

# MASSACHUSETTS

## FATAL INJURIES AT WORK

### 1998 UPDATE

Occupational Health Surveillance Program • April 2000 • Massachusetts Department of Public Health

Every year, men and women in a wide variety of jobs and industries throughout Massachusetts die as a result of injuries suffered at work. These deaths are all the more tragic because they are largely preventable. Information about when and how they occur is essential in order to target effective prevention programs. In Massachusetts, the Occupational Health Surveillance Program (OHSP) in the Massachusetts Department of Public Health (MDPH) collects information on all fatal occupational injuries in the Commonwealth as part of the national Census of Fatal Occupational Injuries (CFOI), conducted in cooperation with the Bureau of Labor Statistics (BLS), U.S. Department of Labor.

OHSP also conducts in-depth worksite investigations of targeted fatal occupational injuries as part of the national Fatality Assessment Control and Evaluation project (FACE), sponsored by the National Institute for Occupational Safety and Health (NIOSH). The purpose of the FACE project is to develop a detailed understanding of how fatal injuries occur and to identify effective countermeasures to prevent similar incidents in the future. Excerpts from selected FACE investigations are highlighted within this report.

This update provides an overview of fatal injuries at work that occurred in Massachusetts during 1998. These include fatalities traditionally linked with factors in the work environment such as falls, electrocutions, and exposure to toxic substances. They also include homicides and suicides at work, as well as motor vehicle-related fatalities that occurred during travel on the job. Deaths caused by occupational illnesses and most fatal heart attacks at work were not included in this fatality census.

#### OVERVIEW OF FATAL INJURIES AT WORK IN 1998

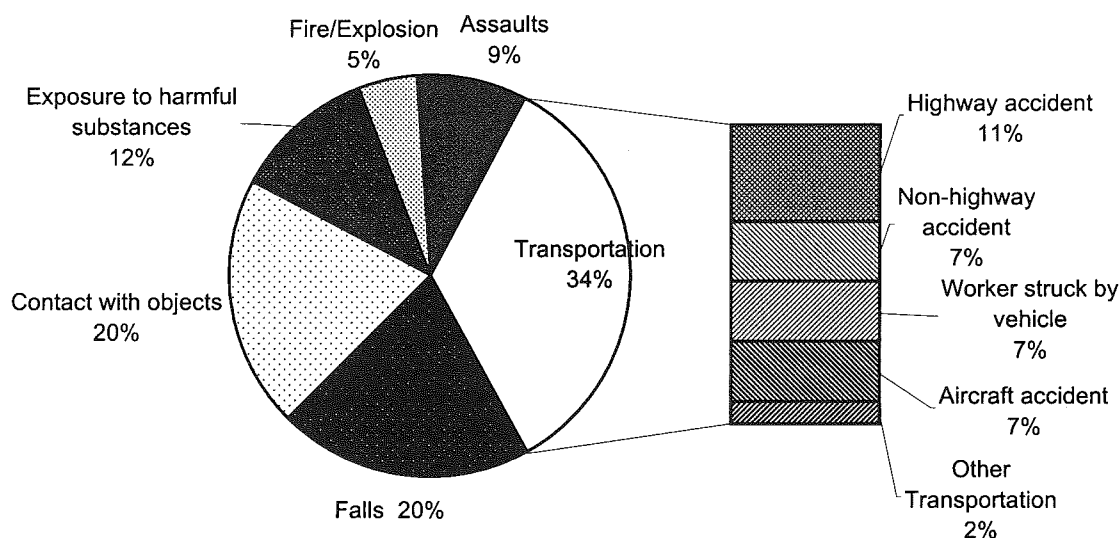
- In 1998, 43 men and 1 woman in Massachusetts suffered fatal injuries at work, an average of 0.8 deaths per week. The annual rate of fatal occupational injury was 1.4 deaths per 100,000 workers.
- There were three deaths of workers from racial groups other than white and four deaths of workers of Hispanic origin.\*
- The average age at death was 48 years. Eighteen workers were 40 years of age or younger and four were 70 years old or older. The 44 fatalities resulted in an average of 29 years of potential life lost for each death (number of years before the victim reached age 75), for a total of 1,289 years of potential life lost.
- Of the 44 workers fatally injured, 36 were wage and salary workers and 8 were self-employed. The self-employed represent 7.4% of Massachusetts employment and 15.9% of the fatalities.

A 40-year old male temporary laborer died when he was caught in a ribbon blender at a fish processing plant. The victim and a co-worker had stepped into the empty tank, normally used in the processing of fish gurry, carrying a hose to clean out the tank. When the victim pulled on the hose, it caught on the switch which turned on the machine. The co-worker escaped because he had not completely entered the tank, but the victim was caught in the slowly rotating blades. The machine was shut down immediately and emergency medical services were called to the scene. The victim died in the machine. The victim and the majority of his co-workers spoke Spanish or Portuguese as their only language. The victim had worked for this same company for two months at the time of his death.

