



**COMMONWEALTH
OF MASSACHUSETTS**

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Workforce Development**

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Executive Office of Labor and
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Department of Labor Standards
Occupational Safety and Health
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2013 Occupational Injuries and Illnesses Annual Report



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Work-Related Nonfatal Injuries and Illnesses in 2013

Private Sector Workforce – Total Number of Cases and Incidence Rates: In 2013, there were an estimated 66,500 nonfatal work-related injuries and illnesses reported throughout the industries that comprise the Massachusetts private sector workforce. The total number of recordable cases (TRC) translated into an incidence rate of 2.9 cases per 100 equivalent full-time workers (FTEs). In the private sector, there were 29,200 cases with days away from work, 7,500 cases that resulted in job transfer and/or restriction, and 29,800 other recordable cases. More information regarding specific case types can be found on pages 9 and 10 of this report.

Public Sector Workforce – State Government: Among the state's public sector workforce, state government had an estimated total of 4,400 recordable cases in 2013, while in 2012, there were a total of 3,700 cases. This translates to a total recordable case (TRC) incidence rate of 4.3 cases per 100 FTEs for the most recent survey year.

There were a total of 2,200 cases with days away from work, job transfer, or restriction; 2,100 of those cases were cases with days away from work. There were also an estimated 2,200 other recordable cases.

The major industries within state government with publishable data for 2013 were *Educational Services*, *Health Care and Social Assistance*, and *Public Administration*. Educational Services reported a total of 700 cases, and a TRC incidence rate of 2.4 cases per 100 FTEs. Health Care and Social Assistance had a total of 900 cases and a TRC rate of 7.7 cases per 100 FTEs. Public Administration accounted for 1,400 cases and an incidence rate of 2.7 cases.

Public Sector Workforce – Local Government: Due to a low response rate from selected local government agencies, municipal data is not available to be published.

Year-to-year changes: The private sector TRC incidence rate, along with the total number of incidents remained relatively unchanged compared to the 2012 data. However there were some statistically significant¹ changes that should be highlighted:

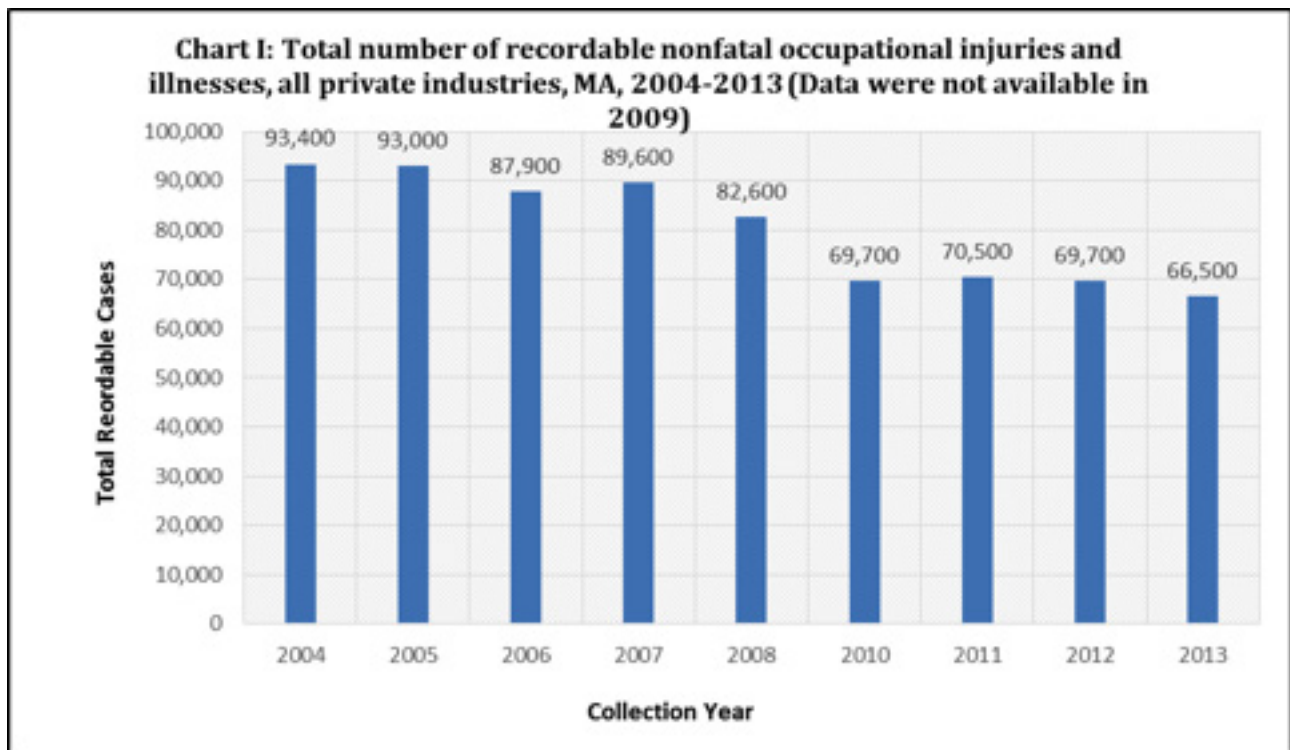
- The Professional and Business Services industry had a decrease in both the total number of recordable cases and the TRC incidence rate from the 2012 to 2013 survey year. The total number of recordable incidents decreased from an estimated 7,200 incidents in 2012, to 4,600 in 2013. The TRC rate had an estimated decrease from 1.7 cases to 1.0 cases.
- The Manufacturing industry had a decrease in the TRC incidence rate. In 2012, the rate was 3.0 cases per 100 FTEs, in 2013, it was 2.6 cases.
- Within the Education and Health Services industry, the Hospitals sub-industry had a decrease in both total number of TRCs and TRC incidence rate. The total number of cases had an estimated decrease from 8,900 cases in 2012 to 8,800 cases in 2013. The incidence rate had an estimated decrease of 6.3 to 6.2.

