

## Overview of Occupational Injuries and Illnesses

### The Burden of Occupational Injuries and Illnesses

Injuries are generally easier than illnesses to categorize as occupationally related because their occurrence at the workplace or during work activities is usually obvious. Designating illnesses as occupational in origin is not as straightforward because illnesses often take a long time to develop and may be influenced by nonoccupational factors such as age, family history, or lifestyle habits such as tobacco use or avocational noise exposure. For example, a cancer appearing in old age may be very difficult to associate with work performed many years earlier. No single data system describes deaths from all occupational illnesses, but several data systems describe deaths from all occupational injuries. Therefore, the burden of occupational injuries is more apparent than the burden of occupational illnesses.

#### *Fatal Injury*

About 17 workers were fatally injured each day in 1997, yielding a total of 6,238 deaths that year; this total is about the same as that for 1992 (Figure 1–7) according to CFOI. Data from NTOF suggest that the overall rate of traumatic occupational fatalities declined during the 1980s and was stable in the early 1990s (Figure 1–8). CFOI fatality estimates exceeded those of NTOF by 1,000 or more for years reported in both surveillance systems (1992–1995).

Fatal transportation incidents accounted for 42% of all occupational injuries in 1997 (Figure 1–9), with highway crashes being the most frequent cause of death. Other frequent transportation incidents included crashes on the side of the road, jackknifings, and overturns. Assaults and other violent acts, including suicide, were the second most common fatal occupational events in 1997, accounting for 18% of total cases (Figure 1–9). Most violent acts were homicides, the second single leading type of fatality. Eighty percent of the homicides resulted from shootings, and most (85%) occurred during a robbery or another crime.

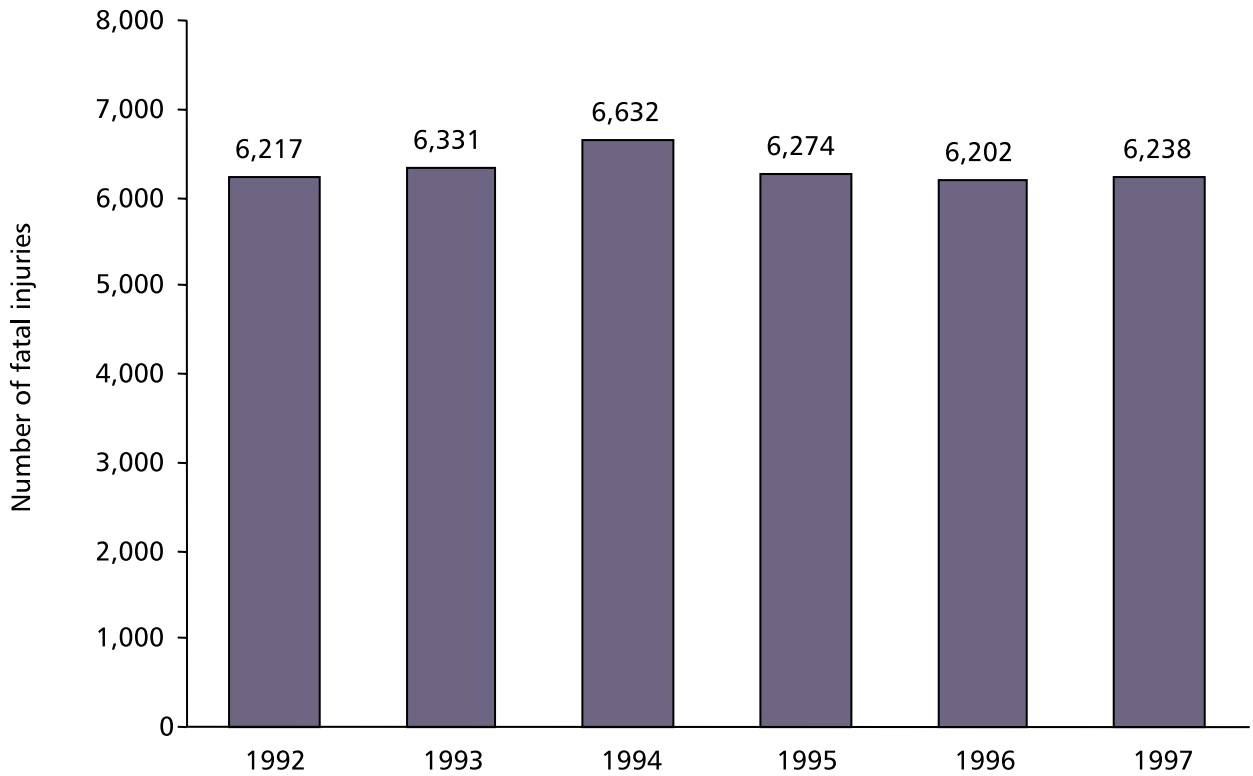


Figure 1-7. Number of fatal work injuries, 1992-1997. (Source: CFI [1999].)

