous chemical or physical agent at a sufficient concentration and duration to produce an illness.

Federal Register - The official source of information and notification on OSHA's proposed rulemaking, standards, regulations, and other official matters, including amendments, corrections, insertions, or deletions.

First aid - Any one-time treatment and subsequent observation of minor scratches, cuts, burns, splinters, and so forth, which do not ordinarily require medical care. Such treatment and observation are considered first aid even though provided by a physician or registered professional personnel.

First Report of Injury - A worker's compensation form, which may qualify as a substitute for the supplementary record OSHA No. 301.

Hours worked - The total hours worked by all employees during the report period. Includes all time on duty, but does not include vacations, holidays, sick leave, and all other non-work time even though paid.

Incidence rate - The number of injuries, illnesses, or lost workdays related to a common exposure base of 100 full-time workers. The common exposure base enables one to make accurate inter-industry comparisons, trend analysis over time, or comparisons among firms regardless of size.

Log and summary - (OSHA No. 300) The OSHA record-keeping form used to list injuries and illness, also to note the extent of each case.

Lost workdays - The number of workdays (consecutive or not) beyond the day of injury or onset of illness the employee was away from work or limited to restricted work activity because of an occupational injury or illness.

Lost workday cases - The injury or illness cases that involve days away from work, days of restricted work activity, or both.

Lost workdays-away from work - The number of workdays (consecutive or not) on which the employee would have worked but could not because of occupational injury or illness. The number of days away from work or days of restricted work activity does not include the day of injury or onset of illness.

Lost workdays-restricted work activity - The number of workdays (consecutive or not) on which, because of injury or illness: (1) the employee was assigned to another job on a temporary basis; or (2) the employee worked at a permanent job less than full time; or (3) the employee worked at a permanently assigned job but could not perform all duties normally connected with it. The number of days away from work or days of restricted work activity does not include the day of injury or onset of illness.

Low-hazard industries - Selected industries in retail trade, finance, insurance, and real estate; and services which are regularly exempt from OSHA record-keeping. To be included in this exemption, an industry must fall within a NAICS sector not targeted for general schedule inspections and must have an average lost workday case injury rate for a designated three-year measurement period at or below 75 percent of the U.S. private sector average rate.

Medical treatment - Includes treatment of injuries administered by physicians, registered professional personnel, or lay persons (i.e., non-medical personnel). Medical treatment does not include first aid treatment (one-time treatment and subsequent observation of minor scratches, cuts, burns, splinters, and so forth, which do not ordinarily require medical care) even though provided by a physician or registered professional personnel.

North American Industry Classification System (NAICS) - A classification system that groups establishments into industries based on the activities in which they are primarily engaged. NAICS classifies all economic activities into 20 sectors. Each establishment is assigned an industry code for its major activity, which is determined by the product or group of products produced or services rendered. The structure of NAICS is hierarchical. Establishments may be classified in two-digits (designates the sector), three-digits (designates the subsector), four-digits (designates the industry group), five-digits (designates the NAICS industry), or six-digits (designates the national industry).

Standard Occupational Classification (SOC) - The 2019 Standard Occupational Classification (SOC) system is a federal statistical standard used by federal agencies to classify workers into occupational categories for the purpose of collecting, calculating, or disseminating data. All workers are classified into one of 867 detailed occupations according to their occupational definition. To facilitate classification, detailed occupations are combined to form 459 broad occupations, 98 minor groups, and 23 major groups.

Occupational illness - Any abnormal condition or disorder, other than one resulting from an occupational injury, caused by exposure to environmental factors associated with employment. It includes acute and chronic illnesses or diseases, which may be caused by inhalation, absorption, ingestion, or direct contact.

Occupational skin diseases or disorders - Examples are: contact dermatitis, eczema or rash caused by primary irritants and sensitizers or poisonous plants; oil acne; chrome ulcers; chemical burns or inflammations; etc.

Dust diseases of the lungs - Examples are: silicosis, asbestosis and other asbestos-related diseases, coal worker's pneumoconiosis, byssinosis, siderosis and other pneumoconiosis.

Respiratory conditions due to toxic agents - Examples are: pneumonitis, pharyngitis, rhinitis or acute congestion due to chemicals, dusts, gases, or fumes, farmer's lung, etc.