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

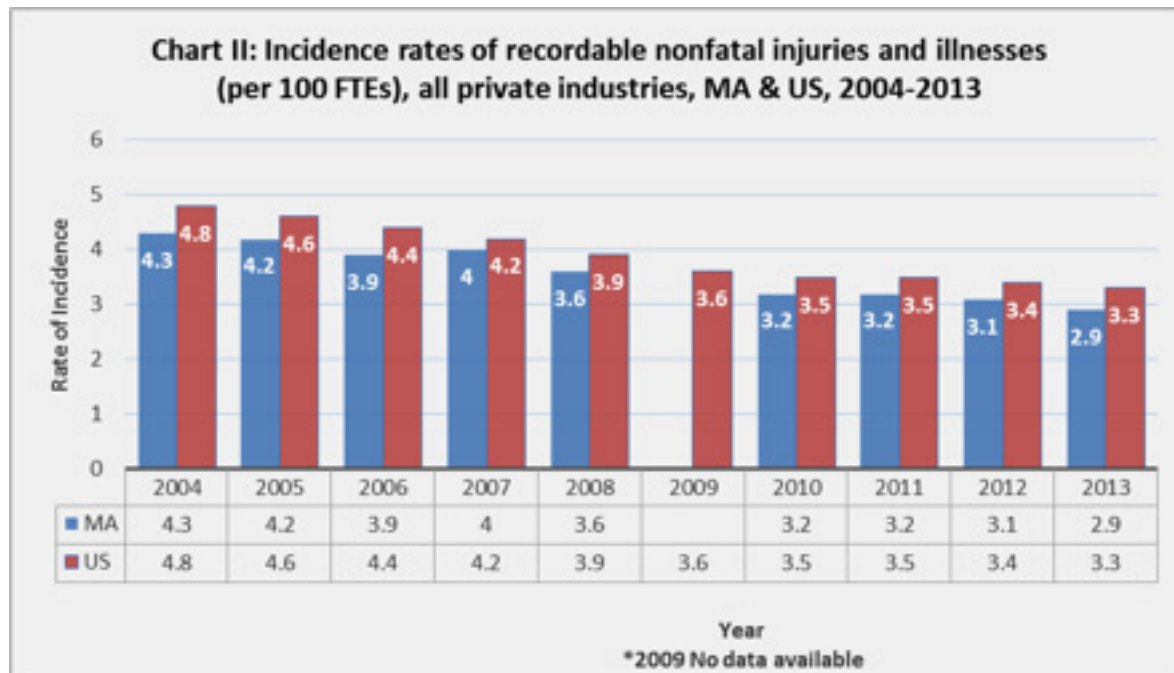
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- The Food and Beverage Stores industry (NAICS 445) saw a statistically significant decrease in both the total number of recordable cases (TRC) and the TRC incidence rate from 2012 to 2013.
- The General Merchandise Stores industry (NAICS 452) also had decreases in both numbers of TRC and TRC incidence rate.
- The Administrative and Support Services industry (NAICS 561) also experienced a decrease in 2013, both the numbers of TRC and TRC incidence rate decreased from 2012.

