The data in the 2000 IAFF Annual Death and Injury Survey demonstrates that dangers to fire fighters come in many forms. Despite counter-measures ranging from improved protective clothing and equipment to more effective health and safety regulations, fire fighting remains one of the most dangerous occupations in the United States.

In 2000, 34 professional fire fighters were killed in the line of duty. Another 53 professional fire fighters died as a result of occupational diseases directly related to fire fighting.

In 2000, fire fighters continued to suffer job-related injuries in numbers that far exceed other occupations, with nearly 1 in 5 injured in the line of duty. Professional fire fighters were more than three times as likely to be injured on the job than the average worker in private industry. The vast majority of injuries are still incurred during structural fire suppression, but a significant portion occurred at the scene of medical emergencies.

A growing threat to fire fighters continues to come from communicable diseases. Survey respondents reported that one in 50 fire fighters was exposed to a communicable disease in 2000. The most commonly reported diseases fire fighters were exposed to were tuberculosis, the various strains of hepatitis, and HIV/AIDS.

This year’s survey results once again point out the importance of the IAFF’s strong commitment to protecting the health and safety of fire fighters and emergency medical personnel.

I extend my thanks to the many IAFF affiliates and fire chiefs who support our efforts and provided the IAFF with the data needed to produce this survey.

Harold A. Schaitberger
General President
I. Fire Fighter Mortality

In 2000, 34 professional fire fighters died from injuries received in the line of duty.¹ The leading causes of line-of-duty deaths were heart attack and burns/asphyxiation after being trapped. This year also saw increases in the number of fatalities from workplace violence and apparatus accidents.

### Breakdown of Line of Duty Deaths by Cause

![Breakdown of Line of Duty Deaths by Cause](image)


¹ The IAFF defines a line-of-duty death to be a career fire fighter fatality that is recognized to be occupationally related by the U.S. Department of Justice, Public Safety Officer Death Benefit; the U.S. Fire Administration; or a state or local entity that has authority in such matters.
During 2000, job related fatalities for fire fighters were nearly three times the rate of the private sector.

**Job Related Fatalities per 100,000 Workers**


Another 53 fire fighter deaths were attributed to occupational diseases—32.1% were caused by heart disease, 58.5% by cancer and 3.8% by infectious disease.

In 2000, the average age of those fire fighters who died from duty-related causes were:

- Line-of-Duty Injury: 43.1 years
- Occupational Disease: 64.7 years
II. Fire Fighter Injuries

Fire departments responding to the 2000 survey reported that 116,785 fire fighters sustained 23,754 line-of-duty injuries either at the emergency scene or while performing other job related tasks. Consequently, about one out of every five fire fighters was injured in the line of duty.

When compared to data compiled for private industry by the U.S. Bureau of Labor Statistics, the 2000 Fire Fighter Death and Injury Survey indicates that “incidence” or frequency of fire fighter job related injury is over 3.3 times that of workers in private industry. In other words, 20.3% of fire fighters were injured in 2000 compared to only 6.1% of private industry workers.

Number of Job Related Injuries/Illnesses per 100 Workers

Source: Survey of Occupational Injuries and Illnesses, 1999; USDL Summary 00-357; U.S. Bureau of Labor Statistics; and IAFF 1999 Death and Injury Survey
With regard to reported fire fighter line-of-duty injuries, approximately 69.5% occurred at the scene of an emergency incident.