Poisoning - Systemic effects of toxic materials. Examples are: poisoning by lead, mercury, cadmium, arsenic or other metals; poisoning by carbon monoxide, hydrogen sulfide or other gases; poisoning by benzol, carbon tetrachloride or other organic solvents; poisoning by insecticide sprays such as

parathion and lead arsenate; poisoning by other chemicals such as formaldehyde, plastics and resins; etc.

Disorders due to physical agents - Other than toxic materials. Examples are: heatstroke, sunstroke, heat exhaustion, and other effects of environmental heat; freezing, frostbite, and effects of exposure to low temperatures; caisson disease; effects of ionizing radiation (isotopes, X-rays, radium); effects of non-ionizing radiation (welding flash, ultraviolet rays, microwaves, sunburn), etc.

Disorders associated with repeated trauma - Examples are: noise-induced hearing loss; synovitis, tenosynovitis, and bursitis; Reynaud's phenomena; and other conditions due to repeated motion, vibration, or pressure.

All other occupational illnesses - Examples are: anthrax, brucellosis, infectious hepatitis, malignant and benign tumors, food poisoning, histoplasmosis, coccidioidomycosis, etc.

Occupational injury - Any injury such as a cut, fracture, sprain, amputation, etc., which results from a work accident or from a single instantaneous exposure in the work environment. Note: Conditions resulting from animal bites, such as insect or snakebites, and from one-time exposure to chemicals are injuries.

Occupational Safety and Health Administration (OSHA) - OSHA is responsible for developing, implementing and enforcing safety and health standards and regulations. OSHA works with employers and employees to foster effective safety and health programs which reduce workplace hazards.

Recordable cases - All work-related deaths and illnesses and those work-related injuries which result in loss of consciousness, restriction of work or motion, transfer to another job, or require medical treatment beyond first aid.

Regularly exempt employers - Employers regularly exempt from OSHA record-keeping include, but are not limited to, employers in retail trade; finance, insurance, and real estate; services industries; and all employers with no more than 10 full or part-time employees at any one time in the previous calendar year. (Note: Some state safety and health laws may require these employers to keep OSHA records.)

Restriction of work or motion - Occurs when the employee, because of the result of a job-related injury or illness, is physically or mentally unable to perform all or any part of his or her normal assignment during all or any part of the workday or shift.

Supplementary Record (OSHA No. 301) - The form (or equivalent) on which additional information is recorded for each injury and illness entered on the log.

Usable units - Those units for which all reported data have been manually and mechanically screened and found acceptable.

Volunteers - Workers who are not considered to be employees under the act when they serve of their own free will without compensation.

Work environment - Consists of the employer's premises and other locations where employees are engaged in work-related activities or are present as a condition of their employment. The work environment includes not only physical locations, but also the equipment or materials used by the employee during his or her work.

Scope

The Survey of Occupational Injuries and Illnesses provides annual estimates of the frequency (incidence rates) and number of occupational injuries and illnesses based on logs kept by private industry employers. These logs reflect the year's injury and illness incidents and the employers understanding of which cases were work related, under current record-keeping guidelines provided by the U.S. Department of Labor. The number of injuries and illnesses reported in any given year may be influenced by changes in the level of economic activity, working conditions and work practices, number of hours worked, and worker experience and training.

The survey includes the following industry sectors: Agriculture, Forestry, Fishing and Hunting, NAICS 11; Mining, NAICS 21; Utilities, NAICS 22; Construction, NAICS 23; Manufacturing, NAICS 31-33; Wholesale Trade, NAICS 42; Retail Trade, NAICS 44-45; Transportation and Warehousing, NAICS 48-49; Information, NAICS 51; Finance and Insurance, NAICS 52; Real Estate and Renting and Leasing, NAICS 53; Professional, Scientific, and Technical Services, NAICS 54; Management of Companies and Enterprises, NAICS 55; Administrative and Support and Waste Management and Remediation Services, NAICS 56; Educational Services, NAICS 61; Health Care and Social Assistance, NAICS 62; Arts, Entertainment, and Recreation, NAICS 71; Accommodations and Food Service, NAICS 72; and Other Services (except Public Administration) NAICS 81, Public Administration NAICS 92. Excluded from the survey are self-employed individuals; farms with fewer than 11 employees; and employers regulated by other federal safety and health laws.

