

Nonfatal Occupational Injuries and Illnesses Requiring Days Away From Work, 2005

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NONFATAL OCCUPATIONAL INJURIES AND ILLNESSES REQUIRING DAYS AWAY FROM WORK, 2005

The rate of workplace injuries and illnesses in private industry that required recuperation away from work declined 4 percent in 2005, according to the Bureau of Labor Statistics, U.S. Department of Labor. There were a total of 1.2 million injuries and illnesses requiring days away from work in 2005, relatively unchanged from 2004. A 2 percent increase in the number of hours worked in 2005 contributed to the decline in the rate. Median days away from work--a key measure of the severity of the injury or illness--was 7 days for all cases in 2005, as it was in 2004.

In 2005, there were 135.7 of these injuries and illnesses per 10,000 full-time-equivalent workers in private industry. This rate declined for workers in both the goods-producing and service-providing industries. Goods-producing industries had 394,090 injuries and illnesses and a rate of 176.9 per 10,000 workers. There were 840,580 injuries and illnesses and a rate of 122.4 in service-providing industries (see table 1).

As was the case in previous years, more than 4 out of 10 of injuries and illnesses were sprains or strains, most involving overexertion or falls on the same level. More than a third of the sprains and strains occurred in the trade, transportation and utilities industry. Three occupations--laborers and freight, stock, and material movers; heavy and tractor-trailer truck drivers; and nursing aides, orderlies, and attendants--accounted for 20 percent of all sprains and strains. These occupations also had the highest numbers of injuries and illnesses, accounting for 17 percent of the total days-away-from-work cases.

This is the third of three annual releases reporting on 2005 data from the BLS

workplace safety and health statistical series. The first release, in August 2006, covered work-related fatalities from the 2005 Census of Fatal Occupational Injuries. In October 2006, BLS reported that there were 4.2 million nonfatal injuries and illnesses in 2005, based on the Survey of Occupational Injuries and Illnesses. This final release covers the circumstances of the injuries and illnesses and the characteristics of the workers involved in the 1.2 million of those that required days away from work. Due to improvements in survey processing, these data are available more than 4 months earlier than they were 2 years ago.

Case characteristics

Case characteristics provide detailed information on the circumstances of nonfatal workplace injuries and illnesses involving one or more days away from work. These characteristics include nature, part of body, source, and event (see chart 1). Descriptions of these characteristics can be found in the "Background of the Survey" section of this release.

(Chart 1 appears here in the printed release.)

Following are some of the key findings for 2005.

* Sprains and strains was the leading nature of injury and illness in every major industry sector. There was a decrease of 4 percent in these injuries from 2004, led by the manufacturing sector, which experienced an 8 percent decline. Sprains and strains declined by 7 percent in goods-producing industries and by 3 percent in service-providing industries. Trade, transportation, and utilities reported 172,380 sprains and strains, 34 percent of the total in 2005.

* The incidence rate for carpal tunnel syndrome decreased by nearly 14 percent.

* The part of the body most affected by work incidents was the trunk, including the shoulder and back, which accounted for 35 percent of all cases. Overall injuries to the trunk decreased by 4 percent from 2004. Of these injuries or illnesses to the trunk, those involving the back accounted for 63 percent.

* Floors, walkways, and ground surfaces accounted for 19 percent of all sources of injury or illness. Worker motion or position accounted for 15 percent.

* Assaults and violent acts (by person), almost two-thirds of which occurred in health care and social assistance, decreased by 18 percent.

* Injuries and illnesses due to repetitive motion decreased by 10 percent.

* Falls from a ladder increased by almost 10 percent.

In addition to these four case characteristics, BLS collects the time of day and day of the week the injury or illness occurred and the time the employee had spent on the job before the incident.

* Of the injuries and illnesses with days away from work for which the time of the incident was reported, the four hours from 8:00 A.M. to noon accounted for 36 percent of the cases. The hours from noon to 4:00 P.M. accounted for 28 percent.