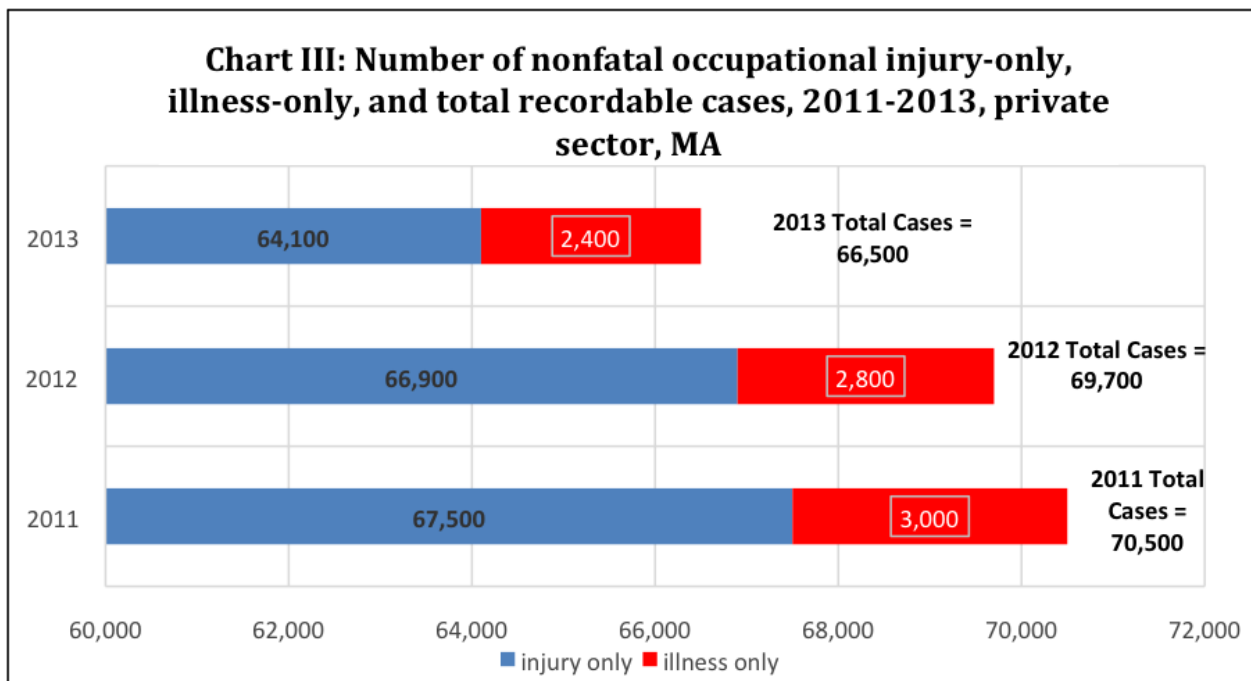
Charts I and II below show time comparisons of numbers and rates of nonfatal injuries and illnesses from 2004-2013 among all Massachusetts private industries. The incidence rate chart includes U.S. private sector data as well. The data shows a downward trend over time in the total numbers and rates of nonfatal injuries and illnesses.



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Injuries: There were 64,100 injury-only cases that occurred in the private sector in 2013. This translates to an incidence rate of 2.8 cases per 100 FTEs. State government experienced 3,700 injury-only in 2013 and an incidence rate of 3.6 cases per 100 FTEs. Chart III below shows a comparison of the total number of injury-only cases to the total number of recordable incidents in the private sector over a three-year period.



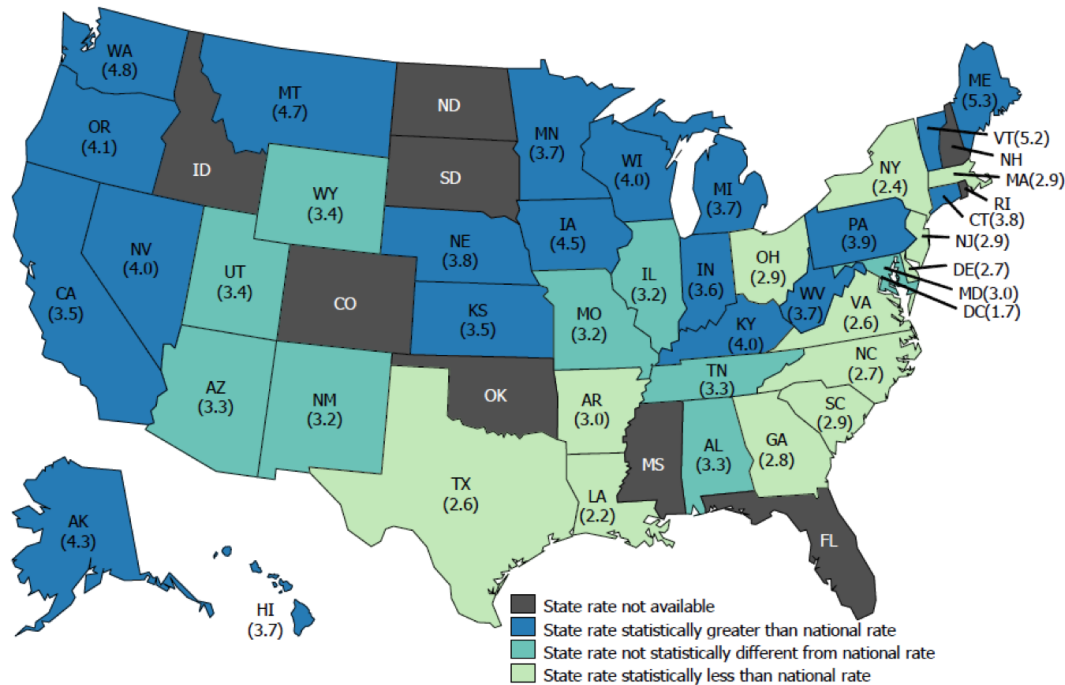
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Illnesses: In 2013, private industry workplaces in Massachusetts incurred an estimated total of 2,400 cases of nonfatal occupational illnesses. This resulted in an incidence rate of 10.4 cases per 10,000 FTEs within all private industries. Massachusetts State Government had a total of 700 illnesses and an incidence rate of 63.5 cases per 10,000 FTEs.