Data conforming to definitions of recordable occupational injuries and illnesses for coal, metal and nonmetal mining, and railroad transportation are provided by the Mine Safety and Health Administration, Department of Labor, and the Federal Railroad Administration, Department of Transportation.

The Occupational Safety and Health Administration is responsible for the collection and compilation of comparable data for federal agencies. State and local government agencies are not surveyed for national estimates. Several states have legislation that enables them to collect data for this sector; Montana is one of these states.

Sample

A two-stage sample selection process generates the survey estimates. The first stage involves selecting establishments. The second stage involves selecting the sample of cases involving days away from work, which is derived from the sample establishments.

Because the survey is a federal-state cooperative program and the data must meet the needs of participating state agencies, an independent sample is selected for each state. The sample is selected to represent all private industries in the state. The sample size for the survey is dependent upon (1) the characteristics for which estimates are needed, (2) the industries for which estimates are desired, (3) the characteristics of the population being sampled, (4) the target reliability of the estimates, and (5) the survey design employed.

For the establishment selection process, the total number of lost workdays is used as the base for the sample design. The sample design is based on lost workday cases because it is considered the most important characteristic of the sample.

The important features of the sample design are the use of stratified random sampling with a Neyman allocation and a ratio estimator. The characteristics used to stratify the establishments are the North American Industry Classification System code and employment. Because these characteristics are highly correlated with an establishment's number and rate of reported injuries and illnesses, stratified sampling provides greater precision and, thus, results in a smaller sample size than simple random sampling.

The Neyman allocation produces the minimum sample size which will provide an estimate with a fixed sampling variance. For the largest employment size classes, the allocation procedure places all the establishments of the frame in the sample; as employment decreases, smaller and smaller proportions of establishments are included in the sample. The certainty strata are usually the size groups with 1,000 employees or more. The precision of the sample is further improved, permitting reduction in sample size by using the ratio estimator, which in turn uses employment data that are correlated with the characteristics that are to be measured.

The sample of cases involving days away from work is derived from the sampled establishments. For each sample unit, an expected number of cases involving days away from work is calculated based on the industry and employment size in which that establishment resides. Respondents that report more than 8 DART cases on their summary will be asked to report case details for a random selection of 8 of those cases. Respondents will be asked to number their DART cases from one through the total number of DART cases. Depending on the data collection method, IDCF or data collectors will provide the 8 random case numbers to the respondent. For example, a respondent with 90 DART cases could be instructed to report details for cases 3, 14, 26, 37, 48, 59, 71, 82. The order of their cases, whether it is by date, name, or in no order at all, does not matter for selection. The case numbers are chosen using a systematic random selection method to avoid selection of similar cases. In Section 3 of IDCF (i.e., Cases with Days Away From Work, Job Transfer, or Restriction), the 8 random case numbers are displayed for entry of case details. Respondents that report 8 or fewer DART cases on their summary will be asked to report details for all DART cases.

Estimating procedures

Sample unit weighting. By means of a weighting procedure, sample units represent all units in their size class for a particular industry. The weight is determined by the inverse of the sampling ratio for the industry employment-size class from which the unit was selected. Because a small proportion of survey forms were not returned, weights of responding employers in a sampling cell are adjusted to account for the nonrespondents. The respondents are then shifted into the estimating cell determined by the employment reported. Data for each unit are multiplied by the appropriate weight and nonresponse adjustment factor. The products are then aggregated to obtain a total for the estimating cell.

Industry Benchmarking. Because the universe file that provides the sample frame is not current to the reference year of the survey, it is necessary to adjust the data to reflect current employment levels. In the survey, all estimates of totals are adjusted by the benchmark factor at the estimating cell level. The benchmarking procedure requires a source of accurate employment data that can be converted into an annual average employment figure for the cell level in which separate estimates are desired. Because industry/employment size data are required for national estimates, benchmark factors are calculated using both industry level employment data and size class level employment data. The benchmark factors are applied to the size class estimates.

Weighting cases involving days away from work. Each case involving days away from work is weighted by the sample unit weight with which it is associated and the industry benchmark factor in which the associated sample unit resides. In addition, each case is weighted to adjust for case subsampling and case nonresponse for those establishments which did not provide information on all cases with days away from work which occurred in their establishment in the survey year.

Federal-state cooperation

To eliminate duplicate reporting by respondents and to ensure maximum comparability of estimates, survey respondents complete one reporting form, which is then used for national and state estimates.

