



Massachusetts Survey of **Occupational Injuries & Illnesses Report**

2017

Compiled by:
Executive Office of Labor and Workforce Development
Department of Labor Standards,
Occupational Safety and Health Statistics Program
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Total number of recordable incidents and incidence rates:

In 2017, there were approximately 73,300 work-related injuries and illnesses across the private and public sector workforce. This resulted in a total recordable-incidence rate of 2.7 cases per 100 full-time employees (FTEs).

Private-sector workforce

Of the total recordable cases (TRC), 65,100 nonfatal work-related injuries and illnesses were reported within the Massachusetts' private-sector workforce. This TRC translates into an incidence rate of 2.7 cases per 100 equivalent FTEs. In the private sector, there were 30,700 cases with days away from work (DAFW), 6,000 cases that resulted in days with job transfer or restrictions (DJTR), and 28,400 other recordable cases (ORCs).

Public-sector workforce

Employees working for the State accounted for 3,700 total recordable injuries and illnesses in 2017. In 2016 there were 4,500 total recordable cases. The corresponding TRC incidence rate was 4.0 incidents per 100 FTEs.

Over-the-year changes:

Although most of the data remained relatively unchanged from the 2016 results, there were some statistically-significant¹ changes that should be highlighted:

Statistically-significant changes in the total recordable incidence rates:

- The days with job transfer or restriction (DJTR) incidence rate decreased for the entire private-sector workforce, from 0.3 to 0.2 incidents per 100 FTEs.
- The DJTR rate also decreased for the goods-producing sector, from 0.4 to 0.3 incidents per 100 FTEs.
- There were decreases in the days away and/or restriction or transfer (DART) rate for the following sectors and subsectors: manufacturing (and the utilities subsector), and the arts, entertainment, and recreation subsector.
- The following sectors and subsectors had an increase in the DJTR incidence rate: professional and business services (and the administrative and support and waste and remediation services subsector), and transportation and warehousing.

Statistically-significant changes in the total number of injuries and illnesses:

- The number of DART cases in the State government sector decreased from 2016 to 2017. There were an estimated 2,300 DART cases in 2016 compared to 1,600 in 2017.
- The natural resources and mining sector saw a decrease in the total number of DART cases in 2017, this was also true for the agriculture, forestry, fishing, and hunting subsector.
- The Manufacturing sector had a decrease in the number of DJTR cases, from 1,300 in 2016 to 900 in 2017.
- The transportation and warehousing subsector had an increase in DJTR cases from 400 cases in 2016 to 700 in 2017.
- Other subsectors that had statistically-significant decreases in their total number of DART, DJTR, or ORC (other recordable cases) cases were as follows: utilities (DART), real estate and rental leasing (ORC), and management of companies and enterprises (DART).



¹ Statistical significance was measured using a traditional statistical significance test at the 95% confidence interval.

Chart I shows the total number of nonfatal injuries and illnesses from 2006-2017 for employees working in the private sector of Massachusetts. The data shows a downward trend over time in the total number of nonfatal injuries and illnesses.

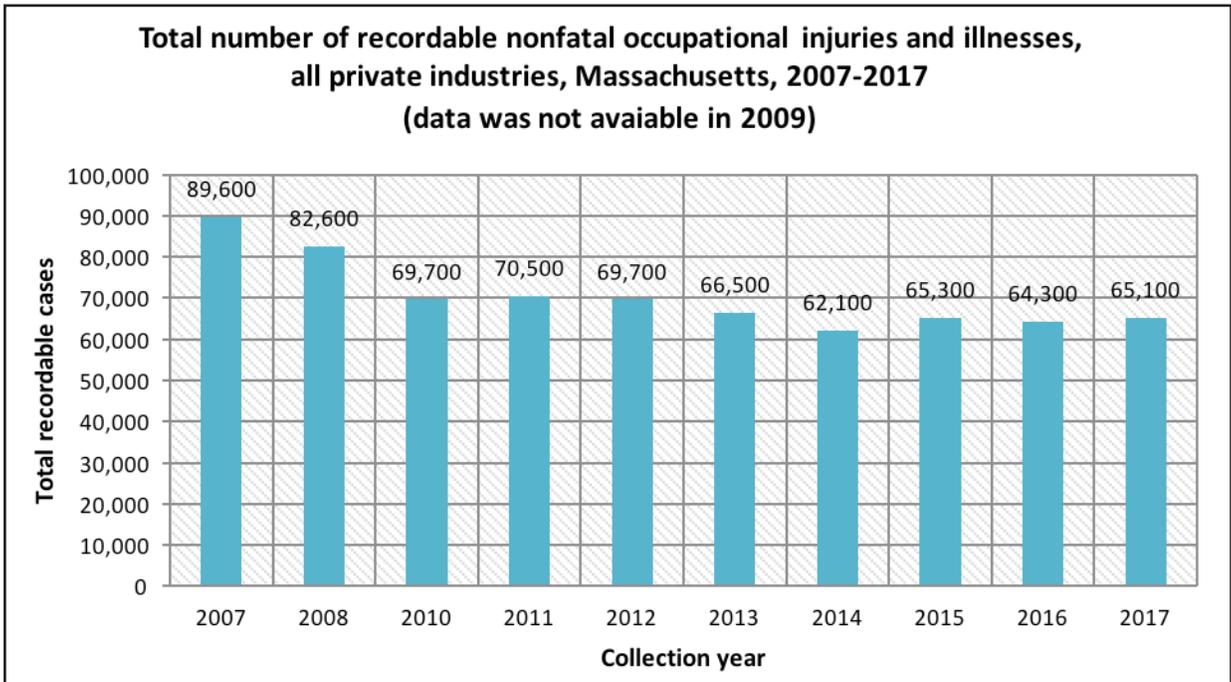


Chart II compares the Incidence rates between the U.S. and Massachusetts private-sector workforce from 2011 to 2017.