Illnesses can be broken down into subcategories: skin disorders, respiratory conditions, hearing loss, all other illnesses, and poisonings (data for poisonings was unpublishable this year). Within all Massachusetts private sector industries, the incidence rates and total number of illnesses were as follows:

| Type of Illness | Incidence rate (per 10,000 FTE) | Number of illnesses |
|------------------------|---------------------------------|---------------------|
| Skin disorders | 1.7 | 400 |
| Respiratory conditions | 1.4 | 300 |
| Hearing loss | 1.2 | 300 |
| All other illnesses | 6.1 | 1,400 |

Figure 1: State nonfatal occupational injury and illness incidence rates* compared to the national rate, private industry, 2013



Private industry and public sector estimates are available individually for 41 participating states and the District of Columbia for 2013. The private industry injury and illness rate was statistically higher in 20 states than the national rate of 3.3 cases per 100 full-time workers, lower in 12 states and in the District of Columbia, and not statistically different in 9 states. Caution should be taken when comparing rates among different states as some differences can be attributed to different industry composition within each state.

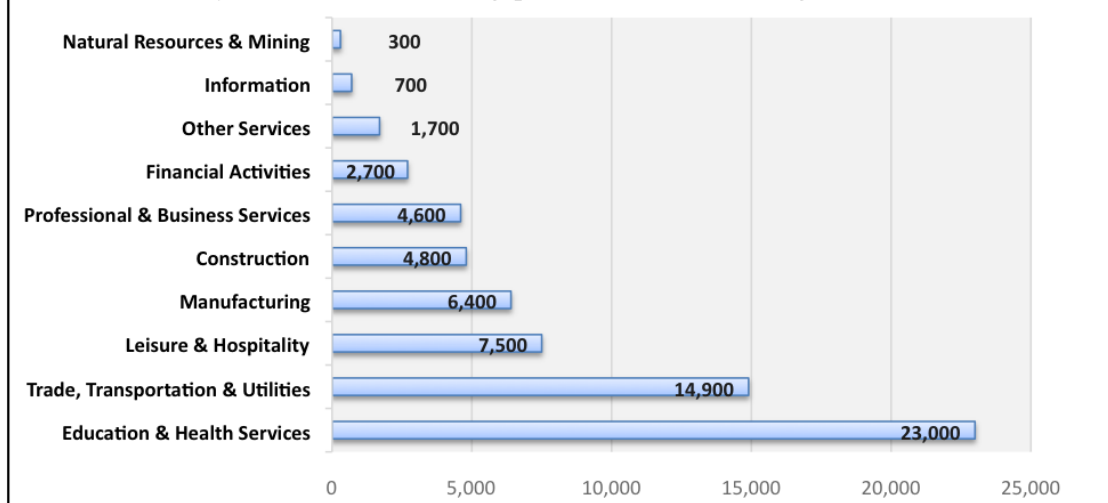
Figure 1 above captures the national landscape by including each state's incidence rate and statistical significance. According to the Bureau of Labor Statistics, of the four New England states with publishable estimates, Massachusetts was the only state with a TRC rate (2.9) significantly lower than the national rate (3.3).

Industry Information

The table below compares the 2013 total recordable rate (TRC) incidence rates by industry (and state government) for Massachusetts and the United States.

| Incidence rate of nonfatal occupational injuries and illnesses, per 100 FTE's, by major industry sector, MA and US, 2013 | | |
|--|---------------|-----|
| | Massachusetts | US |
| Natural Resources & Mining | 5.2 | 3.9 |
| Education & Health Services | 4.5 | 4.4 |
| Construction | 4.4 | 3.8 |
| State Government | 4.3 | 3.9 |
| Leisure & Hospitality | 3.9 | 3.8 |
| Trade, Transportation, & Utilities | 3.4 | 3.8 |
| Manufacturing | 2.6 | 4.0 |
| Other Services | 2.2 | 2.5 |
| Financial Activities | 1.4 | 1.3 |
| Professional & Business Services | 1.0 | 1.6 |
| Information | 0.9 | 1.5 |

Chart IV: Total number of recordable nonfatal occupational injuries and illnesses by private sector industry, MA, 2013



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 health care professional or meet other record keeping criteria as specified under 29 CFR 1904. If both of these criteria are met, the incident is recordable.