* In those cases where employers reported how long the employee had been on the job before the incident occurred, workers on the job from two to four hours incurred 27 percent of injuries and illnesses with days away from work in 2005. Employees on the job for more than eight hours accounted for 12 percent.

* Eighty-seven percent of injuries and illnesses occurred on Monday through Friday. The exception to this pattern was the leisure and hospitality sector, where 16 percent of injuries and illnesses occurred on Saturday.

Demographic characteristics

Demographic characteristics include gender, age, race or ethnic origin, and length of service with the employer at the time of the incident (see tables 1, 2, and 8). Following are some key findings for 2005.

* Men accounted for 66 percent of all days-away-from-work cases, which was higher than their employment share (54 percent) and their share of the hours worked (59 percent) among private wage and salary workers.

* The number of assaults and violent acts (by persons) on female workers dropped

24 percent from 2004, the vast majority (80 percent) of which was due to fewer assaults involving health care patients.

* Injuries and illnesses to female workers in the manufacturing industry declined 13 percent, compared to a decrease of 6 percent among their male colleagues.

* Injuries and illnesses to Asian workers fell by 18 percent from 2004. White workers had a decrease of 4 percent, while injuries to black and Hispanic workers remained virtually unchanged. Race or ethnicity was unreported in 30 percent of days-away-from-work cases, the same as in 2004.

* Workers who were 20 to 44 years old accounted for 60 percent of injured workers, which is consistent with their share of hours worked. Workers who were 16 to 19 years old or 65 and older had increases in the numbers of injuries and illnesses with days away from work, 9 and 13 percent respectively.

* The number of days away from work rose with the age of the worker from a median of three days for workers 14- and 15-years old to a median of 12 days for workers 65 and older.

Occupation

Transportation and material moving workers suffered the most injuries and illnesses with days away from work (253,570). Three of the detailed occupations with the most injuries and illnesses fell within this major occupational group (see table 3). Five occupations accounted for 23 percent of the days-away-from-work cases.

(Chart 2 appears here in the printed release.)

* Laborers and freight, stock, and material movers experienced the highest number of days-away-from-work injuries and illnesses in 2005 with an increase of 3 percent to 92,240. Eighty-four percent of these injuries were suffered by men and 65 percent of the cases were to employees in trade, transportation and utilities. The source of the injuries was most often containers and the event or exposure leading to the injury was contact with objects or equipment. The median number of days away from work for

this occupation was 7, the same as that for all workers.

* Heavy and tractor-trailer truck drivers had 65,930 cases in 2005, an increase of

4 percent from 2004. Ninety-five percent of these cases were suffered by men, with

71 percent of cases reported in trade, transportation, and utilities. The source was most

often vehicles, followed by floor or ground surfaces; the most frequent event was

overexertion followed by contact with objects and equipment. The median days away

from work was 14 days, twice that for all occupations.

* Nursing aides, orderlies, and attendants—with more injuries and illnesses to women

(89 percent) than to men—had 52,150 cases, also about the same as in 2004. Injuries

to these workers involved health care patients 58 percent of the time and were due to

overexertion for 54 percent of the cases. The median number of days away from

work for this occupation was 5 days.

* Construction laborers had the fourth highest number of cases with 39,270. More than

97 percent of these injuries and illnesses were suffered by men.

Contact with objects

or equipment was the most common event in this occupation and the most frequent

source of injury was parts and materials. The median number of days away from

work for construction laborers was 8 days.

* Light and delivery services truck drivers had 32,740 incidents, mostly in the trade,

transportation, and utilities sector. Men accounted for 90 percent of the cases.

Vehicles and containers were the most frequent sources of injury for these drivers.

Overexertion was the leading event or exposure. The median number of days away

from work was 10 days.

* Eleven detailed occupations, including the five discussed above, each had more than

20,000 injuries and illnesses with days away from work and together accounted for

36 percent of all cases (see table 4). These same eleven occupations have had more than

20,000 cases in each of the last three years.

* In food and beverage serving occupations, male workers experienced a 20-percent

increase in the number of injuries and illnesses while female workers experienced a

15-percent decrease.

* In the construction and extraction occupations, the number of injuries and illnesses to Hispanics workers rose 21 percent to 32,040.

