

**OCCUPATIONAL
INJURIES AND ILLNESSES
MICHIGAN SURVEY 2018**



**Michigan Department of Labor and Economic Opportunity
Michigan Occupational Safety and Health Administration (MIOSHA)
Management and Technical Services Division
Management Information Systems Section
in Cooperation with the U. S. Department of Labor,
Bureau of Labor Statistics
January 2020**

PREFACE

The Survey of Occupational Injuries and Illnesses is a Federal/State program in which employer's reports are collected annually from industry establishments and processed by State agencies cooperating with the Bureau of Labor Statistics. Summary information on the number of injuries and illnesses is copied by these employers directly from their recordkeeping logs to the survey questionnaire. The questionnaire also asks for the number of employee hours worked (needed in the calculation of incidence rates) as well as its average employment (needed to verify the unit's employment-size class).

Occupational injury and illness data for coal, metal, and nonmetal mining and for railroad activities are provided by the Department of Labor's Mine Safety and Health Administration and the Department of Transportation's Federal Railroad Administration. The survey excludes all work-related fatalities as well as nonfatal work injuries and illnesses to the self-employed; to workers on farms with 10 or fewer employees; and to private household workers. Injuries and illnesses logged by employers conform to definitions and recordkeeping guidelines set by the Occupational Safety and Health Administration, U.S. Department of Labor. Under those guidelines, nonfatal cases are recordable if they are occupational illnesses or if they are occupational injuries which involve:

- (a) Death.
- (b) Days away from work.
- (c) Restricted work or transfer to another job.
- (d) Medical treatment beyond first aid.
- (e) Loss of consciousness.

Occupational injuries, such as sprains, cuts, and fractures, account for the vast majority of all cases that employers log and report to the BLS survey. Occupational illnesses are new cases recognized, diagnosed, and reported during the year. Overwhelmingly, those reported are easier to directly relate to workplace activity (e.g., contact dermatitis or carpal tunnel syndrome) than are long-term latent illnesses, such as cancers. Survey estimates are based on a scientifically selected sample of establishments, some of which represent only themselves but most of which also represent other employers of like industry and workforce size that were not chosen in a given survey year.

For each survey, the sample used is one of many possible samples, each of which could have produced different estimates. The variation in the sample across all possible samples that could have been drawn is measured by the standard error, for which a range is shown in most tabulations requested by survey users. The data also are subject to non-sampling errors which are not measured. They include characteristic data unavailable for some cases, mistakes in recording or coding the data, and definitional difficulties. To minimize non-sampling errors, the Bureau conducts a rigorous training program for survey coders and continues to encourage survey participants to respond fully and accurately to all survey elements.

Data collected or maintained by the Bureau of Labor Statistics under a pledge of confidentiality shall be treated in a manner that will assure that individually identifiable data will be accessible only to authorized persons and will be used only for statistical purposes.

Detailed Michigan estimates of injuries and illnesses are available on the internet at: <http://www.michigan.gov/miosha> and are also included in Appendix C of this report.

TABLE OF CONTENTS

	<u>Page</u>
PREFACE	2
TABLE OF CONTENTS	4
LIST OF TABLES	5
LIST OF CHARTS	5
HIGHLIGHTS	6
INTRODUCTION	7
I. SUMMARY OF SURVEY RESULTS	
A. Incidence Rates of Occupational Injuries and Illnesses	10
B. Number of Occupational Injury and Illness Cases and Cases with Days Away From Work, Job Transfer, or Restriction (DART).	11
II. TOTAL CASE INCIDENCE RATES: MICHIGAN COMPARED WITH THE UNITED STATES, PRIVATE SECTOR 2018	11
III. APPENDICES	
A. Glossary of Terms	23
B. How to Calculate Individual Incidence Rates	25

LIST OF TABLES

	<u>Page</u>
1. Nonfatal Occupational Injuries and Illnesses Incidence Rates By Industry Division, Michigan 2018	12
2. Nonfatal Occupational Injuries and Illnesses Incidence Rates by three-digit North American Industry Classification System (NAICS), Michigan 2018	13
3. Nonfatal Occupational Injury Incidence Rates by Industry Division and Establishment Size, Michigan 2018	17
4. Number of Total Cases of Nonfatal Occupational Injuries and Illnesses by Industry Division, Michigan 2018	18

LIST OF CHARTS

1. Distribution of Total Injury and Illness Cases by Industry Division, Michigan, Private Sector 2018	19
2. Occupational Injury and Illness Incidence Rates, Michigan, Private Sector 2016-2018	20
3. Occupational Injury and Illness Incidence Rates, Michigan and the United States, Private Sector 2016-2018	21

HIGHLIGHTS
OCCUPATIONAL INJURIES AND ILLNESSES
MICHIGAN SURVEY 2018

- * The estimated number of occupational injuries and illnesses in both private and public sectors in Michigan during 2018 was 104,800. The number of injuries was estimated at 99,400 and illnesses at 5,400.