DAFW cases are considered the most serious due to the fact that the employee could not perform any function of his/her job because of the 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 record keeping criteria, but where there is no lost work time or have transferred/restricted duty are considered Other Recordable Cases (ORC). The following chart shows the breakdown of each type of case by major industry group in 2013:

In 2013, there were a total of 42,000 cases with DAFW and/or DJTR (also known as DART cases) in all private sector industries and including state and local government. There were 34,200 cases with DAFW only and 7,700 cases with DJTR only. There were also 36,800 other recordable cases (ORC) that are not classified under DAFW or DJTR cases. There were no significant statistical changes in these numbers compared to 2012. However, the Financial Activities industry experienced an increase in both number of DAFW cases and DAFW incidence rate. The Professional and Business Services industry had a contrasting result, seeing a decrease in both the total number of DAFW cases and DAFW incidence rate. In addition to these changes, the Construction industry saw a reduction in both the total number of DJTR cases, and DJTR incidence rate. There were not any statistically significant changes regarding ORC cases for any of the ten industries.

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| Total Number of cases by major industry and case type, private sector & state government, MA, 2013 | | | |
|---|--------------|--------------|------------------------|
| Industry | Cases w/DAFW | Cases w/DJTR | Other Recordable Cases |
| Education & Health Services | 10,300 | 2,500 | 10,300 |
| Trade, Transportation, & Utilities | 7,000 | 2,300 | 5,600 |
| Construction | 2,600 | 200 | 1,900 |
| Manufacturing | 2,600 | 1,200 | 2,600 |
| Leisure and Hospitality | 2,400 | 300 | 4,800 |
| State Government | 2,100 | * | 2,200 |
| Professional and Business Services | 1,800 | 400 | 2,300 |
| Financial Activities | 1,300 | * | 900 |
| Other Services | 600 | * | 1,000 |
| Information | 400 | * | 300 |
| Natural Resources & Mining | 100 | * | 200 |

*Indicates data is unavailable or unpublishable.

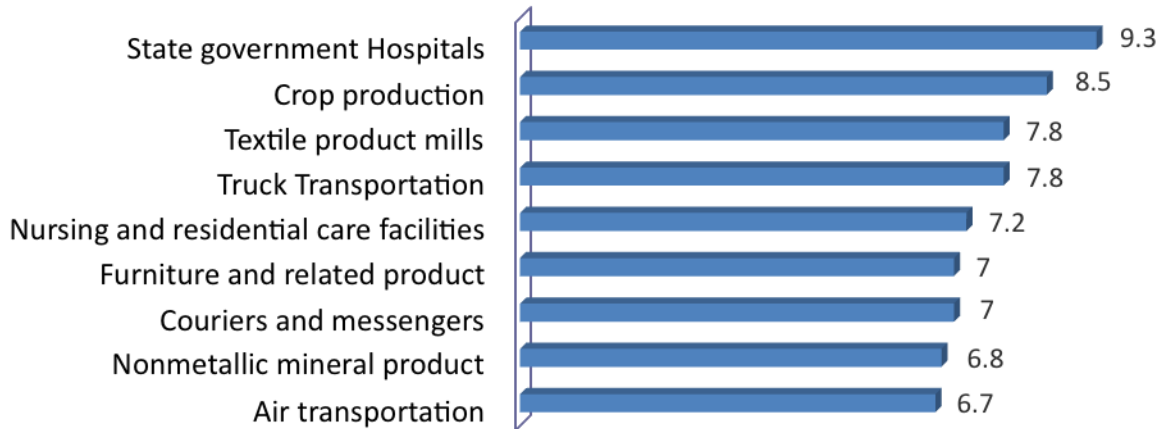
TRC and DART incidence rates

The table below shows the makeup of the TRC incidence rates and Days Away, Restricted, or Transferred (DART) rates for private industries in addition to state government. The DART rate includes cases involving either days away from work, or job transfer or restricted work duties, or both.

| Total recordable incidence rate per 100 FTEs, by major industry and case type, private sector, MA, 2013 | | | | | |
|---|----------|-----------|-----------|----------------------------|--------------------------|
| Industry | ORC Rate | DAFW Rate | DJTR Rate | DART Rate = DAFW + DJTR | TRC Rate = ORC + DART |
| Education & Health Services | 2.0 | 2.0 | 0.5 | 2.5 | 4.5 |
| Trade, Transportation, & Utilities | 1.3 | 1.6 | 0.5 | 2.1 | 3.4 |
| Construction | 1.8 | 2.4 | 0.2 | 2.6 | 4.4 |
| Manufacturing | 1.1 | 1.1 | 0.5 | 1.5 | 2.6 |
| Leisure and Hospitality | 2.5 | 1.3 | 0.2 | 1.4 | 3.9 |
| State Government | 2.1 | 2.1 | * | 2.1 | 4.3 |
| Professional and Business Services | 0.5 | 0.4 | 0.1 | 0.5 | 1.0 |
| Financial Activities | 0.5 | 0.7 | * | 0.9 | 1.4 |
| Other Services | 1.4 | 0.8 | 0.1 | 0.9 | 2.2 |
| Information | 0.3 | 0.5 | * | 0.5 | 0.9 |
| Natural Resources & Mining | 2.9 | 1.5 | 0.8 | 2.3 | 5.2 |