Industrial classification

Reporting units are classified into industries by their principal product or activities in which they are primarily engaged, based on the 2017 revised edition of the North American Industry Classification System (NAICS). The data are tabulated according to this NAICS scheme.

Reliability of estimates

The survey estimates of occupational injuries and illnesses are based on a scientifically selected probability sample, rather than a census of the entire population. These sample-based estimates may differ from the results obtained from a census of the population. The sample used was one of many possible samples, each of which could have produced different estimates. The variation in the sample estimates across all possible samples that could have been drawn is measured by the relative standard error. The relative standard error is used to calculate a “confidence interval” around a sample estimate.

The 95-percent confidence interval is the interval centered at the sample estimate and includes all values within two times the estimate’s standard error. If several different samples were selected to estimate the population value (for example, injury and illness incidence rates), the 95-percent confidence interval would include the true population value approximately 95 percent of the time.

The relative standard errors for the rate of injuries and illnesses are calculated for national estimates only. They are not available at the state level.

Nonsampling error

Although not measured, nonsampling error will always occur when statistics are gathered. The inability to obtain information about all cases in the sample, mistakes in recording or coding the data, and definitional difficulties are general examples of nonsampling error in the survey. The Bureau of Labor Statistics has implemented quality assurance procedures to reduce nonsampling error in the survey, including a rigorous training program for state coders, mechanical edits that identify questionable entries, and a continuing effort to encourage survey participants to respond fully and accurately to all survey elements.

Publication guidelines

The estimating procedure generates occupational injury and illness estimates for many hundreds of NAICS codes. This publication, however, excludes estimates for industry codes if one of the following situations occurred:

- The industry had fewer than six employees or the industry estimates were based on reports from fewer than three companies. In addition, if three or more companies reported data from the industry, one firm could not employ more than 60 percent of the workers.
- Annual average employment for the industry was less than 10,000. However, data for an industry with an annual average employment of less than 10,000 were published if most of the employment was reported in the survey.
- The relative standard error on total lost workday cases for the industry exceeds a specified limit.
- The benchmark factor for the industry was less than 0.90 or greater than 1.49.
- The publication might disclose confidential information.

Data for an unpublished industry are included in the total for the broader industry level of which it is a part. Also, selected items of data are suppressed for publishable industries if the sampling error for the estimate exceeds a specified limit, typically 60 percent at the national level.

For the case characteristics and demographic data, items of data were suppressed at a national level if one of the following situations occurred:

- The number of cases was less than five.
- The number of cases was greater than five and less than or equal to 20 and the sampling error for the estimate was unusually high, typically exceeding 60 percent.
- The number of cases was greater than 20 and the sampling error was unusually high, typically exceeding 40 percent.

For employers, the case rate figures presented in this publication are more meaningful when viewed against their own firm experience. A comparison can be made between a single firm and the industry to which the firm belongs. For example, an employer engaged in the manufacture of metal stampings (NAICS 332116) can see his company compared with other manufacturers in Montana by calculating his total case rate and comparing it to the figures in this document. Similarly, a general contractor of residential construction (NAICS 236115) can relate the company's time loss case experience to other construction firms in Montana. By consulting the BLS website, these employers can compare their experience with more detailed industry data at the national level.

Instructions for Computing Incidence Rates for an Individual Establishment

Incidence rates for an individual establishment or firm may be calculated by using the same formula that is used to calculate industry wide rates from the annual Occupational Injury and Illness Survey. The formula requires: (a) the number of injuries and illnesses; and (b) the total number of actual hours worked by all employees during the reference period. The reference period is usually the calendar year.

The formula for computing the incidence rate is as follows:

$(N/EH) * 200,000$, where

N = number of injuries and or illnesses or lost workdays

EH = total hours worked by all employees during calendar year, and

200,000 = base for 100 full-time equivalent workers working 40 hours per week, 50 weeks per year).

An employer may compute the incidence rate for injuries only, illnesses only, lost work cases and nonfatal cases without lost workdays. Simply replace the number of injuries and illnesses in the numerator with the measure with which the rate is being computed.

Additional questions regarding case rates, their calculation, or use may be answered by contacting the Montana Department of Labor & Industry, Employment Relations Division, Data Management Section, Occupational Safety and Health Statistics Program, at (406) 444-3297.

