# Workplace Falls

Falls resulting in fatal and nonfatal injuries are a serious safety concern in the workplace. In 1997, workplace falls took 715 lives and inflicted 313,335 injuries involving a work absence.

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orkplace falls in 1997 were numerous and serious. Bureau of Labor Statistics (BLS) data show that, in 1997, jobrelated falls resulted in 715 fatalities and 313,335 nonfatal injuries involving work absences. These cases accounted for slightly more than a tenth of all workplace fatalities and slightly less than a fifth of all injuries and illnesses involving days away from work. The median recuperation time for fall injuries was 8 days—3 days more than the median for all types of injuries and illnesses combined.

Fatal workplace falls in 1997 were at a 6-year high. In comparison, there were 600 such fatalities in 1992—the first year BLS collected characteristics data for fatalities and for injuries and illnesses involving days lost from work. With the exception of a slight decline in 1995, the number of fatal falls increased each year during 1992-97, although when adjusted for employment growth, the overall rate of fatal workplace falls held about steady. (See chart 1 and table 1.) Workplace falls resulting in nonfatal injuries with days lost from work, on the other hand, were at a 6-year low in 1997. (See chart 2 and table 2.)

This article examines distributions and incidence rates of a variety of characteristics of fall fatalities and nonfatal fall injuries resulting in days lost from work. Characteristics include, among others: Industry, occupation, sex, type of fall, source of injury, nature of injury, part of body injured, and distribution of days lost. Data for this article are drawn from two primary sources, the BLS Census of Fatal Occupational Injuries, and the BLS Survey of Occupational Injuries and Illnesses. These data provide useful insights into the hazards associated with workplace falls.

## Census of Fatal Occupational Injuries

The BLS Census of Fatal Occupational Injuries (CFOI) covers all fatal work injuries—those incurred by wage and salary workers in private industry and government, and self-employed workers. This program has collected occupational fatality data nationwide since 1992. The CFOI program uses diverse data sources to identify, verify, and profile fatal work injuries. Detailed information about each workplace fatality (industry and other work characteristics, equipment involved, and circumstances of the event) is obtained by cross-referencing source documents such as death certificates; workers' compensation records; coroner, medical examiner, and autopsy reports; Occupational Safety and Health Administration fatality reports; news stories; follow-up questionnaires; State motor vehicle accident reports; and other sources. This variety of sources assures counts are as complete and accurate as possible.

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#### Fatal falls: Who fell?

Counts by major industry division. In 1997, 715 workers fell to their death—a 6-year high and 115 more than in 1992. Construction workers accounted for most of these falls—50 percent over the 1992-97 period. Each year construction workers incurred the greatest number of fatal falls, and each year the count increased—from 275 in 1992 to 380 in 1997.

#### Rates by major industry division.

Although the count for fatal workplace falls in 1997 was at a 6-year high, when adjusted for employment increases over the 1992-97 period, the risk for fatal falls held steady, at least in the aggregate. The overall incidence rate<sup>1</sup> for fatal workplace falls was 0.5 cases per 100,000 workers in each of the 6 years for which CFOI has collected data.

Workers in the construction industry during the years 1992-97 faced the highest risk for fatal workplace falls. Workers in agriculture, forestry, and fishing experienced the second highest risk for fatal falls; and mining workers, the third highest.

The trend for the risk of fatal falls has not been encouraging, especially for workers in the construction and agriculture, forestry, and fishing industries, where the risk has increased. During the 1992-97 period, the incidence rate for fatal falls increased from 4.2 to 4.9 in construction, and from 1.4 to 1.8 in agriculture, forestry, and fishing. The risk for fatal falls for the remaining industry divisions held relatively steady during this period.

#### Counts and rates by occupation.

Mirroring the construction industry's dominance of fatal falls, construction occupations accounted for nearly one-half of such incidents. (See table 3.) In 1997, workers in construction trades, such as roofers and carpenters, incurred 33 percent of all fatal falls, and construction laborers accounted for another 15 percent. Construction laborers had the greatest number of falls among specific occupations, but did not have the greatest risk.