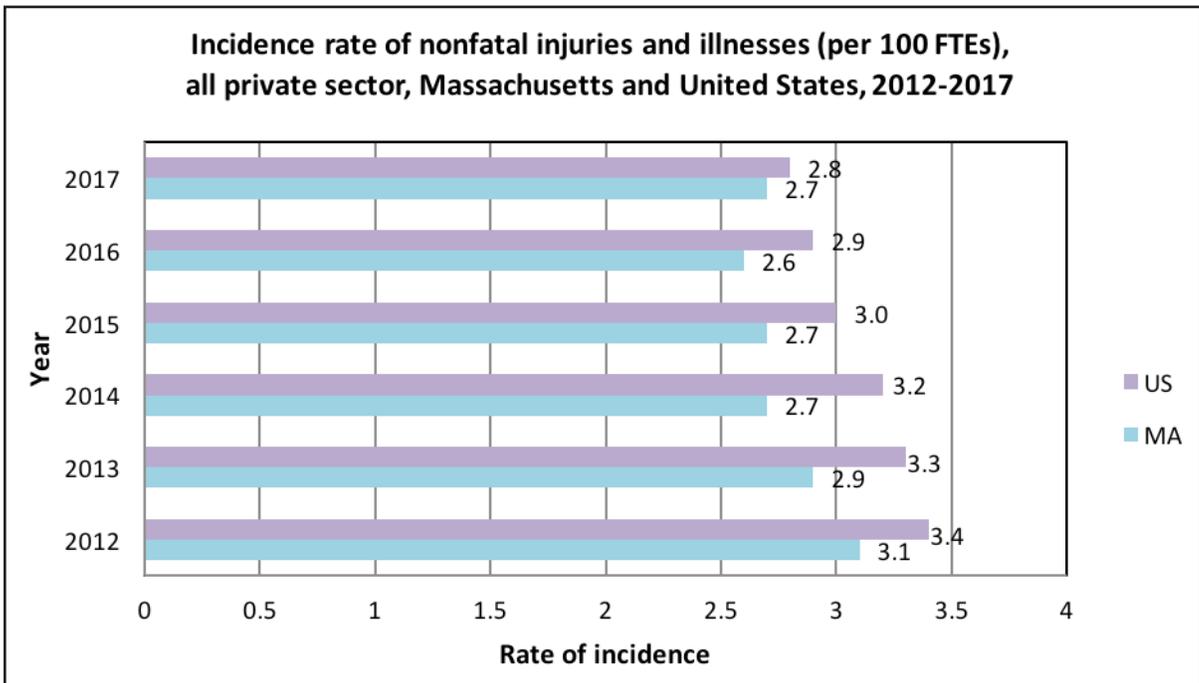


Chart III shows a comparison of the total number of injury-only to illness-only cases in the Massachusetts private sector over a five-year period.

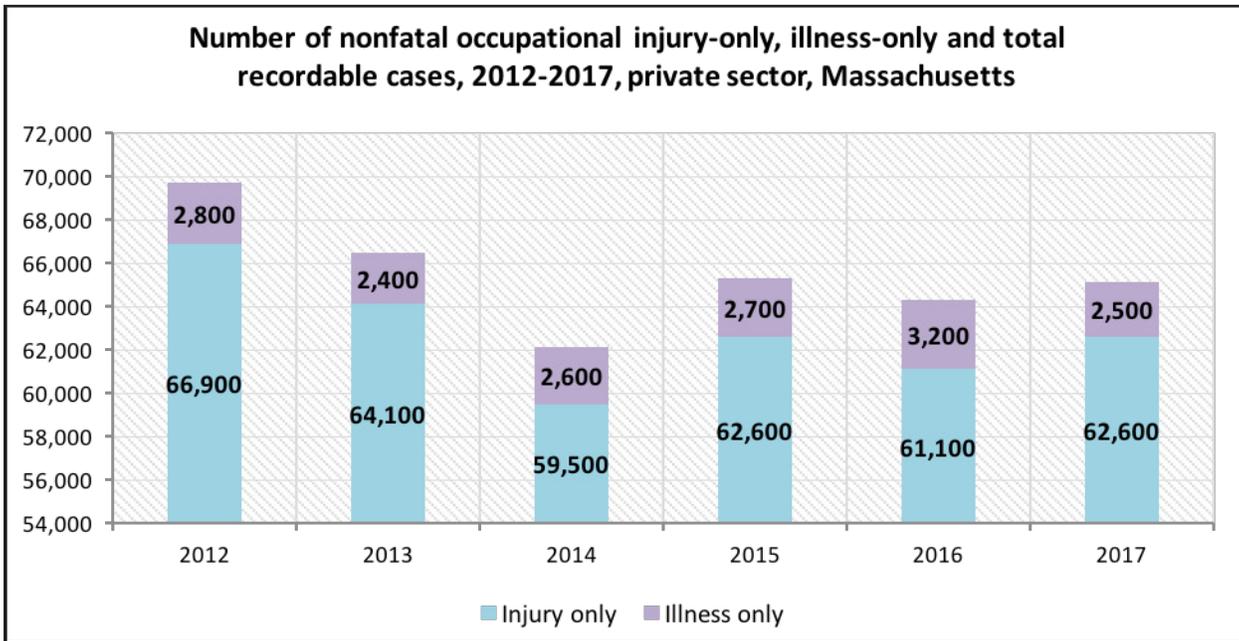


Chart IV displays the TRC numbers of both Injuries and Illnesses within the private sector in Massachusetts.

