

Minnesota Workplace Safety Report 2004

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Executive summary

The number of workplace injuries and illnesses continued to decline during 2004. The most recent occupational injury and illness figures show there were an estimated 105,500 recordable injury and illness cases in 2004; about 28,700 cases involved one or more days away from work. The comparable figures for 2003 were 111,600 total cases and 29,900 days-away-from-work cases. There were 80 work-related fatalities in 2004, up from 72 in 2003, but below the 81 fatalities in 2002.

Though the number of cases was down from previous years, these injuries, illnesses and deaths exact a toll on workers and their families and affect business costs and productivity. Workers' compensation costs in Minnesota approached \$1.6 billion in 2004, up from \$1.5 billion in 2003. In 2003, the average cost of an insured claim was more than \$7,000. There are myriad other costs of workplace injuries and illnesses that are more difficult to measure, such as delayed production, hiring and training of new workers, pain and suffering, and those economic and non-economic losses to injured workers and their families that are not covered by workers' compensation.

This report, part of an annual series, gives information about Minnesota's job-related injuries, illnesses and fatalities. Data sources are the *Survey of Occupational Injuries and Illnesses* and the *Census of Fatal Occupational Injuries*, both conducted by the U.S. Bureau of Labor Statistics. ***Because the Occupational Safety and Health Administration changed its injury and illness recordkeeping requirements in 2002 and the Bureau of Labor Statistics changed its industry and occupation classification systems for the 2003 survey, the results for 2002 and later years are not comparable with results for prior years.***

Nonfatal occupational injuries and illnesses

Incidence rates

- Minnesota's total rate of workplace injuries and illnesses was 5.3 cases per 100 full-time-equivalent (FTE) workers in 2004. This

represents a 4 percent decrease from the 2003 rate of 5.5 cases per 100 FTE workers.

- The rate of cases with days away from work, job transfer or restriction was 2.6 cases per 100 FTE workers in 2004, a decrease from the 2003 rate of 2.8 cases per 100 FTE workers.
- The rate of cases with days away from work (the most severely injured workers) was 1.5 per 100 FTE workers in 2004 and 2003.
- Minnesota's private-sector total case rate and lost-workday case rate have been significantly above the U.S. rates since 1996. For the private sector in 2004, the total case rate was 5.3 for the state versus 4.8 for the nation.
- Minnesota's rate of cases with days away from work has been roughly equal to the national rate since 1996; in 2004, both Minnesota and the nation had rates of 1.4 cases per 100 FTE workers.
- Minnesota's industry sectors with the highest total injury and illness rates per 100 FTE workers were:
 - (1) construction (8.6);
 - (2) agriculture, forestry, fishing and hunting (8.6); and
 - (3) transportation and warehousing (7.6).
- Four of the 10 industry subsectors with the highest total case rates were in private-sector and public-sector health care and social assistance.
- The industry subsectors with the highest numbers of cases with days away from work were specialty trade contractors (1,970 cases) and private-sector nursing homes (1,800 cases). The top 10 industry groups accounted for 12,510 days-away-from-work cases, 44 percent of the total.

Worker and injury characteristics

For cases with days away from work, the survey provides information about characteristics of the injured workers and their injuries. The following results refer to injuries and illnesses occurring in 2004.

- Men accounted for 64 percent of the injured workers.
- Workers age 35 to 44 and 45 to 54 years old were the most common age groups, each accounting for 25 percent of the cases.
- The occupation group with the most days-away-from-work cases was service workers, with 23 percent of the cases. The two most common specific occupations were laborers, freight, stock and material movers and nursing aides, orderlies and attendants.
- The most common types of injury were:
 - (1) sprains, strains and tears of muscles, joints and tendons (43 percent); and
 - (2) soreness and pain (10 percent).
- The most common body parts affected were:
 - (1) the back (26 percent);
 - (2) lower extremities (20 percent); and
 - (3) upper extremities (18 percent).
- The most frequent events or exposures leading to the injury or illness were:
 - (1) overexertion (35 percent); and
 - (2) falls (18 percent).
- Repetitive motion accounted for 4 percent of the cases.
- The most frequent sources of injury or illness were:
 - (1) floors and ground surfaces (17 percent) and
 - (2) the injured worker's bodily motion or position (15 percent).

Fatal occupational injuries

The nationwide *Census of Fatal Occupational Injuries* covers all fatal work injuries in the private and public sectors regardless of program coverage; thus, it includes federal workers and self-employed workers. However, fatal *illnesses* are excluded.

- In 2004, 80 Minnesotans were fatally injured on the job. For 2000 through 2004, Minnesota had an average of 75 fatal work injuries a year, consisting of approximately 59 wage-and-salary workers and 17 self-employed people.
- Among industry sectors, the highest total numbers of fatal injuries for 2004 were in:
 - (1) agriculture, forestry and fishing (19);
 - (2) construction (16); and
 - (3) manufacturing (7).
- The most frequent causes of Minnesota's fatal work injuries for 2004 were:
 - (1) transportation accidents (36 percent);
 - (2) contact with objects and equipment (23 percent);
 - (3) falls to a lower level (14 percent); and
 - (4) assaults and violent acts (14 percent).

Minnesota OSHA activities

During federal fiscal year 2005, (October 2004 through September 2005), MNOSHA:

- conducted nearly 2,600 compliance inspections affecting the workplaces of 128,000 workers;
- found violations resulting in the assessment of more than \$4 million in penalties;
- conducted nearly 1,000 worksite consultations, which affected the workplaces of 73,000 workers and which helped employers avoid more than \$4 million in penalties; and
- provided 98 safety and health seminars, plus many other safety presentations and on-site training visits.

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1

Introduction

Minnesota's workplaces became safer for workers during 2004. The latest occupational injury and illness figures show that during 2004, there were an estimated 105,500 recordable injury and illness cases; about 28,700 cases involved one or more days away from work. The comparable figures for 2003 were 111,600 total cases and 29,900 days-away-from-work cases. There were 80 work-related fatalities in 2004, an increase from 72 fatalities in 2003.

About 290 Minnesota workers were hurt at work or became ill from job-related causes each day during 2004. These injuries, illnesses and deaths exact a toll on workers and their families; they also affect business costs and productivity.

- Workers' compensation in Minnesota cost an estimated \$1.59 billion in 2003, or \$1.72 per \$100 of covered payroll. This includes indemnity benefits (for lost wages, functional impairment or death), medical treatment, physical and vocational rehabilitation, litigation, claims administration and other system costs.
- In 2003 (the most current data available), the average cost of an insured claim was \$7,050 (in 2004 dollars) for medical treatment plus indemnity benefits (indemnity benefits are paid in 22 percent of all cases).
- For those claims with indemnity benefits, the average medical and indemnity cost was much higher — \$30,100.
- Other workplace injury and illness costs are more difficult to measure, such as delayed production, hiring and training of new workers, pain and suffering, and those economic and non-economic losses to injured workers and their families that are not covered by workers' compensation.

This report is part of an annual series. It gives information, through 2004, about Minnesota's job-related injuries, illnesses and fatalities: their incidence, nature and causes; the industries in

which they occur; and changes in their incidence over time. This information is important for improving the safety and health of Minnesota's workplaces and, thereby, reducing the burden of occupational injuries and illnesses on workers, families and employers.

This report also provides a summary of Minnesota OSHA activities, showing how these state government programs are supporting employers efforts to improve workplace safety.

Data sources

This report presents statistics from three sources: the U.S. Bureau of Labor Statistics (BLS) annual *Survey of Occupational Injuries and Illnesses* (SOII); the BLS *Census of Fatal Occupational Injuries* (CFOI); and the OSHA Integrated Management Information System (IMIS). The BLS and CFOI statistics are available through 2004, and the IMIS results are available through September 2005 (the end of the 2005 federal fiscal year).

Occupational injury and illness survey

The annual SOII, conducted jointly by the BLS and state agencies, is the primary source of workplace injury and illness data nationwide. Approximately 4,900 Minnesota employers in the private sector and in state and local government participated in the 2004 SOII. The survey includes all cases recorded on the OSHA log, on which employers with 11 or more employees are required to record workplace injuries and illnesses. Employers with 10 or fewer employees that participate in the survey also record their cases on the OSHA log for the survey year. The SOII data is collected from the log and from an additional set of questions regarding cases with at least one day off the job.

While the SOII provides the most complete, standardized set of data regarding workplace injuries and illnesses, the number of recordable cases from the survey is not an estimate of all

workplace injuries and illnesses. The SOII does not include injuries to employers, sole proprietors, federal government employees, volunteers and family farm workers.

OSHA-recordable cases include: all work-related fatalities; nonfatal occupational illnesses; nonfatal occupational injuries that result in loss of consciousness; injuries requiring medical treatment other than first aid; and any injury resulting in lost time from work, restricted work activity or transfer to another job after the day of injury. An injury or illness is considered work-related if an event or exposure in the work environment caused or contributed to the condition or significantly aggravated a pre-existing condition.

Because of changes in the OSHA recordkeeping requirements, ***the data for 2002 and later years are not comparable with data for prior years.***

The recordkeeping changes affected what injuries and illnesses are recordable, how injuries and illnesses are categorized and how days away from work are counted. These changes make direct comparisons between the pre-2002 SOII and the 2002 and later SOII results unreliable. The 2002 OSHA recordkeeping changes are discussed in more detail in Appendix A.

Further changes in the categorization of industries and occupations took place in 2003. The industry coding changed from the 1997 Standard Industrial Classification (SIC) system to the 2002 North American Industry Classification System (NAICS).¹ Occupational coding changed from the 1990 Bureau of Census codes to the 2000 Standard Occupational Classification (SOC) system.² Exact comparisons of 2003 and 2004 industry-specific and occupation-specific rates and numbers with results for earlier years, even 2002, are not possible.

The SOII defines different types of cases according to whether they have days off the job, job transfer or work restrictions. Because of changes in OSHA recordkeeping requirements, these definitions are slightly different than the

definitions from previous years.

- Cases with days away from work, job transfer or restriction (DART), as a combined group, are those cases with days when the injured worker is off the job *or* working with restrictions. Prior to 2002, cases with days away from work or job restrictions were called lost-workday cases. DART cases consist of:
 - (1) days-away-from-work (DAFW) cases — those with any days off the job other than the day of injury or illness (with or without additional days of restricted work or job transfer); and
 - (2) cases with job transfer or restriction only— those with job transfer or restricted work but no days off beyond the initial day of the injury or illness.
- Other recordable cases are cases that have no days away from work, no job transfer and no work restrictions beyond the initial day of the injury or illness, but meet the guidelines for recording the case.

These case types and other terms used in the SOII and the case types for previous years are more precisely defined in Appendix C.

An important issue with the injury and illness survey data is sampling error, the random error in survey statistics that occurs because the statistics are estimated from a sample. This sampling error is greater for smaller categories, such as particular industries, because of smaller sample size.

Fatal injuries

The BLS, in cooperation with state and other federal agencies, conducts the nationwide *Census of Fatal Occupational Injuries* (CFOI). The CFOI program was developed to produce accurate, comprehensive, descriptive, timely and accessible counts of fatal workplace injuries that occur during a given year. Fatalities caused by illnesses are excluded.

The CFOI provides a complete count of fatal work injuries by using multiple sources to identify, verify and profile these incidents. Source documents such as death certificates,

¹ A listing of NAICS supersectors, sectors and subsectors is provided in Appendix B. Information about NAICS is available at www.census.gov/epcd/www/naics.html.

² Information about the SOC system is available at www.bls.gov/soc/home.htm.

workers' compensation reports, and federal and state agency administrative records are cross-referenced to gather key information about each workplace fatality. Two or more independent source documents are used to verify the work relationship of each fatal work injury.

The CFOI results were categorized by NAICS industry codes and SOC occupation codes for the first time in 2003. Trends and direct comparisons with data from earlier years are not possible for industries and occupations.

OSHA activity measures

The Minnesota Occupational Safety and Health Administration (MNOSHA) program includes the Compliance unit, which is responsible for occupational safety and health compliance program administration, and the Workplace Safety Consultation unit, which provides free consultation services. Source statistics used in this report come from MNOSHA's Integrated Management Information System (IMIS), used by federal and state OSHA management to produce statistics regarding their programs.

More data available

The SOII provides a large volume of information for the United States and most individual states. This information includes the number and incidence of injuries and illnesses by industry and establishment size. For DAFW cases, the survey provides data about the characteristics of injuries and illnesses, how they occur, severity (number of days away from work), length of time on the job when injured, occupation and worker characteristics.

The Minnesota case counts and incidence rates for all publishable industries for survey years 2000 through 2004 are available on the DLI Web site at www.doli.state.mn.us/dlistats.html. Appendix D shows the publishable industries for 2004. Many other SOII data tables and charts for Minnesota are available at www.doli.state.mn.us/blsstats.htm.

The Minnesota CFOI tables are on the Web at www.doli.state.mn.us/dlistats.html. The national SOII and CFOI statistics are available at www.bls.gov/iif. The national data, because of larger sample sizes, includes more detailed

categories than the state data and produces smaller sampling errors. The BLS Web site also provides data for other states.

Some IMIS OSHA Compliance inspection data, accident investigation summaries and lists of frequently cited standards by industry are available at www.osha.gov/oshstats.

The MNOSHA annual report provides detailed statistics about MNOSHA activities and is available at www.doli.state.mn.us/pdf/osha2004report.pdf.

Report organization

The next three chapters in this report describe the incidence and characteristics of occupational injuries and illnesses in Minnesota. Chapter 2 presents data about the number and incidence of Minnesota's workplace injuries and illnesses over time, focusing on the state as a whole. Chapter 3 provides statewide injury and illness statistics about industry and establishment size. Chapter 4 shows the characteristics of workers and their injuries for days-away-from-work cases.

Chapter 5 gives information about the state's fatal workplace injuries, using data from the CFOI program. Figures show the number of fatalities, the events causing the fatalities and characteristics of the fatally injured workers.

Chapter 6 provides information about MNOSHA compliance activities and consultation programs to help employers achieve safe and healthful workplaces.

Appendix A addresses the changes made to the OSHA recordkeeping requirements for 2002. Appendix B shows the structure of the NAICS industry categorization. Appendix C provides a glossary of concepts and terms for understanding and using the BLS survey data. Appendix D shows the Minnesota case rates and number of cases for each industry with publishable results from the 2004 SOII. Appendix E shows profiles of workers and injury characteristics for the four occupations with the most days-away-from-work cases.

2

Number and incidence of workplace injuries and illnesses

Number of injury and illness cases

While incidence rates provide standardized measurements of injuries and illnesses, the number of cases shows the magnitude of the occupational injury and illness situation, and is an appropriate point for beginning this report.

On the basis of employers' responses to the *Survey of Occupational Injuries and Illnesses*, there were an estimated 105,500 recordable injury and illness cases in Minnesota in 2004. This number is greater than the labor force in all but five of Minnesota's 87 counties.