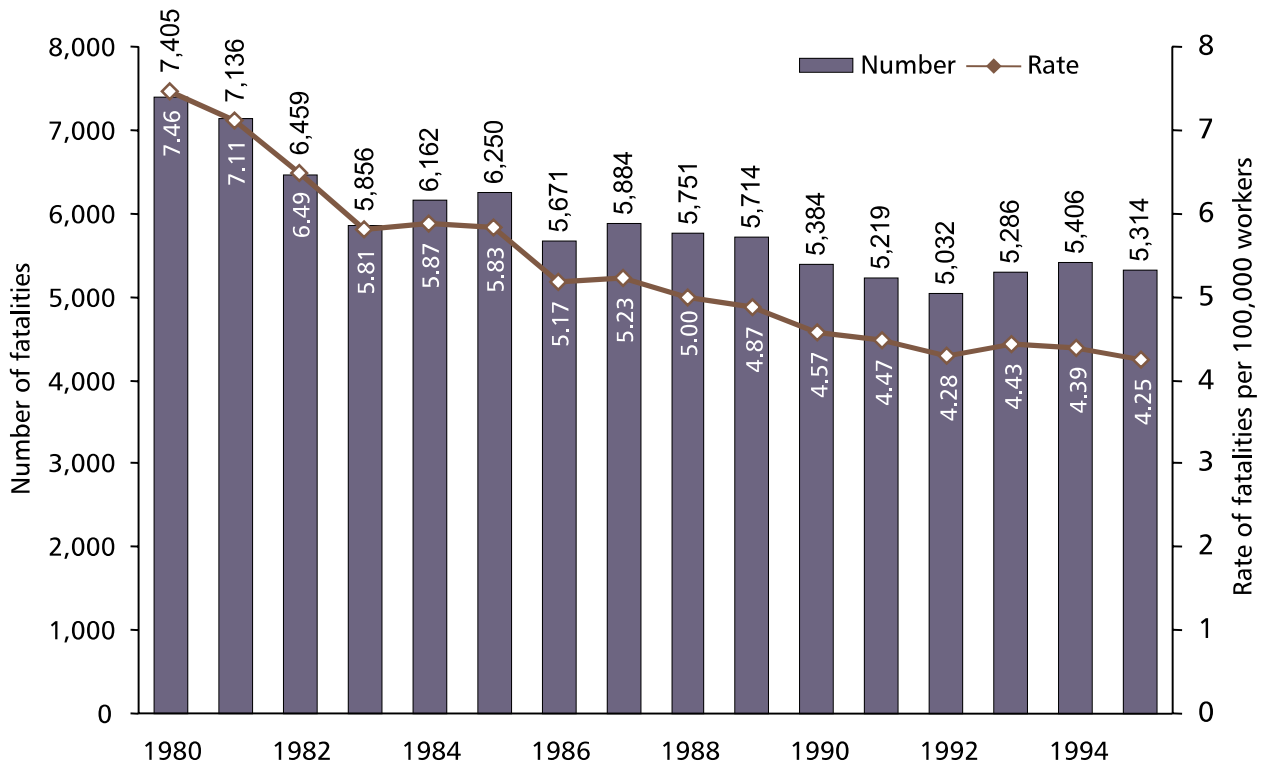
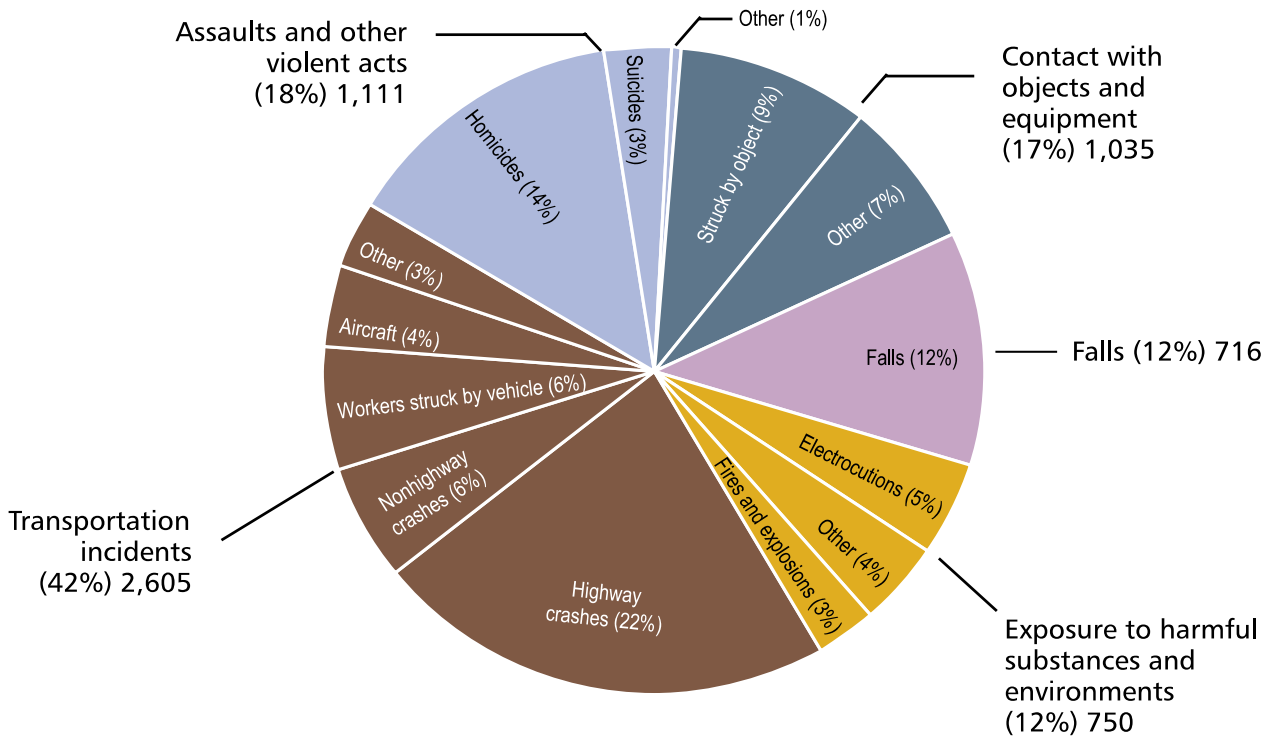