Structural metal workers faced the greatest risk of a fatal workplace fall in 1997. Constructing the steel skeletons of buildings, bridges, and towers, while balancing upon narrow surfaces, is dangerous work. Of the 66,000 structural metal workers employed in 1997, 36 were fatally injured. This translates into a rate of 54.5 fatal falls per 100,000 employees.2 Roofers and hoist and winch operators had the second highest risk—there was no significant statistical difference between their rates—and electrical power installers and repairers, and construction laborers had the third.3

**Sex.** Ninety-seven percent of fatal workplace falls involved men, as men predominate the occupations most frequently associated with these incidents. This proportion was slightly higher than the male share of all fatal workplace incidents, which was 92 percent.

Age of worker. As the following tabulation shows, the proportion of fatal falls incurred by workers age 55 and older was slightly more than double their proportion of total employment. The phenomenon of older workers having a large share of fatal falls relative to their share of employment held true, but was less pronounced, in the construction industry, where half of fatal falls occurred.

| Age of worker                       | All<br>fatal<br>falls<br>(715<br>cases) | Perce<br>Total<br>em-<br>ploy-<br>ment | nt of—<br>Fatal<br>con-<br>struc-<br>tion<br>falls<br>(380<br>cases) | Con-<br>struc-<br>tion<br>em-<br>ploy-<br>ment |
|-------------------------------------|---|--|--|--|
| Total<br>Age:                       | 100                                     | 100                                    | 100  | 100  |
| 16 to 19<br>20 to 54<br>55 and over | 2<br>71<br>26                           | 5<br>84<br>12                          | 3<br>80<br>16  | 3<br>87<br>10                                  |

NOTE: Data may not sum to total due to rounding and classifications not shown.

#### **Fall characteristics**

BLS categorizes falls into three major groups:

• Falls on the same level: when the point of contact with the

- source of injury is on the same level or above the surface supporting the injured person.
- Falls to a lower level: when the point of contact with the source of injury is below the level of the surface supporting the injured person.
- Jumps to a lower level: when the injured person leaps from an elevation voluntarily, even if the jump is to avoid an uncontrolled fall or other injury.

Falls to a lower level were the most frequent fatal fall in 1997—91 percent of fatal workplace falls were of this type. (See table 4.) Of falls to a lower level, falls from a roof were most frequent. This type of fall includes falls from the roof's edge (56 fatalities), falls through pre-existing roof openings (20 fatalities), falls through roof surfaces (17 fatalities), falls through skylights (17 fatalities), and unclassified and unspecified falls (44 fatalities). Of the 154 fatal falls from roofs in 1997, 129 occurred in the construction industry. Five fatal falls from roofs occurred in agriculture, forestry, and fishing; and 20 were scattered among the remaining industry divisions—many involving building maintenance.

Falls from ladders were second in frequency among falls to lower level. Unlike falls from roofs, falls from ladders were more widely dispersed among industry divisions—63 of the 116 falls from ladders in 1997 occurred in construction and 53 occurred in other industries. Fatal falls from ladders involved a variety of circumstances. Some workers slipped from the ladder and fell; other workers' ladders collapsed, slid out from under them, or were knocked over; and some workers received electrical shocks causing them to fall.

Twelve percent of all fatal workplace falls were from scaffolding with 63 of the 87 such falls occurring in the construction industry. Again, nonconstruction fatal falls were scattered throughout the remaining industry divisions. Most falls from scaffolding involved a loss of balance. In some cases, the scaffolding collapsed, due to flaws in assembly, bearing too much weight, being struck by objects or machinery, or being blown by strong winds.

Falls from nonmoving vehicles (53 fatalities) were the fourth most frequent type of fatal fall to a lower level. Only a quarter of fatal falls from nonmoving vehicles occurred in construction. The nonmoving vehicles included vehicles used for transporting cargo (for example, semi-trucks, dump trucks, flatbed trucks, concrete trucks, and tanker trucks) and vehicles used for lifting (for example, boomtrucks and forklifts). Falls from vehicles often occurred when workers were unloading cargo, securing loaded cargo (for example, securing logs or timber to a flatbed) or cleaning these large vehicles. Falls from boom-trucks were often the result of the decedent losing balance and falling out of the bucket, the boom breaking, or the bucket detaching from the boom. Falls from forklifts usually occurred while an employee stood on an elevated pallet, and either lost his or her balance or was knocked off.