Figure 2.1 shows estimates of the number of nonfatal injuries and illnesses in Minnesota for 1994 through 2004. The estimates are based on data collected for the BLS survey and are not the same as the number of workers' compensation claims. Because of the OSHA recordkeeping changes, the 2002 and later estimates are not directly comparable with estimates from earlier years. To highlight this caveat, there is a break in the data lines after 2001.

- From 1994 to 2004, while employment increased 16 percent, the total number of recordable cases decreased 31 percent.
- The distribution of cases among the various case types in 2004 was consistent with the distribution in recent years.

Incidence rate trends

The incidence rates are statewide estimates based on the number of recordable injury and illness cases and the total hours of work reported by the employers participating in the survey.

Figure 2.2 shows estimates of the incidence of nonfatal injuries and illnesses for Minnesota for 1994 through 2004, expressed as cases per 100 full-time-equivalent (FTE) workers. All sectors, private and public, are included.

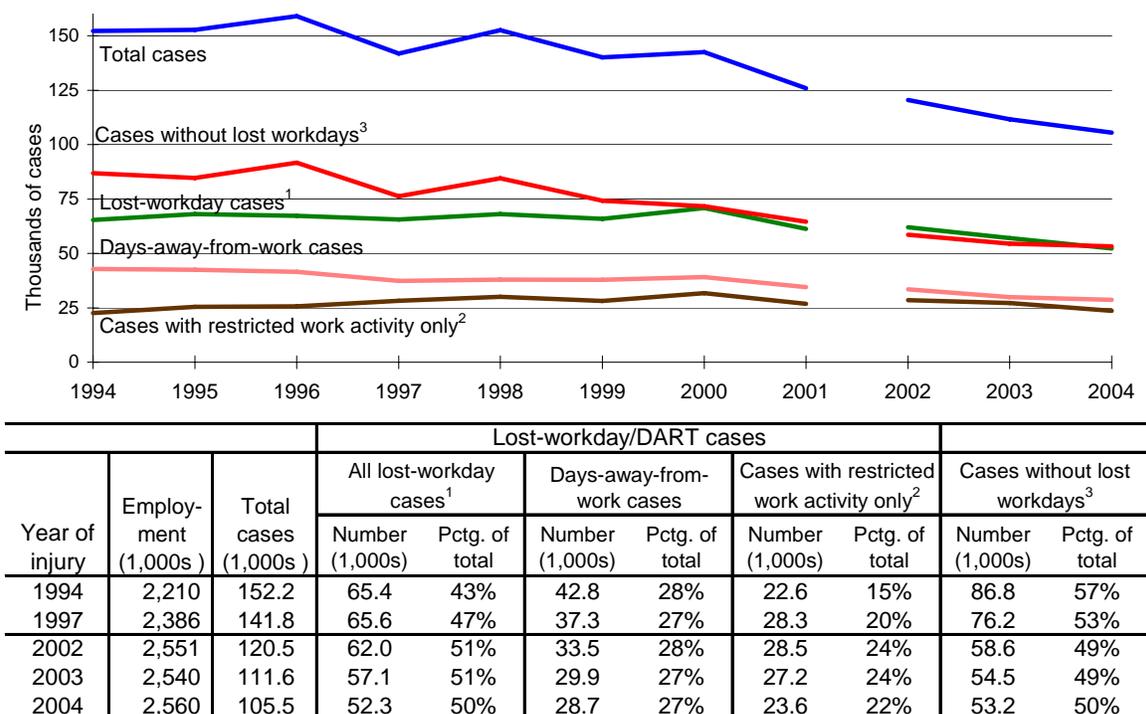
Because of the OSHA recordkeeping changes, the 2002 and later estimates are not directly

comparable with estimates from earlier years. As in Figure 2.1, there is a break in the data lines after 2001. However, analysis of recent years' statistics indicates that the recordkeeping changes did not have a large effect on the overall survey results.

- The total case incidence rate started dropping in 1997. Minnesota's 2004 total case rate and DART case rate were the lowest in the history of the state survey.
- The DAFW case rate declined throughout this period, reaching its lowest level in 2003. In contrast, the rate for restricted-work-activity-only cases increased through 1995, and has remained relatively level since then.
- These changes in the injury and illness rates during the entire time period are the result of many factors, including changes in case reporting, improvements in workplace safety and health, changes in the mix of industries, decreases in case severity, and changes in how injuries and illnesses are handled.³
- One possible reason for the recent drop in the incidence rates and cases was the shift in employment among industries, especially the drop in manufacturing employment. Manufacturing lost 54,000 jobs, a 14 percent decrease, from 2000 to 2004. Since manufacturing is second only to construction in injury rates, these workers were most likely re-employed in industries with lower injury rates.

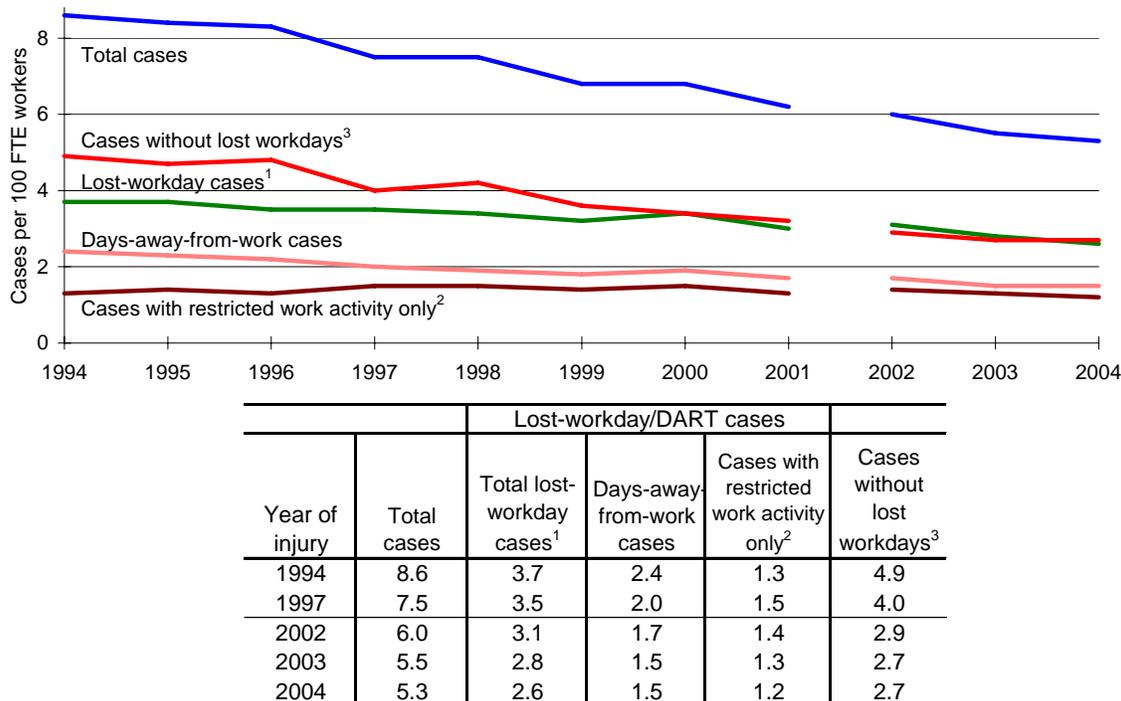
³ See David R. Anderson, "Why did the claim rate fall in the 1990s?" *COMPACT*, August 2002 (www.doli.state.mn.us/pdf/aug02-3.pdf); and Hugh Conway and Jens Svenson, "Occupational injury and illness rates, 1992-96: Why they fell," *Monthly Labor Review*, November 1998.

Figure 2.1 Number of injury and illness cases, Minnesota, 1994-2004



1. For 2002 and later, cases with days away from work, job transfer or restriction (DART).
2. For 2002 and later, cases with job transfer or restriction.
3. For 2002 and later, other recordable cases.

Figure 2.2 Injury and illness cases per 100 FTE workers, Minnesota, 1994-2004



1. For 2002 and later, cases with days away from work, job transfer or restriction (DART).
2. For 2002 and later, cases with job transfer or restriction.
3. For 2002 and later, other recordable cases.

Comparing Minnesota with the nation

Figure 2.3 compares the rates of total cases, DART cases and DAFW cases in the private sector for Minnesota and the United States for 1994 through 2004.⁴

- Minnesota’s 2004 total rate was 5.3 per 100 FTE workers, while the U.S. rate was 4.8 cases. Minnesota’s total case has been above the U.S. rate since 1993. The total case rate has been significantly higher than the U.S. rate since 1996.
- Minnesota’s DART rate for 2004 was 2.6, compared to 2.5 for the United States. Minnesota’s lost workday case rate was lower than the U.S. rate in the late 1980s, close to the U.S. rate during the early 1990s,

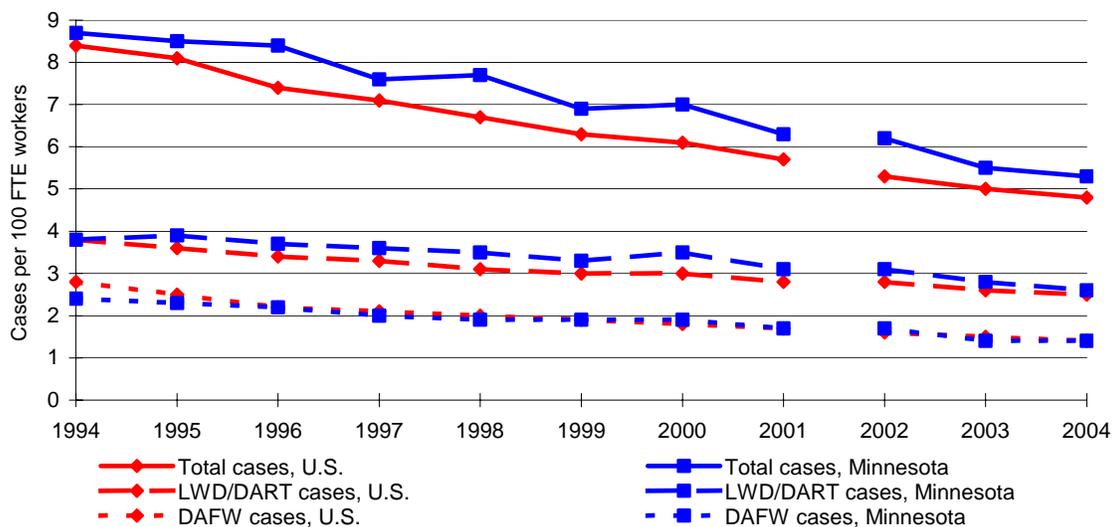
and higher than the national rate beginning in 1996. The differences were statistically significant from 1996 to 2002, but were not significant for 2003 and 2004.

- In 2003, Minnesota’s DAFW rate fell below the national rate and it was equal to the national rate in 2004. Since 1996, the DAFW case rates of Minnesota and the United States have not differed significantly.

Industry mix variations between Minnesota and other states may lead to some differences in the overall rates. For example, Minnesota has a higher proportion of total employment in health services than do many other states.

Another source of difference is the proportion of DART and DAFW cases among total cases. This is discussed further in the next section.

Figure 2.3 Injury and illness case incidence rates for Minnesota and the United States, private sector, 1994-2004



	Cases per 100 full-time-equivalent workers					
	Total cases		LWD/DART cases ¹		Days-away-from-work cases	
	Minnesota	U.S.	Minnesota	U.S.	Minnesota	U.S.
1994	8.7	8.4	3.8	3.8	2.4	2.8
1997	7.6	7.1	3.6	3.3	2.0	2.1
2002	6.2	5.3	3.1	2.8	1.7	1.6
2003	5.5	5.0	2.8	2.6	1.4	1.5
2004	5.3	4.8	2.6	2.5	1.4	1.4

1. LWD cases are lost workday cases (1994-2001). DART cases include cases with days away from work, job transfer or restriction (2002-2004).

⁴ Participating states have the option to include public-sector worksites in the SOII. Because not all states choose this option, public-sector statistics are not available at the national level.

Minnesota relative to other states

The ranking of Minnesota's incidence rates with those from other states provides a context for the current level and recent trend in Minnesota's injuries and illnesses. The results of this analysis reinforce the comparison of Minnesota and the national rates.

Figure 2.4 shows Minnesota's ranking on five injury and illness rates and on two rate ratios. Comparable private sector data is available for 41 states for 2000 and 2003, and for 42 states in 2002. Lower rates result in lower ranks.

- Minnesota has a middle-range ranking on all measures.
- Minnesota's 2004 ranking improved noticeably from 2000 on four of the five incidence rates. The ranking for other recordable cases was up slightly from its 2000 and 2003 rank.
- Total cases can be divided into two broad categories, DART cases and other recordable cases. A low percentage of DART cases among all cases may indicate that employers are recording many low-severity cases on their OSHA logs or that the state has a low overall severity level. DART cases comprised 49 percent of Minnesota's recordable cases in 2004, the 15th lowest percentage. This is a large improvement from 2000, when Minnesota ranked 28th lowest.
- DART cases can be divided into DAFW and cases with job transfer or restriction. A low percentage of DAFW cases among DART cases may signal that employers are making work accommodations generally available to injured workers. Minnesota had the 16th lowest DAFW percentage among DART cases in 2004, at 54 percent.

Figure 2.4 Ranking of Minnesota's private-sector injury and illness rates with other states (lower rates have lower rankings)

Incidence rate	2000 (41 states)	2003 (41 states)	2004 (42 states)
Total cases	28	24	23
Cases with days away from work, job transfer or restriction (DART) ¹	29	22	20
Cases with days away from work (DAFW)	25	18	17
Cases with job transfer or restriction ²	34	33	27
Other recordable cases	25	25	27
DART (or LWD) rate as percentage of total case rate	28	18	15
DAFW rate as percentage of DART (or LWD) rate	10	8	16

¹ For 2000, lost workday cases (LWD).

² For 2000, cases with days of restricted work activity only.

3

An overview of nonfatal workplace injuries and illnesses in Minnesota

This chapter compares injury and illness rates by industry and presents information about incidence rates by establishment size. There is considerable variation in the injury and illness rates by industry and establishment size.

The 2004 injury and illness survey shows:

- construction had the highest total case rate, 8.6 cases per 100 FTE workers, followed by manufacturing with a rate of 6.9 cases.
- establishments with 50 to 249 employees had the highest incidence rates, while establishments with 10 or fewer employees had the lowest rates.

Incidence by industry division

Industries can be analyzed at different levels of detail. The *Survey of Occupational Injuries and Illnesses* uses the North American Industrial Classification System (NAICS) to categorize industries. This is the second year that survey results have been published using the NAICS system. Previous survey data was collected and categorized according to the Standard Industrial Classification system. NAICS was established through a cooperative effort by the United States, Canada and Mexico, and is used for industry-based statistics.