Industry

Goods-producing industries accounted for 21 percent of private industry employment and had a rate for days away from work of 176.9 per 10,000 workers, a decrease of 4.9 percent from 2004. Contact with objects and equipment—such as being struck by an object—was the leading cause of these injuries and illnesses.

Natural resources and mining was the industry sector with the highest median number of days away from work with 10 days. In this sector, the mining industry had a median of 22 days. Natural resources and mining had an incidence rate of 184.5 per 10,000 workers. The rate of 23.7 for fractures was more than twice the rate of fractures in all private industry. Hispanic workers experienced 54 percent of injuries and illnesses in agriculture, forestry, and fishing, compared to 13 percent of all days-away-from-work cases in private industry.

Construction had the highest incidence rate, 239.5 per 10,000 workers, of all major industry sectors but had the fourth highest case count. Men accounted for 98 percent of these injuries. The construction industry's rate of 84.8 for contact with objects was more than twice the rate for total private industry. The rate of injuries and illnesses with parts and materials as the source (56.0) was nearly four times higher than the total private sector rate of 14.1. Cases in the construction industry had a median of 9 days away from work.

Manufacturing had a 17-percent share of injuries and illnesses, which was slightly higher than its 13-percent employment share, resulting in a rate of 147.1 per 10,000 workers. The incidence rate for repetitive motion cases (10.7) was the highest in any industry sector and twice the rate for total private industry. Injuries and illnesses to white workers totaled 108,640 cases, down 13 percent from 2004, compared to an overall decrease in manufacturing of 8 percent. The median number of days away from work was 7 days, as it was for all days-away-from-work cases.

Service-providing industries make up 79 percent of private industry employment and had a rate of 122.4 injuries and illnesses with days away from work per 10,000 workers, a decrease of 3.4 percent from 2004. The most prevalent event for these industries was overexertion—especially overexertion in lifting—followed by contact with objects and equipment.

Trade, transportation, and utilities had the greatest number of injuries and illnesses (380,720) and the highest incidence rate (172.5 per 10,000 workers) among service-providing industry sectors. Women experienced 28 percent of the injuries and illnesses in this sector as a whole, but within retail trade they represented 40 percent of the cases. The median number of days away from work for all industries within this sector was 8 days. In the transportation and warehousing industry and the utilities industry the median was 13 days, while it was 7 days for wholesale trade and retail trade.

Information, which includes telecommunications, motion picture and sound recording, broadcasting, and Internet service providers, had one of the lowest rates of injury and illness in 2005, 74.7 per 10,000 workers. It had a rate of 5.2 for repetitive motion. Nearly half of the injuries and illnesses to workers in this industry sector occurred to those who had been with their employer for more than 5 years, compared to 31 percent for all private industries. The median number of days away from work in the information sector was 7 days, dropping from 10 days in 2004.

Financial activities, which includes finance, insurance, real estate, and rental and leasing services, also had a relatively low rate of injuries and illnesses, with days away from work at 52.9 per 10,000 workers. The financial activities sector had a rate of 2.4 for carpal tunnel syndrome and is one of only three sectors that reported a greater proportion of injuries and illnesses to women (46 percent) than for total private industry (34 percent). The median number of days away from work was 6 days.

Professional and business services reported a 7.4-percent share of the private industry injury and illness cases with days away from work, less than half of their 15-

percent employment share. Professional and business services had an incidence rate for assaults and violent acts of 2.7 per 10,000 workers. Of the 3,290 assaults leading to days away from work, 2,470 were assaults due to animals, with 1,450 in veterinary services and 470 in landscaping. The median for this industry was 7 days.

Education and health services had a slightly higher rate of workplace injuries and illnesses than the total private sector rate, but assaults and violent acts (by persons) were almost five times more likely than in all private industry, with a rate of 7.7 per 10,000 workers. In this sector, healthcare and social assistance accounted for 94 percent of the reported injuries and illnesses. There were nearly four times the number of injuries and illnesses to women than to men. The median number of days away from work was 5 days.