- * The 2018 Michigan annual survey of occupational injuries and illnesses total case incidence rate per 100 full-time workers was 3.1 in 2018. Total case incidence rate for injuries and illnesses in the private sector showed a rate of 3.0 in 2018. The public sector had a rate of 3.9.
 - * Private sector incidence rates for injury and illness cases that resulted in Days Away From Work, job transfer, or restricted (DART) workdays per 100 full-time workers in 2018 reflected a rate of 1.6. The private sector incidence rate for other recordable cases was 1.5 in 2018.

- * The 2018 highest total case incidence rate by major industry division was 7.3 in the public sector Health Care and Social Assistance industry.

*1: Excludes farms with fewer than 11 employees

INTRODUCTION

The Michigan Department of Labor and Economic Opportunity, in conjunction with the U.S. Department of Labor, Bureau of Labor Statistics (BLS), is authorized to implement an ongoing annual occupational safety and health survey program. This report is based on the Michigan Occupational Injury and Illness Survey of 2018. The 2018 survey questionnaire requested information concerning average employment during the calendar year: total employee hours worked, type of business activity, injury and illness cases, days away from work, and job transfer or restriction. Federal grant provisions specify that the respondents complete a single reporting form. The data are then used for developing state and national estimates. This elimination of reporting duplication, in conjunction with the use of identical statistical techniques at the state and national levels, ensures maximum comparability of the estimates.

Data collection was conducted in accordance with provisions of the Michigan Occupational Safety and Health Act (MIOSHA), Public Act 154 of 1974, as amended. The main purpose of the MIOSHA program, which began on January 1, 1975, is to ensure safe and healthful work environments free from recognized hazards to all Michigan employees. In order to realize this objective, MIOSHA requires that employers keep records of work-related fatalities, all occupational illnesses and work-related injuries that result in death, days away from work, restricted work or transfer to another job, medical treatment beyond first aid, loss of consciousness, or diagnosis of a significant injury/illness by a physician or other licensed health care professional.

The sample of Michigan's public and private sector employers was selected by the U.S. Bureau of Labor Statistics to produce estimates of the number of occurrences and incidence rates of occupational injuries and illnesses at specified levels of precision for state and national estimates. The sample was stratified by industry according to the 2007 edition of the North American Industry Classification System. Recipients included a broad sampling of public and private sector establishments with the following exclusions: self-employed individuals, railroads, selected mining industries, and the Federal Government. A glossary of terms is provided in Appendix A.

The occupational injury and illness data reported through the annual survey are based on records that employers maintain per MIOSHA regulations. Data is sampled from the following industries:

- Agriculture, forestry, fishing and hunting
- Mining
- Construction
- Manufacturing
- Wholesale trade
- Retail trade
- Transportation and warehousing
- Utilities
- Information
- Finance and insurance
- Real estate and rental and leasing
- Professional, scientific, and technical services
- Management of companies and enterprises
- Administrative and support and waste management and remediation services
- Educational services
- Health care and social assistance
- Arts, entertainment and recreation
- Accommodation and food services
- Other services, except public administration
- State and Local Government

Self-employed individuals; farmers with fewer than 11 employees; employers regulated by other federal safety and health laws, such as railroads; selected mining industries; and federal government agencies were excluded from the survey.

Data conforming to the definitions of recordable occupational injuries and illnesses for coal, metal and non-metal mining, and railroad transportation are provided by the Mine Safety and Health Administration, U.S. Department of Labor, and the Federal Railroad Administration, U.S. Department of Transportation, respectively. Data for independent contractors who perform services or construction on mining sites are also included.

This annual survey report provides occupational injury and illness data that facilitate yearly comparisons for each industry within the scope of the survey in Michigan. Incidence rates, which represent the number of occupational injuries and/or illnesses or Cases with Days Away From Work (DAFW), job transfer, or restriction per 100 full-time workers, are also obtained from the survey data. The incidence rates are a measure of injuries and illnesses that is comparable over a period of time and are a useful tool with which to monitor occupational injury and illness trends. (See Appendix B and Chart 3)

Incidence rates are a better measure of change than year-to-year comparisons of cases, which may be influenced by growth or decline in industry employment. The results of the survey are used as part of the tools for measuring and evaluating effectiveness of occupational safety and health programs by the administering agencies in both the private and public sectors at the state and national levels. The survey data provide a guide to occupational safety and health occurrences and help education and training consultants determine which industry groups may have the greatest need to improve their safety programs. The U.S. Bureau of Labor Statistics and cooperating agencies, including the National Institute of Occupational Safety and Health (NIOSH), use the survey results as a statistical base for further reports and research activities.

Employers may also use the survey results to assess their own occupational injury and illness experience. Appendix B provides guidelines by which employers may calculate incidence rates for their respective work establishments. The individual in charge of safety and health for a particular work establishment may then review the incidence rate of the industry group to which that particular establishment belongs, as well as the incidence rates for the state as a whole, in order to compare the establishment's experience. Onsite consultation and education and training programs are available to those employers who wish to initiate programs that can help lower their injury and illness incidence rates.