In order to prevent similar incidents, FACE recommended that employers should develop and enforce a comprehensive lockout/tagout program as well as a safety program that includes training for all workers in their commonly spoken language in recognizing and avoiding machinery hazards.(98MA035)

\*Race/ethnicity information is obtained from death certificates. Fatality victims of Hispanic origin may be in any racial group.

## Fatal Injuries at Work by Event\*



### Massachusetts, 1998

Total Number of Deaths = 44

\*Based on the 1992 Bureau of Labor Statistics (BLS) Occupational Injury & Illness Classification Structures.

## EVENTS RESULTING IN FATAL INJURIES

- Fifteen Massachusetts workers (34%) died in transportation-related incidents, distributed among several categories (as shown above) and led by highway traffic incidents. Five of the 15 workers were fatally injured on Massachusetts' highways while driving for their jobs. Only one of these workers was in the transportation industry; others were employed in the Finance, Retail Trade and Service industries. Three workers were struck by vehicles while working and three others died in aircraft incidents.
- Falls to lower levels (9 deaths, 20%) were a leading cause of death at work in Massachusetts in 1998 for a fourth consecutive year. The most frequent fall event was fall from a ladder (5 workers). Four of the workers who died in falls were employed as special trade contractors in the construction industry. This industry sector includes plumbers, carpenters, electricians, painters, and roofers. Of the falls for which height information is available (7), 4 falls were from less than 20 feet. One fatal fall was down a flight of stairs.
- Contact with objects and equipment led to the death of 9 Massachusetts workers in 1998. Four of these fatalities occurred in the construction industry.
- There were no homicides at work in Massachusetts in 1998. Of the four fatal assaults on workers, three were self-inflicted and one was the result of an assault by an animal.

A 22-year old male warehouse worker was killed when the forklift truck he was driving tipped over. The victim was driving the truck around the parking lot and the end of a shift after having filled the battery with water. He took a very sharp turn and the three-wheeled forklift truck tipped over. He was not wearing the available seat belt at the time of the incident. He fell from the vehicle and the truck fell on top of him. He had been driving a forklift truck in the warehouse for four years. His training had been completely on-the-job.

In order to prevent similar incidents, FACE recommended that employers assure that forklift operators are trained in the safe operation of their vehicles; require that operator restraints be used and develop and implement a comprehensive safety program that includes worker training in recognizing and controlling the hazards of warehouse work. (98MA033)

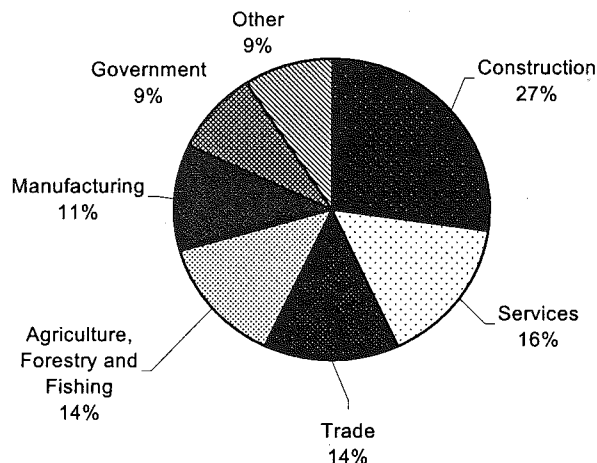
## FINDINGS BY INDUSTRY

- The highest number of fatal injuries at work occurred in the **construction** industry (12 deaths, 27% of total). For the past five years, the **construction** industry has been among the industries accounting for the greatest number of deaths. Four of these workers died in falls and four died by contact with objects or equipment. All of the fall victims were employed as special trades contractors. Two construction laborers were killed when the scaffold on which they were working collapsed. Eight of the ten victims were employed in establishments with 10 or fewer employees. Three were self-employed.
- The **service** industry had the second highest number of occupational fatalities with 7 deaths (16%). Four of those workers were employed in the managerial and professional specialty occupational group. The leading fatal event in the service industry was transportation-related (4).
- The **manufacturing** industry had the third highest number of occupational fatalities in 1998 (5 deaths, 11%). Three of these manufacturing employees were fatally injured by contact with objects or equipment. All five were employed in the Operator, Fabricators and Laborers occupations.
- **Government** workers suffered four fatalities in 1998. Three were municipal employees employed in construction-related occupations.
- The three fatal incidents in the **transportation** industry were all very different from each other, demonstrating the diversity of that industry. The occupations of the victims were airplane pilot, electrician and truck driver.