Leisure and hospitality reported nearly equal numbers of injuries and illnesses to men and women. Injuries and illnesses to women workers in the hotel and motel industry (where women experienced 60 percent of the injuries and illnesses) increased more than 22 percent from the previous year. The incidence rate for exposure to harmful substances was 10.3 per 10,000 workers in leisure and hospitality services, compared to 5.7 in all private industry. The median number of days away from work in this sector was 5 days.

Musculoskeletal disorders

The U.S. Department of Labor defines a musculoskeletal disorder (MSD) as an injury or disorder of the muscles, nerves, tendons, joints, cartilage, or spinal discs. MSDs do not include disorders caused by slips, trips, falls, motor vehicle accidents, or similar accidents. In 2005, MSDs accounted for 375,540 cases, or 30 percent of the injuries and illnesses with days away from work—below the consistent pattern of MSDs accounting for about a third of all injuries and illnesses in previous years.

Service-providing industries reported the most musculoskeletal disorders, accounting for 71 percent of all cases of this type (see table A). Within these industries, the trade, transportation, and utilities sector reported 125,430 MSDs, 33 percent of all MSD cases. The educational and health services industry sector reported the next highest

MSD count with 75,350 cases, or 20 percent of all MSD cases, the vast majority of these in health care and social assistance (72,780). Goods-producing industries reported 29 percent of all MSD cases, led by manufacturing, which had 69,130 cases, 18 percent of the total MSD injuries and illnesses. MSD cases in manufacturing decreased by 12 percent from 2004 to 2005, while MSD cases for all private industry decreased by 7 percent.

Table A. Number of work-related musculoskeletal disorders involving days away from work and median days away from work by major industry sector, 2005

Median days away from work		Number
	Total musculoskeletal disorders	375,540
9		
	Goods producing	110,260
11		
	Natural resources and mining	5,230
12		
	Agriculture forestry fishing and hunting	3,050
9		
	Mining	2,170
20		
	Construction	35,900
10		
	Manufacturing	69,130
11		
	Service providing	265,280
9		
	Trade transportation and utilities	125,430
11		
	Wholesale trade	27,110
9		
	Retail trade	56,600
9		
	Transportation and warehousing	39,580
15		
	Utilities	2,150
18		
	Information	5,610
13		
	Financial activities	9,840
7		
	Finance and insurance	3,880
11		

6	Real estate and rental and leasing	5,960
8	Professional and business services	23,640
7	Professional and technical services	5,960
8	Management of companies and enterprises	2,850
8	Administrative and waste services	14,830
6	Educational and health services	75,350
8	Educational services	2,570
6	Health care and social assistance	72,780
10	Leisure and hospitality	17,820
7	Arts entertainment and recreation	4,170
11	Accommodation and food services	13,660
10	Other services except public administration	7,590

The three occupations with the most musculoskeletal disorders in 2005 (see table B) were laborers and freight, stock, and material movers (32,100), nursing aides, orderlies, and attendants (28,920), and heavy and tractor-trailer truck drivers (18,330). Of these, only heavy and tractor-trailer truck drivers had a higher number of MSDs in 2005 than in 2004, with an increase of 3 percent.

Although the number of cases of MSDs decreased in 2005, MSDs to workers 65 and older increased by 19 percent. MSDs to 20- to 24-year olds decreased by 11 percent and MSDs to 25- to 34-year olds decreased by 10 percent. MSDs to workers 16 to 19 and 45 to 54 remained relatively unchanged.