Michigan employers who would like to request education and training services, as well as onsite consultation programs, may contact:

**Michigan Occupational Safety and Health Administration (MIOSHA)
Consultation Education and Training (CET) Division
Michigan Department of Labor and Economic Opportunity
Box 30643, Lansing, Michigan 48909
Telephone (517) 322-1809**

Highlights and details of the survey results are presented in this report. Michigan incidence rates are compared with those of the United States. A glossary of terms and a formula to compute incidence rates are discussed in the appendices of this report. Detailed incidence rate data, which contains tabulations of incidence rates for injuries and illnesses at the two- and in some cases six-digit North American Industry Classification System level, are included in Appendix C of this report and are also available on the internet at:

<http://www.michigan.gov/miosha>

Note: **After accessing this site, click on the following links:**

- **Recordkeeping & Statistics**
- **Occupational Injury & Illness Data**
- **Non-Fatal Occupational Injury & Illness Data**

I. SUMMARY OF SURVEY RESULTS

A. INCIDENCE RATES OF OCCUPATIONAL INJURIES AND ILLNESSES

Occupational injuries and illnesses occurred in 2018 at an estimated rate of 3.0 cases per 100 full-time workers in Michigan's private sector economy as presented in Table 1.

The estimated 2018 total case incidence rate for each of the industry divisions ranged from 0.4 in the Finance and Insurance industry to 4.5 in the Healthcare and Social Assistance industry. The estimated total case incidence rate for the public sector for 2018 was 3.9 cases per 100 full-time employees.

The incidence rate for Cases with DAFW, job transfer, or restriction for every 100 full-time Michigan workers in the private sector was 1.6. The rate for other recordable cases was 1.4, as shown in Table 1 and Chart 2. In the public sector, the incidence rate for Cases with DAFW, job transfer, or restriction was 2.1, and 1.8 for other recordable cases during the same period.

Incidence rates by three-digit North American Industry Classification System (NAICS) are presented in Table 2. In the private sector, Primary Metal Manufacturing (NAICS 331) experienced the largest three-digit total case incidence rate of 6.6. This was followed by Waste Management and Remediation Services (NAICS 562) with a rate of 6.2, Wood Product Manufacturing (NAICS 321) with a rate of 6.2 and Hospitals (NAICS 622) with a rate of 6.0. In the public sector, state government Nursing and Residential Care Facilities (NAICS 623) recorded the highest total case incidence rate of 13.0. This was followed by local government Nursing and Residential Care Facilities (NAICS 623) with a rate of 9.5.

Waste Management and Remediation Services (NAICS 562) experienced the highest private sector cases with DAFW incidence rate at the three-digit North American Industry Classification System level showing 2.9. This was followed by Animal Production and Aquaculture (NAICS 112) with a rate of 2.2. In the public sector, state government Nursing and Residential Care Facilities (NAICS 623) showed the highest case rate with 10.0 followed by state government Hospitals (NAICS 622) with a rate of 2.0.

The private sector other recordable cases incidence rate shows the industry of Hospitals (NAICS 622) with the highest rate of 3.9 followed by Performing Arts, Spectator Sports, and Related Industries (NAICS 711) with the rate of 2.9 and Fabricated Metal Product Manufacturing (NAICS 332) with a rate of 2.7. In the public sector local government Hospitals (NAICS 622) reflected the highest other recordable case incidence rate of 5.6. This was followed by state government Hospitals (NAICS 622) with a rate of 4.0. Details are found in Table 2.

Incidence rates by establishment size are shown in Table 3. Establishments with 50-249 employees experienced the highest nonfatal occupational injury incidence rate in the private sector during 2018, recording 3.6 per 100 full-time employees. Establishments with 250-999 employees experienced the second highest private sector incidence rate with 3.5.

B. NUMBER OF OCCUPATIONAL INJURY AND ILLNESS CASES AND CASES WITH DAYS AWAY FROM WORK, JOB TRANSFER, OR RESTRICTION (DART)

There were approximately 90,900 occupational injuries and illnesses in Michigan's private sector during 2018. 52 percent of these, or 47,400 cases, were serious enough to result in DAFW, job transfer, or restriction beyond the day of occurrence. The number of total cases and cases with DAFW, job transfer, or restriction are broken out by occupational injuries and occupational illnesses by industry division and presented in Table 4. Michigan's public sector experienced approximately 13,900 nonfatal occupational injuries and illnesses during 2018. (See Table 4)

There were approximately 86,300 injury cases in the private sector and 13,100 in the public sector were shown as compared with 4,600 illness cases in the private sector and about 800 in the public sector. However, there is an explanation for the significant difference between the number of injury cases and the number of illness cases. Occupational illnesses include any abnormal condition or disorder other than one resulting from an occupational injury caused by exposure to environmental factors associated with employment. The recording and reporting of illnesses presents some measurement problems because employers/doctors often are unable to recognize some illnesses as work-related. The annual survey includes data mainly on the incidence of visible work-related illnesses of employees. To the extent that chronic and long latent occupational illnesses are unrecognized and therefore unreported, the survey estimates may understate their occurrence.

II. TOTAL CASE INCIDENCE RATES MICHIGAN COMPARED WITH THE UNITED STATES, PRIVATE SECTOR 2018

Michigan occupational injury and illness incidence rates present a statistically calculated picture of the injury and illness experience of industries within the state. However, there are inherent limitations to these rates when attempting to compare the experience of various states or the incidence rates with that of the United States as a whole, due to the variations in employment patterns. Chart 3 displays the total case incidence rates for Michigan and the United States for 2001-2018.