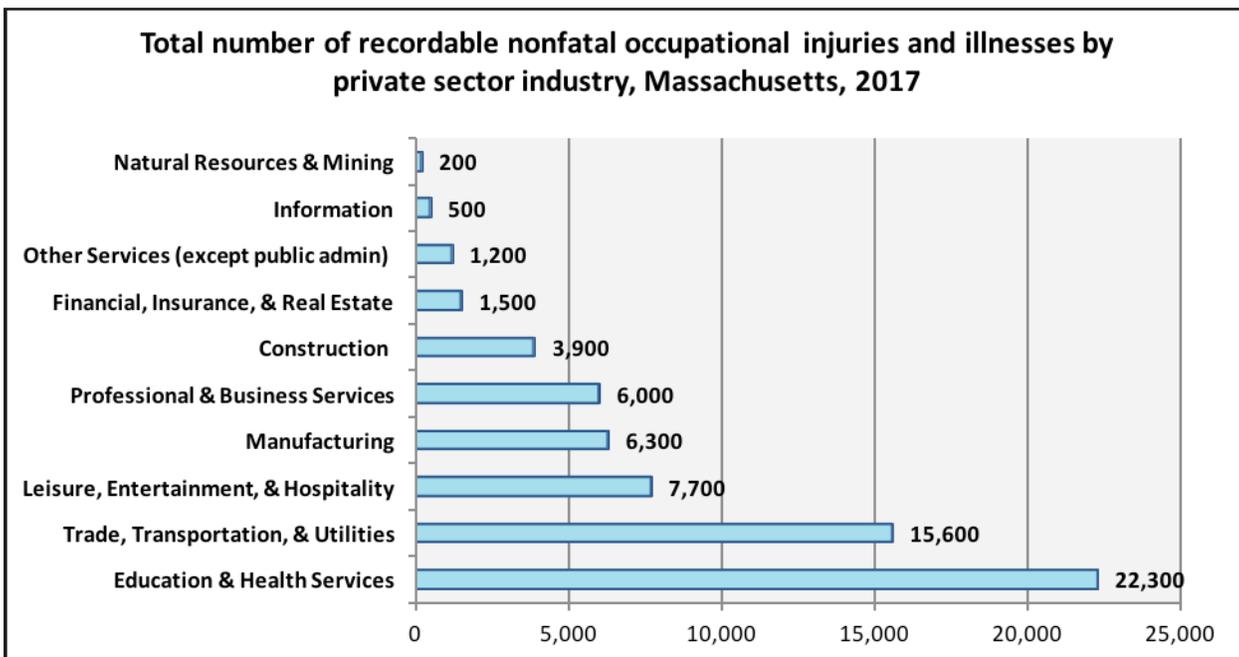


Table 1 below illustrates the total number of recordable occupational illnesses within the private sector, and their respective incidence rates based on the type of illness sustained. There were a total of 2,500 illness-only cases in 2017, which translates to an illness-only incidence rate of 10.3 incidents per 10,000 FTEs. The breakdown of illness type by category is the following: skin diseases or disorders, respiratory conditions, poisonings, hearing loss, and all other illnesses:

Table 1. Incidence rate and number of illness-only cases, private sector, 2017, Massachusetts		
Type of illness	Incidence rate (per 10,000 FTE)	Number of illnesses
All other illnesses	6.1	1,500
Skin diseases or disorders	1.5	400
Hearing loss	1.5	400
Respiratory conditions	1.1	300

*data was unpublishable

Table 2 below compares the 2017 TRC incidence rates by major industry sector between Massachusetts and the United States.

Table 2. Incidence rate of nonfatal occupational injuries and illnesses per 100 FTEs, by major industry sector and state government, Massachusetts and United States, 2017		
Industry	Massachusetts	United States
All private industry	2.7	2.8
Goods-producing sector	2.7	3.4
Natural resources and mining	2.9	3.6
Construction	2.8	3.1
Manufacturing	2.7	3.5
Service-providing sector	2.7	2.7
Trade, transportation, and utilities	3.5	3.4
Information	0.6	1.3
Finance, insurance, and real estate	0.7	1.0
Professional and business services	1.2	1.3
Educational and health services	4.2	3.8
Leisure, entertainment, and hospitality	3.6	3.4
Other services (except public administration)	1.6	2.1
State government	4.0	3.6

Injury and illness case types

Work-related injuries and illnesses are recorded as three individual case types by employers:

1. **Cases with days away from work:** commonly identified in this report as **DAFW**.
2. **Cases with job transfer or restricted duty:** commonly identified as **DJTR**.
3. **Other recordable cases:** commonly identified as **ORC**.

In order for a case to be considered recordable by an employer, there are two criteria about the incident that have to be met. First, the injury or illness has to be determined to be work-related or caused by the work environment. Second, the incident needs to involve loss of consciousness, require days away from work, job transfer or restricted duty, medical treatment beyond first aid (i.e. stitches, prescribed medication from a doctor, surgery, etc.), involve a significant work-related injury or illness diagnosed by a physical or licensed healthcare professional or meet other recordkeeping criteria as specified under the Occupational Safety and Health Administration’s regulation 29 CFR 1904. If both of these criteria are met, the incident is recordable.