As shown in Appendix B, there are 20 industry sectors in the NAICS classification. NAICS uses a six-digit hierarchical code in which each successive digit after the second digit indicates a finer level of detail. Industry sectors use the first two NAICS digits. For clarity of presentation, the SOII results are often presented in supersectors. The 11 supersectors include from one to four sectors. Because the state and local government sector-level results are concentrated in a few services and public administration, these statistics are reported as totals for state and local government, respectively.

Figure 3.1 shows Minnesota's injury and illness rates for the case types by industry sector and for all industries combined. Industries are ranked by their total case rate.

- Construction had the highest incidence rates for all cases, for DAFW cases and for other recordable cases.
- Manufacturing had the second-highest total case rate and the highest rate for cases with job transfer or restrictions.
- Manufacturing and natural resources and mining were the only sectors with job transfer or restriction rates that were higher than their DAFW rates.

Figure 3.2 compares the 2004 rates for each supersector with their respective 2003 rates. The 2004 total case rates were lower than the 2003 rates for six of the supersectors, the same rate in both years for three industries, and higher in 2004 than in 2003 for three supersectors. The 2004 rate was lower than the 2003 rate for three of the four highest-rate supersectors.

Figure 3.3 compares Minnesota's private-sector 2003 total case incidence rates with the U.S. rate for each supersector. With the exception of financial activities and other services, the Minnesota industry rates were higher than the corresponding U.S. rates. Some of these rate differences may result from different employment distributions among the constituent industries in each sector. Only the rate differences in construction and financial activities were statistically significant.

Figure 3.1 Incidence rates by industry supersector, Minnesota, 2004

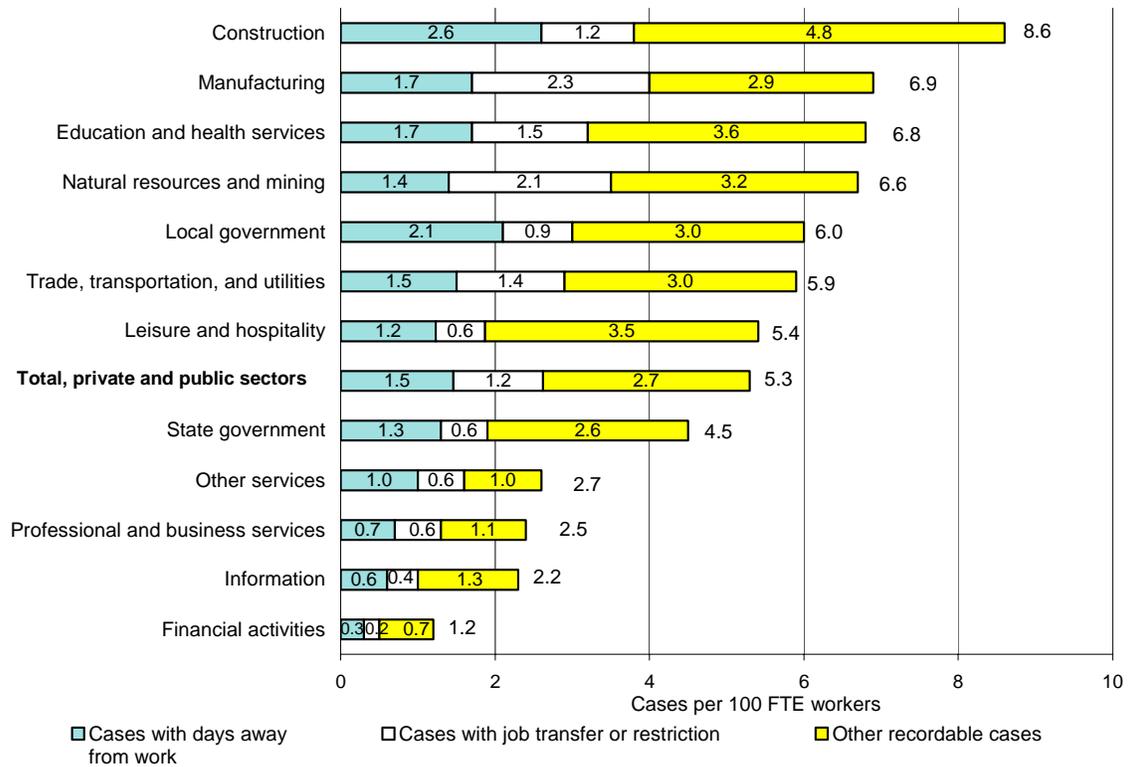


Figure 3.2 Incidence rates per 100 FTE workers for total nonfatal occupational injuries and illnesses by industry supersector, Minnesota, 2003 and 2004

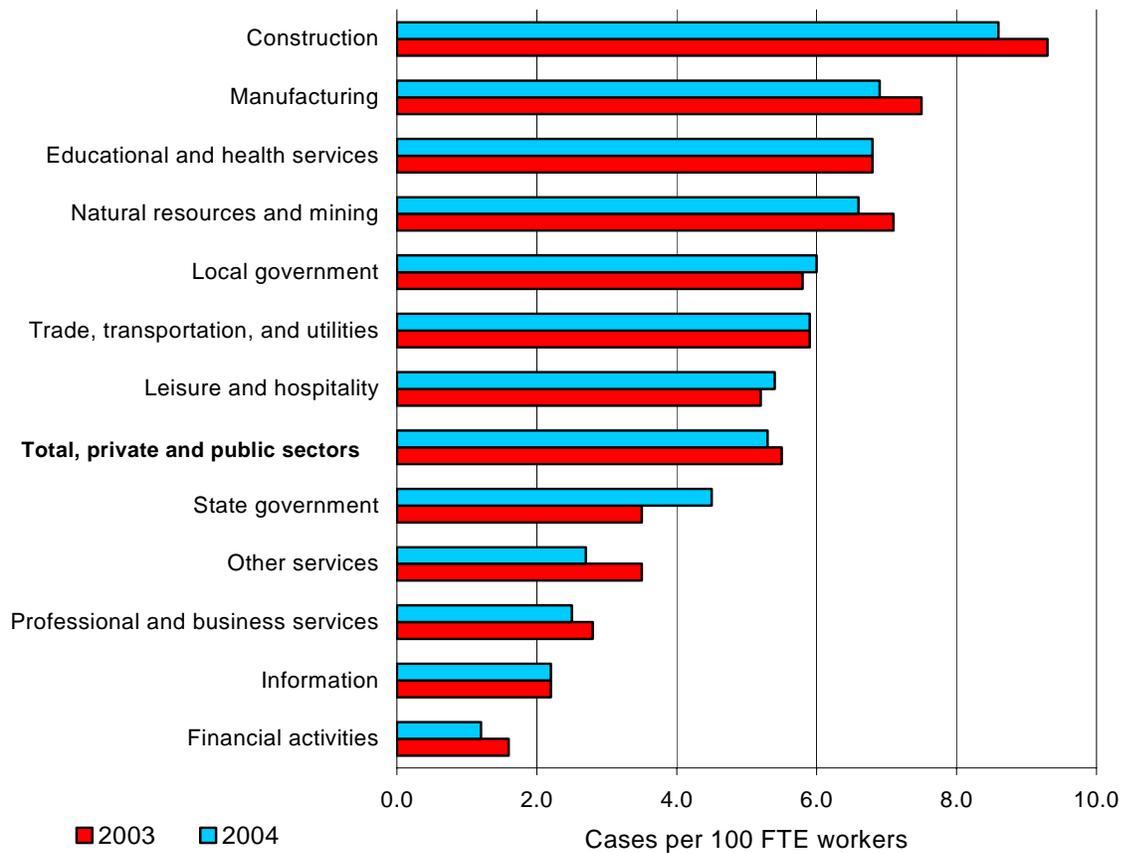


Figure 3.3 Incidence rates per 100 FTE workers for total nonfatal occupational injuries and illnesses by industry supersector, private sector, Minnesota and United States, 2004

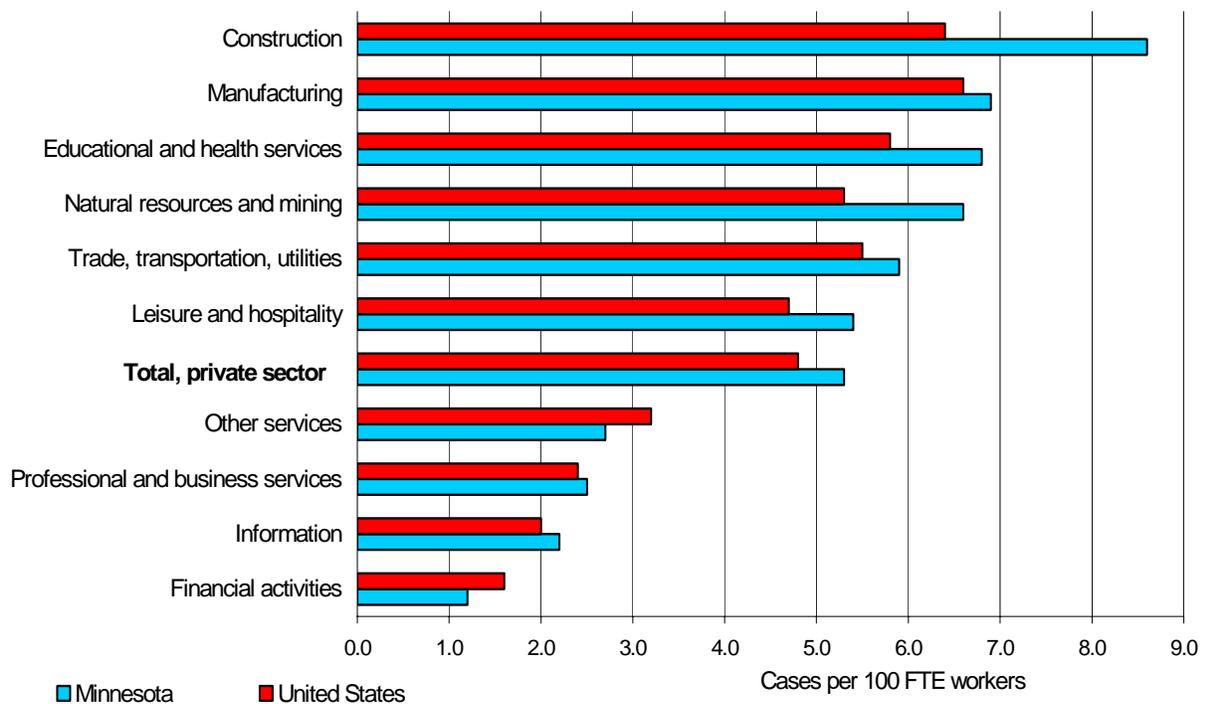


Figure 3.4 Percentage of total cases and employment by industry supersector, 2004

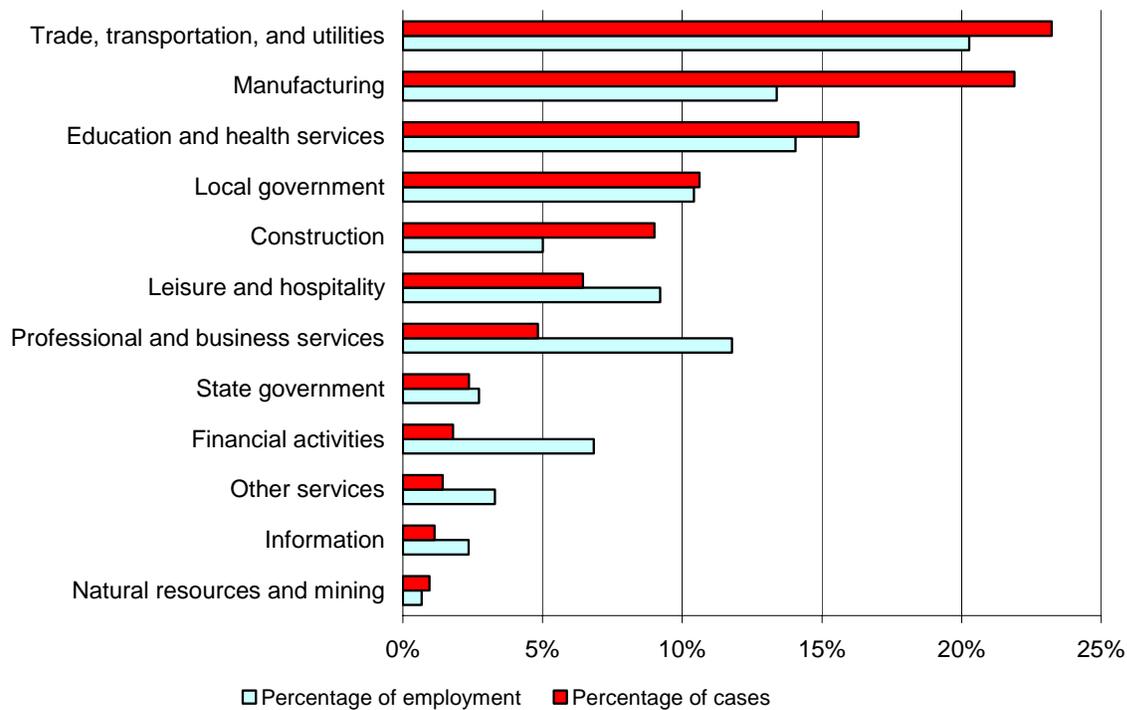


Figure 3.4 compares the percentage of employment for each of the supersectors with the percentage of total cases reported. Cases and employment are the components for calculating the case rates. Industries with higher percentages of cases compared to employment have the highest total case rates, as shown in Figure 3.1.

- Trade, transportation and utilities, with 20 percent of Minnesota's employment, accounted for 23 percent of the cases. Manufacturing had 22 percent of the cases and was the third-largest employment supersector.
- Education and health services was the third-highest supersector for total cases and second-largest supersector for employment.
- Construction had a noticeably higher percentage of total cases compared to its percentage of total employment, accounting for 9 percent of the cases and 5 percent of employment.

Days away from work

As part of the OSHA recordkeeping changes for 2002, days away from work are counted by calendar days, not scheduled work days. This change makes the SOII count more compatible with the method used in Minnesota's workers' compensation system to measure days away from work. However, unlike workers' compensation, the SOII number of days does not include the day of the event causing the injury or illness.

Table 3.5 shows the median number of days away from work for 2003 and 2004 by industry supersector. While the median is not as sensitive as the mean to outliers, the weighting system used by BLS to compute the SOII estimates sometimes results in large year-to-year variations.

- The median for all private-sector industries was five days, unchanged since 2000. The median duration varied widely among the industries and by year within industry.
- Natural resources and mining had the highest median duration, 12 days. In 2003, its median duration was five days, while construction had the highest median duration, 12 days.
- The median number of days away from work depends on many factors, including the most common types of injuries occurring in the industry, the average age of the injured workers and the ability of employers to provide temporary work or restricted-duty work for injured workers.

Tables showing the percentage of cases by the number of days away from work are available on the DLI Web site at www.doli.state.mn.us/blsstats.htm.