The fifth most frequent fatal fall to a lower level was a fall from a building girder or other structural steel member (48 fatalities). Most falls of this type occurred when an employee lost balance and fell from a steel beam, or when the steel beam on which an employee was supported collapsed.

Finally, 30 workers in 1997 were fatally injured in falls while trimming trees. Many of these workers fell from the tree itself; others fell from ladders that were propped up against the tree or from boom-trucks or "cherry pickers." In these cases, workers either lost their balance and fell, fell when the branch that was supporting them broke, or fell when struck by the branch that was being trimmed. Most of these falls occurred in agriculture, forestry, and fishing—the majority to workers in landscape and horticulture services,

and the remaining to agricultural production workers trimming trees on farms.

Height of fall. Information regarding the height of fall is not always available. An estimate of the height from which the decedent fell was available for 396 of the 652 fatal falls to a lower level in 1997. The following tabulation shows that, of the 396, 15 percent occurred from relatively short heights, 10 feet or less—the equivalent of a one-story building. The majority, 53 percent, occurred at heights between 11 and 30 feet.

| Height of fall in feet<br>(396 cases) | Percent |
|---------------------------------------|---------|
| 10 or fewer                           | 15      |
| 11 to 30                              | 53      |
| 31 to 50                              | 17      |
| 51 to 99                              | 9       |
| 100 or more                           | 6       |

In addition, workers were also fatally injured from falls that did not involve heights—43 fatal falls in 1997 were on the same level.

### Survey of Occupational Injuries and Illnesses

The BLS Survey of Occupational Injuries and Illnesses (SOII) collects national data on nonfatal occupational injuries and illnesses of wage and salary workers in private industry. Each year, a scientifically selected sample of private sector employers responds to a survey questionnaire.5 Respondents report summary information on the number of injuries and illnesses directly from establishment safety logs. The information contained in these logs conforms to definitions and recordkeeping guidelines established by the Occupational Safety and Health Administration, U.S. Department of Labor.

SOII, as does CFOI, classifies nonfatal injuries and illnesses resulting in work absences by principal physical characteristic (for example, fracture, cut, or respiratory disease), part of the body directly affected (for example, back or leg), source (for example, box, beam, or worker motion), and event or exposure (for example, fall or struck by object). In addition, BLS gathers data on the worker's age, length of service, race, occupation, and gender. All nonfatal injury and illness data in this article involved at least 1 day away from work following the day the incident occurred, as this is the only type of case for which detailed case data are collected.

#### Nonfatal falls: Who fell?

Unlike fatal workplace falls, which were concentrated in the construction industry, nonfatal falls were more widely dispersed. This is because fatal falls usually occur from heights, a condition limited to certain types of work, while falls resulting in nonfatal injuries occur under many conditions.

Counts by major industry division. A 6-year low of 313,335 fall injuries involving days away from work occurred in 1997—approximately 61,500 fewer than in 1992. Workers in the services industry experienced the greatest number of fall injuries in each of the years 1992-97—roughly a quarter. Workers in retail trade experienced the second greatest number of nonfatal injuries from workplace falls during this same period—roughly a fifth. (See table 2.)

Rates by major industry division. The trend for nonfatal workplace falls is more encouraging than the trend for fatal workplace falls. Workers' risk for nonfatal falls in private industry declined over the 6-year period 1992-97. The incidence rate<sup>7</sup> for nonfatal falls in all private industry in 1997 was 36.3 cases per 10,000 full-time workers, down from a rate of 49.0 in 1992. This decline was experienced in all major industry divisions, except mining and transportation and public utilities, industries in which the rate remained virtually unchanged.8 Workers in construction faced the greatest risk for a nonfatal workplace fall injury during the period 1992-95. During more recent years, 1996 and 1997, workers in the construction industry and in the transportation and public utilities industry had the greatest risk—there was no significant difference between their rates.