DAFW cases are considered the most serious type of case due to the fact that the employee was not healthy enough to attend work (usually recommended by a medical professional) due to the severity of their injury or illness. DJTR cases are deemed as such when a work-related injury or illness prohibits an employee from performing one or more of the main functions of that employee’s job duties. Cases that require more than first aid treatment or meet other recordkeeping criteria, but where there is no lost work time or job transfer or restriction are considered ORCs.

In 2017, there were a total of 36,700 cases with DAFW and/or DJTR (also known as DART cases) within the private-industry sector, there were an additional 1,600 State government sector DART cases. Of the 36,700 DART cases, 30,700 were DAFW cases and 6,000 were DJTR cases. There were also 28,400 ORCs that were classified as neither DAFW nor DJTR cases, but were recordable under OSHA recordkeeping requirements.

Table 3 below provides the breakdown of the DAFW cases, DJTR cases and ORCS by major industry sector and the state government in 2017. The total count for DART cases can be calculated by adding the cases with DAFW and DJTR.

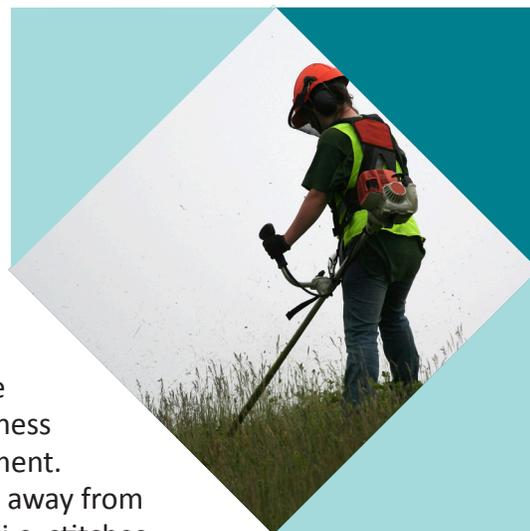


Table 3: Total number of cases by major private industry and case type, private sector and state government, Massachusetts, 2017

Industry	DAFW cases	DJTR cases	Other recordable cases
Education and health services	9,800	2,000	10,500
Trade, transportation, and utilities	8,100	2,000	5,500
Leisure, entertainment, and hospitality	2,700	300	4,700
Professional and business services	3,400	300	2,300
Manufacturing	2,600	900	2,800
Construction	2,200	300	1,400
State government	1,500	100	2,100
Finance, insurance, and real estate	900	*	600
Other services	500	*	500
Information	200	*	200
Natural resources and mining	100	*	100

*indicates data was unpublshable

Incidence rates

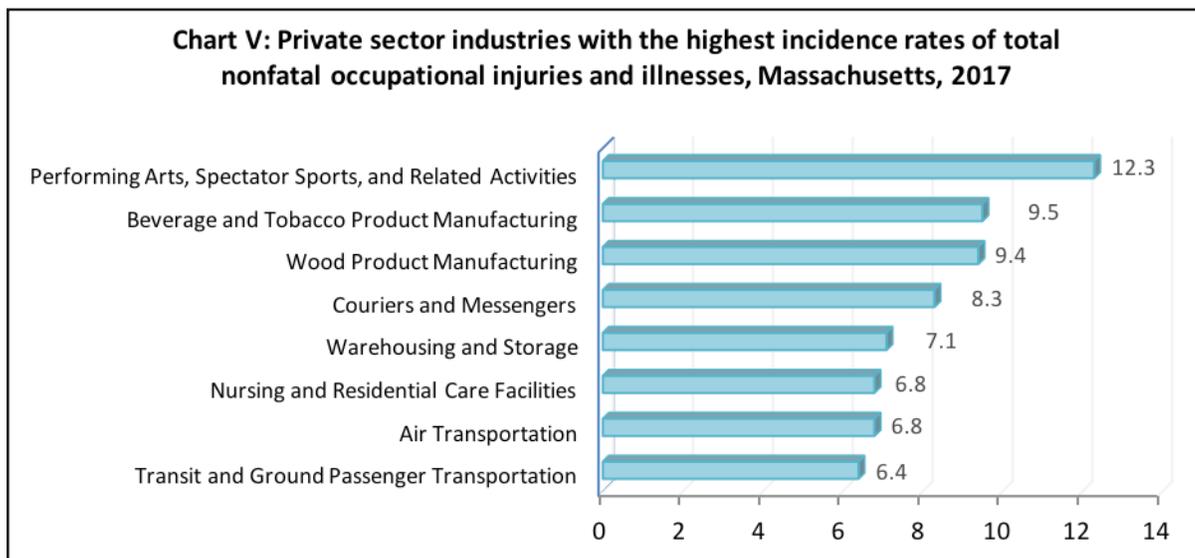
Table 4 below shows the breakdown of incidence rates for the ORC, DAFW, DJTR, DART, and TRC by each industry including the State government.