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Chart V: Industries with the highest incidence rates of total nonfatal occupational injuries and illnesses, MA, 2013

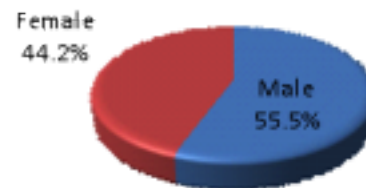


The chart above shows selected sub-industries with high TRC incident rates in Massachusetts. State government hospitals had the highest rate of 9.3 incidents per 100 FTEs. Crop production had a high rate with 8.5 incidents per 100 FTEs. Air transportation had a rate of 6.7 incidents per 100 FTE, while in 2012 they had a rate of 10.6 cases per 100 FTEs.

Case & Demographic Findings

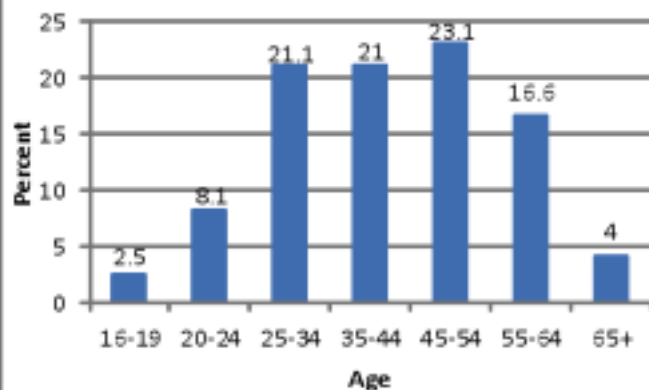
Case and demographic findings for this survey are purely based on DAFW cases. The reason for this is that the survey is intended to obtain more detailed information about the more severe cases involving missed work days. Some basic information is asked about the employee, such as job title, age, or date 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 demographic information about the incidences of injuries and illnesses. In addition to demographic information, specific injury or illness information that describes the nature, event, source, secondary source, and part of body affected, is also collected.

Chart VI: Percent distribution of nonfatal occupational injuries and illnesses by gender, MA, private sector, 2013



Gender: Incidents involving men accounted for a higher percentage of total DAFW injuries in 2013 than incidents involving women. Of all the people who suffered DAFW injuries in 2013, 55.5% were male and 44.2% were female. It is important to know that approximately 100 cases did not report gender and are not included in these calculations.

Chart VII: Percent distribution of nonfatal DAFW cases by age, MA, private sector, 2013



Age: Injuries and illnesses to workers in the 25-34 and 45-54 year-old age categories accounted for the highest percentage of all cases with DAFW.

Workers in the 45-54 age group accounted for 23.1% of the total injuries and the 25-34 age group accounted for 21.1% of total injuries. Closely behind the 25-34 age group, the 35-44 workers accounted for 21% of total injuries in 2013. Cases incurred to workers in the 16-19 and 65 and older age groups reported a percentage of 2.5% and 4% of all the cases with DAFW, respectively.

Nature of Injury: Sprains, strains, and tears made up 41.3% (12,060 cases) of all DAFW injuries in 2013. Soreness and pain made up 14.9% (4,360 cases) of the reported nature of injuries, and cuts, lacerations, and punctures accounted for 8.9% (2,590 cases) of injuries.

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| Total number of cases and percent distribution of DAFW cases by nature, Massachusetts, Private Industry, 2013 [Total Cases = 29,230] | | |
|--|--------|-------|
| Sprains, Strains, Tears | 12,060 | 41.3% |
| All Other | 4,410 | 15.1% |
| Soreness, Pain | 4,360 | 14.9% |
| Cuts, Lacerations, Punctures | 2,590 | 8.9% |
| Bruise, Contusions | 2,540 | 8.7% |
| Fractures | 2,120 | 7.3% |
| Heat (Thermal) Burns | 450 | 1.5% |
| Multiple Traumatic Injuries | 320 | 1.1% |
| Carpal Tunnel Syndrome | 160 | 0.5% |
| Amputations | 110 | 0.4% |
| Chemical Burns and Corrosions | 70 | 0.2% |
| Tendonitis | 40 | 0.1% |