Occupation. Operators, fabricators, and laborers had the most nonfatal fall injuries in 1997, approximately a third; truckdrivers accounted for 10 percent of falls, and nonconstruction laborers, 4 percent. Workers in service occupations accounted for the second highest count with approximately a fifth of all nonfatal falls: Nursing aides, orderlies, and attendants accounted for 3 percent of the nonfatal fall total; janitors and cleaners, 3 percent; and cooks, 2 percent. (See table 5.)

Sex. In 1997, male workers were involved in a greater proportion of nonfatal workplace fall injuries than were female workers—59 percent of nonfatal fall injuries involved men. Additionally, male workers' proportion of fall injuries was greater than their proportion of total employment—men accounted for 54 percent of total employment.<sup>9</sup>

Age of worker. Whereas the proportion of fatal falls incurred by workers 55 and older in 1997 was double their share of total employment, the following tabulation shows that their share of nonfatal falls in 1997 was approximately the same as their share of employment.

|               | Percer   | nt of—  |
|---------------|----------|---------|
|               | Nonfatal | Total   |
| Age of worker | falls    | employ- |
|               | (313,335 | ment    |
|               | cases)   |         |
| Total         | 100      | 100     |
| Age:          | 100      | 100     |
| 16 to 19      | 3        | 5       |
| 20 to 54      | 81       | 84      |
| 55 and over   | 14       | 12      |

NOTE: Individual categories may not sum to totals due to rounding and because of cases for which age of injured or ill worker was not reported.

#### **Fall characteristics**

*Type of fall.* Many hazards lead to nonfatal fall injuries on the same level:

Water on office floors, grease on shop floors, and ice and snow on parking lots; uneven walking surfaces; cluttered floors; and tripping over one's own feet: about two-thirds of workplace fall injuries in 1997 were of this type. Falls to a lower level accounted for most of the remaining third. Eight percent of all nonfatal falls were from ladders, eight percent were falls down stairs or steps, and six percent were falls from nonmoving vehicles.

Source of injury. The source of the injury is the object, substance, or bodily motion that directly produced the injury or illness. Common sources of fall injuries were floors (half of nonfatal fall injuries), ground, stairs, steps, and parking lots. Source of injury, a useful statistic for many types of injuries, is not as useful for nonfatal injuries resulting from falls. For example, if the event causing injury was "struck by object," the source of injury would identify the object involved. Likewise, if the event causing injury was "inhalation of substance," the source would identify the substance the worker inhaled. However, it is obvious that for the event "fall to floor, walkway, or ground surface," a floor or ground surface ultimately produced the injury. What the person hit when they fell is not of much interest. Of more interest is what contributed to the fall; secondary source data provide this additional insight.

Of the estimated 198,128 injuries from falls on the same level in 1997, 45 percent included information on a secondary source. The following tabulation shows that, when a secondary source was noted, liquids such as water contributed to 32 percent of the cases; weather and atmospheric conditions, such as ice, sleet, and snow, 19 percent; boxes, crates, and cartons, 4 percent; and chairs, 3 percent. Other secondary sources contributing to falls on the same level included petroleum fuels and distillates; carts, dollies, and hand-trucks; food products; ropes and ties; skids and pallets; and floor covering such as rugs.

| Liquids Weather and atmospheric | 32 |
|---------------------------------|----|
| conditions                      | 19 |
| Boxes, crates, and cartons      | 4  |
| Chairs                          | 3  |
| Other                           | 42 |

#### Result of fall

Nature of injury. Workers most frequently (36 percent of the cases) suffered a sprain, strain, or tear as the nature or principal physical characteristic of the injury. Workers suffered fractures in 18 percent of all falls; bruises and contusions in 16 percent; soreness and pain not including the back in 5 percent; and sprains and bruises in 4 percent.

Part of body. Nonfatal falls most frequently resulted in injuries to multiple parts of the body. BLS uses the classification "multiple body parts" for an injury in which parts from two or more divisions are injured. The divisions are head; neck, including throat; upper extremities; lower extremities; and body systems. Workers injured multiple body parts in approximately a fifth of falls. The remaining falls resulted in injuries to isolated parts of the body. Workers injured their backs in 17 percent of falls, knees in 14 percent, ankles in 10 percent, and wrists in 5 percent.

