

U.S. Fire Administration TOPICAL FIRE RESEARCH SERIES

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Firefighter Fatalities in 2000

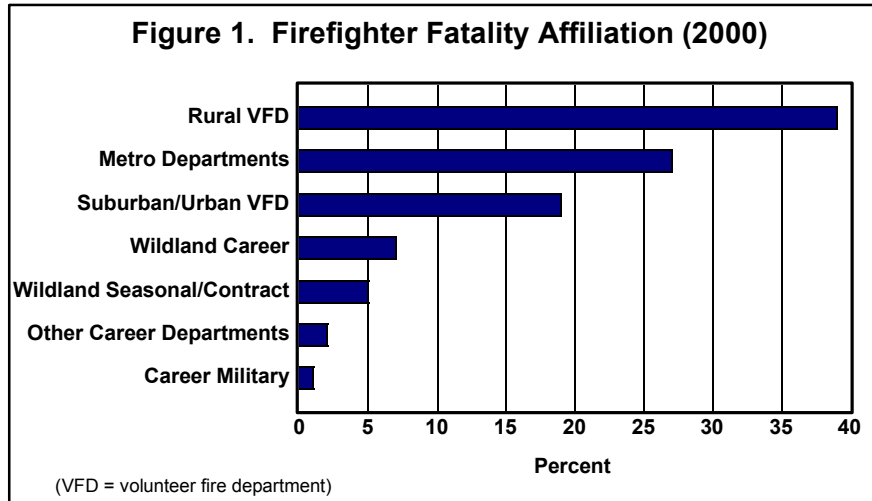
FINDINGS

- The USFA is attempting to meet its goal of a 25% reduction in firefighter fatalities by 2005 by encouraging research, improved training methods, new technologies for equipment and apparel, and improved operations.
- In 2000, 102 firefighters died: 72 firefighters of these died during emergency operations, 40 of whom died on the fireground.
- 40% of fatalities were due to heart attacks or CVA, and most of these were to firefighters over the age of 40.

The number of firefighter fatalities has steadily decreased over the last 25 years, from a high of 171 in 1978 to a low of 75 in 1992. Despite this trend in absolute terms, approximately 100 firefighters are killed in the line of duty each year and tens of thousands are injured.¹ In 2000, 102 firefighters died.² This report details the circumstances surrounding their deaths and briefly examines trends in firefighter mortality.

FATALITY CHARACTERISTICS

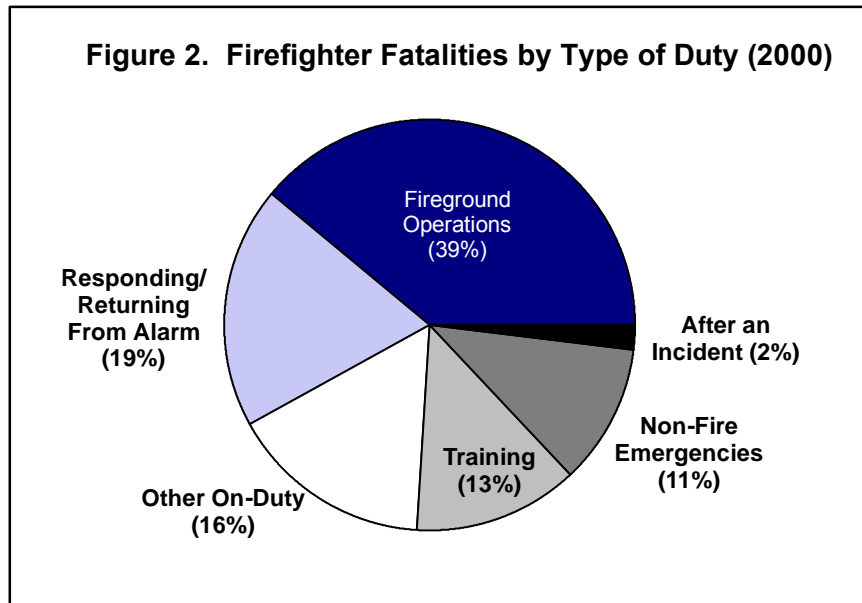
Of the 102 firefighters killed in the line of duty in 2000, 99 were men and 3 were women. Figure 1 shows the distribution of firefighter fatalities by affiliation. Overall, 63 percent of fatalities were volunteers and 37 percent were career personnel. This is not surprising since many fire departments in the United States are comprised solely of volunteers rather than career personnel.



ACTIVITY AT TIME OF INJURY

Seventy-one percent of firefighter fatalities in 2000 occurred during emergency operations, including responding to incidents, operations at the scene, and returning from the incident. Twenty-nine percent of fatalities occurred during non-emergency activities, which include training, administrative activities, and other functions not directly associated with emergency operations.

Figure 2 illustrates the percentage of firefighters who died by the type of duty being performed. The largest proportion (39%) of fatalities was on the fire scene (fireground). The travel to and from an emergency resulted in 19% of the overall firefighter fatalities.