A change in incidence rates is generally not attributable to any single factor. As pointed out by the U.S. Congress, Office of Technology Assessment, trends in injury and illness rates over the last two decades have not been constant from year to year and measures of different types of injuries sometimes go in different directions. According to the report "Preventing Illness and Injury in the Workplace" prepared by the Office of Technology Assessment, "Injury and fatality rates are affected by a number of factors. These include the effects of the business cycle, various changes in the administration of the workers' compensation, the practice of occupational medicine, and other socio-economic factors."

It is hoped that through the joint contributions of Michigan employers, employees and the MIOSHA programs, a favorable downward trend in Michigan's incidence rates will continue. Unique features of the MIOSHA program, such as its comprehensive strategic planning process and its attention to construction safety problems, have helped to develop a state-specific program that is making a positive impact in Michigan workplaces.

TABLE 1
Nonfatal Occupational Injuries and Illnesses Incidence Rates by Industry Division
Michigan 2018
Incidence Rates per 100 Full-time Workers

<u>Industry Division</u>	<u>Total Recordable Cases</u>	<u>Cases with DAFW, Job Transfer or Restriction</u>	<u>Other Recordable Cases</u>
ALL INDUSTRY TOTAL	3.1	1.6	1.5
PRIVATE SECTOR TOTAL	3.0	1.6	1.4
Agriculture, forestry, fishing and hunting	4.0	2.6	1.4
Mining	3.2	0.9	---
Construction	2.6	1.5	1.1
Manufacturing	4.1	2.3	1.8
Wholesale trade	2.6	1.9	0.7
Retail trade	3.1	1.6	1.4
Transportation and warehousing	4.4	3.2	1.2
Utilities	1.2	0.7	0.6
Information	0.9	0.5	0.4
Finance and insurance	0.4	0.1	0.3
Real estate and rental and leasing	3.8	1.6	---
Professional, scientific and technical services	0.6	0.3	0.3
Management of companies and enterprises	0.4	0.3	0.2
Administrative and support and waste management and remediation services	2.4	1.5	1.0
Educational services	1.4	0.5	0.9
Health care and social assistance	4.5	2.0	2.5
Arts, entertainment, and recreation	3.5	1.3	2.2
Accommodation and food services	3.1	1.0	2.1
Other services, except public administration	1.9	0.9	1.1
PUBLIC SECTOR TOTAL	3.9	2.1	1.8
STATE GOVERNMENT	2.8	1.5	1.3
LOCAL GOVERNMENT	4.4	2.4	2.0

Source: 2018 BLS Table 6, Michigan Annual Survey of Occupational Injuries and Illnesses.
MIOSHA Management Information Systems Section, MTSD, Michigan Department of Labor and Economic Opportunity

TABLE 2
 Nonfatal Occupational Injuries and Illnesses
 Incidence Rates by three-digit North American Industry Classification System
 Michigan 2018

<u>NAICS</u>	<u>Industry Division</u>	<u>Total Recordable Cases</u>	<u>Cases with DAFW, Job Transfer or Restriction</u>	<u>Other Recordable Cases</u>
	PRIVATE SECTOR	3.0	1.6	1.4
111	Crop production*	4.6	2.7	1.9
112	Animal production*	5.1	3.4	1.7
221	Utilities	1.2	0.7	0.6
236	Construction of buildings	1.6	1.1	0.5
237	Heavy and civil engineering construction	1.9	0.8	1.1
238	Specialty trade contractors	3.0	1.7	1.3
311	Food manufacturing	4.4	3.0	1.5
312	Beverage and tobacco product manufacturing	3.2	2.2	1.0
321	Wood product manufacturing	6.2	4.1	2.0
322	Paper manufacturing	3.9	2.6	1.3
323	Printing and related support activities	2.5	1.6	0.9
325	Chemical manufacturing	1.6	1.0	0.6
326	Plastics and rubber products manufacturing	4.0	2.7	1.4
327	Nonmetallic mineral product manufacturing	5.6	3.4	2.2
331	Primary metal manufacturing	6.6	3.9	2.7
332	Fabricated metal product manufacturing	4.9	2.2	2.7
333	Machinery manufacturing	4.3	2.1	2.2
334	Computer and electronic product manufacturing	1.8	1.4	0.4
335	Electrical equipment, appliance, and component manufacturing	2.2	1.5	0.7
336	Transportation equipment manufacturing	4.4	2.4	2.0
337	Furniture and related product manufacturing	4.3	2.3	2.0
339	Miscellaneous manufacturing	2.9	1.8	1.1
423	Merchant wholesalers, durable goods	2.5	1.8	0.7

TABLE 2 (Continued)
 Nonfatal Occupational Injuries and Illnesses
 Incidence Rates by three-digit North American Industry Classification
 Michigan 2018