Workdays lost. Workers injured in falls were out of work a median of 8 days, 3 days more than the median for days lost for all injuries and illnesses combined. One quarter of workers injured in falls were out 31 or more days, compared to approximately a fifth of workers for all injuries and illnesses. (See chart 3.)

Of the three most common natures of injury, workers who suffered fractures were out of work the longest, 30 days. Workers with sprains, strains, and tears were out of work a median of 7 days; workers with bruises and contusions, 4 days.

The data suggest that men incurred more serious injuries than women—

men took a median of 10 workdays to recuperate and women took a median of 6.

#### **Highlights**

#### **Fatal falls**

- A 6-year high of 715 workers were fatally injured in workplace falls in 1997.
- Overall, workers' risk for fatal falls has remained about the same from 1992 through 1997.
- Workers in the construction industry faced the greatest risk for fatal workplace falls during the period 1992-97; and their risk increased from 4.2 fatal falls per 100,000 full-time workers in 1992 to 4.9 in 1997.
- Structural metal workers had the highest risk of all occupations for fatal falls in 1997.

#### Nonfatal falls

 A 6-year low of 313,335 nonfatal workplace fall injuries involv-

- ing workdays lost occurred in 1997. These injuries involved a median of 8 days away from work.
- Workers' risk for nonfatal fall injuries decreased from 1992 through 1997.
- Workers in the construction industry faced the greatest risk for nonfatal workplace fall injuries involving lost work-time during the years 1992-95, and tied with workers in the transportation and public utilities industry for greatest risk in 1996 and 1997.

N = number of fatal work injuries W = number of employed workers

Employment figures are annual average estimates of private industry wage and salary workers and self-employed civilians, 16 years of age and older, from the Current Population Survey (CPS). Fatally injured workers under the age of 16 were not included in the rate calculations to maintain consistency with CPS employment estimates.

<sup>2</sup> Rates for fatal injuries by occupation are calculated in the same way as are rates for fatal injuries by industry. (See footnote 1.)

<sup>3</sup> The relative standard errors of the CPS employment estimates can be used to approximate confidence ranges for the fatality rates. For example, a confidence range for construction industry workers in 1997 can be approximated as follows: 4.9 x 0.012 x 2.77=0.16, where 4.9 is the

construction workers' fatality rate, 0.012 is the relative standard error (1.2 percent), and 2.77 is the factor used to determine a 95-percent confidence interval. The calculated confidence range for this estimate is 4.74 to 5.06 (4.9 plus or minus 0.16). If the confidence ranges of two or more estimates overlap, there is no statistically significant difference between them.

<sup>4</sup> Employment estimates are from the CPS.

<sup>5</sup> Occupational injury and illness data for coal, metal, and nonmetal mining and for railroad activities are provided by the Department of Labor's Mine Safety and Health Administration and the Department of Transportation's Federal Railroad Administration. The survey excludes all work-related fatalities as well as nonfatal work injuries and illnesses to the self-employed, to workers on farms with 10 or fewer employees, and to private household workers. In addition, for national estimates, the survey excludes Federal, State, and local government workers.

<sup>6</sup> The BLS Occupational Injury and Illness Classification System (OIICS) provides a set of procedures for coding reported information related to an occupational injury or illness. See Guy Toscano, Janice Windau, and Dino Drudi, "Using the BLS Occupational Injury and Illness Classification System as a Safety and Health Management Tool," *Compensation and Working Conditions*, June 1996, pp. 19-28.

 $^7$  Nonfatal incidence rates represent the number of injuries and illnesses per 10,000 full-time workers and were calculated as (N / EH)  $\,$  X 20,000,000 where:

N = number of injuries and illnesses,

EH = total hours worked by all employees during the calendar vear.

20,000,000 = base for 10,000 full-time equivalent workers (working 40 hours per week, 50 weeks per year).

<sup>8</sup> Confidence intervals for nonfatal falls were calculated in the same way as were confidence intervals for fatal falls. (See footnote 3.)

 $<sup>^{\</sup>rm 1}$  The fatality incidence rate represents the number of fatal occupational injuries per 100,000 employed workers and was calculated as: (N/W) x 100,000, where:

<sup>&</sup>lt;sup>9</sup> Employment estimates are from the CPS.