Figure 3.5 Median days away from work by industry supersector, Minnesota, 2003 and 2004

Industry	2003	2004
Natural resources and mining	5	12
Leisure and hospitality	3	9
Professional and business services	5	7
Other services	6	7
Information	7	7
Trade, transportation, and utilities	5	6
State government	5	6
Total, private and public	5	5
Manufacturing	5	5
Local government	4	5
Financial activities	3	5
Education and health services	3	5
Construction	12	5

Results by industry subsector

Some limited safety and health resources need to be prioritized to those industries with the highest injury and illness rates and the highest numbers of cases. Figure 3.6 shows the industry subsectors (three-digit NAICS classes) with the highest total case incidence rates in Minnesota.

- Four of these 10 subsectors are in the health care and social assistance sector. Nursing homes are an OSHA emphasis industry for reduction of ergonomic-related injuries.
- Rates for transportation equipment manufacturing and local government nursing and residential care were noticeably lower than in 2003.

The 10 industry subsectors with the highest DAFW case incidence rates in Minnesota are shown in Figure 3.7.

- Four of these 10 subsectors are in the health care and social assistance sector.
- Even though the DAFW rate for local government nursing and residential care facilities is the highest of any industry subsector, its rate improved substantially from the 2003 rate of 8.0 DAFW cases per 100 FTE.

Figure 3.8 shows the industry subsectors with the highest number of DAFW cases. Only four industries are listed in both figures 3.7 and 3.8. Only one of the five industries with the highest DAFW rates, private-sector nursing and residential care facilities, is among the top 10 industries with the highest number of cases.

- These 10 industries accounted for 12,510 DAFW cases, 44 percent of the total.
- The industries represent a wide variety of Minnesota workplaces. These 10 subsectors come from eight different industry sectors.

Figure 3.6 Industry subsectors with the highest total case rates, Minnesota, 2004

Industry subsector ¹	Cases per 100 FTE workers
Transportation equipment manufacturing	13.2
Animal production	12.8
Couriers and messengers	12.0
Nursing and residential care (local gov.)	10.6
Hospitals (local government)	10.4
Hospitals (private)	10.2
Wood product manufacturing	9.8
Nursing and residential care (private)	9.3
Specialty trade contractors	9.2
Food and beverage stores	9.1

¹ Industry subsectors use the first three NAICS digits.

Figure 3.7 Industry subsectors with the highest rates of days-away-from-work cases, Minnesota, 2004

Industry subsector	DAFW cases per 100 FTE
Nursing and residential care (local gov.)	4.7
Couriers and messengers	4.3
Hospitals--state government	3.8
Nursing and residential care (private)	3.0
Transportation equipment manufacturing	2.9
Public administration (local government)	2.9
Hospitals (private)	2.9
Specialty trade contractors	2.8
Performing arts, spectator sports and related industries	2.7
Wood product manufacturing	2.6

Figure 3.8 Industry subsectors with the highest number of days-away-from-work cases, Minnesota, 2004

Industry subsector	DAFW cases ¹
Specialty trade contractors	1,970
Nursing and residential care (private)	1,800
Public administration (local government)	1,730
Hospitals (private)	1,640
Educational services (local government)	1,250
Food services and drinking places	970
Fabricated metal product manufacturing	840
Merchant wholesalers, durable goods	820
Motor vehicle and parts dealers	790
Machinery manufacturing	700

¹ Number of cases is rounded to nearest 10.

Incidence by establishment size

The incidence of reported workplace injuries and illnesses varies by establishment size. Figure 3.9 shows the case incidence by case type and establishment size, and presents the total case rates by establishment size and industry supersector.

- The rates of all three case types are lowest for the smallest establishments (one to 10 employees). The total case rate decreased from 2.8 cases per 100 FTE workers in 2003 to 2.2 cases per 100 FTE workers in 2004.
- Mid-sized establishments (50 to 249 employees) have the highest rates for all three case types.
- The differences in the rates between the size groups is much lower than in past years. The incidence rates for the establishments with 11 to 49 workers all increased, while the rates for establishments with 50 to 249 workers all decreased.
- For nearly all industries, the smallest establishments have lower total case rates than do the midsize establishments.
- Differences due to employer size may be attributed to the amount of safety resources available and to recordkeeping. Large establishments generally have more resources available, such as full-time, on-site safety directors. These safety professionals may also improve the communication and recording of worker injuries and illnesses.
- Worker surveys have found that a large proportion of workplace injuries and illnesses are not reported, and that worker exposure to hazards at small establishments is at least as great as at larger ones.⁵

⁵ Biddle and Roberts, "More evidence of the need for an ergonomic standard," *American Journal of Industrial Medicine*, 2004, vol. 45, pp. 361-370; Morse, Dillon, Weber, et al., "Prevalence and reporting of occupational illness by company size: population trends and regulatory implications," *American Journal of Industrial Medicine*, 2004, vol. 45, pp. 329-337.

Figure 3.9 Injury and illness case incidence rates by establishment size for private industry, Minnesota, 2004



Industry supersector	Total recordable cases per 100 full-time-equivalent workers by establishment size (number of employees) ¹					
	All Sizes	1-10	11-49	50-249	250-999	1,000+
Natural resources and mining	6.6	1.6	7.5	6.1	7.6	--
Construction	8.6	5.1	11.0	9.3	5.4	--
Manufacturing	6.9	4.0	6.9	8.4	6.0	6.1
Trade, transportation, and utilities	5.9	1.8	5.7	7.6	6.7	7.5
Information	2.2	--	1.5	3.3	1.4	2.6
Financial activities	1.2	0.5	0.9	2.1	1.8	1.0
Professional and business services	2.5	--	2.5	2.2	--	1.9
Education and health services	6.8	--	3.9	7.5	7.9	9.0
Leisure and hospitality	5.4	--	3.6	7.5	8.7	--
Other services	2.7	1.8	2.4	4.4	5.2	--
State government	4.5	--	--	3.4	4.6	4.6
Local government	6.0	--	7.2	5.6	7.2	5.5

1. Only cells with data meeting BLS publication standards are shown.

4

Characteristics of cases with days away from work

This chapter presents, for cases resulting in one or more days away from work, statistics about the demographic characteristics of the workers, their job characteristics, the characteristics and causes of their injuries and illnesses, and the timing of the event or exposure.

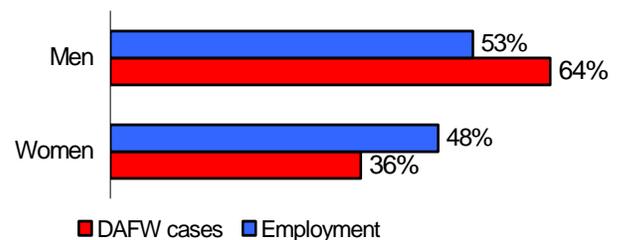
Employers participating in the survey provide descriptions for each DAFW case.⁶ DLI Research and Statistics survey staff members code the descriptions into the appropriate categories for nature of injury or illness, part of body affected, event or exposure, and source of injury or illness.

Worker demographic characteristics

Gender

- The percentage of women among DAFW cases decreased from 39 percent in 2003, to 36 percent in 2004. This percentage was reached only once before, in 1998. Women comprised 48 percent of Minnesota's 2004 employment.
- The number of women with DAFW cases has been decreasing along with the total number of DAFW cases. In 1992, there were 14,980 women with DAFW cases, 11,540 cases in 2003, and 10,390 cases in 2004.
- The percentage of women among DAFW cases varies greatly by industry. Women accounted for 80 percent of private-sector education and health services cases, 75 percent of local government education and health services cases, and 53 percent of leisure and hospitality cases. In construction, women comprised 5 percent of the cases.

Figure 4.1 Gender of all workers and workers with days-away-from-work cases, Minnesota, 2004



⁶ For employers with a significant number of DAFW cases (more than 30), a sampling scheme is used to select a reduced number of cases.

Age

- The age distribution of injured workers has changed significantly during the past decade, reflecting the increasing average age of the workforce. The U.S. Census showed that the median age of Minnesotans increased from 32.4 years in 1990, to 35.4 years in 2000.⁷
- With the declining DAFW case rate, this means there are fewer seriously injured workers, but injured workers now tend to be older than those a decade ago.⁸
- The age distribution of injured workers generally matches the age distribution of employed workers.⁹ However, both the youngest and oldest age groups have approximately five DAFW claims per 1,000 workers while all the other age groups have about 9 cases per 1,000 workers.
- The percentage of injured workers who were younger than age 35 decreased from 50 percent in 1994 to 35 percent in 2004, while the percentage of injured workers who were age 45 and older increased from 22 percent to 40 percent.
- Even though the total number of DAFW cases decreased by 14,100 from 1994 to 2004, the number of cases among workers age 65 and older increased from 380 cases to 470 cases.
- The median days away from work generally increased with age (Figure 4.4). Workers age 65 and older had a lower injury rate, although they tended to have more days away from work following an injury.

Figure 4.2 Age of workers with days-away-from-work cases, Minnesota, 2004

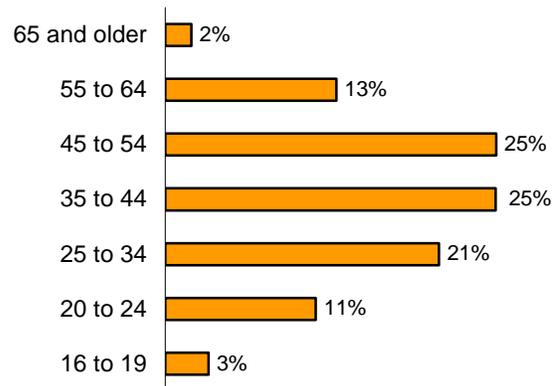


Figure 4.3 Distribution of age of workers with days-away-from-work cases, Minnesota, 1994-2004

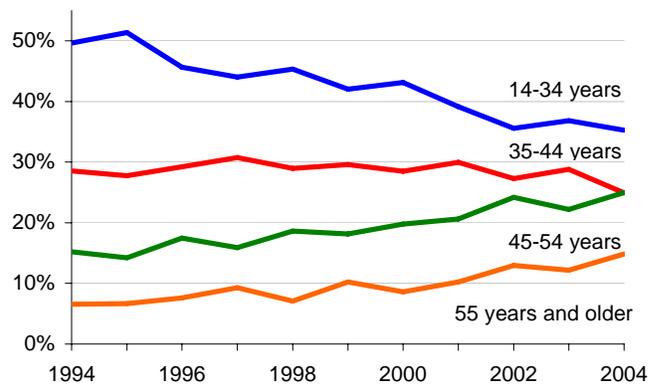
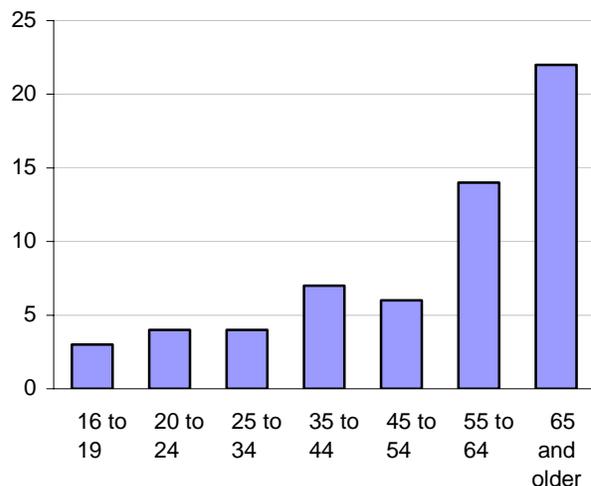


Figure 4.4 Median days away from work by age group, Minnesota, 2004



⁷ Census 2000: Minnesota age profile. Minnesota Planning State Demographic Center, June 2003. www.demography.state.mn.us/Cen2000profiles/cen00profage.html.

⁸ This trend has been analyzed using Minnesota workers' compensation data in "Changing worker demographics lead to changing injury characteristics," COMPACT, February 2005. www.doli.state.mn.us/pdf/feb05-2.pdf

⁹ Current Population Statistics, Geographic Profile of Employment and Unemployment, 2004. Bureau of Labor Statistics. www.bls.gov/lau/table14full04.pdf

Race or ethnic origin

Some caution is needed in the analysis of race or ethnic origin, because 29 percent of the survey responses did not include the injured worker’s race or ethnic origin. The survey results reflect the increasing diversity of Minnesota’s workforce.

- There were 14,100 fewer DAFW cases in 2004 compared to 1994, representing a 33 percent decrease, but the number of DAFW cases identifying nonwhite injured workers increased from 2,820 cases to 3,250 cases, a 15 percent increase.
- Nonwhite workers accounted for 16 percent of the cases with a reported race or ethnicity in 2004, compared to 15 percent in 2003, and only 9 percent in 1994.
- The reported number of Hispanic workers with DAFW cases in 2004 was 136 percent higher than the number in 1994. The number of DAFW cases among black workers decreased by 9 percent.
- Employment estimates from the *Current Population Survey* for 2004 show that white workers accounted for 92 percent of Minnesota’s employment. If the race and ethnic origin distribution of the nonreporting cases is similar to the distribution for the cases with race and ethnic origin reported, then the DAFW case incidence rate is higher for nonwhite workers than for white-only workers.

Figure 4.5 Race or ethnic origin of workers with days-away-from-work cases, Minnesota, 2004

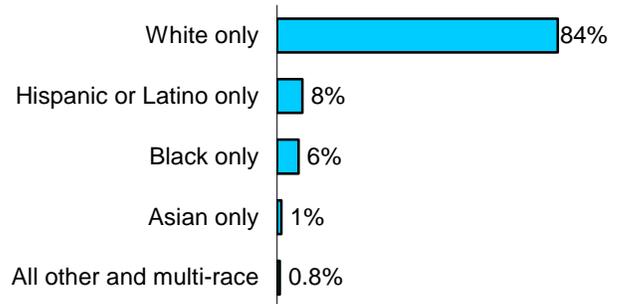
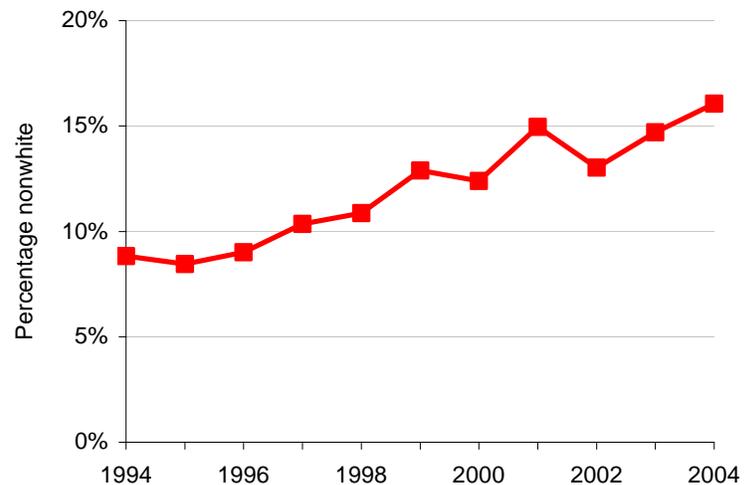


Figure 4.6 Percentage of nonwhite workers among days-away-from-work cases, Minnesota, 1994-2004



Job characteristics

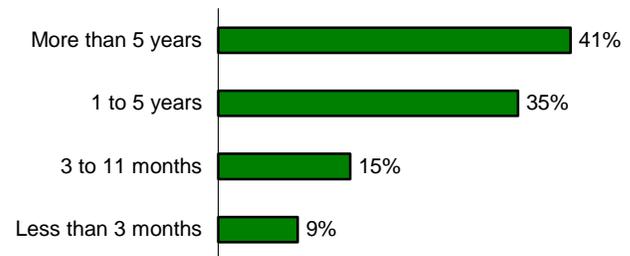
Job tenure

A worker's length of service with an employer is a general measure of the worker's attainment of job skills. Workers with short job tenures include new entrants and re-entrants to the workforce, those who lost jobs but found new jobs during the previous year, and workers who had voluntarily changed employers during the previous year. Injuries to workers with short job tenures may be indicative of workers who were not adequately trained or who did not meet all the physical requirements the new jobs demanded.