<u>NAICS</u>	<u>Industry Division</u>	<u>Total Recordable Cases</u>	<u>Cases with DAFW, Job Transfer or Restriction</u>	<u>Other Recordable Cases</u>
441	Motor vehicle and parts dealers	3.5	1.4	2.1
442	Furniture and home furnishings stores	3.4	1.7	1.7
443	Electronics and appliance stores	0.8	---	0.7
444	Building material and garden equipment and supplies dealers	4.9	3.2	1.8
445	Food and beverage stores	3.3	2.0	1.3
447	Gasoline stations	1.9	1.1	0.7
451	Sporting goods, hobby, book, and music stores	1.6	0.5	1.1
452	General merchandise stores	3.6	2.1	1.5
453	Miscellaneous store retailers	1.9	0.9	1.0
454	Nonstore retailers	2.2	1.7	0.5
481	Air transportation	3.0	1.8	1.2
484	Truck transportation	5.7	4.3	1.4
485	Transit and ground passenger transportation	4.2	2.9	1.4
488	Support activities for transportation	2.3	1.0	1.3
492	Couriers and messengers	5.5	4.6	0.9
493	Warehousing and storage	4.3	3.3	0.9
512	Motion picture and sound recording industries	1.8	---	1.7
517	Telecommunications	1.6	1.3	0.3
524	Insurance carriers and related activities	0.3	0.1	0.2
531	Real estate	4.0	1.2	---
561	Administrative and support services	2.0	1.2	0.9
562	Waste management and remediation services	6.2	4.0	2.2
611	Educational services	1.4	0.5	0.9
621	Ambulatory health care services	2.6	1.3	1.4
622	Hospitals	6.0	2.1	3.9
623	Nursing and residential care facilities	5.6	3.3	2.4
624	Social assistance	3.8	2.2	1.6
711	Performing arts, spectator sports, and related industries	4.8	1.9	2.9
713	Amusement, gambling, and recreation industries	3.4	1.0	2.3

TABLE 2 (Continued)
 Nonfatal Occupational Injuries and Illnesses
 Incidence Rates by three-digit North American Industry Classification
 Michigan 2018

<u>NAICS</u>	<u>Industry Division</u>	<u>Total Recordable Cases</u>	<u>Cases with DAFW, Job Transfer or Restriction</u>	<u>Other Recordable Cases</u>
721	Accommodation	3.3	1.6	1.7
722	Food services and drinking places	3.1	0.9	2.1
811	Repair and maintenance	1.7	0.4	---
812	Personal and laundry services	2.6	1.7	0.8
813	Religious, grantmaking, civic, professional, and similar organizations	1.5	0.4	1.1

TABLE 2 (Continued)
 Nonfatal Occupational Injuries and Illnesses
 Incidence Rates by three-digit North American Industry Classification
 Michigan 2018

<u>NAICS</u>	<u>Recordable Industry Division</u>	<u>Total Recordable Cases</u>	<u>Cases with DAFW, Job Transfer or Restriction</u>	<u>Other Cases</u>
STATE AND LOCAL GOVERNMENT		3.9	2.1	1.8
STATE GOVERNMENT		2.8	1.5	1.3
611	Educational services	2.0	1.0	1.0
622	Hospitals	7.0	3.0	4.0
623	Nursing and residential care facilities	---	10.4	2.5
922	Justice, public order, and safety activities	4.2	2.4	1.8
LOCAL GOVERNMENT		4.4	2.4	2.0
611	Educational services	2.5	1.2	1.3
622	Hospitals	7.6	1.9	5.6
623	Nursing and residential care facilities	9.5	7.7	1.9
923	Administration of human resource programs	3.6	1.9	---
924	Administration of environmental quality programs	3.8	2.2	1.6
925	"Administration of housing programs, urban planning, and community development"	---	---	---
926	Administration of economic programs	2.9	2.0	1.0
ALL INDUSTRIES		3.1	1.6	1.5

*Scope changed in 2009

Source: 2018 BLS Table 6, Michigan Annual Survey of Occupational Injuries and Illnesses

MIOSHA Management Information Systems Section, MTSD, Michigan Department of Labor and Economic Opportunity

TABLE 3
 Nonfatal Occupational Injury Incidence Rates
 by Industry Division and Establishment Size
 Michigan 2018

<u>Industry Division</u>	<u>Establishment Size</u> (Employees)				1000 or more
	<u>1-10</u>	<u>11-49</u>	<u>50-249</u>	<u>250-999</u>	
ALL INDUSTRIES	1.0	2.7	3.6	3.5	3.4
PRIVATE SECTOR	1.0	2.6	3.6	3.3	3.2
Agriculture, forestry, fishing and Hunting	---	4.2	3.9	---	---
Mining, quarrying, and oil and gas extraction	---	---	1.5	2.3	---
Construction	---	3.6	2.6	1.2	1.5
Manufacturing	0.8	4.9	5.1	4.0	3.2
Wholesale trade	---	1.7	3.2	3.4	---
Retail trade	---	2.5	3.8	3.9	3.7
Transportation and warehousing	---	5.0	5.2	4.7	3.2
Utilities	---	---	2.9	0.6	1.0
Information	---	1.2	0.6	0.7	2.6
Finance and insurance	---	---	1.1	0.6	0.6
Real estate and rental and leasing	---	2.4	2.3	4.5	---
Professional, scientific, and technical services	---	1.1	0.6	0.6	0.5
Management of companies and enterprises	---	---	---	0.6	0.2
Administrative and support and waste management and remediation services	---	2.4	4.0	2.3	1.5
Educational services	---	---	1.0	2.6	1.8
Health care and social assistance	---	2.4	5.2	4.8	5.7
Arts, entertainment, and recreation	---	2.1	5.0	7.0	3.2
Accommodation and food services	---	2.6	3.9	4.7	3.3
Other services (except public administration)	---	---	3.0	4.6	---
STATE AND LOCAL GOVT	0.8	3.4	3.0	4.6	4.3