 $\mathsf{TABLE}$  1. Number and incidence rate of workplace fall fatalities by major industry division, 1992 and 1997

| Material design of the form        | Number |      | Incidence rate <sup>2</sup> |      |
|------------------------------------|--------|------|-----------------------------|------|
| Major industry division            | 1992   | 1997 | 1992                        | 1997 |
| Total                              | 600    | 715  | 0.5                         | 0.5  |
| Private industry                   | 552    | 685  | .6                          | .6   |
| Agriculture, forestry, and fishing | 47     | 65   | 1.4                         | 1.8  |
| Mining                             | 6      | 6    | .9                          | .8   |
| Construction                       | 275    | 380  | 4.2                         | 4.9  |
| Manufacturing                      | 67     | 55   | .3                          | .3   |
| Transportation and                 |        |      |                             |      |
| public utilities                   | 39     | 37   | .6                          | .5   |
| Wholesale trade                    | 15     | 16   | .3                          | .3   |
| Retail trade                       | 25     | 33   | .1                          | .2   |
| Finance, insurance, and            |        |      |                             |      |
| real estate                        | 12     | 16   | .2                          | .2   |
| Services                           | 62     | 68   | .2                          | .2   |
| Government                         | 48     | 30   | .2                          | .1   |
|                                    |        |      |                             |      |

<sup>&</sup>lt;sup>1</sup>The incidence rate represents the number of fatal occupational injuries per 100,000 employed workers and was calculated as: (N/W) x 100,000, where:

N = number of fatal work injuries W = number of employed workers

Employment figures are annual average estimates of private industry wage and salary workers and self-employed civilians, 16 years

of age and older, from the Current Population Survey (CPS). Fatally injured workers under the age of 16 were not included in the rate calculations to maintain consistency with CPS employment estimates.

NOTE: Components may not sum to totals due to unclassified fatalities.

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics

Table 2. Number and incidence rate of nonfatal workplace fall injuries involving days away from work¹ by major industry division, 1992 and 1997

|  | Number  |         | Incidence rate <sup>2</sup> |      |
|--|---------|---------|-----------------------------|------|
| Major industry division                                  | 1992    | 1997    | 1992                        | 1997 |
| Private industry <sup>3</sup> Agriculture, forestry, and | 374,831 | 313,335 | 49.0                        | 36.3 |
| fishing <sup>3</sup>                                     | 7,901   | 7,404   | 79.2                        | 54.9 |
| Mining 4   | 3,671   | 3,040   | 57.0                        | 49.2 |
| Construction   | 41,538  | 37,667  | 105.0                       | 72.4 |
| Manufacturing<br>Transportation and public               | 69,746  | 50,801  | 39.4                        | 27.1 |
| utilities <sup>4.5</sup>                                 | 36,837  | 39,778  | 68.5                        | 65.9 |
| Wholesale trade  | 25,687  | 20,467  | 44.6                        | 31.7 |
| Retail trade   | 78,982  | 64,142  | 55.3                        | 39.4 |
| Finance, insurance, and                                  |         | •       |                             |      |
| real estate  | 14,294  | 10,195  | 24.1                        | 16.1 |
| Services   | 96,174  | 79,842  | 44.0                        | 31.5 |

Days-away-from-work cases include those that result in days away from work with or without restricted work activity.

N = number of injuries and illnesses

EH = total hours worked by all employees during the calendar year

20,000,000 = base for 10,000 fulltime equivalent workers (working 40 hours per week, 50 weeks per

year). <sup>3</sup> Excludes farms with fewer than 11 em-

ployees.

<sup>4</sup> Data conforming to Occupational Safety and Health Administration definitions for mining operators in coal, metal, and nonmetal

mining and for employees in railroad transportation are provided to BLS by the Mine Safety and Health Administration, U.S. Department of Labor, and the Federal Railroad Administration, U.S. Department of Transportation. Independent mining contractors are excluded from the coal, metal, and nonmetal mining industries.