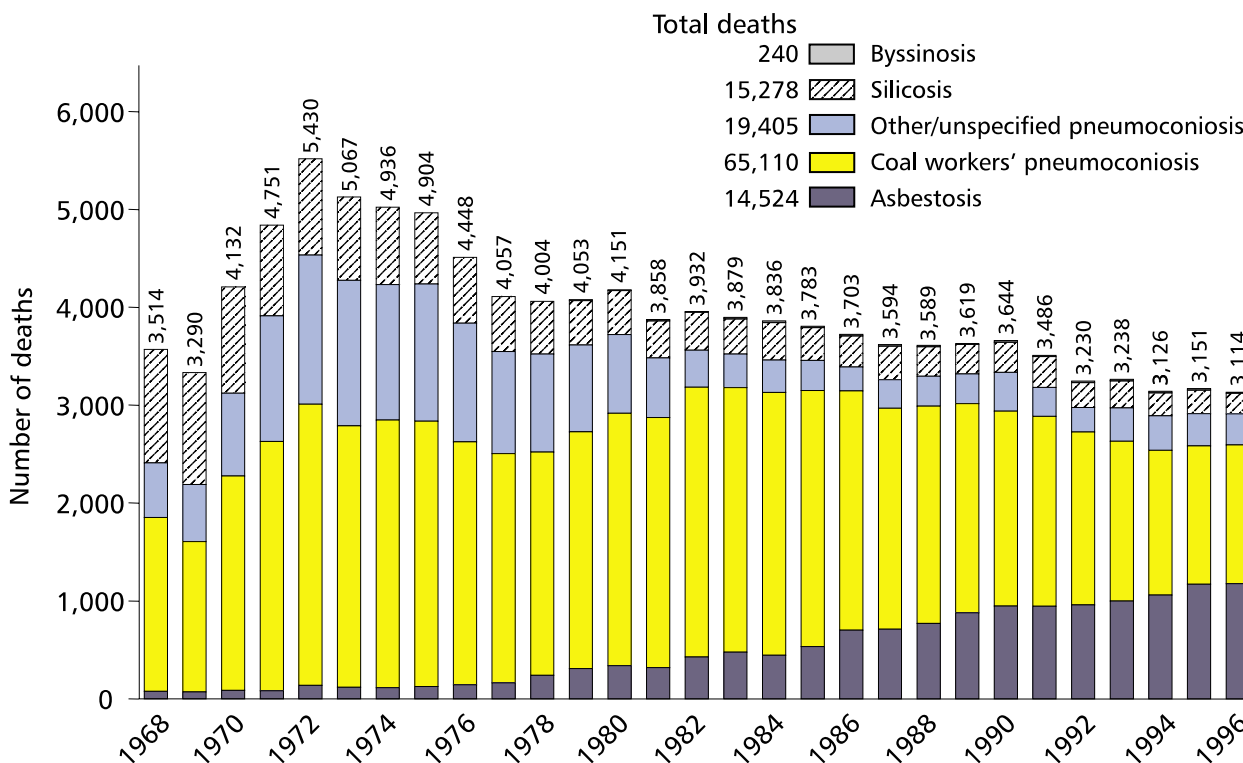
Figure 1-8. Number and annual rate of traumatic occupational fatalities, 1980-1995. (Source: NTOF [1999].)



**Figure 1–9.** Number and distribution of fatal occupational injuries in 1997, by event and exposure. An additional 21 fatalities were attributed to other events and exposures, including *bodily reaction and exertion*. (Source: CFOI [1999].)

### Fatal Illness

No surveillance data exist for most fatal occupational illnesses. One reason for this lack of data is that most occupational illnesses can be caused by factors other than workplace exposures. Lung diseases such as asthma, tuberculosis (TB), respiratory cancers, and chronic obstructive pulmonary disease (COPD) are examples of these diseases. However, the pneumoconioses, a small subset of lung diseases, are among the few illnesses attributable entirely to occupation. Since 1968, more than 113,000 fatalities have occurred with pneumoconiosis listed as an underlying or contributing cause of death (Figure 1–10). The number of deaths declined from a maximum of more than 5,400 in 1972 to slightly more than 3,100 in 1996. Coal workers’ pneumoconiosis (CWP) deaths accounted for more than 50% of those deaths. Among the pneumoconioses, only asbestosis deaths have continued to increase.



**Figure 10.** Number of deaths with pneumoconiosis listed as an underlying or contributing cause, U.S. residents aged 15 and older, 1968–1996. The stacked bars slightly overstate the numbers because some deaths are associated with more than one type of pneumoconiosis. The actual numbers are shown above the bars. (Source: NSSPM [1999].)