Source: 2018 BLS Table 3, Michigan Annual Survey of Occupational Injuries and Illnesses
 MIOSHA Management Information Systems Section, MTSD, Michigan Department of Labor and
 Economic Opportunity

TABLE 4
 Number of Total Cases of Nonfatal Occupational Injuries and Illnesses
 by Industry Division, Michigan 2018

<u>Industry Division</u>	Total Cases	
	<u>Injuries</u>	<u>Illnesses</u>
TOTAL FOR ALL SECTORS	99,400	5,400
PRIVATE SECTOR	86,300	4,600
Agriculture, forestry, fishing and hunting	1.0	0.1
Mining, quarrying, and oil and gas extraction	0.2	--
Construction	4.0	--
Manufacturing	23.4	2.5
Wholesale trade	4.1	0.1
Retail trade	10.1	0.2
Transportation and warehousing	5.1	0.1
Utilities	0.2	--
Information	0.4	0.1
Finance and insurance	0.6	--
Real estate and rental and leasing	1.8	--
Professional, scientific, and technical services	1.6	0.1
Management of companies and enterprises	0.3	--
Administrative and support and waste management and remediation services	3.2	0.2
Educational services	0.6	0.1
Health care and social assistance	19.6	0.7
Arts, entertainment, and recreation	1.0	--
Accommodation and food services	7.5	0.1
Other services (except public administration)	1.8	--
STATE AND LOCAL GOVERNMENT	13.1	0.8
State Government	3.2	0.2
Local Government	9.9	0.7

*NOTE: Because of rounding the components may not add to the totals.
 Source: 2018 BLS Tables 9 and 10, Michigan Annual Survey of Occupational Injuries and Illnesses
 MIOSHA Management Information Systems Section, Michigan Department of Labor and Economic Opportunity

Chart 1
Distribution of Total Injury and Illness Cases by Industry Division
Michigan, Private Sector 2018

Total Cases (90,900)