Young workers usually have shorter job tenure than older workers. The general increase in worker age will lead to an increase in the average job tenure of injured workers.

- Employees with less than one year of service with their employer accounted for 24 percent of the DAFW cases. This was down from 27 percent in 2003, and is the lowest percentage ever reported. This statistic was first reported for 1992.
- The percentage of DAFW among workers with more than five years of job tenure increased from 35 percent in 2003 to 41 percent in 2004, reflecting the increased age of injured workers.
- According to the *Current Population Survey* statistics for January 2004,¹⁰ the national proportion of wage and salary workers with a year or less of tenure with their current employer was 23 percent, while 31 percent had from one to five years of job tenure, and 46 percent had more than five years.
- The distribution of job tenure among workers with DAFW cases varied greatly by industry, reflecting the amount of labor turnover. Workers with less than one year tenure accounted for 44 percent of the cases in construction, but they accounted for less than 10 percent of the cases in both state government and local government.

Figure 4.7 Length of service of workers with days-away-from-work cases, Minnesota, 2004



¹⁰ News release, Bureau of Labor Statistics, *Employee tenure in 2004*, Sept. 21, 2004. State-level job tenure statistics are not published.

Occupation

Occupations describe a set of characteristics based on the job duties, skills, education or experience needed to accomplish work tasks. Some occupations are concentrated in certain industries, such as nursing aides working in the hospital and nursing home industries. However, many other occupations, such as management, sales and office support, are found in a wide range of industries.¹¹ Workers in the same or similar occupations often encounter similar work conditions, which affect their safety and health.

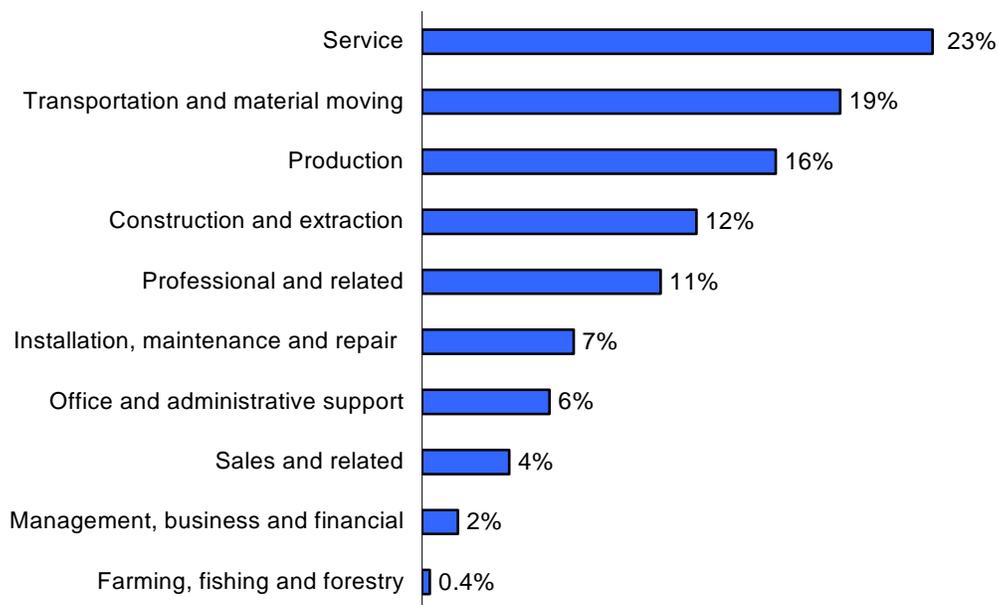
Beginning with the 2003 BLS survey, occupations are named and categorized according to the 2000 Standard Occupational Classification system. Because of this change, occupation results are not comparable with results from earlier years.

Occupation is presented by broad category in Figure 4.8, by major group in Figures 4.9 and 4.10, and by detailed occupation in Figure 4.11. A few broad categories are the same as major groups (e.g., production and sales).

Figure 4.8 shows the percent distribution of DAFW cases by broad occupation category. These results generally reinforce the broad industry category results, shown in Figure 3.1. The three highest-percentage occupation groups accounted for 57 percent of the DAFW cases and for 34 percent of workers.

- Service occupations, such as nursing aides, law enforcement workers, cooks and building maintenance workers, composed the largest occupation category for 2003 and 2004 DAFW cases.
- Transportation and material moving occupations, the second-largest occupation group among DAFW cases, includes truck drivers, airline workers and unskilled manual laborers (nonconstruction).
- Production occupations, the third-largest occupation group among DAFW cases, includes assemblers, food processing workers and woodworkers.

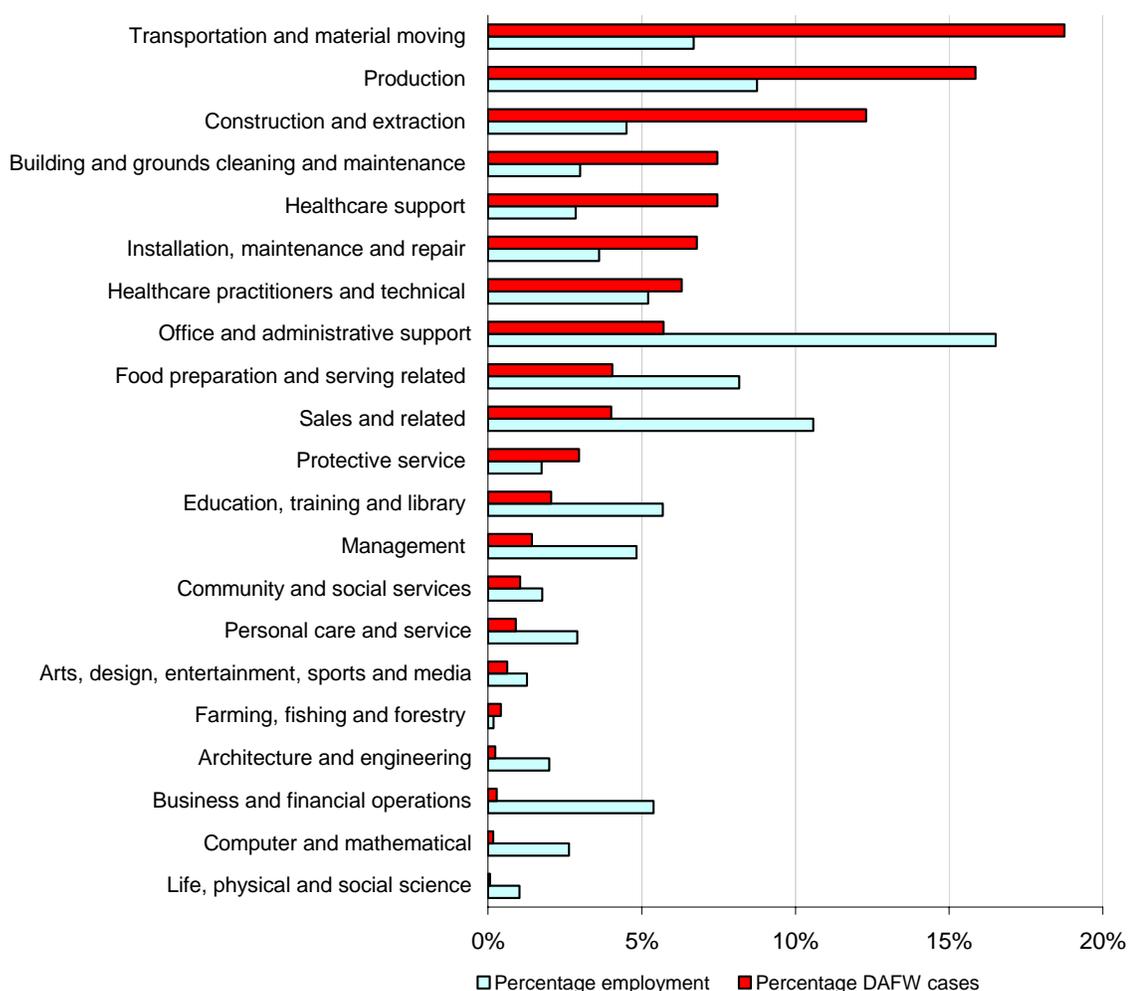
Figure 4.8 Occupation of workers with days-away-from-work cases, Minnesota, 2004



¹¹ The 2004 Minnesota occupational staffing matrix, showing the distribution of occupations by industry, is available at www.deed.state.mn.us/lmi/tools/oes/staffing_patterns.htm.

- Figure 4.9 shows the percentages of employment and DAFW cases by occupation group.¹² The figure highlights the differences between the occupation distributions of all workers and among workers with DAFW cases. This dramatically shows that certain occupations are responsible for a large percentage of the DAFW cases.
- Three of the four largest occupation groups -- office and administrative support occupations, sales and related occupations, and food preparation and serving related occupations -- accounted for much smaller percentages of the DAFW cases. Production occupations, the third-largest occupation group, had the second-highest percentage of DAFW cases, nearly double its percentage of workers.

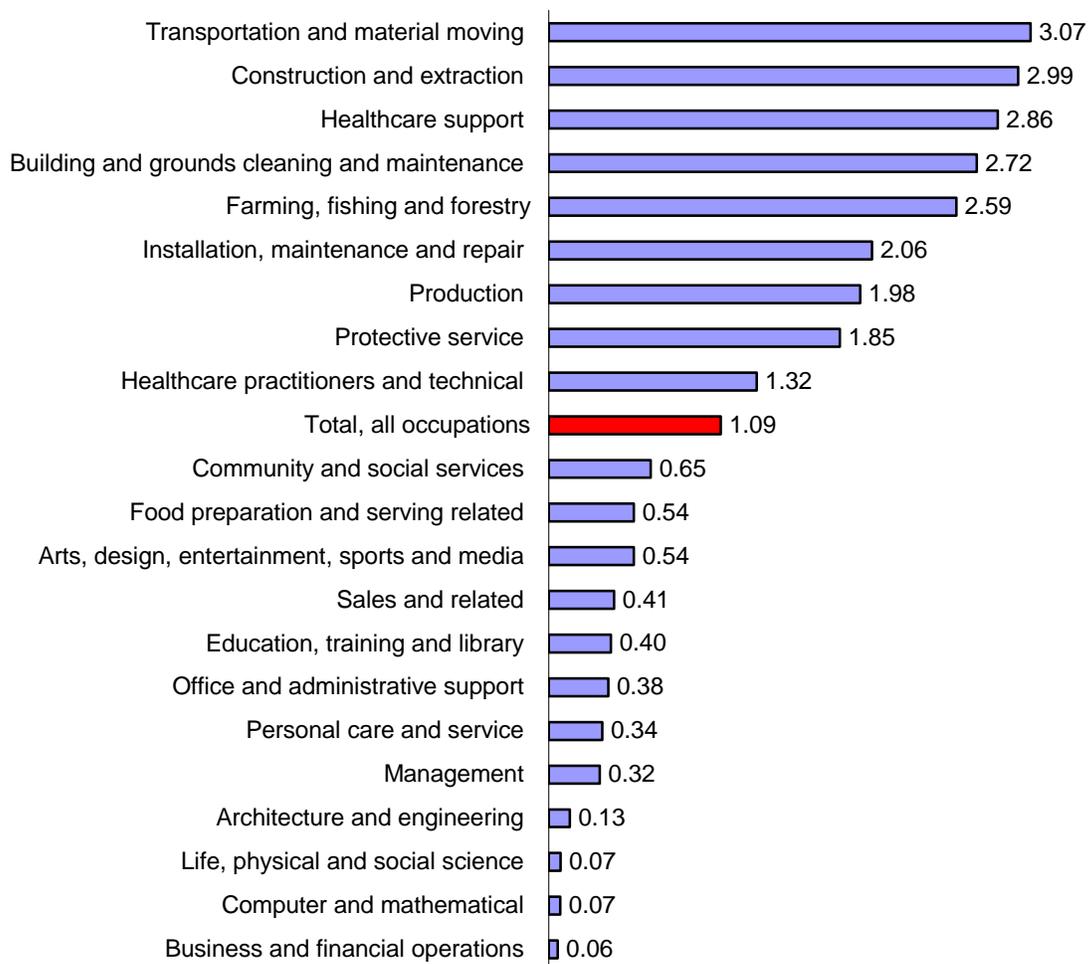
Figure 4.9 Employment and days-away-from-work cases by occupational group, Minnesota, 2004



¹² Statistics about Minnesota employment by occupation are available from the Department of Employment and Economic Development at www.deed.state.mn.us/lmi/tools/oes/about.htm.

- Two occupation groups each accounted for more than 15 percent of the DAFW cases, transportation and material moving and production. Both of these groups contain the same occupations as the broad categories of the same name in Figure 4.8.
- The differences in occupations are further revealed by the rate of DAFW cases per 100 workers, shown in Figure 4.10.¹³ This figure shows that the rate for transportation and material moving and construction and extraction occupations is almost three times the statewide average.
- Many occupations, especially those where most of the work takes place in an office environment, have very low DAFW rates.
- By using this occupation rate chart and the industry rate charts presented in the previous chapter, safety professionals can identify where safety resources can be most effective.

Figure 4.10 Rate of days-away-from-work cases per 100 employees by occupational group, Minnesota, 2004



¹³ These rates are based on the number of workers, not on full-time equivalent workers, and are not comparable to the incidence rates reported in previous chapters.

- The detailed occupations with 400 or more DAFW cases are shown in Figure 4.11. The three specific occupations with at least 1,000 DAFW cases accounted for 20 percent of all DAFW cases.

sector DAFW cases are available in Appendix E. These four occupations are laborers and freight handlers, nursing aides and orderlies, construction laborers, and carpenters. The DAFW cases for janitors and cleaners are nearly equally split between private-sector and public-sector establishments

Full descriptive statistics sets for the four occupations with the highest numbers of private-

Figure 4.11 Specific occupations with the highest number of cases, Minnesota, 2004



Injury and illness characteristics

Each DAFW case is characterized by the nature of the injury or illness, the part of the body affected, the event or exposure leading to the injury or illness and the source of the injury or illness. Additional measures of injury and illness events are the time of day, time on the job and day of week the injury occurred or illness began.