Table B. Number of work-related musculoskeletal disorders involving days away from work and median days away from work by selected occupations, 2005

Median days

Number away from work

Total musculoskeletal disorders
375,540 9

Laborers and freight, stock, and material movers, hand
32,100 9
Nursing aides, orderlies, and attendants
28,920 5
Truck drivers, heavy and tractor-trailer
18,330 14
Truck drivers, light or delivery services
11,760 10
Janitors and cleaners, except maids and housekeeping cleaners
10,470 9
Retail salespersons
9,800 9
Stock clerks and order fillers
9,600 7
Registered nurses
9,060 7
Construction laborers
8,540 10
Maintenance and repair workers, general
6,870 7
Carpenters
6,630 10
Maids and housekeeping cleaners
6,320 8
First-line supervisors/managers of retail sales workers
5,570 14
Cashiers
5,150 8
Automotive service technicians and mechanics
4,610 12

Severity of Injuries and Illnesses

In addition to providing data on the number of injuries and illnesses that require days away from work to recuperate, the survey also focuses on the length of the absences resulting from those injuries and illnesses (see tables 8-12 and 15). Median days away from work—the key survey measure of severity—designates the point at which half the cases involved more days and half involved fewer days.

The median number of days away from work for all cases was 7 days in 2005, unchanged from 2004. Almost one-fourth of all days-away-from-work cases resulted in

31 days or more away from work. The median days away from work for goods-producing industries was 8 days, down from 9 in 2004, led by 10 days for the natural resources and mining industry sector. The median number of days away from work for service-providing industries was 7.

* Among the leading natures of injuries and illnesses that result in days away from work, median days away from work were highest for carpal tunnel syndrome and fractures, at 27 days, both down from 28 days in 2004. Amputations were next with 22 median days away from work, down from 25 days in 2004.

* Repetitive motion—such as grasping tools, scanning groceries, and typing—was the event that resulted in the longest absences from work among the leading events or exposures in 2005. Repetitive motion had a median of 19 days away from work, down from 20 days in 2004. Fires and explosions resulted in the next longest absences from work, with a median of 16 days, more than twice the 2004 median of 7 days. Falls to lower level had a median of 13 days, a decrease from the 14 days in 2004.

* Among those detailed occupations with the highest number of days-away-from-work cases, heavy and tractor-trailer truck drivers had the highest median days away from work with 14 days. First line supervisors and managers of retail sales workers had the second highest median with 13 days, an increase of 7 days from 2004, followed by light or delivery truck drivers with a median of 10 days.

* Injuries to the shoulder resulted in the longest absences from work (a median of 15 days), followed by injuries to the wrist (a median of 14 days), and injuries to the knee (a median of 12 days).

Background of the Survey

The Bureau of Labor Statistics has reported annually on the number of injuries and illnesses requiring days away from work beyond the day of the incident in private industry and the rate of such incidents since the early 1970s. The 2005 national survey marks the fourteenth year that BLS has collected additional detailed information on such

cases in the form of worker and case characteristics data.

Data in this release are classified by industry based on the 2002 North American Industry Classification System (NAICS), as defined by the Office of Management and Budget. The NAICS classifies establishments into a detailed industry based on the production processes and provided services. Prior to the release of 2003 survey data, industries were classified using the Standard Industrial Classification system.

Occupation data in this release are classified by the 2000 Standard Occupational Classification (SOC) Manual, as defined by the Office of Management and Budget. The SOC is a hierarchical system that classifies occupations based on work performed and on required skills, education, training, and credentials. Apprentices and trainees are classified with the occupations for which they are being trained, while helpers are classified separately. Prior to the release of the 2003 survey data, occupations were classified using the Bureau of the Census system.

As a result of the conversions to NAICS and SOC, the estimates by industry and by occupation from the survey are not comparable with those from years prior to 2003.

The classification of workers by race and ethnicity is based on the 1997 Standards for Federal Data on Race and Ethnicity as defined by the Office of Management and Budget. One result of this revision is that individuals may be categorized in more than one race or ethnic group. Race and ethnicity is the only data element whose reporting is not mandatory in this survey. This resulted in 30 percent of the cases not reporting race and ethnicity in 2005.

The circumstances of each case are classified based on the BLS Occupational Injury and Illness Classification Manual. The survey uses four case characteristics to describe each incident that led to an injury or illness that involved one or more days away from work. These characteristics include:

* nature - the physical characteristics of the disabling injury or illness, such as cuts/lacerations, fractures, or sprains/strains;

- * part of body affected - the part of body directly linked to the nature of injury or illness cited, such as back, finger, or eye;
- * event or exposure - the manner in which the injury or illness was produced or inflicted, such as falls, overexertion, or repetitive motion; and
- * source - the object, substance, exposure, or bodily motion that directly produced or inflicted the disabling condition, such as chemicals, vehicles, or machinery.