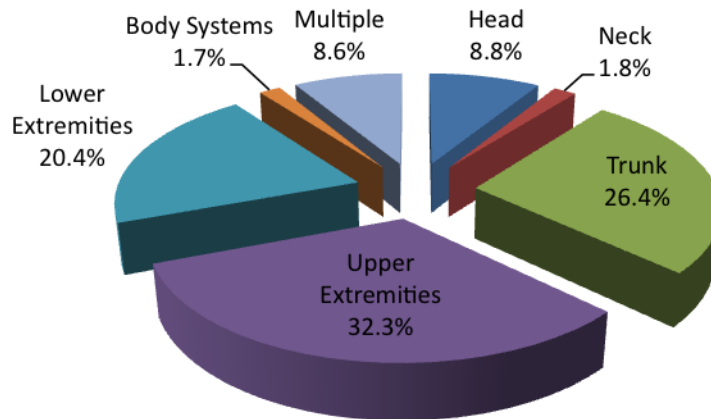
Part of Body: In 2013, injured employees working in the private sector workforce experienced most occupational injuries to the upper extremities, ranging from the upper arm to the fingertips. According to the 2013 survey findings, it is estimated that 32.3% (9,430 cases) of DAFW cases involved injuries to the upper extremities. There were 5,990 DAFW cases that involved the back; however, injuries affecting the entire trunk region accounted for 7,720 (26.4%) of the total DAFW cases in 2013. 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.” Typically, the region of the trunk most affected is the back.

The lower extremities, which range from the upper leg and thigh to the toes, were identified as the affected part of body in 20.4% (5,950 cases) of the DAFW cases. The head, including the face, was the affected part of body in 8.8% (2,560 cases). Multiple body parts were involved in 8.6% (2,500) of all DAFW cases.

The neck was the affected part of the body in 1.8% (520 cases) of the DAFW cases in 2013. Lastly, the body systems (i.e. circulatory, gastrointestinal system, respiratory system, etc.) were the affected part of the body in 1.7% (510 cases) of all DAFW cases.

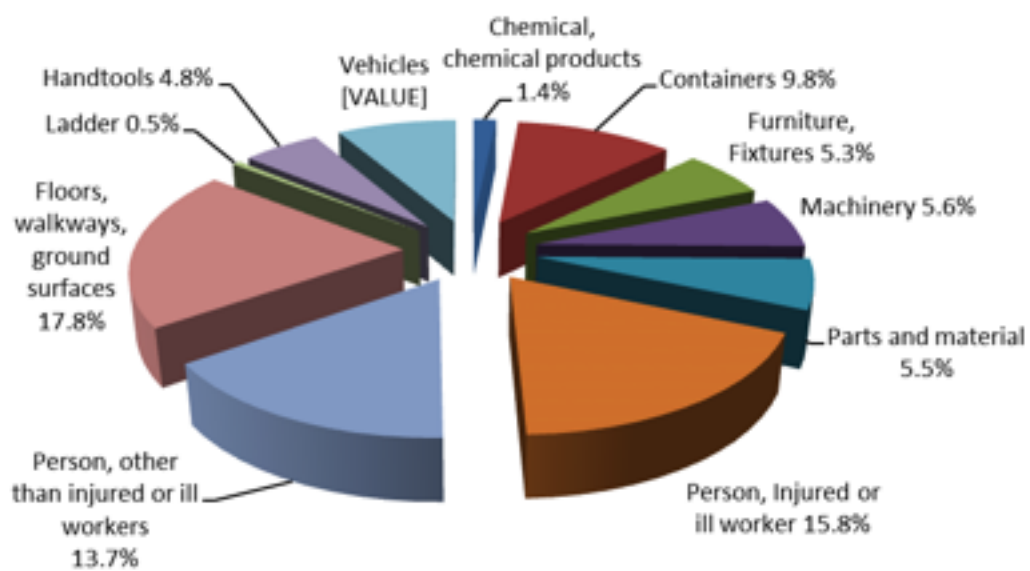
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Chart VIII: Percent Distribution of DAFW cases, by part of body affected, MA, private sector, 2013



Source of injury or illness in the private sector: One source of injury involving DAFW with a large number of incidents was floors, walkways, or ground surfaces, resulting in 5,200 cases (17.8%). The source “injured or ill person” themselves, was another cause of injury with 4,610 cases, or 15.8% of the total. Of the 4,610 cases where the source of injury was an injured or ill employee, 4,470 were due to the workers’ motion or position. Injury caused by person other than the injured or ill worker was the source listed in 13.7% (3,990 cases) of all the DAFW cases.

Chart IX: Percent distribution of DAFW cases, by source of the Injury and Illness with, MA, private industry, 2013