Table 4. Total recordable incidence rate per 100 FTEs, by major industry and case type, private sector and state government, Massachusetts, 2017					
Industry	ORC rate	DAFW rate	DJTR rate	DART rate (DAFW+DJTR)	TRC rate (ORC+DART)
State government	2.3	1.6	0.1	1.7	4.0
Education and health services	2.0	1.8	0.4	2.2	4.2
Natural resources and mining	0.8	2.0	*	2.1	2.9
Trade, transportation, and utilities	1.2	1.8	0.4	2.3	3.5
Leisure, entertainment, and hospitality	2.2	1.3	0.1	1.4	3.6
Construction	1.0	1.6	0.2	1.9	2.8
Manufacturing	1.2	1.1	0.4	1.5	2.7
Other services	0.6	0.7	*	1.0	1.6
Finance, insurance, and real estate	0.3	0.4	*	0.5	0.7
Professional and business services	0.5	0.7	0.1	0.7	1.2
Information	0.2	0.3	*	0.3	0.6

*Data was unpublshable

**Note: Because of rounding, components may not add to totals.

Chart V shows selected industries with the highest TRC incidence rates in Massachusetts.



Case and demographic findings

The following section details the cases in which the injured or ill employee endured at least one full lost workday due to their incident. In 2017, there were an estimated total of 34,100 cases with days away from work in the entire Massachusetts workforce. This is approximately 46.5% of the 73,300 total nonfatal occupational injury and illness cases that were reported. Some basic information is asked about the employee, such as job title, age, or date of birth, date of hire, or length of service, race, or ethnic background, work shift start time, and time of injury or illness. It is with this data that we compile and publish specific demographic information about the characteristics of the employee. In addition to demographic information, specific case information that describes the nature, event, source, secondary source (if applicable), and part of body affected, is also collected.

Gender: Of the 34,100 total cases with days away from work occurring in the Massachusetts workforce, 17,350 cases or approximately 50.9% involved a male employee. 13,300 or 39% involved a female worker. The Massachusetts private-sector workforce accounted for 30,740 DAFW cases, or 90.1% of the total. There was no data reported for the State and local government sector. However, the State alone had 1,500 DAFW cases.

Table 5 below shows the distribution of occupational injuries and illnesses by gender in selected major occupational fields in 2017.

Table 5. Number of injuries and illnesses by major occupation and gender, private industry, Massachusetts, 2017		
Category	Men	Women
Management, business, and financial	330	830
Computer, engineering, and science	120	60
Education, legal, community service, arts, and media	350	1,120
Healthcare practitioners and technical	630	2,430
Service	3,260	5,540
Sales and related	470	690
Office and administration support	1,320	930
Farming, fishing, and forestry	60	70
Construction and extraction	2,420	50
Installation, maintenance, and repair	2,020	70
Production	1,740	460
Transportation and material moving	4,620	1,060

Age: Workers in the 45 to 54 age group accounted for 7,160 of the 30,740 cases (where age was reported) with days away from work in 2017. The 25 to 34 year old age group accounted for 5,850 cases. These two age groups together amounted to approximately 42.3% of the total number of DAFW cases in 2017. The 35 to 44 age group experienced an estimated total of 5,540 DAFW cases while the 55 to 64 age group experienced 6,010 cases. Additionally, the 20-24 age group sustained 2,860 cases; the 65 and over group sustained 1,610 cases; and lastly the 16-19 age group sustained an estimated 640 cases resulting in DAFW. Chart VII embedded in this section displays the percent distribution of the individual age groups.

Race: Reporting for race or ethnic background is an optional field on the Survey of Occupational Injuries and Illnesses. Of the 30,740 cases with days away from work, 12,050 cases did not report race or ethnic background. White-only workers accounted for 13,120 of the total number of DAFW cases, Hispanic-only

workers accounted for 2,920 cases, Black-only workers accounted for 2,070 cases, Asian-only workers accounted for 320 cases, American Indian or Alaskan Native-only workers accounted for 190 cases, lastly, there were 20 cases that identified as multi-race.

Table 6 below summarizes the number of injuries and illnesses to White, Black, and Hispanic or Latino workers by selected occupational category in 2017.

Table 6. Number of injuries and illnesses to White, Black, and Hispanic or Latino workers, private industry, Massachusetts 2017			
Category	White	Black	Hispanic or Latino
Service	3,160	1,090	1,260
Transportation and material moving	2,060	230	440
Healthcare practitioners and technical	1,650	200	70
Construction and extraction	1,630	30	100
Installation, maintenance, and repair	1,150	40	150
Production	870	120	440
Management, business, and financial	740	80	40
Office and administrative support	700	150	210
Education, legal, community service, arts, and media	670	110	110
Sales and related	280	*	60
Farming, fishing, and forestry	100	*	30
Computer, engineering, and science	100	*	*

*Data was unpublishable

Table 7 below summarizes the total number of DAFW cases and the percent distribution of those cases by the nature of incident.

Table 7. Total number of cases and percent distribution of DAFW cases by nature, private industry, Massachusetts, 2017 [Total cases = 30,740]		
Nature of injury or illness	Count	Percentage
Sprains, strains, tears	12,280	39.9 %
Soreness, pain	5,890	19.2 %
Cuts, lacerations, punctures	2,910	9.5 %
Bruise, contusions	2,690	8.8 %
Fractures	2,070	6.7 %
Heat (thermal) burns	360	1.2 %
Multiple traumatic injuries	340	1.1 %
Amputations	120	0.4 %
Tendonitis	80	0.3 %
Carpal tunnel syndrome	80	0.3 %
Chemical burns and corrosions	30	0.1 %

Part of the body: The trunk region is defined by the *Occupational Injury and Illness Classification System (OIICS)* manual as the “main part of the body, where the head and limbs are attached.” In 2017, the trunk accounted for 8,650 DAFW cases. The back alone accounted for 6,390 of the cases involving the trunk. The upper extremities, which include the shoulder, arms, hands, and fingers accounted for a large portion of the DAFW cases in 2017; in total there were an estimated 9,070 cases with DAFW. The lower extremities, which range from the upper leg to the toes, were identified as the part of body in 6,770 DAFW cases. The head, including the face, was the affected part of body in 2,900, the eyes accounted for 410 of those cases. The neck was the specified affected part of body in 490 cases. Multiple body parts (other than two or more included in the same body region as listed above) accounted for 2,360 cases. Lastly, body systems (i.e. circulatory, gastrointestinal system, respiratory system, etc.) accounted for 480 DAFW cases in 2017.