<sup>5</sup> In 1996, air courier operations previously classified in Industry Groups 421, 422, 423, 452, 473, and 478 were reclassified to Industry Group 451. As a result, the 1996 and 1997 estimates for these SICs and Major Industry Groups 42, 45, and 47 are not comparable to those for prior years. In addition, the 1996 and 1997 estimates for transportation and public utilities may have more variability than those for prior years.

NOTE: Individual classifications may not sum to overall categories due to rounding.

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics

<sup>&</sup>lt;sup>2</sup> Incidence rates represent the number of injuries and illnesses per 10,000 full-time workers and were calculated as: (N / EH) X 20,000,000 where:

Table 3. Percent distribution and incidence rate of fatal falls by occupation, 1997

| Occupation                                   | Percent distribution | Incidence<br>rate <sup>1</sup> |
|--|----------------------|--------------------------------|
| Total cases (715)                            |                      |                                |
| All occupations                              | 100                  | 0.5                            |
| Managerial and professional                  | 9                    | .2                             |
| Technical, sales, and administrative support | 4                    | .1                             |
| Service                                      | 6                    | .3                             |
| Cleaning and building service occupations,   |                      |                                |
| except household                             | 4                    | .8                             |
| Farming, forestry, and fishing               | 9                    | 1.8                            |
| Precision production, craft, and repair      | 41                   | 2.1                            |
| Mechanics and repairers                      | 6                    | .9                             |
| Electronic repairers, communications,        |                      |                                |
| industrial equipment                         | 1                    | 2.6                            |
| Construction trades                          | 33                   | 4.4                            |
| Carpenters                                   | 6                    | 3.1                            |
| Roofers                                      | 6                    | 20.5                           |
| Structural metal workers                     | 5                    | 54.5                           |
| Electrical power installers and repairers    | 2                    | 11.5                           |
| Brick masons and stonemasons                 | 1                    | 3.3                            |
| Painters, construction and maintenance       | 3                    | 4.6                            |
| Operators, fabricators, and laborers         | 29                   | 1.1                            |
| Hoist and winch operators                    | 1                    | 16.7                           |
| Construction laborers                        | 15                   | 12.8                           |

<sup>&</sup>lt;sup>1</sup> The rate represents the number of fatal occupational injuries per 100,000 employed workers and was calculated as: (N/W) x 100,000, where:

N = number of fatal work injuries W = number of employed workers

Employment figures are annual average estimates of private industry wage and salary workers and self-employed civilians, 16 years

of age and older, from the Current Population Survey (CPS). Fatally injured workers under the age of 16 were not included in the rate calculations to maintain consistency with CPS employment estimates.

NOTE: Overall categories may not sum to totals due to rounding and classifications not shown.

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics

 $\mathsf{TABLE}\ 4.$  Distribution of fatal falls and nonfatal falls involving days away from work by type of fall, 1997

|  | Percent of—                                |   |  |
|--|--|---|--|
| Type of fall   | Fatal falls                                | Nonfatal falls                                    |  |
| Total  Fall to lower level                               | Fatal falls  100 91 22 3 2 2 8 6 16 12 7 7 | 100<br>32<br>1<br>-<br>-<br>-<br>-<br>8<br>1<br>6 |  |
| Fall on same level                                       | 6<br>5                                     | 63<br>54  |  |
| Fall onto or against objects  Jump to lower level  Other | 1<br>1<br>2                                | 8<br>3<br>2                                       |  |

NOTE: Individual classifications may not sum to overall categories due to rounding and classifications not shown. Dash indicates data less than 0.5 percent.

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics

 $\label{eq:table 5.} \textit{Percent distribution of nonfatal fall injuries involving days away from work 1 in private industry 2 by selected characteristics, 1997$ 