### Nonfatal Injury and Illness Combined

Injuries accounted for 5.7 million (93%) of the 6.1 million injuries and illnesses reported by SOII for private-sector employers in 1997. The percentage of injuries in the combined count of illness and injury cases varied by industry division according to SOII. In manufacturing, 87% of all cases were injuries; in construction, almost 99% of the cases were injuries (Figure 1–11).

Incidence rates for total recordable cases of injuries and illnesses decreased from 11.0 to 7.1 cases per 100 full-time workers between 1973 and 1997 (Figure 1–12). The greatest change occurred among cases without lost workdays, which decreased from 7.5 in 1973 to 3.8 in 1997. In cases with lost workdays, the incidence rate in 1997 (3.3) was similar to that in 1973 (3.4) despite the fact that the total number of lost-workday cases rose from 1.9 million in 1973 to 2.9 million in 1997.

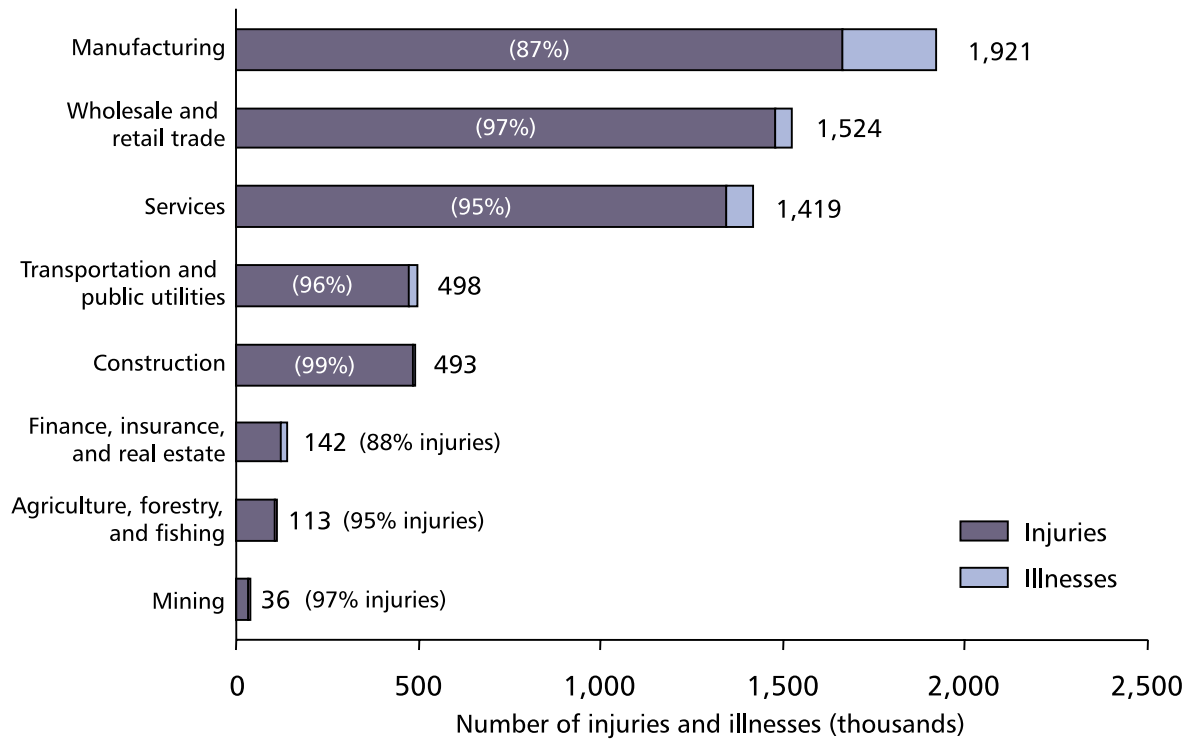


Figure 1-11. Number of nonfatal occupational injury and illness cases in private industry, by industry division, 1997. Injuries as the % of total cases for each industry division are shown in parentheses. (Source: SOII [1999].)