Chart VII displays the days away from work cases separated by the part of body and their percent contribution.

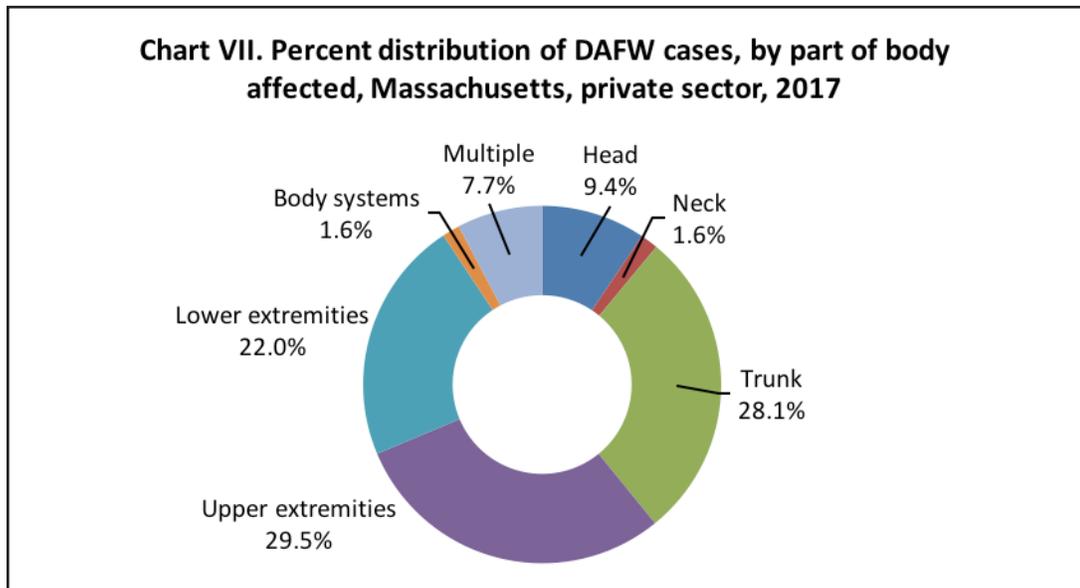


Chart VIII below displays the most common sources of incidents that lead to cases with days away from work.

