

# Fatal Occupational Injuries

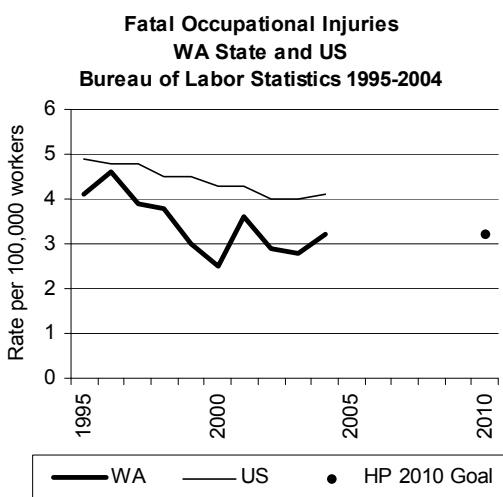
**Definition:** Injuries occurring in Washington during the course of employment that resulted in death.

## Summary

The annual occupational fatality rate in Washington State was relatively stable between 1999 and 2003, averaging 3.0 deaths per 100,000 workers. The annual number of fatalities ranged between 75 and 102, with an average of 89. High-risk Washington industries include agriculture, forestry, and fishing; transportation and public utilities; and construction.

## Time Trends

Between 1999 and 2003 Washington's average rate of fatal occupational injuries, 3.0 per 100,000 workers, was lower than that of the United States<sup>1</sup>. The rate averaged 4.5 deaths per 100,000 workers for the five years before 1996 and decreased to its current level of 3.0 in 1999.



## Year 2010 Goals

The national *Healthy People 2010* goal for occupational fatalities in all industries is 3.2 per 100,000 workers age 16 and older. The fatality

rate for 2004 is at the *Healthy People 2010* target. Given the current trend, the state's rate will remain at or below this level.

## Geographic Variation

Most fatalities between 1999 and 2003 occurred in King County (15%), followed by Pierce (9%) and Snohomish (9%) counties. These numbers reflect the relatively large populations of King, Pierce, and Snohomish counties. Some counties with smaller working populations had a relatively large number of fatalities in the time period. Because they are statistically unstable, county-specific occupational fatality rates are not included in this report.

## Age and Gender

In Washington between 2002 and 2004, 93% of fatalities involved men. Washington's average rate of fatal occupational injuries for men was 5.8 per 100,000 workers. The highest occupational fatality rate was for men 65 and over at 23.5 deaths per 100,000 workers. There are too few occupational fatalities for women to analyze the data.



## Race and Hispanic Origin

White, non-Hispanic workers accounted for 90% of Washington workers and 81% of fatalities. Workers of Hispanic origin made up about 5% of Washington workers but accounted for 11% of fatalities. Black or African-American workers accounted for 10% of fatalities and make up 4% of the workforce. Workers of Asian descent comprised 3% of fatalities and workforce data was not available. Workers in other racial groups were either not injured or accounted for less than 1% of workplace fatalities.<sup>1,2</sup>

## Income and Education

In Washington, 74% of fatalities occurred in wage and salaried workers, and 26% occurred among those who were self-employed. Detailed data on workers' income and education are not available.

## **Risk and Protective Factors**

Between 2003 and 2004, transportation incidents caused 36% of Washington's occupational fatalities. Falls and contact with an object were the second and third leading causes of occupational fatalities during this time period, and accounted for 16% and 14% of deaths, respectively.

Major industrial sectors at high risk in Washington for the year 2004 included Agriculture, Forestry and Fishing (fatality rate: 18/100,000 workers), Transportation and Public Utilities (fatality rate: 10/100,000 workers), and Construction (fatality rate: 9/100,000 workers).

Risk factors for occupational fatality vary by industry. In transportation and public utilities, 42% of the deaths were caused by highway motor vehicle incidents and 31% from contact with objects and equipment. In construction, 44% of deaths resulted from falls and 25% from contact with objects and equipment. In agriculture, 60% of deaths resulted from transportation incidents.

## Intervention Strategies

Fatal occupational injuries tend to occur when workers are in or near hazardous physical, chemical, or social environments. There are several ways to reduce hazards. The best method is to remove the hazard. The next-best approach is to "engineer-out" or isolate the hazard from the workplace. For example, machine-guarding systems protect workers from

contacting machinery. Failing those two remedies, the best approach is administrative controls, such as training and education or worker-initiated activities. The last line of defense is personal protective equipment, such as hard hats.

Employers are responsible for identifying hazards specific to their workplace and developing effective incident prevention strategies. Some effective programs to reduce worker fatalities have required rollover protective structures on farm tractors<sup>3</sup>, safety equipment and training aboard fishing vessels in Alaska<sup>4</sup>, and fall protection in construction<sup>5</sup>.

**See Related Chapter:** [Non-fatal Occupational Injuries](#)

## **Data Sources**

The U. S. Bureau of Labor Statistics' (BLS) Census of Fatal Occupational Injuries (CFOI) is the source for United States and Washington State occupationally related deaths. These numbers are the numerators of the rates reported here. The Washington CFOI data includes occupational injury fatalities occurring in Washington and does not include fatalities to Washington residents working outside the state. The definition specifies that deaths must have occurred during the reference year, and that the incident or exposure resulting in death must have occurred while the person was in work status.

The U.S. Census Bureau's Current Population Survey (CPS) data, summarized by the Local Area Unemployment Statistics program, is the source for the number of workers. These counts are the denominators of the rates reported here. This survey is a population-based household-sample survey of the civilian, non-institutionalized population. These rates do not include fatalities occurring on or people living at military facilities.

All rates should be used with caution. There is considerable year-to-year variation in the number of fatalities. There are also possible mismatches between the number of fatalities recorded in a year by CFOI and the worker population estimated by CPS. This potential mismatch can occur because

- The CPS counts workers by their state of residence, but the CFOI counts workers by state of injury,
- The CPS categorizes workers among industries according to their primary job, which might differ from the job held when fatally injured, and
- The CPS employment data used to calculate the rates are estimates based on a sample of employers rather than a complete count and include sampling error.

## **For More Information**

Washington State Department of Labor and Industries' Safety and Health Assessment and Research for Prevention (SHARP) Program (888) 667-4277.

## Endnotes

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<sup>1</sup> U.S. Department of Labor (BLS). (2006). Bureau of Labor Statistics, Census of Fatal Occupational Injuries (CFOI), Retrieved from <http://www.bls.gov/iif/oshcfoi1.htm>.

<sup>2</sup> U.S. Bureau of Labor Statistics. (2002). *Geographic Profile of Employment and Unemployment, 2000*. U.S. Department of Labor, Bureau of Labor Statistics, Bulletin 2550.

<sup>3</sup> Reynolds, S. J., & Groves, W. (2000). Effectiveness of rollover protective structures in reducing farm tractor fatalities. *American Journal of Preventative Medicine*, 18(4 Suppl), 63-69.

<sup>4</sup> Department of Human and Health Services (NIOSH). (1997). *Commercial fishing fatalities in Alaska: Risk factors and prevention strategies*. Cincinnati, OH: National Institute for Occupational Safety and Health, Publication No. 97-163.

<sup>5</sup> Nelson, N. A., Kaufman, J., Kalat, J., & Silverstein, B. (1997). Falls in construction: Injury rates for OSHA-inspected employers before and after citation for violating the Washington state fall protection standard. *American Journal of Industrial Medicine*, 31(3), 296-302.