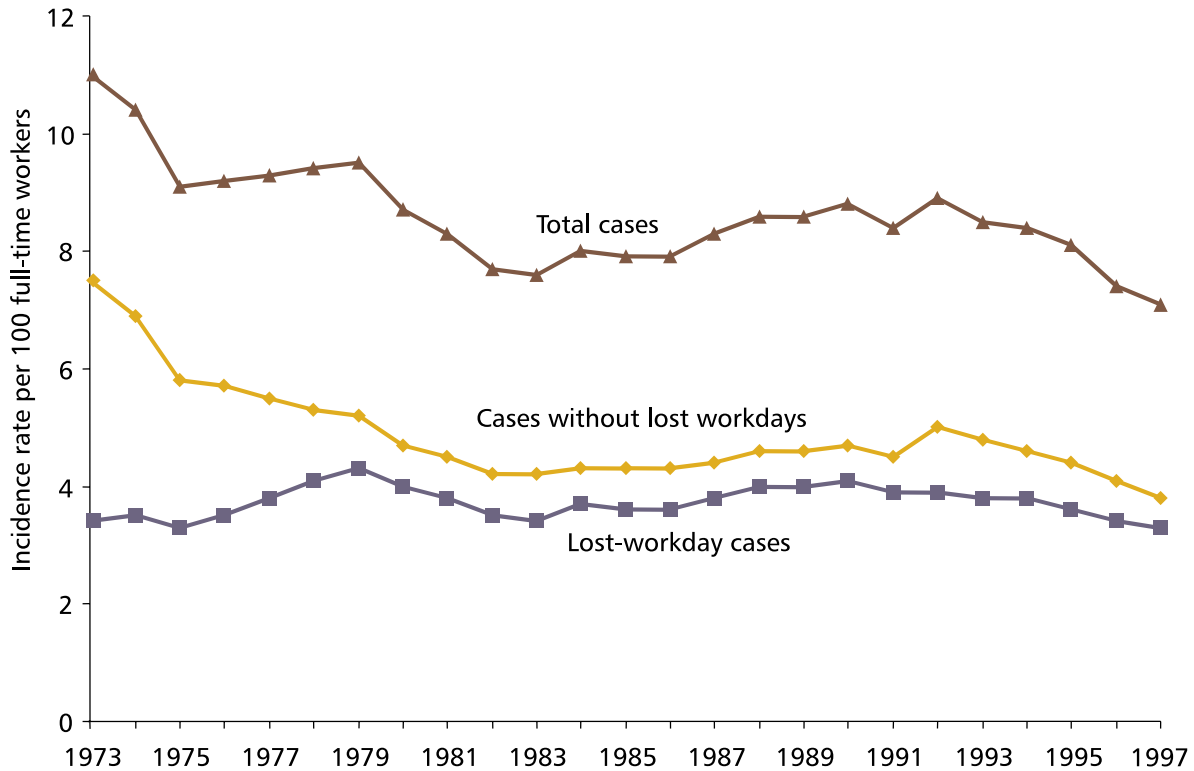


Figure 1-12. Incidence rates for occupational injury and illness cases in private industry, 1973-1997. (Cases without lost workdays and lost-workday cases are subsets of total cases.) (Source: SOII [1999].)

As noted earlier, lost-workday cases include cases with days away from work and cases with restricted work activity only (i.e., cases in which workers report to their jobs for limited duty). From 1988 to 1997, there was a decrease in the rate of cases with days away from work and an increase in the rate of cases with restricted work activity only (Figure 1–13).

One factor contributing to the decline in overall injury and illness incidence rates is the shift in hours worked from a sector with a high rate of injuries (manufacturing) to other sectors with lower rates of injury. Manufacturing hours decreased from 35% of all hours worked in 1973 to 17% of all hours worked in 1997. Hours worked in the service industries increased from 18% to 23% during that period. Actual injury and illness incidence rates from 1973 to 1997 are compared with incidence rates based on the 1973 industry distribution of hours worked (i.e., adjusted rates) in Figure 1–14. In all years, the rates would be higher if the number of manufacturing hours worked was as high as in 1973. However, the decrease over time is still apparent, suggesting that the shift away from work in manufacturing does not account completely for the decrease in injury and illness incidence rates. The results of a similar analysis performed on incidence rates for lost-workday cases are shown in Figure 1–15. Again, the rates would be higher if the number of manufacturing hours worked was as high as in 1973. However, no decrease over time is apparent in Figure 1–15 in either the actual or the adjusted rates.

Incidence rates in 1997 by State for total nonfatal occupational injuries and illnesses in private industry (not available for some States) ranged from a low of 4.4 cases per 100 full-time workers in New York to a high of 10.0 cases per 100 full-time workers in Wisconsin (Figure 1–16). The national rate was 7.1 cases per 100 full-time workers. Rates of nonfatal occupational injury and illness cases with days away from work ranged from 1.4 cases per 100 full-time workers in Georgia to 3.5 cases per 100 full-time workers in Alaska (Figure 1–17). The national rate for lost workdays was 2.1 cases per 100 full-time workers. For nonfatal occupational injuries and illnesses with restricted work activity only, rates ranged from 0.3 cases per 100 full-time workers in New York to 2.3 cases per 100 full-time workers in Maine (Figure 1–18). The national rate of cases with restricted work activity only was 1.2 per 100 full-time workers.