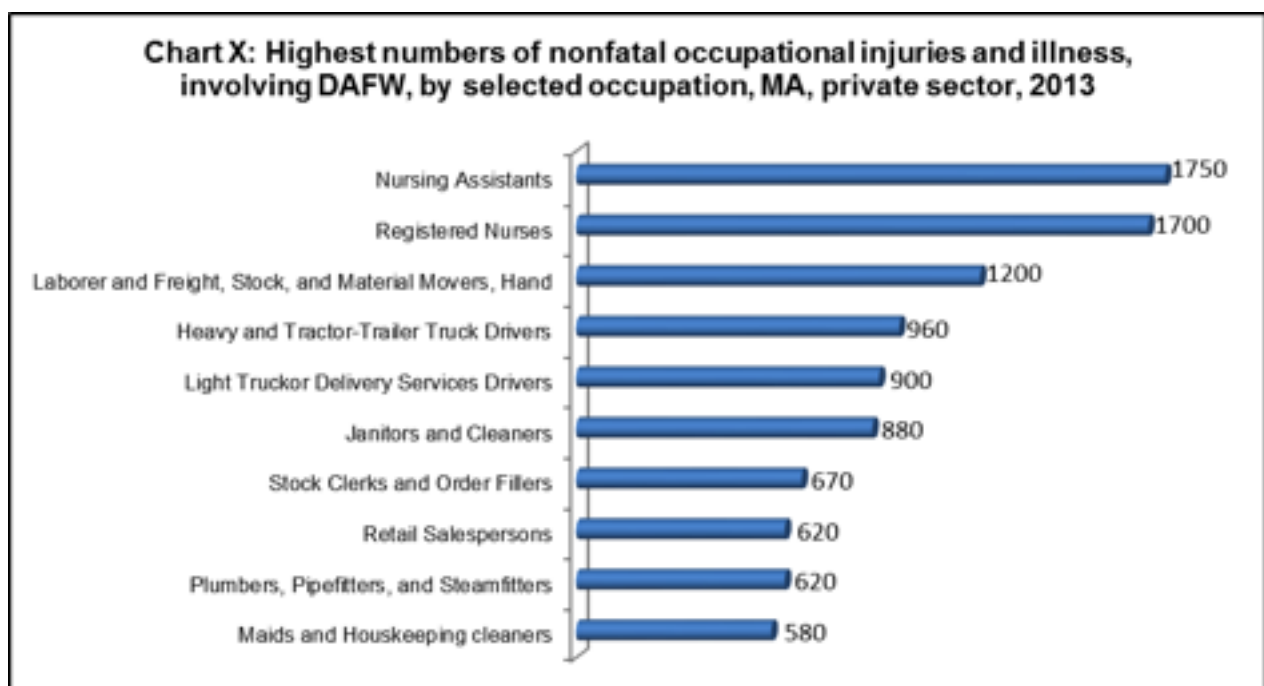
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Event causing the injury or illness in the private sector: Of the 29,230 DAFW cases in 2013, 11,130 (38.1%) involved overexertion. 7,220 (24.7%) of the DAFW cases involved falls, trips, and slips. Contact with object or equipment was the event specified in 6,640 (22.7%) of the total cases. Violence and other injuries by persons or animals was the event of incident in 1,650 (5.6%) total cases. Exposure to harmful substances or environments was the event named in 1,310 (4.5%) total cases with DAFW. Lastly, 1,190 (4.1%) cases involved transportation incidents.

| Number of Cases and percent distribution of DAFW cases by event, Massachusetts, private industry, 2013 [Total Cases = 29,230] | | |
|---|--------|-------|
| Fires and Explosions | * | * |
| Overexertion and bodily reaction | 11,130 | 38.1% |
| Falls, Slips, Trips | 7,220 | 24.7% |
| Contact with Object, Equipment | 6,640 | 22.7% |
| Violence and Other Injuries by Person or Animal | 1,650 | 5.6% |
| Exposure to Harmful Substances or Environments | 1,310 | 4.5% |
| Transportation Incidents | 1,190 | 4.1% |
| All Other | 90 | 0.3% |

*Indicates data is unavailable.

Occupations: Nursing assistants, registered nurses, laborers, and material movers were among the occupations that experienced a large number of nonfatal injuries and illnesses in 2013. Nursing assistants and registered nurses had 1,750 and 1,700 injuries and illnesses, respectively. Laborers and freight, stock, and material movers incurred 1,200 injuries and illnesses. The rest of the occupations with high numbers 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.

The Occupational Safety and Health Statistics Program within DLS administers the SOII for all private sector and public sector industries, trades, and occupations. The Program collects approximately 5,800 surveys in Massachusetts annually from a randomly selected sample of establishments within the private and public sectors. 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 <http://www.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 work sites, 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 (fewer than 250 employees per establishment or 500 employees nationwide) in high hazard industries such as manufacturing, health care, 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 www.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 <http://www.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, please contact the 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: <http://www.mass.gov/eohhs/gov/departments/dph/programs/health-stats/ohsp/fatal-injury/>

Department of Industrial Accidents 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: <http://www.mass.gov/lwd/workers-compensation/safety/grant-program/safety-grant-program.html>

Material Request Information

For more information about this 2013 report, please contact the Massachusetts Department of Labor Standards, Occupational Safety and Health Statistics Program, 19 Staniford Street, 2nd Floor, Boston, MA 02114; 617-626-6945.

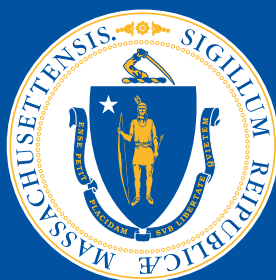
Information can also be found on our website at:

<http://www.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:

<http://www.bls.gov/bls/safety.htm>

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