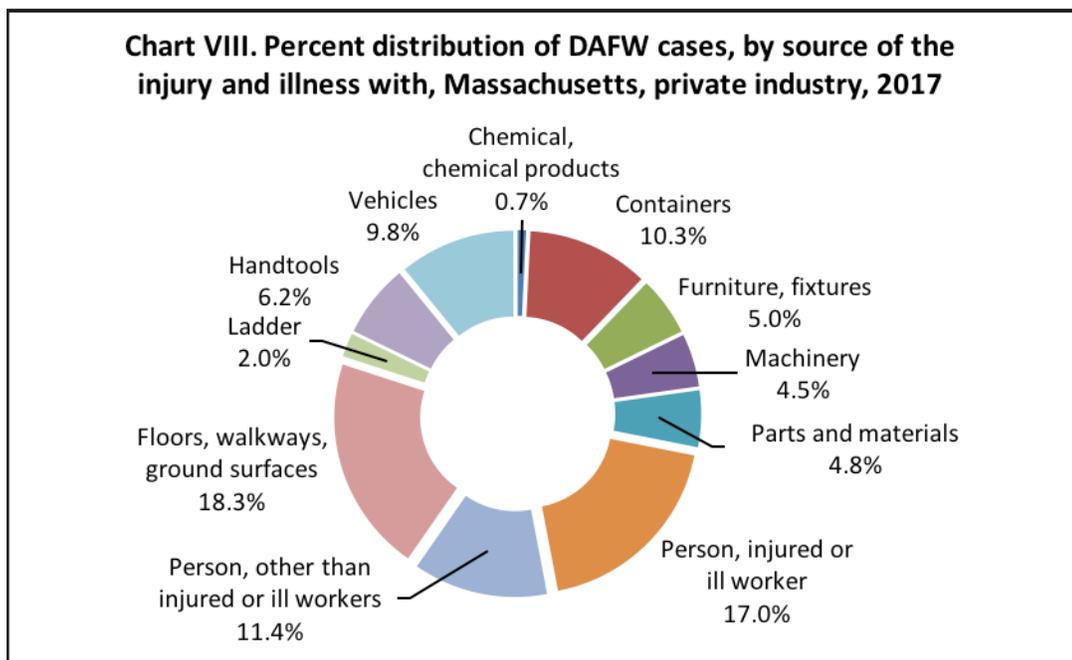
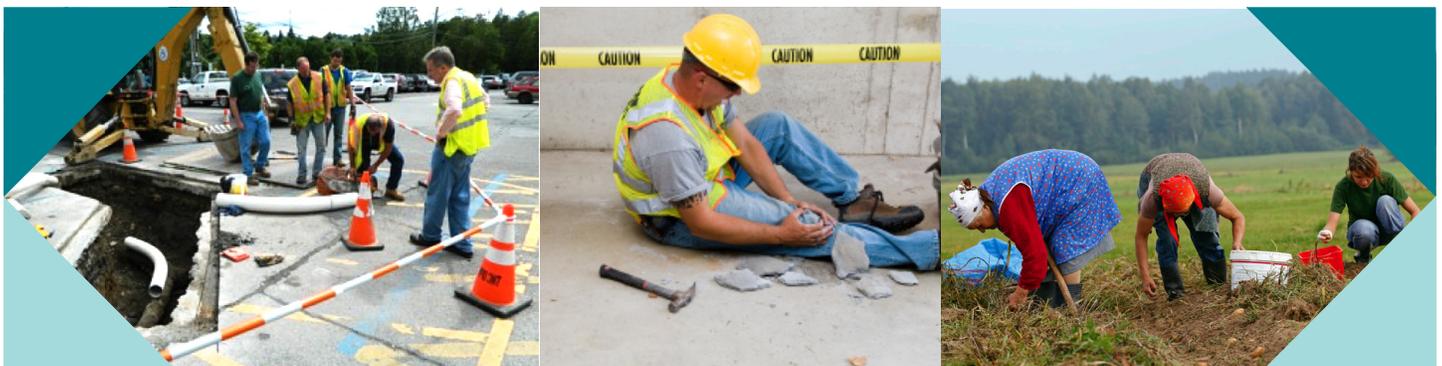
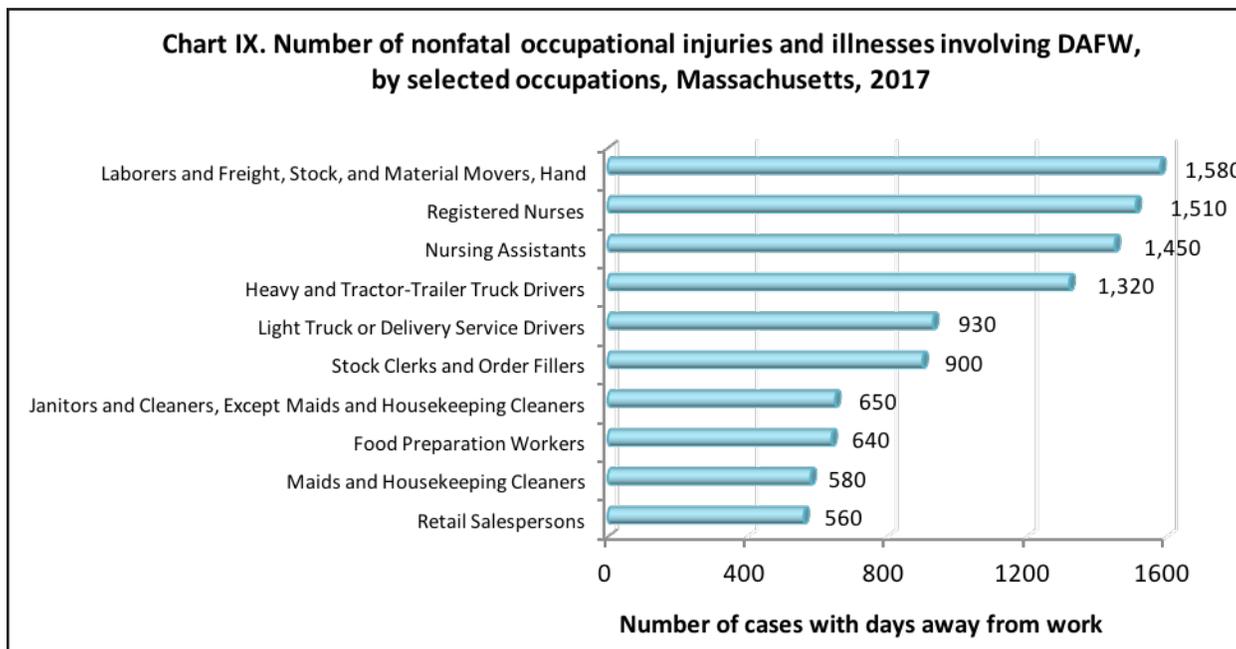


Table 8 below shows a distribution of days away from work by the type of event. Three of the event categories accounted for approximately 86.8% of the cases with DAFW. The remaining four categories accounted for 13.2% of the total number of cases with DAFW.

Table 8. Number of cases and percent distribution of DAFW cases by event, Massachusetts, private industry, 2017 [Total cases = 30,740]		
Event category	Number	Percentage
Overexertion and bodily reaction	11,330	36.9 %
Falls, slip, trips	8,470	27.6 %
Contact with object, equipment	6,840	22.3 %
Violence and other injuries by person or animal	1,710	5.6 %
Transportation incidents	1,430	4.7 %
Exposure to harmful substances or environment	930	3.0 %

*data was unpublshable

Chart IX provides selected occupations with the highest number of days away from work cases. Some of the occupations with high number of days away from work cases include the following: Laborers and freight, stock, and material movers incurred 1,580 DAFW cases. Registered nurses had a total of 1,510 cases. Heavy and tractor-trailer truck drivers incurred an estimated total of 1,320 cases. The rest of the occupations with a high number of incidents are indicated in the chart below.