**Distribution of Line of Duty Injuries by Activity**

- Structural Fire Suppression (52.2%)
- EMS (10.1%)
- Fire Station (8.8%)
- Unknown (14.2%)
- Responding to/Returning from Alarm (2.8%)
- Physical Fitness Exercises (3.2%)
- Training (4.4%)
- Technical Rescue (0.9%)
- Non-Structural Fire Suppression (3.1%)
- HAZMAT (0.3%)

While fire suppression accounted for only 7.5% of all reported alarms, fire ground injuries represented 52.2% of all injuries occurring at the scene of emergency incidents.
Distribution of Line of Duty Injuries
at Emergency Scene by Type of Incident

<table>
<thead>
<tr>
<th></th>
<th>Percent of Alarms*</th>
<th>Percent of Injuries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire Suppression</td>
<td>7.5%</td>
<td>55.3%</td>
</tr>
<tr>
<td>HAZMAT</td>
<td>3.1%</td>
<td>0.3%</td>
</tr>
<tr>
<td>EMS</td>
<td>67.7%</td>
<td>10.1%</td>
</tr>
</tbody>
</table>

* Excludes non-emergency alarms for service and false alarms which total 28.9% of total alarms.

As in previous years, the leading cause of on-duty injuries was sprains and strains, followed by lacerations and contusions, burns, inhalation of hazardous materials (including smoke), and eye injuries.

Distribution of Line of Duty Injuries
by Type of Injury

- Cold Injuries (0.1%)
- Hostile Acts of Violence (0.2%)
- Exposure to Hazardous Materials - Non-Inhalation (1.5%)
- Fractures/Broken Bones (4.5%)
- Cardiac Abnormalities (4.7%)
- Heat Exhaustions/Heat Strokes (0.7%)
- Eye Injuries (6.7%)
- Exposure to Hazardous Materials - Inhalation (3.2%)
- Burns (4.3%)
- Other Injuries (8.3%)
- Lacerations & Contusions (23.9%)
- Sprains and Strains (41.8%)
With regard to reported fire fighter communicable disease exposures, over 96.2% occurred at the scene of an emergency incident.

**Distribution of Communicable Disease Exposures by Activity**

- **Emergency Medical** (78.4%)
- **Fire Suppression** (17.5%)
- **Fire Station** (1.7%)
- **Victim Rescue** (0.3%)
- **Location Unknown** (2.1%)
- **Location Rescue** (0.3%)
The survey also showed that the communicable diseases which fire fighters were most frequently exposed to were tuberculosis, hepatitis, HIV/AIDS, and meningitis.

**Distribution of Fire Fighter Communicable Disease Exposures by Disease**

- Hepatitis A Exposures (0.3%)
- Hepatitis B Exposures (5.0%)
- Hepatitis C Exposures (10.2%)
- HIV/AIDS Exposures (8.6%)
- Tuberculosis Exposures (29.8%)
- Menigitis Exposures (10.6%)
- Blood/Bodily Fluids Exposures (16.1%)
- Other Disease Exposures (19.4%)
As reported in this year’s survey, 325 fire fighters were forced to retire from their departments because of line-of-duty injuries or occupational disease—representing nearly 1 in 4 fire fighter retirements.

**Distribution of Fire Fighter Retirements**

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal Service Requirements</td>
<td>74.6%</td>
</tr>
<tr>
<td>Line of Duty Injury Retirements</td>
<td>16.3%</td>
</tr>
<tr>
<td>Occupational Disease Retirements</td>
<td>9.1%</td>
</tr>
</tbody>
</table>

The average age for duty connected disability retirements was 49.0 years for injury and 53.3 years for occupational disease.
The leading causes of premature departures in the case of occupationally related disease were heart disease and lung disease. Back injuries, followed by limb/torso injuries, were the primary reasons for job related injury retirements.

**Breakdown of Line of Duty Disability Retirements by Cause**

**Occupational Disease**
- Heart Disease (22.2%)
- Lung Disease (30.8%)
- Cancer (20.5%)
- Mental Stress (6.8%)
- Hearing Loss (5.1%)
- Communicable Disease (11.1%)
- Other Disease (3.4%)

**Line of Duty Injuries**
- Hand Injury (4.8%)
- Head/Face Injury (0.5%)
- Foot Injury (1.0%)
- Location Unknown (9.6%)
- Arm, Shoulder, Chest Injury (25.0%)
- Leg, Hips, Abdomen Injury (12.2%)
- Back Injury (47.0%)