Musculoskeletal disorders (MSD) include cases where the nature of the injury or illness is sprains, strains, tears; back pain, hurt back; soreness, pain, hurt, except the back; carpal tunnel syndrome; hernia; or musculoskeletal system and connective tissue diseases and disorders, when the event or exposure leading to the injury or illness is bodily reaction/bending, climbing, crawling, reaching, twisting; overexertion; or repetition. Cases of Raynaud's phenomenon, tarsal tunnel syndrome, and herniated spinal discs are not included. Although they may be considered MSDs, the survey classifies these injuries and illnesses in categories that also include non-MSD cases.

The number and frequency (incidence rates) of days-away-from-work cases are based on logs and other records kept by private industry employers throughout the year. These records reflect not only the year's injury and illness experience but also the employer's understanding of which cases are work related under recordkeeping rules issued by the Occupational Safety and Health Administration (OSHA), U.S. Department of Labor. The number of injuries and illnesses reported in a given year also can be influenced by changes in the level of economic activity, working conditions and work practices, worker experience and training, and the number of hours worked.

The number of hours worked used for industry and case characteristics incidence rates are collected in the Survey of Occupational Injuries and Illnesses. Because this survey does not collect hours worked or employment by demographic characteristics, the hours and employment used for these data come from the Current Population Survey, which is conducted by the Bureau of the Census for the Bureau of Labor Statistics.

The survey is a Federal/State program in which employer reports are collected from about 182,400 private industry establishments and processed by State agencies cooperating with the Bureau of Labor Statistics. Occupational injury and illness data for coal, metal, and nonmetal mining and for railroad activities were provided by the Department of Labor's Mine Safety and Health Administration (MSHA) and the Department of Transportation's Federal Railroad Administration, respectively. MSHA has not adopted the revised OSHA recordkeeping rules. Therefore, 2005 estimates for coal, metal, and nonmetal mining are not fully comparable with estimates for other industries. The survey excludes all fatalities at work and work-related nonfatal injuries and illnesses to the self-employed; workers on farms with fewer than 11 employees; private household workers; Federal government employees; and, for national estimates, employees in State and local government agencies.

The survey estimates of the characteristics of cases with days away from work are based on a scientifically selected probability sample, rather than a census of the entire population. Two levels of sampling were used. First, establishments were selected to represent themselves and, in many instances, other establishments of like industry and workforce size that were not selected that survey year. Then, sampled establishments projected to have a large number of days-away-from-work cases were instructed before the survey began on how to sample those cases to minimize the burden of their response.

Because the data are based on a sample survey, the injury and illness estimates probably differ from the figures that would be obtained from all units covered by the survey. To determine the precision of each estimate, a standard error is calculated. The standard error defines a range (confidence interval) around the estimate. The approximate 95-percent confidence interval is the estimate plus or minus twice the standard error. The standard error also can be expressed as a percent of the estimate, or the relative standard error. For example, the 95-percent confidence interval for the 2005 incidence rate for occupational injuries and illnesses with days away from work of 135.7 per 10,000 full-time workers with the relative standard error of 0.7 percent would be

135.7 plus or minus 1.4 percent (2 times 0.7 percent) or 133.8 to 137.6. One can be 95 percent confident that the "true" incidence rate falls within this confidence interval. A relative standard error was calculated for each estimate from the survey and will be available in a future report. All findings in this release have been tested and found to be statistically significant using the 95-percent confidence interval.

The data also are subject to nonsampling error. The inability to obtain detailed information about all cases in the sample, mistakes in recording or coding the data, and definitional difficulties are general examples of nonsampling error in the survey. Although not measured, nonsampling error will always occur when statistics are gathered. However, BLS has implemented quality assurance procedures to reduce nonsampling error in the survey, including a rigorous training program for coders and a continuing effort to encourage survey participants to respond fully and accurately to all survey elements.