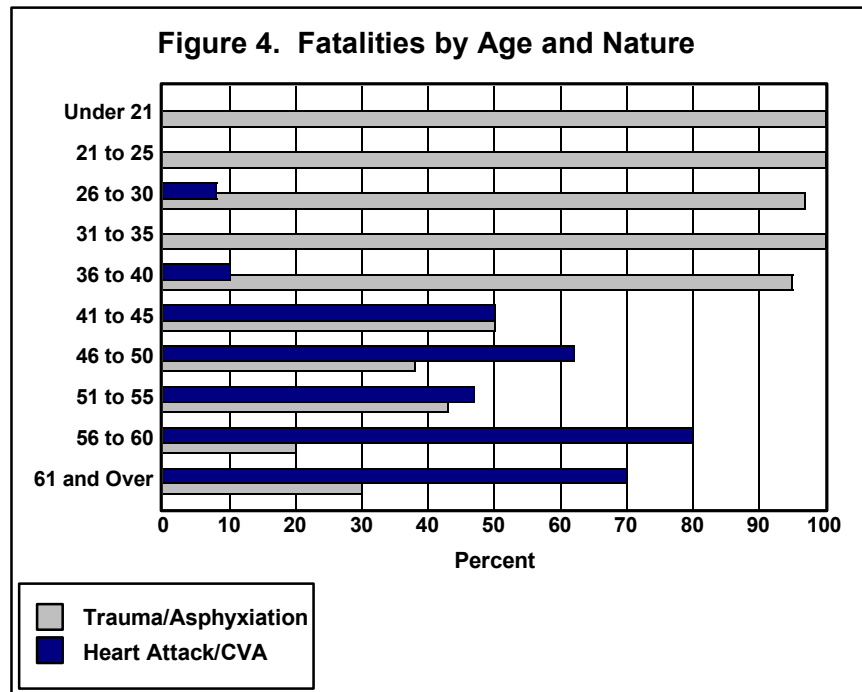
NATURE OF FATAL INJURY

Figure 3 illustrates the leading nature of fatal injuries in 2000. Consistent with trends in firefighter mortality, the leading cause of death for firefighter fatalities is heart attack, followed by trauma.

Figure 3. Nature of Firefighter Fatal Injury (2000)

NATURE	RAW NUMBER	PERCENT OF FATALITIES
Heart Attack	41	40
Internal Trauma	36	35
Asphyxiation	13	13
Burns	6	6
Total	102	100

Figure 4 shows the distribution of firefighter fatalities by age and nature of injury. Younger firefighters were more likely to die as a result of traumatic injuries, while older firefighters were more likely to suffer heart attacks or CVAs. In response to this latter problem, the USFA has recommended the implementation of effective firefighter health and wellness programs to reduce the incidence of heart attacks and strokes.



CONCLUSIONS

Research, training, improved operations, application of new technologies in equipment and apparel, and the appropriate use of staffing are among factors that should minimize future firefighter deaths.

In keeping with the USFA's stated goal to reduce firefighter mortality 25 percent by 2005, a retrospective study of firefighter mortality from 1990 through 2000 is underway. By identifying trends in firefighter mortality data over time, additional prevention strategies can be developed to reduce the terrible toll to firefighters.

EXAMPLES

- Two firefighters were killed in February when they became disoriented while fighting a fire in a fast-food restaurant. The fire was started by several juveniles attempting to conceal a robbery. They were caught, charged, and convicted.
- In March, a fire chief was killed while testing hose at the fire station. During the test, the 2-1/2- inch hose separated from its coupling. The chief was struck by the high-pressure water and propelled into a nearby fire truck. He suffered a fatal head injury from the impact.

- In December, a lieutenant was struck and killed by a vehicle while he was at the scene of a vehicle accident. The driver was under the influence of alcohol and was driving with a suspended license. He was charged with reckless homicide.

NOTES

1. For the purpose of this study, the term “firefighter” applies to all members of organized career and volunteer fire departments in all states, the District of Columbia, and the Territories of Puerto Rico, Virgin Islands, American Samoa, Commonwealth of the Northern Mariana Islands, and Guam. Also included are seasonal and full-time employees of the United States Forest Service, the Bureau of Land Management, the Bureau of Indian Affairs, the Bureau of Fish and Wildlife, the National Park Service, and state wildland agencies. On-duty fatalities include any injury or illness sustained while on duty that proves fatal. The term *on duty* refers to being involved in operations at the scene of an emergency, whether it is a fire or non-fire incident; being en route to or returning from an incident; performing other officially assigned duties such as training, maintenance, public education, inspection, investigations, court testimony, and fund-raising; and being on call, under orders, or on standby duty, except at the individual’s home or place of business. These fatalities may occur on the fireground, in training, while responding to or returning from alarms, or while performing other duties that support fire service operations.
2. The 2000 firefighter data are from *2000 Firefighter Fatality Report*, NFPA, August 2001.

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