As an example of how these characteristics combine to describe injuries and illnesses, consider a health care worker who sprains his back while helping a patient get out of bed. The nature of injury is a sprain or strain; the part of body affected is his back; the event is overexertion while lifting; and the source is the health care patient.

Nature of injury or illness

The nature of injury or illness identifies the principal physical characteristic(s) of the injury or illness.

- Sprains, strains and tears of muscles, tendons and joints accounted for 43 percent of the DAFW cases, a slight decrease from the 45 percent reported for 2003. The number of cases of sprains, strains and tears dropped by 21 percent since 2001, from 15,500 cases to 12,300 cases.
- The percentage of fractures, the second most frequent nature of injury, was unchanged from 2003. The number of fracture cases decreased by 26 percent since 2001, from 2,600 cases to 1,950 cases.
- Figure 4.13 shows some of the characteristics of private-sector cases with each of the four most frequent detailed nature of injury codes.
- Fractures stand out from the other three types of injury, because it is more common among older workers and workers with more than five years of job tenure, occurs more often on Friday than early in the week, and results in long durations away from work.

Figure 4.12 Nature of injury, Minnesota, 2004

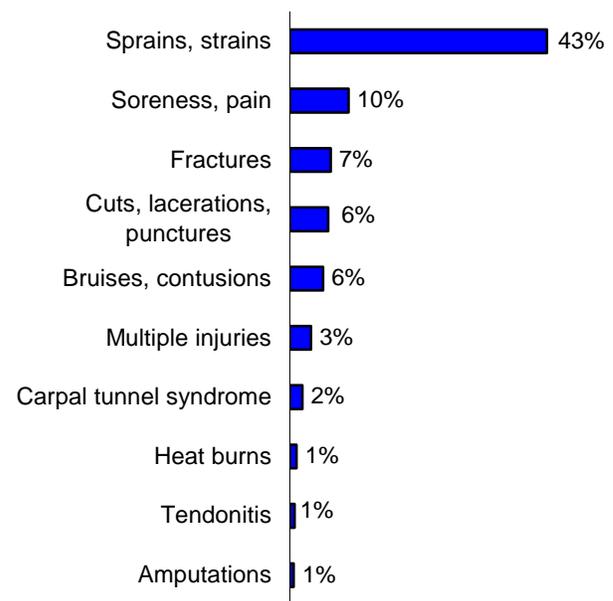


Figure 4.13 Characteristics profiles of cases with the four most-common types of nature of injury, private sector, Minnesota, 2004

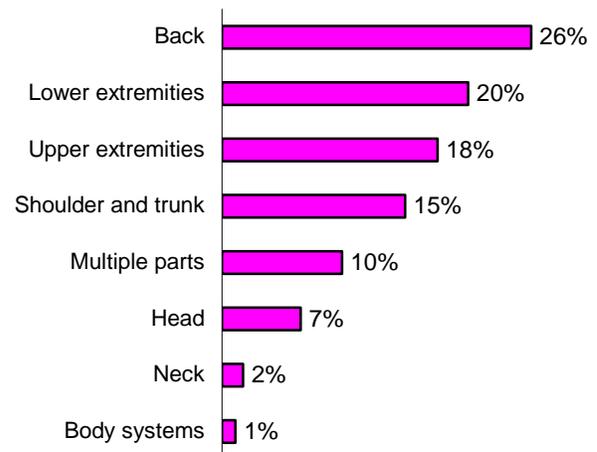
Characteristic	Sprains, strains, tears	Fractures	Bruises, contusions	Nonback soreness, pain
Total cases	10,200	1,760	1,430	1,360
Women	37%	41%	37%	40%
Age				
34 years or younger	41%	25%	48%	44%
35-44 years	29%	21%	23%	21%
45-54 years	21%	23%	19%	24%
55 years or older	10%	32%	11%	10%
Job tenure				
Less than 1 year	28%	20%	30%	29%
1-5 years	38%	28%	46%	36%
More than 5 years	34%	52%	24%	35%
Median days away	5	26	5	6
Most common event day(s)	Monday	Friday	Mon., Tues.	Mon., Thurs.

Part of body

The part of body affected identifies the part of the body directly affected by the previously identified nature of injury or illness.

- The percentage of back injuries in 2004 was the same as in 2003. Back injuries have accounted for about 30 percent of the cases since injury characteristics were first collected in 1992.
- 2003 and 2004 have been the only two years with fewer than 9,000 back cases.
- Among the detailed body part categories, the lumbar back was the most frequently injured part of the body. Lumbar back injuries are mostly sprains or strains, or have a more general description of back pain. Overexertion in lifting and the worker’s own bodily motion were the primary causes of lumbar back injuries. Lumbar back injuries were most common among workers age 34 or younger.

Figure 4.14 Part of body injured, Minnesota, 2004



- The most common injury to multiple body parts was sprains and strains. Multiple body part injuries occurred most often as a result of falls and overexertion. Women accounted for almost two-thirds of the multiple-part injury cases. Multiple part injuries were most common to older workers.
- Workers with shoulder injuries had the longest median time away from work, 15 days. Shoulder injuries were much more common among workers with more than five years of job tenure.
- Many of the knee injuries were sprains and strains resulting from the worker's own bodily motion or from falls. Among the most commonly injured body parts, women were least likely to have knee injuries.

Figure 4.15 Characteristics profiles of cases with the four most-frequently-injured body parts, private sector, Minnesota, 2004

Characteristic	Lumbar back	Multiple body parts	Shoulder(s)	Knee(s)
Total cases	3,560	2,370	2,110	1,720
Percent women	35%	63%	29%	27%
Age				
34 years or younger	43%	25%	27%	28%
35-44 years	22%	24%	37%	34%
45-54 years	27%	15%	24%	28%
55 years or older	8%	36%	13%	10%
Job tenure				
Less than 1 year	24%	14%	18%	27%
1-5 years	43%	41%	32%	42%
More than 5 years	33%	45%	49%	31%
Median days away	5	7	15	7
Most common event day(s)	Mon., Tues.	Friday	Tuesday	Tues., Wed., Thurs.

Event or exposure

The event or exposure describes the manner in which the injury or illness was produced or inflicted by the source of injury or illness.

- Overexertion continued to account for the largest proportion of cases. The percentage of overexertion cases increases from 31 percent in 2003 to 35 percent in 2004. The number of overexertion cases also increased, from 9,360 in 2003 to 9,940 in 2004.
- The most common specific event, overexertion in lifting, was most often cited for lifting containers, health care patients, and parts and materials. These events caused sprains and strains and soreness, most commonly to the back. One-third of all back injuries were the result of overexertion in lifting. Overexertion in lifting was most common among the younger workers.
- Falls to the floor, walkway or other surfaces commonly resulted in sprains and strains, fractures, and bruises and contusions. The majority of these injuries occurred to women. These injuries were most common among older workers and long-tenured workers. Injuries due to fall required a relatively long recovery period; half the cases had 13 days away from work or longer.
- Injuries due to overexertion in pulling or pushing tended to occur to younger workers than did injuries from overexertion in lifting. Pushing and pulling overexertion resulted in twice the median days away from work as did overexertion due to lifting.
- Workers younger than age 35 accounted for the majority of workers with injuries caused by being struck by an object. These accidents rarely occurred to workers age 55 and older. Similar to the age distribution, these injuries were most common among workers with less than one year of job tenure.

Figure 4.16 Event or exposure, Minnesota, 2004

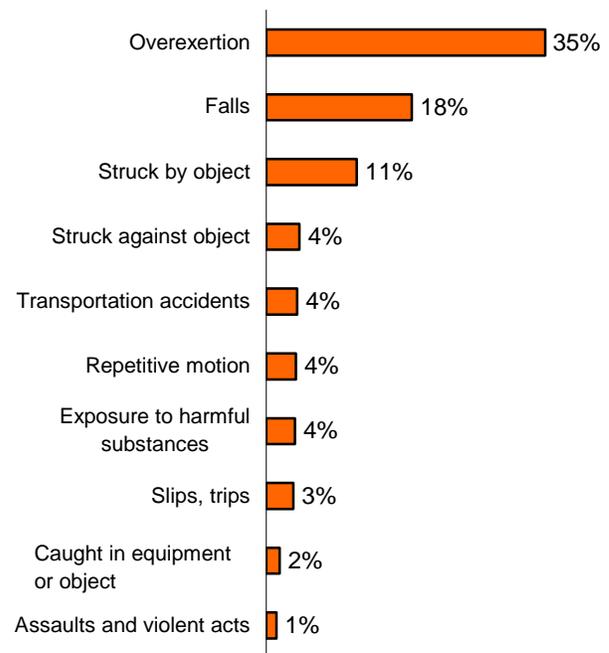


Figure 4.17 Characteristics profiles of cases with the four most-common types of event or exposure, private sector, Minnesota, 2004

Characteristic	Overexertion in lifting	Fall to floor, walkway	Overexertion in pulling or pushing	Struck by falling object
Total cases	3,820	2,480	1,110	1,050
Percent women	40%	63%	37%	23%
Age				
34 years or younger	42%	15%	46%	54%
35-44 years	20%	23%	29%	23%
45-54 years	28%	20%	20%	19%
55 years or older	10%	42%	6%	4%
Job tenure				
Less than 1 year	24%	14%	35%	47%
1-5 years	39%	40%	27%	37%
More than 5 years	36%	46%	38%	16%
Median days away	5	13	11	5
Most common event day(s)	Mon., Tues.	Friday	Monday	Thursday

Source of injury or illness

The source of injury or illness identifies the object, substance, bodily motion or exposure that directly produced or inflicted the previously identified injury or illness.

- Floors, walkways and ground surfaces became the most common source of injury for the first time in 2004. The number of injuries involving floors, walkways and ground surfaces increased by nearly 400 cases. Previously, worker bodily motion or position was the most common injury source. Floors, walkways and ground surfaces are often the source of injuries caused by falls.
- Bodily motion or position refers to injuries caused by the free motion of the worker's body, which most often results in stress or strain to particular body parts. Injuries due to slips and trips are coded with the worker's bodily motion as the source. Bodily motion or position cases accounted for 15 percent of the DAFW cases in 2004, down from 17

percent in 2003. The number of cases decreased by nearly 1,000 cases from the previous year.

- The number of injuries caused by containers also decreased by nearly 1,000 cases from 2003 to 2004.
- Although the percentage of private-sector workers with the detailed source category, bodily motion or position decreased with increasing age, workers with more than five years of job tenure accounted for 44 percent of the cases. These injuries were most common on Mondays.
- Women accounted for 60 percent of the injuries caused by falls to floors of buildings. The resulting injuries often involved long durations away from work. These injuries were most common among older workers and often occurred on Fridays.

- Women accounted for 87 percent of the injuries caused by health care patients. Injuries due to contact with health care patients often happened in the process of lifting or helping move a patient and sometimes were the result of an assault by a patient. Health care patient injuries were most common to younger workers.
- Injuries involving boxes, crates and cartons were more likely to involve younger workers, although workers with longer job tenures also had a higher percentage of these cases. Workers age 55 and older were very unlikely to report injuries due to boxes, crates and cartons.

Figure 4.18 Source of injury or illness, Minnesota, 2004

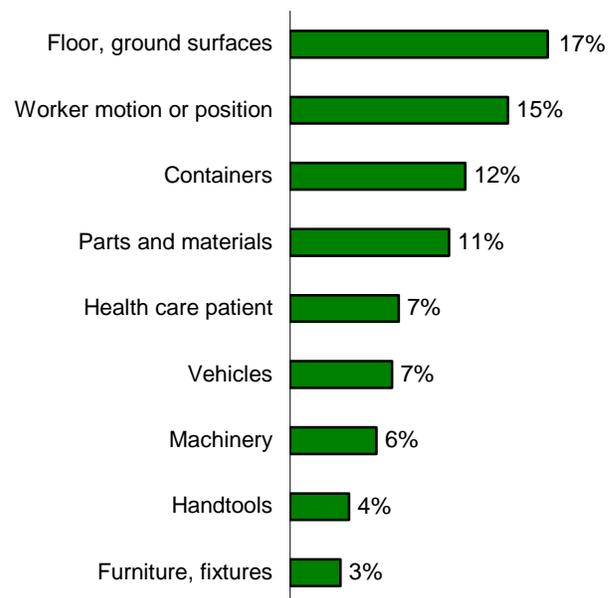


Figure 4.19 Characteristics profiles of cases with the four most-common source of injury or illness, private sector only, Minnesota, 2004

Characteristic	Bodily motion or position of worker	Floor of building	Health care patient	Boxes, crates, cartons
Total cases	3,510	2,160	1,780	1,090
Percent women	39%	60%	87%	37%
Age				
34 years or younger	31%	17%	42%	47%
35-44 years	29%	23%	28%	26%
45-54 years	26%	20%	23%	21%
55 years or older	14%	40%	8%	6%
Job tenure				
Less than 1 year	25%	14%	30%	22%
1-5 years	32%	43%	45%	37%
More than 5 years	44%	43%	25%	41%
Median days away	7	14	4	6
Most common event day(s)	Monday	Friday	Tues., Thurs.	Wednesday

Work-related musculoskeletal disorders

BLS uses the SOII results to produce an estimate of the number of cases with work-related musculoskeletal disorders (WMSDs) among the DAFW cases. Although employers do not directly identify WMSDs on the OSHA log, information about the injured body part and the event or exposure is combined to produce this estimate. BLS defines WMSDs as disorders of the muscles, nerves, tendons, ligaments, joints, cartilage and spinal discs that **are not caused** by slips, trips, falls, motor-vehicle accidents or other similar accidents. Because of the recordkeeping changes in 2002 that directly addressed WMSD issues (see below), comparisons with 2001 and earlier years may be the result of changes in job safety or the effects of the recordkeeping changes.

- There were approximately 11,240 DAFW cases with WMSDs in Minnesota in 2004, accounting for 39 percent of all DAFW cases (Figure 4.20). These values changed little from the previous year.
- Compared with 2002, the number of WMSD cases decreased by 16 percent, while the number of non-WMSD cases decreased by 13 percent.
- The incidence rates for WMSD cases increased in 2004, especially among state and local government workers (Figure 4.21).
- Among the industries, health care had the highest proportion of WMSD cases among its DAFW cases, with 60 percent. WMSD cases accounted for 39 percent of the cases in construction, up from 26 percent in 2003.

WMSD recordkeeping changes

The OSHA recordkeeping changes in 2002 make direct comparisons between the 2002 and later results and those for earlier years unreliable. Data from earlier years are provided to show readers the longer-term trend.