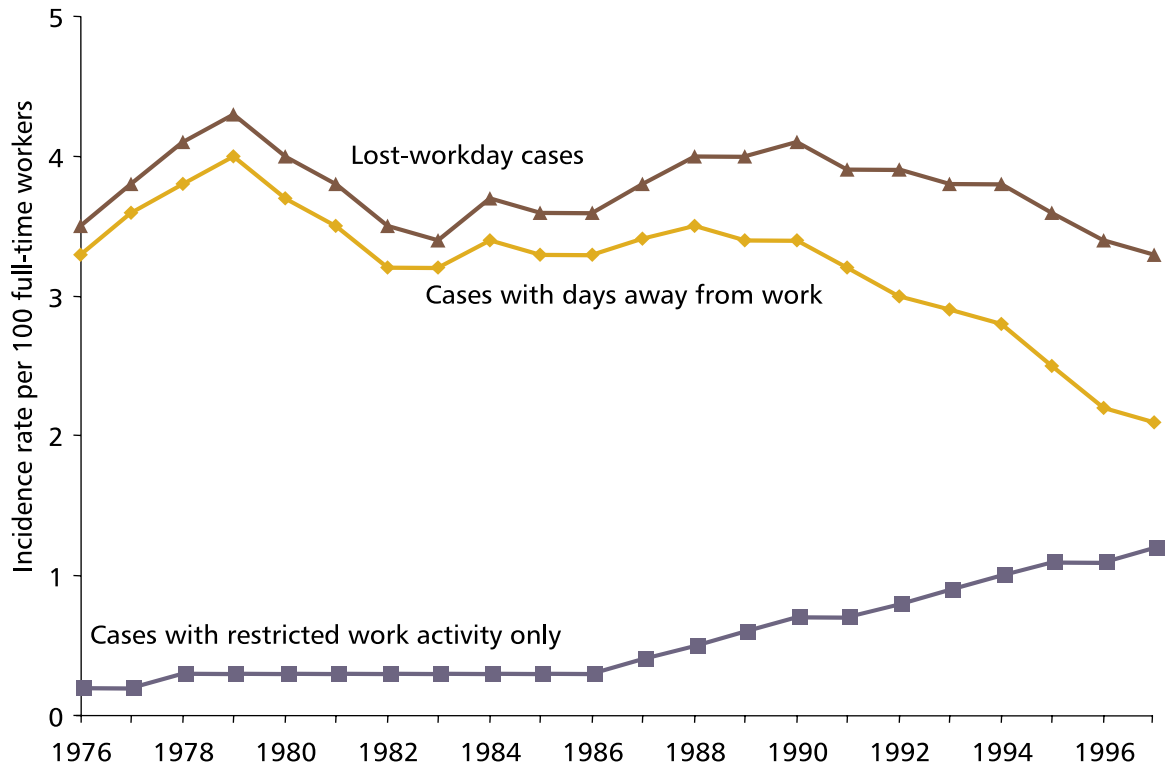


Figure 1–13. Incidence rates of lost-workday cases associated with nonfatal occupational injuries and illnesses in private industry, 1976–1997. (Cases with days away from work and cases with restricted work activity only are subsets of lost-workday cases.) (Source: SOII [1999].)

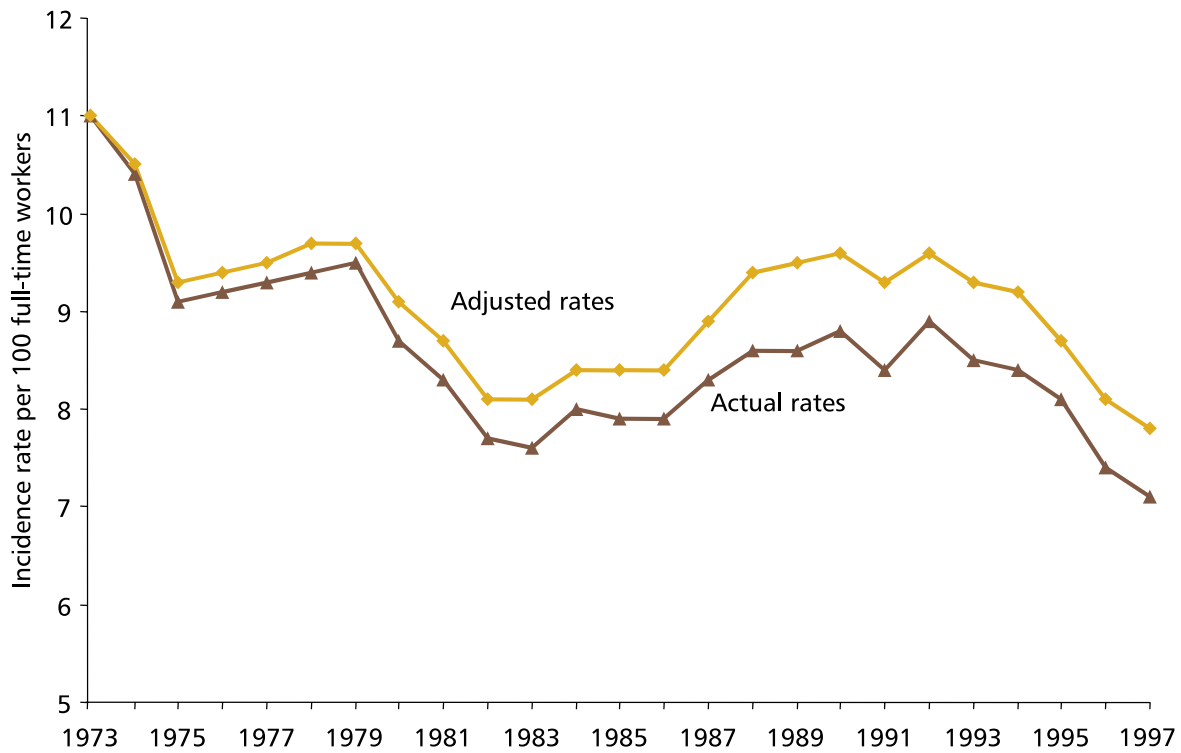


Figure 1–14. Total injury and illness incidence rates in private industry: actual rates compared with rates adjusted to 1973 hours series, 1973–1997. (Source: SOII [1999].)