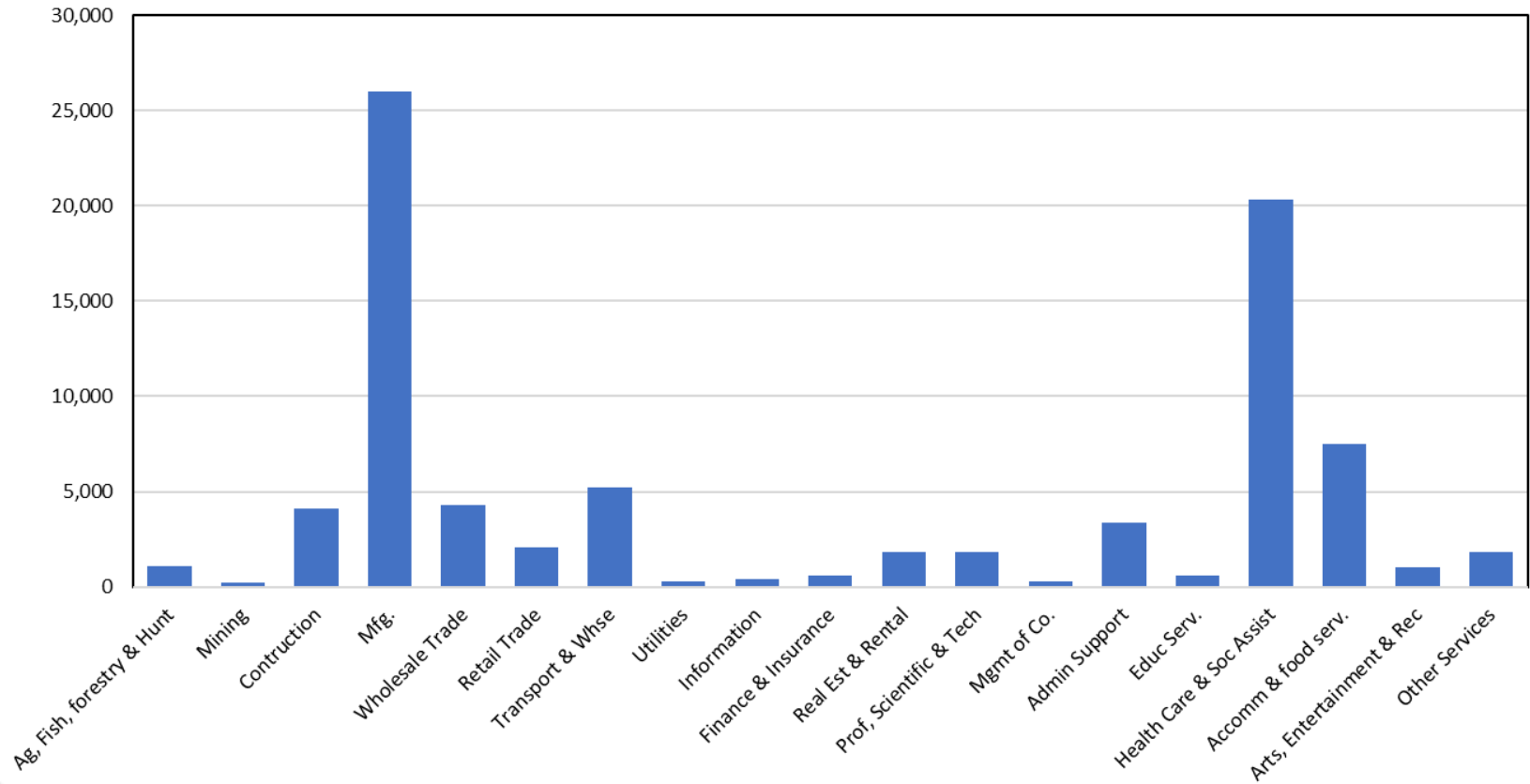


Chart 2
Occupational Injury and Illness Incidence Rates
Michigan, Private Sector 2017 and 2018

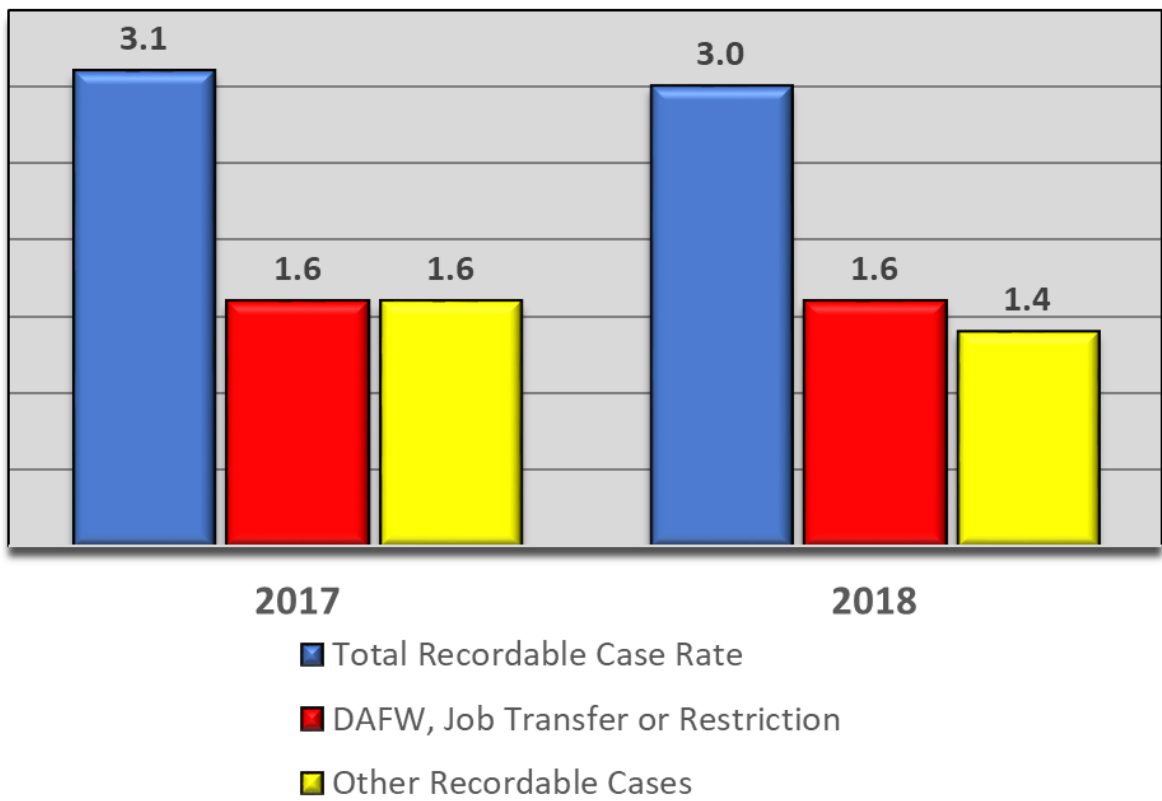
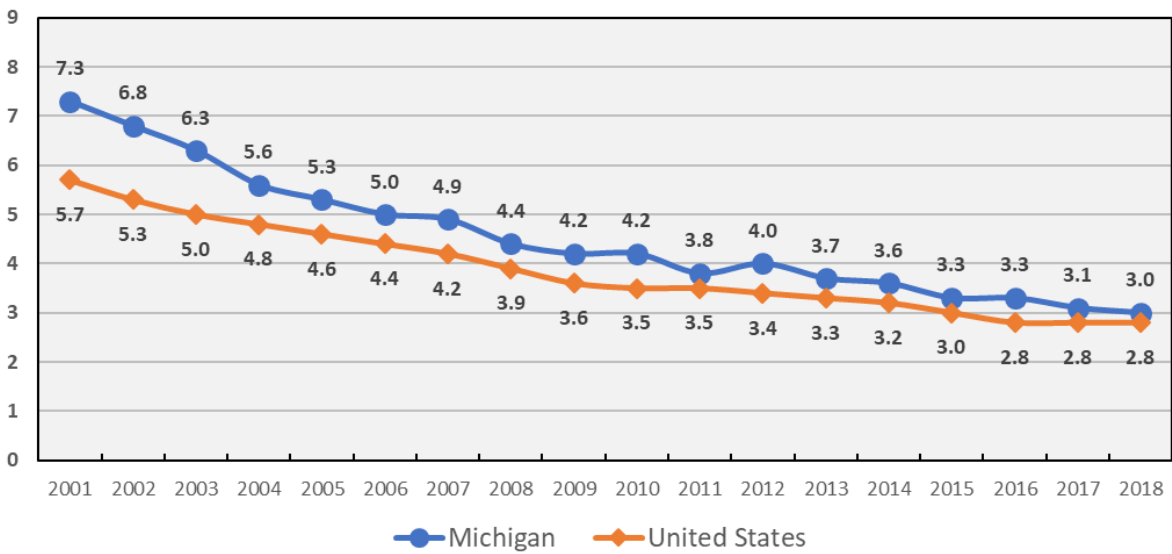