Recordkeeping changes that affected the number of reported WMSD cases include the following:

- An aggravation of a case where signs or symptoms have not been resolved is not a new case, even if the aggravation was caused by a new event or exposure. Previously, each new event or exposure was treated as a new case.
- Under the previous requirements, a cumulative trauma disorder was considered a new case if no care was received for the previous 30 days. The new requirements have no such criteria. In the absence of a new work-related event or exposure, the reappearance of signs or symptoms may be treated as part of the previous case.
- WMSDs are recordable when general OSHA log recording criteria are met.¹⁴ Previously, WMSDs were recordable under the general criteria *or* when identified through a clinical diagnosis or diagnostic test.

¹⁴ OSHA log recording criteria are explained in "Recordkeeping 101: Tracking injuries, illnesses puts you in control," *Safety Lines*, Minnesota Department of Labor and Industry, Winter 2005. www.doli.state.mn.us/safeline.html

Figure 4.20 Number of WMSD and non-WMSD DAFW cases, Minnesota, 1998-2004

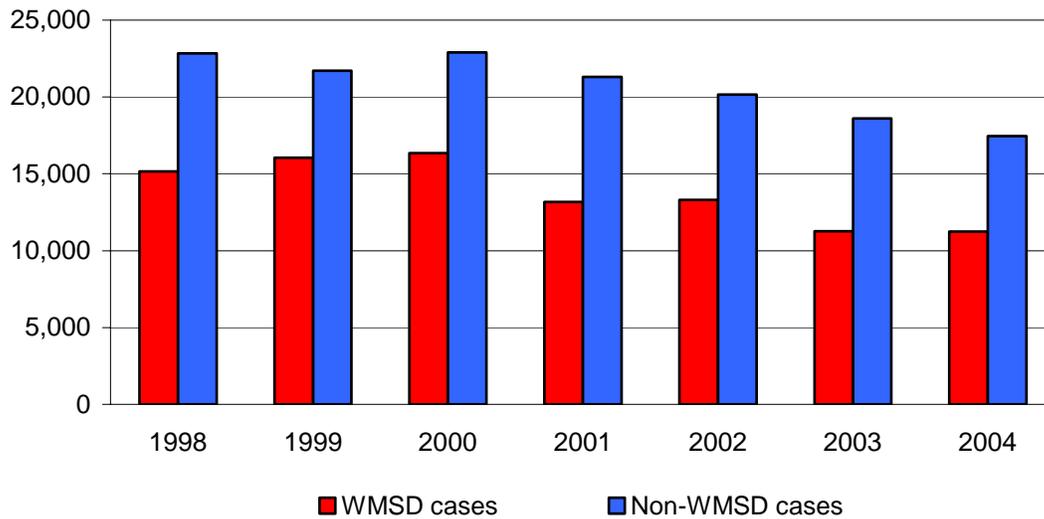


Figure 4.21 Number and incidence rate of WMSD cases involving days away from work, Minnesota, 1998-2004

Year	Private industry		State government		Local government	
	Number	Incidence rate ¹	Number	Incidence rate ¹	Number	Incidence rate ¹
1998	13,550	76.4	360	46.0	1,240	71.0
1999	14,520	80.5	230	33.3	1,290	68.7
2000	14,870	80.5	230	37.9	1,240	68.7
2001	11,830	66.7	200	31.5	1,130	55.1
2002	12,030	68.7	210	35.5	1,070	53.5
2003	9,940	55.8	230	37.2	1,090	54.0
2004	9,770	56.3	240	43.1	1,230	65.4

1. Incidence rates represent the number of cases per 10,000 full-time workers.

Time of injury or illness

The time of injury or illness has three dimensions: the time of day of the event, the worker’s hours on the job before the event occurred and the day of the week of the event. The percentages reported below are based on cases with reported data; 21 percent of the cases did not include a time of event and 23 percent did not include the hours on the job before the event.

- The four hours from 8 a.m. to noon accounted for 34 percent of all injuries and illnesses with days away from work. The four hours from noon to 4 p.m. accounted for an additional 26 percent of the cases. This means 40 percent of the DAFW cases occurred at times other than between 8 a.m. and 4 p.m.
- The four-hour morning period had the highest percentage of DAFW cases for all industry supersectors except for information, other services, and leisure and hospitality. The hours from 4 to 8 p.m. accounted for 41 percent of the leisure and hospitality cases.
- Employees on the job from two to four hours incurred 25 percent of all DAFW cases. This is consistent with the high percentage of morning cases. Workers on the job for fewer than two hours accounted for 27 percent of the cases.
- There was a steady decrease in the percentage of cases as the work-week progressed.
- Mondays were the most common or second-most common injury day in almost all industries. The pattern was very different in leisure and hospitality, where injuries and illnesses were most common on Fridays and Saturdays.

Figure 4.22 Time of event, Minnesota, 2004

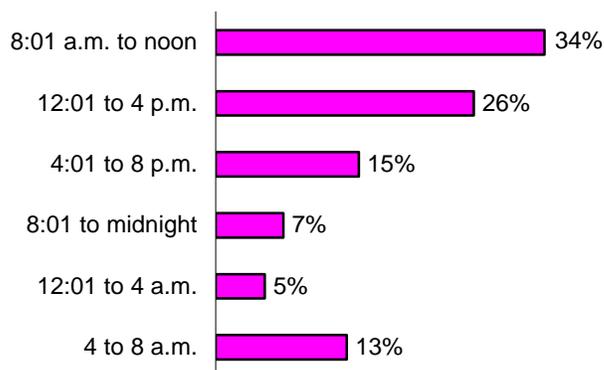
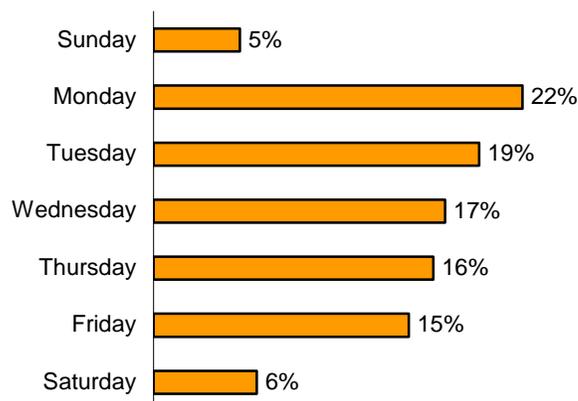


Figure 4.23 Hours on the job before event occurred, Minnesota, 2004



Figure 4.24 Day of week, Minnesota, 2004



5

Fatal occupational injuries

In 2004, 80 Minnesota workers were fatally injured on the job. This is an increase from the 72 fatalities in 2003, but fewer than the 81 fatalities in 2002. Nationwide, 5,703 workers were fatally injured during 2004, an increase from the 5,575 fatalities in 2003.

These and other findings are from the nationwide *Census of Fatal Occupational Injuries* (CFOI), conducted by BLS with state and other federal agencies. The Department of Labor and Industry collects CFOI data for the state of Minnesota.

The CFOI covers all fatal work injuries in the private and public sectors, whether the workplaces concerned are covered by the Occupational Safety and Health Act or other federal or state laws, or are outside the scope of regulatory coverage. For example, the CFOI includes federal employees and resident armed forces, even though they have different legal and regulatory coverage than other workers. It also includes self-employed and unpaid family workers, including family farm workers. Work-related fatal illnesses (e.g., asbestosis, silicosis and lead poisoning) are excluded from the CFOI because many occupational illnesses have long latency periods and are difficult to link to work.

The CFOI provides a complete count of fatal work injuries by using multiple sources to identify, verify and profile these incidents. The sources include death certificates, coroners' reports, workers' compensation reports and news media reports.

Counting fatalities

The CFOI count of work-related fatalities differs in important ways from other workplace fatality statistics. The CFOI is a count of all work-related deaths caused by injuries, and excludes deaths caused by illnesses. Fatalities to all workers, including self-employed workers, are tabulated in the state of where they occurred. Thus, a truck driver from Minnesota, who works for a Minnesota trucking company, killed in an accident in Texas, would be counted as a Texas CFOI fatality.

The workers' compensation count of fatality claims includes only workers covered by a Minnesota workers' compensation insurance policy. Self-employed workers are not included. Fatalities caused by illnesses are included. A Minnesota truck driver killed in another state would be included in the Minnesota workers' compensation fatality count if Minnesota workers' compensation benefits were paid. In 2004, there were 50 workers' compensation fatality claims.

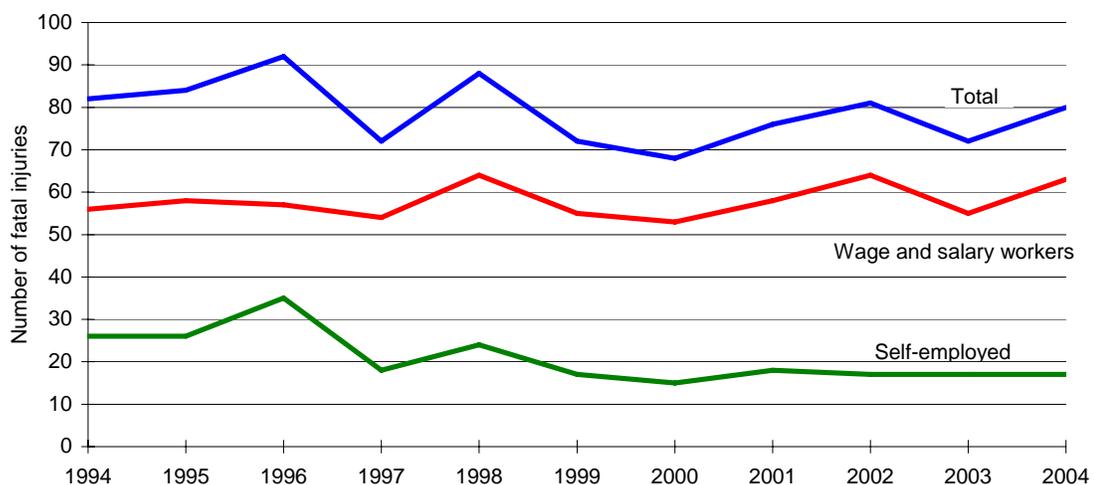
MNOSHA investigated 24 fatalities in 2004. MNOSHA investigates all employee deaths that are under MNOSHA jurisdiction and result from an accident or illness caused by or related to a workplace hazard. Not included are fatalities caused by traffic accidents, airplane crashes, mining accidents, farm accidents and accidents to the self-employed, federal workers and railroad workers.

MNOSHA investigates fatalities to determine cause, whether any MNOSHA standards were violated and whether additional standards might help prevent similar incidents.

Number and rate of fatal injuries

- Figure 5.1 shows Minnesota had from 68 to 92 fatal work injuries a year from 1994 through 2004.
- For wage-and-salary workers, the annual fatality toll ranged from 53 to 64.
- For self-employed workers, the annual fatality figure ranged from 35 to 15. The number of fatalities has remained constant at 17 for the past three years.
- The fatality toll for 2000 through 2004 was 385, an average of 75 workers a year. This consisted of 59 wage-and-salary workers and 17 self-employed workers.
- Fatal injuries for the self-employed were 21 percent of the 2004 total, far higher than the 8 percent self-employed share of total state employment.¹⁵
- Figure 5.2 shows the Minnesota fatality rate since 1994. The 2004 fatality rate was 2.9 deaths per 100,000 employed, slightly above the rate of 2.7 for the previous five years. The long-term trend in Minnesota’s fatality rate has been downward since the early 1990s.
- The fatality rate for self-employed workers (7.7) was more than three times higher than the rate for wage-and-salary workers (2.4). This is consistent with national patterns.¹⁶
- For the entire United States, the fatality rate for 2004 was 4.1 deaths per 100,000 employed, up slightly from a rate of 4.0 in 2002 and 2003.

Figure 5.1 Fatal work injuries, Minnesota, 1994-2004¹



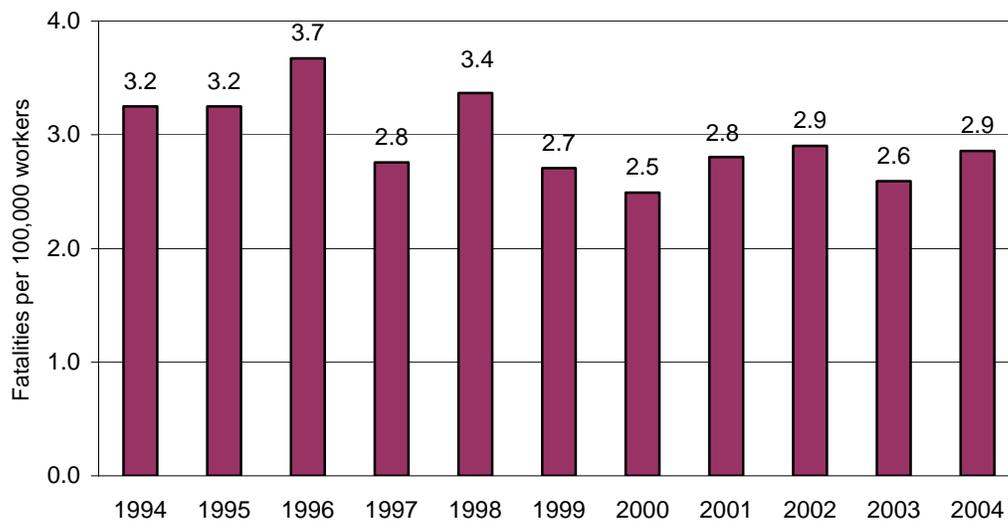
¹ Includes private sector plus local, state and federal government (including resident armed forces). Includes self-employed and unpaid family workers, including family farm workers. Excludes fatal illnesses.

Year of death	Wage & salary workers	Self-employed	Total
1994	56	26	82
1997	54	18	72
2002	64	17	81
2003	55	17	72
2004	63	17	80
Avg. 2000-2004	58.6	16.8	75.4

¹⁵ Geographic Profiles bulletin of *Current Population Survey* data from BLS for 2003.

¹⁶ Stephen M. Pegula, Occupational fatalities: self-employed workers and wage and salary workers. *Monthly Labor Review*, March 2004, pp 30-40.

Figure 5.2 Fatalities per 100,000 workers,¹ Minnesota, 1994-2004



1. Fatalities and workers exclude workers younger than age 16 or in the military.

Fatalities by metropolitan area

The CFOI program also produces fatality counts for metropolitan areas, even those that cross state boundaries. The number of fatalities within the metropolitan areas is strongly influenced by the types of industries and occupations concentrated in each area. This is one reason why the Minneapolis-St. Paul-Bloomington metropolitan area, with nearly 13 times the

population of the Duluth metropolitan area, has less than five times the number of fatalities.

Because there are relatively low numbers of fatalities in some of the metropolitan areas, Figure 5.3 shows the combined fatalities for 2003 and 2004 in order to meet CFOI publication guidelines.