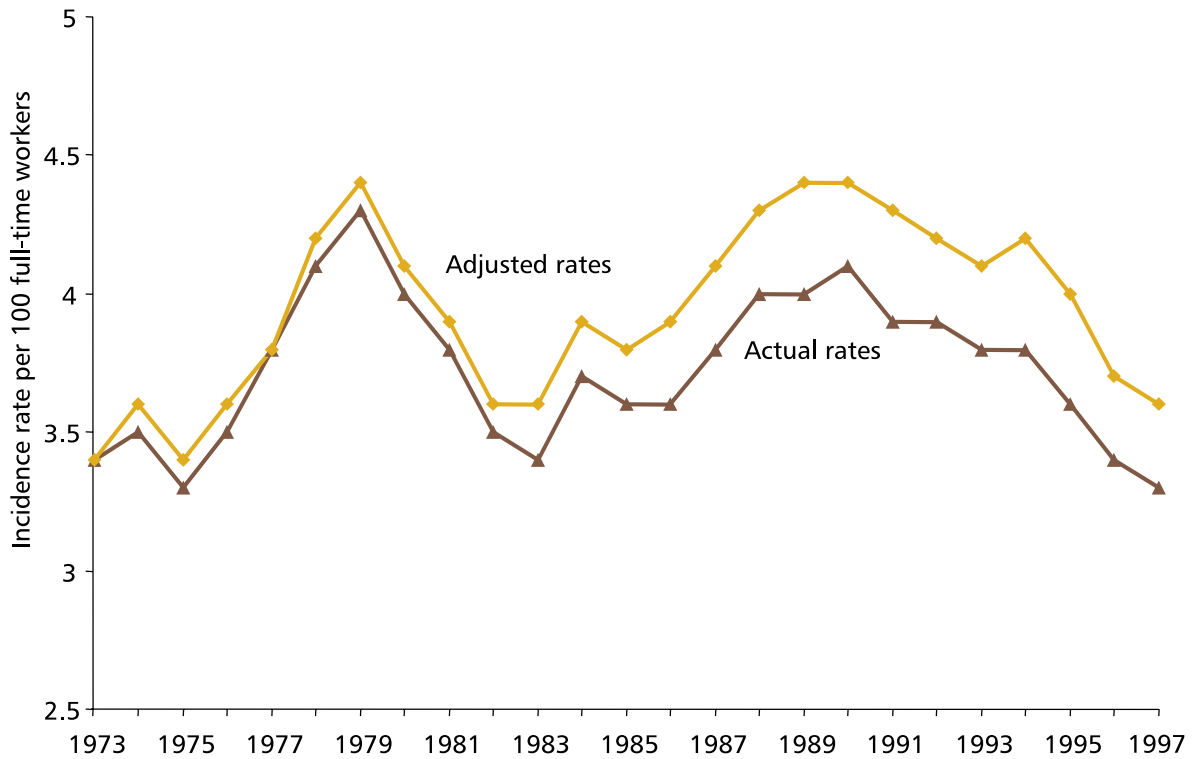


Figure 1-15. Incidence rates of lost-workday injury and illness cases in private industry: actual rates compared with rates adjusted to 1973 hours series, 1973-1997. (Source: SOII [1999].)

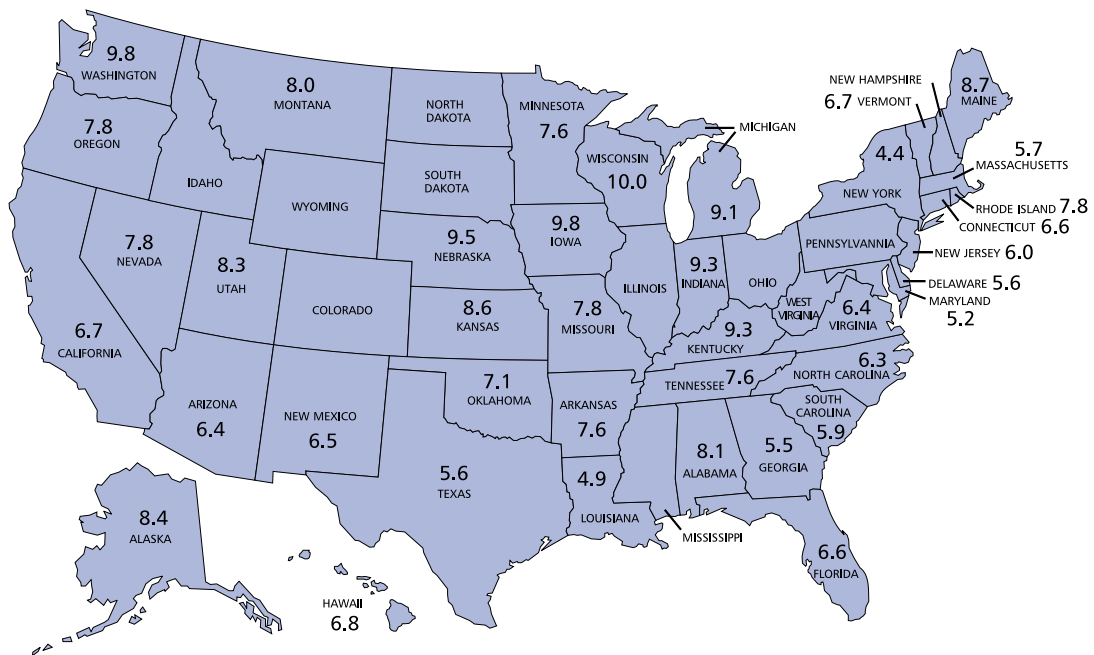


Figure 1-16. Incidence rates of nonfatal occupational injury and illness cases per 100 full-time workers in private industry, by State, 1997. National rate was 7.1. (Source: SOII [1999].)