### Fatal Injuries at Work by Industry\*\*

Massachusetts, 1998

Total Number of Deaths = 44



\*\*Based on the 1992 Bureau of Labor Statistics (BLS) Occupational Injury & Illness Classification Structures.

## OSHA COVERAGE, INVESTIGATIONS AND PENALTIES

Of the 44 fatal injuries at work in 1998, 12 deaths occurred in industries or circumstances that are outside Occupational Safety and Health Administration (OSHA) jurisdiction. These include fatalities among commercial fishers, public sector employees, and self-employed individuals for whom there is no employer/employee relationship. An additional 10 fatalities involved circumstances not routinely addressed by OSHA such as suicides, airplane crashes and motor vehicle-related deaths. In sum, half of the fatal injuries at work in Massachusetts (22 deaths, 50%) occurred in industries, circumstances or by causes not addressed by OSHA.

OSHA investigated 21 occupational fatalities in Massachusetts in 1998. Fines for violations of OSHA standards related to the fatality were issued against 13 employers in 11 separate incidents. The agency assessed a total of \$454,450 in penalties as a result of its investigations, with the lowest fine assessed at \$3,000 and the highest at \$230,600. Employers are required to report fatalities to OSHA within 8 hours of any fatality that occurs within 30 days of an incident. One employer was fined \$2,250 for failure to report a fatality as required.

A 52-year old construction foreman was killed on a building site when he was struck by an excavator operating in reverse. The foreman was talking on a cellular phone at the time of the incident and stepped backwards into the path of the excavator. The victim had been in the construction business for 30 years.  
In order to prevent similar incidents, FACE recommended that cellular phones only be used in designated areas on construction sites away from any possible traffic on the site. (98MA041)

## COMMENTS

It is important in reporting summary information about fatal occupational injuries to acknowledge the victims that these numbers represent. These deaths were tragic incidents which were in large part preventable. Surveillance findings are intended to guide government, industry, and labor organizations in developing strategies to prevent similar tragedies in the future.

The US Bureau of Labor Statistics reports that 6,026 people were killed at work across the nation in 1998. This translates to a national occupational fatality rate of 4.5 per 100,000 workers. The occupational fatality rate in Massachusetts for 1998 was 1.4 per 100,000 workers, while for 1991-1995 it was 2.5 per 100,000 workers, notably lower than the national rate.

The lower fatality rate in Massachusetts can be explained, in part, by the fact that there were no work-related homicides in Massachusetts during 1998. Although the number of work-related homicides throughout the United States fell to its lowest level in the past 7 years during 1998, homicides still accounted for 12% of workplace fatalities across the nation. The low occupational fatality rate in Massachusetts also reflects that Massachusetts has a lower rate of fatal highway accidents in general than the rest of the nation. Nationally, transportation-related incidents accounted for 44% of all work-related fatalities.

Industry specific findings for Massachusetts highlight those industries where injury prevention efforts are most needed. The construction industry continues to claim a notably high proportion of fatally injured workers in the Commonwealth. In Massachusetts as well as the nation, falls were the leading cause of fatal injuries in construction. OSHA continues to publicize and emphasize enforcement of the new fall protection standard in this industry (OSHA 3146). The standard identifies areas where fall protection is needed and clarifies what employers must do to provide fall protection for employees, such as identifying and evaluating fall hazards and providing specific training and equipment. In Massachusetts, the FACE Project is continuing educational outreach to residential contractors by disseminating fall prevention brochures. These brochures designed for residential contractors focus on ladder safety, scaffold safety, and falls on construction sites. These brochures are available on our web site at [www.state.ma.us/dph/ohsp/scaffold.htm](http://www.state.ma.us/dph/ohsp/scaffold.htm).

For more detailed tables, copies of full-length FACE fatality reports, fall prevention brochures, and pamphlets on child labor laws in Massachusetts, please contact Massachusetts Department of Public Health, Occupational Health Surveillance Program, 250 Washington Street, 6th Floor, Boston, MA 02108-4616. (617) 624-5627 e-mail: [sue.shepherd@state.ma.us](mailto:sue.shepherd@state.ma.us).

## ACKNOWLEDGMENTS

This project is a joint effort of several state and federal agencies. For their assistance in providing data for the study and for their advice, we thank: *Ruth McCully*, Regional Administrator, OSHA Region I; *Jim Hayes*, Office of Safety, MA Department of Industrial Accidents; *Elaine Trudeau*, Registrar of Vital Records and Statistics, MA Department of Public Health; *Anthony Conti*, Director, MA Fatal Accident Reporting System (FARS). We also appreciate the contributions of the MA Department of Labor and Workforce Development, U.S. Coast Guard, U.S. Bureau of Labor Statistics, and NIOSH.

<sup>1</sup> U. S. Dept. of Labor, Bureau of Labor Statistics, National Census of Fatal Occupational Injuries, 1998.