Data source for this report

The data source for this report is the Bureau of Labor Statistics, U.S. Department of Labor, Survey of Occupational Injuries and Illnesses (SOII), in cooperation with participating state agencies. Survey data for the SOII is derived from mandatory logs kept by private industry employers and participating public sector employers during the calendar year. All survey responses are confidential and are used for statistical purposes only. The SOII is a federal-state government partnership between the U.S. Department of Labor's Bureau of Labor Statistics (BLS) and the Massachusetts Department of Labor Standards (DLS).

About the Department of Labor Standards

The mission of the Massachusetts Department of Labor Standards (DLS) is to promote and protect workers' safety and health, wages and working conditions, and to support employers and workers in the utilization of apprenticeship as a workforce development tool. In collaboration with public and private entities, DLS protects workers by means of education and training, workplace safety and health consultation and assessment, occupational injury and illness data collection and analysis, and consistent and responsible administration and enforcement of its statutes and regulations. DLS carries out its objectives in a manner that supports employers and strengthens the Commonwealth's communities and economy.

DLS' Occupational Safety and Health Statistics Program administers the Survey of Occupational Injuries and Illnesses (SOII) for all private sector and public sector industries, trades, and occupations. The SOII remains the largest occupational injury and illness surveillance system in the country, providing injury and illness counts and rates for a variety of employer, employee, and case characteristics based on a sample of approximately 230,000 establishments. Employers record cases that result in days away from work due to injury or illness. SOII contains multiple case characteristics that capture invaluable information about the nature of the industry, the injury, and the demographics of the injured employee. The Program uses this data to produce an annual occupational injury and illness report, which summarizes overall and industry-specific data on occupational safety. Reports from prior years can be found on the DLS website at mass.gov/lwd/labor-standards/occupational-safety-and-health-statistics-program/. The mission of the Occupational Safety and Health Statistics Program is to support continued improvement of workplace environments by compiling and presenting data to employers, employees, researchers, industry professionals, and policy-makers, so that these data can be used to devise strategies to reduce occupational injuries and illnesses.

DLS administers eight programs (including the Occupational Safety and Health Statistics Program) that interact with the public on a range of occupational health and safety issues.

Occupational Health and Safety Resources in Massachusetts

On-Site Consultation Program

This program, administered by DLS, offers a free consultation service designed to help employers recognize and control potential safety and health hazards at their worksites, improve their safety and health program, assist in training employees, and possibly qualify for a one-year exemption from routine OSHA inspections. This service targets smaller businesses (less than 250 employees per establishment or 500 employees nationwide) in high hazard industries; such as manufacturing, healthcare, and construction. It is a confidential service in which your firm's name, and any other information you provide and any unsafe or unhealthy working conditions found, will not be reported routinely to the OSHA inspection staff. Visit mass.gov/dols/consult for more information.

Workplace Safety and Health Program

The Workplace Safety and Health Program within DLS, provides technical assistance and performs investigations of workplace health and safety hazards within public sector workplaces in Massachusetts. Visit mass.gov/lwd/labor-standards/massachusetts-workplace-safety-and-health-program/ for more information.

Department of Public Health's Occupational Health Surveillance Program

The Occupational Health Surveillance Program within the Department of Public Health generates reports, fact sheets, and safety alerts regarding fatal occupational injuries. For more materials on this subject, contact:

**Massachusetts Department of Public Health,
Occupational Health Surveillance Program,
250 Washington Street, 6th Floor
Boston, MA 02108.**

To speak with a representative directly, please call 1 (800) 338-5223. Reports are available on the program's website: mass.gov/eohhs/gov/departments/dph/programs/admin/dmoa/ohsp/.

Department of Industrial Accident's Safety Grant Program

The Department of Industrial Accidents (DIA), through the Office of Safety, annually awards hundreds of thousands of dollars in safety training grants to various organizations. In each fiscal year, thousands of persons receive workplace training through programs funded by these DIA grants. This highly-successful program provides monies for workplace safety training aimed at workers throughout the Commonwealth. For more information explore the following link: mass.gov/lwd/workers-compensation/safety/grant-program/safety-grant-program.html.

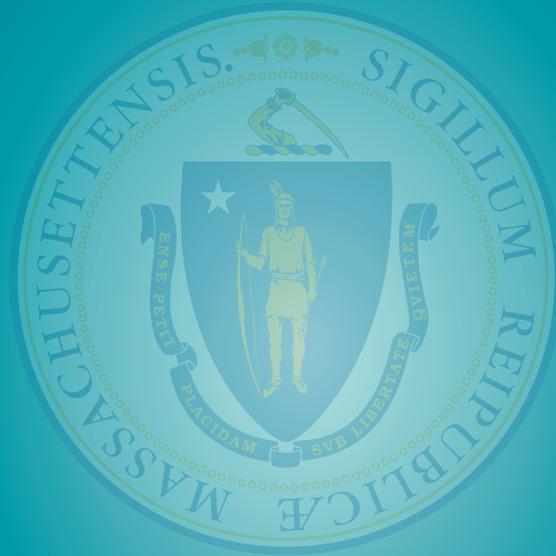
Material request information

For more information about the **2017** report or past year's reports, contact:

**Massachusetts Department of Labor Standards,
Occupational Safety and Health Statistics Program,
19 Staniford Street, 2nd Floor
Boston, MA 02114;
or call (617) 626-6945.**

Information can also be found on our website at: mass.gov/lwd/labor-standards/occupational-safety-and-health-statistics-program/.

Detailed statistical information can also be obtained from the Bureau of Labor Statistics at: bls.gov/bls/safety.htm.



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