| Characteristics                              | Percent  |
|--|----------|
| Total cases (313,335)                        |          |
| , , ,  | 100      |
| All occupations                              | 100<br>7 |
| Managerial and professional specialty        | •        |
| Technical, sales, and administrative support | 18       |
| Service                                      | 21       |
| Nursing aides, orderlies, and attendants     | 3        |
| Janitors and cleaners                        | 3        |
| Cooks  | 2        |
| Farming, forestry, and fishing               | 3        |
| Precision production, craft, and repair      | 16       |
| Operators, fabricators, and laborers         | 34       |
| Truck drivers                                | 10       |
| Laborers, excluding construction             | 4        |
| Samuel of Salara                             |          |
| Source of injury                             | 400      |
| Total  | 100      |
| Floors, walkways, and ground surfaces        | 87       |
| Floors                                       | 47       |
| Ground                                       | 17       |
| Stairs, steps                                | 7        |
| Parking lots                                 | 4        |
| All other                                    | 12       |
| Nature of injury                             |          |
| Total  | 100      |
| Sprains, strains, and tears                  | 36       |
| Fractures                                    | 18       |
| Bruises, contusions                          | 16       |
| Nonspecified injuries and disorders          | 9        |
| Soreness, pain, hurt, except the back        | 5        |
|  | 4        |
| Sprains and bruises                          | 4        |
| Part of body                                 |          |
| Total  | 100      |
| Multiple body parts                          | 18       |
| Trunk  | 29       |
| Back   | 17       |
| Upper extremities                            | 14       |
| Wrist(s)                                     | 5        |
| Lower extremities                            | 33       |
| Legs   | 18       |
| .9   | 14       |
| Knee(s)                                      | 10       |
| Ankle(s)                                     |          |
| All other                                    | 6        |

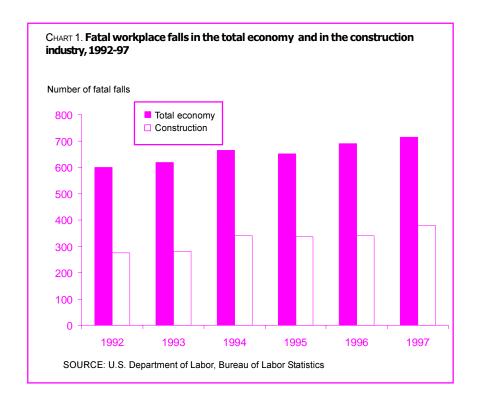
<sup>&</sup>lt;sup>1</sup> Days away from work cases include those that result in days away from work with or without restricted work activity.

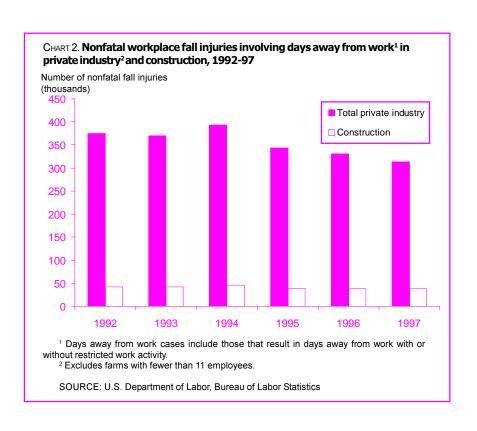
NOTE: Individual classifications may not sum to overall categories due to rounding and classifications not shown.

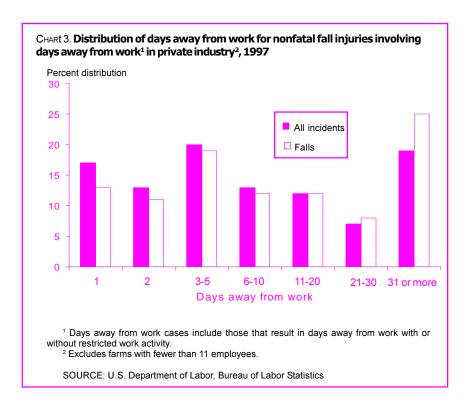
SOURCE: U.S. Department of Labor,

Bureau of Labor Statistics

<sup>&</sup>lt;sup>2</sup> Excludes farms with fewer than 11 employees.







### Are you considering publishing your research?

The editors of *Compensation and Working Conditions* will consider for publication studies dealing with compensation, safety and health, collective bargaining, and other workplace issues. Papers should be factual and analytical, not polemical in tone. Potential articles should be submitted via e-mail to Cimini\_M@bls.gov or to:

Michael H. Cimini, Editor Compensation and Working Conditions Bureau of Labor Statistics, Room 4175 2 Massachusetts Avenue, NE Washington, DC 20212-0001