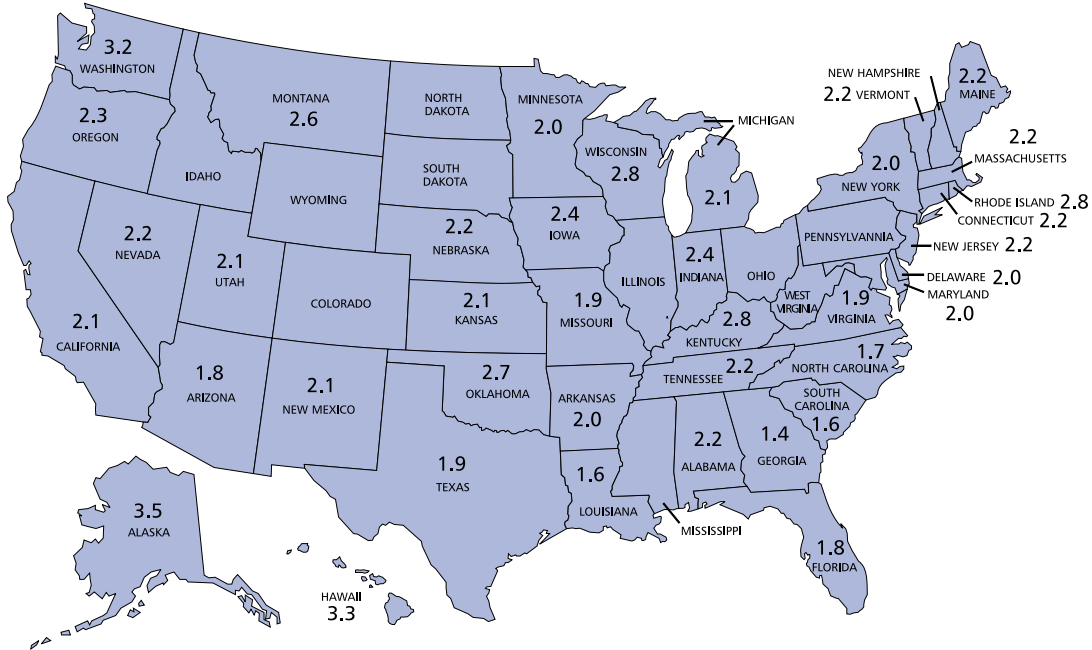


Figure 1-17. Incidence rates of nonfatal occupational injury and illness cases with days away from work per 100 full-time workers in private industry, by State, 1997. National rate was 2.1. (Source: SOII [1999].)

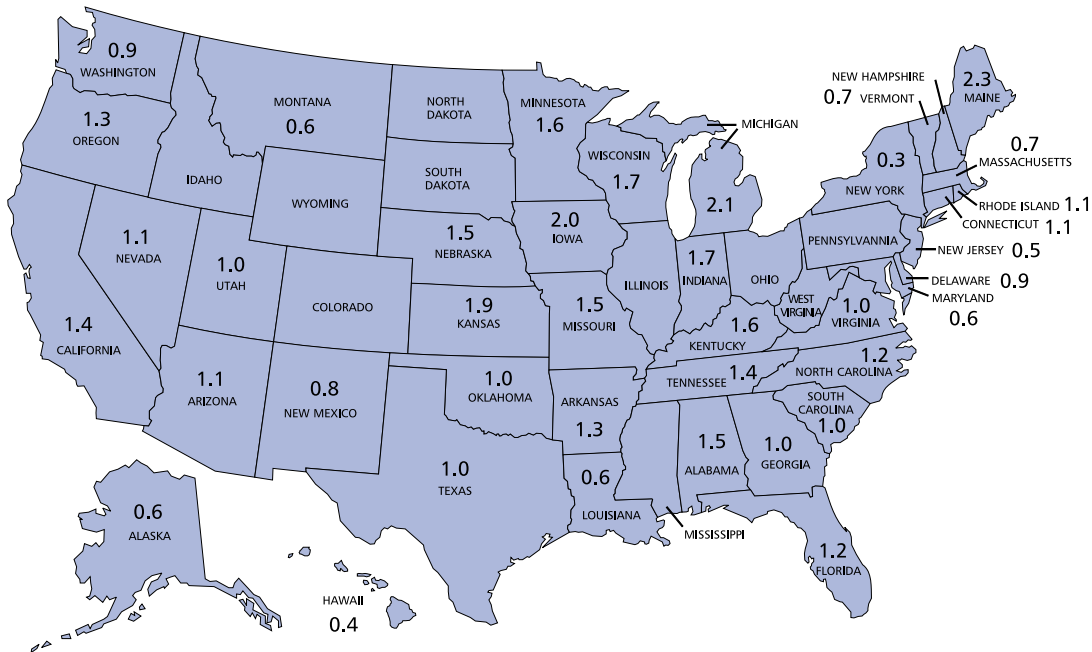


Figure 1-18. Incidence rates of restricted-workday cases of nonfatal occupational injury and illness cases per 100 full-time workers in private industry, by State, 1997. National rate was 1.2. (Source: SOII [1999].)