Chart 3
Occupational Injury and Illness Incidence Rates
Michigan and the United States
Private Sector 2001 - 2018



Source: Michigan data - BLS Table Incidence rates of nonfatal occupational injuries and illnesses by industry and case type
National data - <http://www.bls.gov/iif/oshsum.htm>

APPENDICES

APPENDIX A GLOSSARY OF TERMS

Establishment: A single physical location where a business is conducted or where services or industrial operations are performed. Example: a factory, mill, store, hotel, restaurant, movie theater, farm, ranch, bank, sales office, warehouse or central administrative office.

Where distinctly separate activities are performed at a single physical location (such as contract construction activities operated from the same physical location as a lumberyard), each activity shall be treated as a separate establishment.

First Aid:

- Using a nonprescription medication at nonprescription strength.
- Administering tetanus immunizations.
- Cleaning, flushing, or soaking wounds on the surface of the skin.
- Using wound coverings such as bandages, Band-aids, gauze pads, or the like; or using butterfly bandages or Steri-strips.
- Using hot or cold therapy.
- Using any nonrigid means of support, such as elastic bandages, wraps, nonrigid back belts, or the like.
- Using temporary immobilization devices while transporting an accident victim, such as splints, slings, neck collars, backboards, and the like.
- Drilling of a fingernail or toenail to relieve pressure, or draining fluid from a blister.
- Using eye patches.
- Removing foreign bodies from the eye using only irrigation or a cotton swab.
- Removing splinters or foreign material from areas other than the eye by irrigation, tweezers, cotton swabs, or other simple means.
- Using finger guards.
- Using massages.
- Drinking fluids for relief of heat stress.

Hours Worked: Total hours worked by all employees. Includes all time on duty, but excludes vacation, holiday, sick leave and all other non-work time even though paid.

Incidence Rate: The number of occupational injuries and/or illnesses, or days away from work (DAFW), job transfer, or restriction, experienced by 100 full-time workers.

Medical Treatment: Includes treatment (other than first aid) administered by a physician or other licensed healthcare professional. Medical treatment does not include first aid treatment even though provided by a physician or registered professional.

North American Industry Classification System (NAICS): An industry classification system developed by the Office of Management and Budget that groups establishments into industries based on the activities in which they are primarily engaged. Establishments may be classified in 2-digit to 6-digit classifications, according to the degree of information available.

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

Occupational Injury: Any injury, such as a cut, fracture, sprain, amputation, etc., that results from a work accident or from exposure involving a single incident in the work environment.

Program-Related Fatality: A fatality is recorded as program-related if it appears to be related to one or more of the following conditions:

1. The incident was found to have resulted from violations of MIOSHA safety and health standards or the general duty clause.
2. The incident was considered to be the result of a failure to follow a good safety and health practice that would be the subject of a safety and health recommendation.
3. The information describing the incident is insufficient to make a clear distinction between a "program-related" and "non-program-related" incident, but the type and nature of the injury indicates that there is a high probability that the injury was the result of a failure to adhere to one or more MIOSHA standards, the general duty clause, or good safety and health practice.

Recordable Occupational Injuries and Illnesses: Any occupational injuries or illnesses that result in any of the following:

- (1) **Death.**
- (2) **Days Away From Work.**
- (3) **Restricted work or transfer to another job.**
- (4) **Medical treatment beyond first aid.**
- (5) **Loss of consciousness.**

APPENDIX B

HOW TO CALCULATE INDIVIDUAL INCIDENCE RATES

To calculate the "Incidence Rate" for your own company, and to compare your company's rate for several consecutive years, follow the steps below:

Incidence rate is 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).

The Incidence Rate represents the rate of injuries and illnesses per 100 full-time employees which your firm experiences during that calendar year. Even if the total number of hours worked by your employees varied from year to year, the Incidence Rate will allow you to compare data from different years.