Figure 5.3 Number of fatal work injuries for metropolitan areas, 2003 and 2004

Metropolitan area	Counties	Annual average employment, 2004 ¹	Fatalities ²
Duluth, MN-WI	MN -- Carlton, St. Louis; WI -- Douglas	137,014	11
Fargo, ND-MN	ND -- Cass; MN -- Clay	109,953	5
Grand Forks, ND-MN	ND -- Grand Forks; MN -- Polk	52,828	--
Minneapolis-St. Paul-Bloomington, MN-WI	MN -- Anoka, Carver, Chisago, Dakota, Hennepin, Isanti, Ramsey, Scott, Sherburne, Washington, Wright; WI -- Pierce, St. Croix	1,766,678	52
Rochester, MN	MN -- Dodge, Olmsted, Wabasha	99,626	5
St. Cloud, MN	MN -- Benton, Stearns	99,503	6

¹ Employment estimates from the Local Area Unemployment Statistics program of the Bureau of Labor Statistics.

² "--" indicates no data was reported or the number of fatalities does not meet publication criteria.

Fatalities by industry sector

Figure 5.4 shows the number of Minnesota's fatal work injuries by industry sector for 2004.

- The highest number of fatal injuries was in agriculture, forestry, fishing and hunting. Agricultural crop production accounted for 11 of the 19 fatalities in that sector, and animal production accounted for another seven fatalities. Contact with objects and equipment was the most common event causing the fatalities.
- The number of fatalities in construction has varied from a high of 23 fatalities in 1998, to a low of 10 fatalities in 1997 and 2003. For 2004, the number of fatalities was higher than the average for the previous five years, 13 fatalities. The most common event causing the fatalities was falls.
- Manufacturing, the third-highest fatality industry sector, had fewer fatalities in 2004 than the average for the previous five years, eight fatalities. In manufacturing the fatalities were due to transportation accidents and to contact with objects and equipment.

Figure 5.4 Number of fatal work injuries by industry sector, Minnesota, 2004

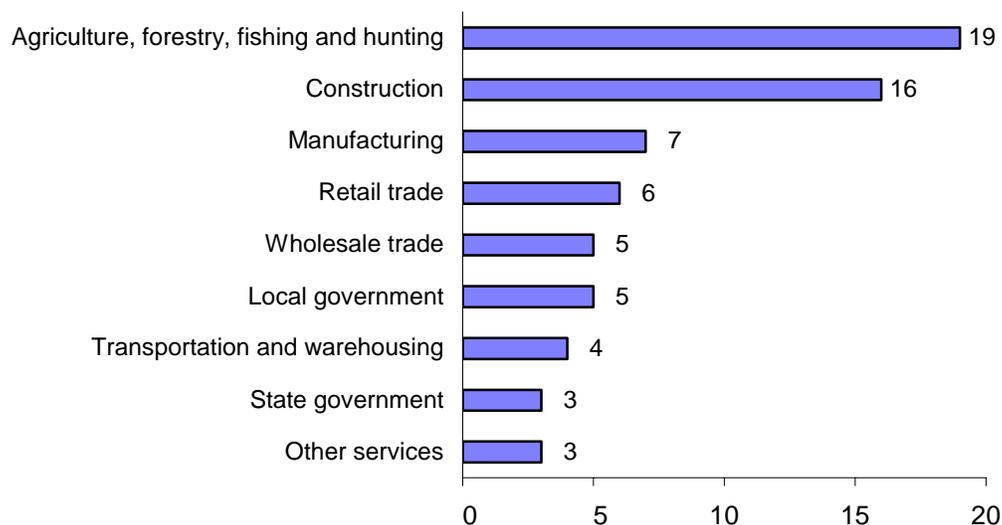


Figure 5.5 Event or exposure causing fatal work injury, Minnesota, 2004¹

Event or exposure	Number of fatalities	Percentage of fatalities
Total	80	100.0%
Transportation accidents	29	36.3%
Highway accident	14	17.5%
Collision between vehicles, mobile equipment	7	8.8%
Noncollision accident	5	6.3%
Jack-knifed or overturned -- no collision	5	6.3%
Nonhighway accident, except rail, air, water	6	7.5%
Noncollision accident	3	3.8%
Pedestrian, nonpassenger struck by vehicle, mobile equipment	4	5.0%
Railway accident	3	3.8%
Contact with objects and equipment	18	22.5%
Struck by object	7	8.8%
Struck by falling object	6	7.5%
Caught in or compressed by equipment or objects	6	7.5%
Caught in running equipment or machinery	5	6.3%
Caught in or crushed in collapsing materials	5	6.3%
Falls	11	13.8%
Fall to lower level	11	13.8%
Assaults and violent acts	11	13.8%
Assaults and violent acts by person(s)	6	7.5%
Shooting	6	7.5%
Assaults by animals	3	3.8%
Exposure to harmful substances or environments	6	7.5%
Contact with electric current	3	3.8%
Fires and explosions	5	6.3%

1. Includes private sector plus local, state and federal government (including resident armed forces). Includes self-employed and unpaid family workers, including family farm workers. Excludes fatal illnesses.

Characteristics of fatal injury events

Fatal occupational injuries are described by the type of event causing the fatality, the source of the fatal injury, and the workers' location and activity. Figure 5.5 shows the event or exposure causing fatal work injuries in Minnesota during 2004. Overall, the distribution of events in 2004 was very similar to the distribution in 2003.

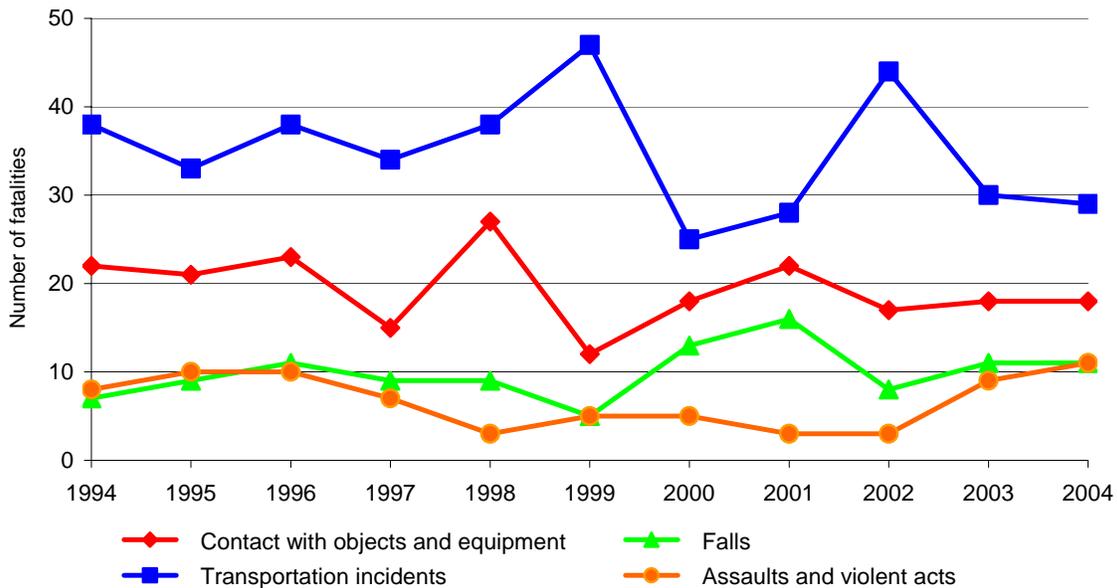
- The most common event causing fatal injuries was transportation incidents, accounting for 36 percent of all fatal work injuries. These incidents consisted primarily

of highway incidents (motor vehicles traveling on roads), but also included nonhighway incidents (motor vehicles on farm and industrial premises) and workers being struck by vehicles.

- The second most frequent cause was contact with objects and equipment (23 percent). These cases included workers being struck by an object, caught in or compressed by equipment or objects, such as running machinery, and caught in or crushed by

- collapsing materials, as in trench cave-ins.
- Assaults and violent acts accounted for 14 percent of the workplace fatalities, more than double the 1999 through 2003 average of 5 percent. Homicide, by shooting, was the most frequent type of assault and violent act. The 11 assault fatalities in 2004 were the highest since 1993, with 13 assault fatalities.
- The most common sources of the fatalities were highway vehicles (26 percent); floors, walkways and ground surfaces (15 percent); and ammunition (10 percent).
- Figure 5.6 shows the trend in the numbers of fatalities among the major event categories. Since 1999, the relative order of the events has remained constant, with assaults matching the number of falls in 2004.

Figure 5.6 Fatal occupational injury events, Minnesota, 1994-2004



Characteristics of fatally injured workers

Figures 5.7 through 5.10 show the distributions of demographic characteristics and occupations of fatally injured workers.

Gender

- Men accounted for 91 percent of fatally injured workers in 2004. Since 1999, women have accounted for at least 8 percent of the fatally injured workers.
- Seven women were fatally injured in 2004, the same as in 2003.

Age

- Fatally injured workers had a wide age distribution, with the greatest numbers among workers 35 to 44 years of age and 64 years and older.
- The age of fatally injured workers has been gradually increasing, matching the aging of the entire workforce. The percentage of fatalities to workers 45 years and older increased from 47 percent during the 1992 to 1996 period, to 51 percent during the 1998 to 2002 period. In 2003, workers 45 years and older accounted for 58 percent of the fatalities, and the percentage settled back to 51 percent in 2004.

Figure 5.7 Gender of fatally injured workers, Minnesota, 1994-2004

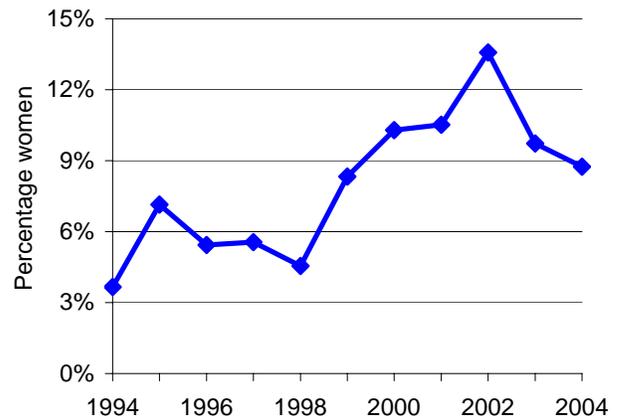
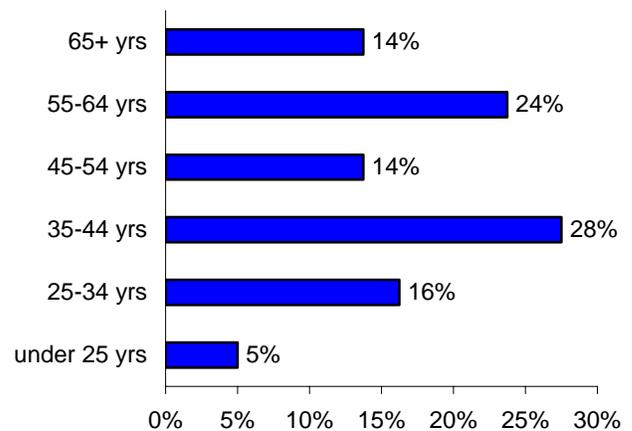


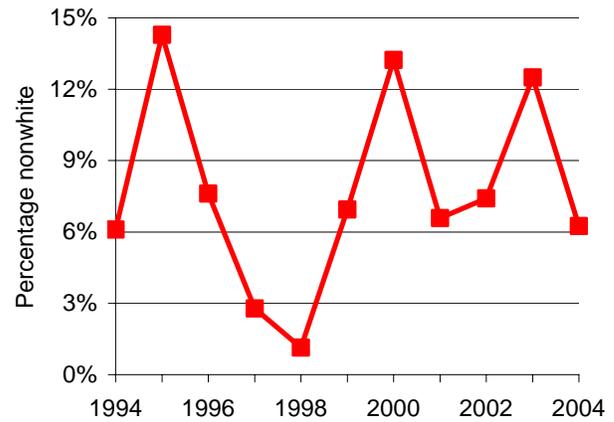
Figure 5.8 Age of fatally injured workers, Minnesota, 2004



Race

- White workers accounted for 94 percent of the fatalities in 2004.
- Since 1998, the percentage of fatalities to nonwhite workers has ranged from 1 percent to 13 percent, with considerable annual variation.

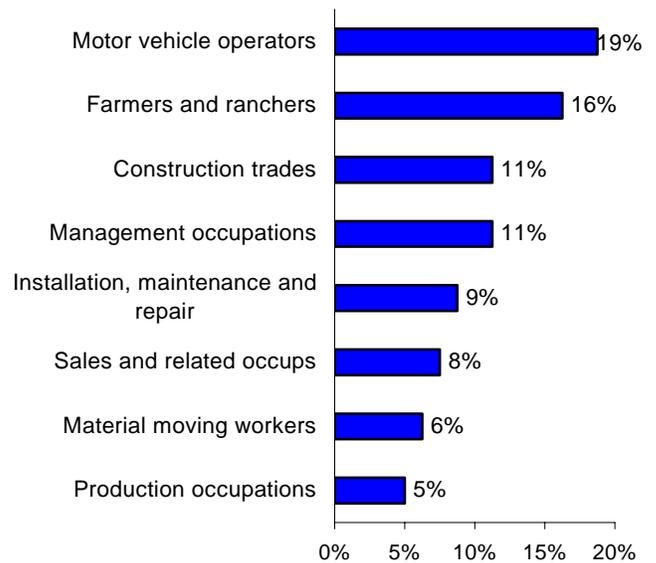
Figure 5.9 Race of fatally injured workers, Minnesota, 1994-2004



Occupation

- Fatally injured workers were concentrated in the occupation groups of motor-vehicle operators and farmers and ranchers.
- The most common occupation among the motor-vehicle operators were heavy and tractor-trailer truck drivers.
- Three of the four retail sales worker fatalities were due to assaults.

Figure 5.10 Occupation of fatally injured workers, Minnesota, 2004



Worker activity

The worker activity results indicate the broad category of the fatally injured worker’s activity at the time of the event.

- Nearly half of the fatalities in 2004 occurred while the workers were operating vehicles. This category accounted for 28 of the 35 transportation accident fatalities.
- Vehicular and transportation operations accounts for four of the five fatalities in transportation and warehousing, for four of the seven fatalities in manufacturing and for nine of the 19 fatalities in agriculture.
- The next most common activity, constructing, repairing and cleaning, was the most common worker activity among the fatalities in construction.

Location

The location of the fatality indicates, in broad terms, the type of place where the fatal event occurred.

- Consistent with the high proportion of fatalities due to transportation accidents, the most common event location was a street or highway. The percentage decreased from 35 percent of the fatalities in 2003.
- Industrial worksites and farms each accounted for large portions of the fatalities, although both had lower percentages than in 2003.
- The percentages in public buildings and in other locations increased from 10 percent of the fatalities in 2003 to 29 percent of the 2004 fatalities.

Figure 5.11 Activity of fatally injured workers, Minnesota, 2004

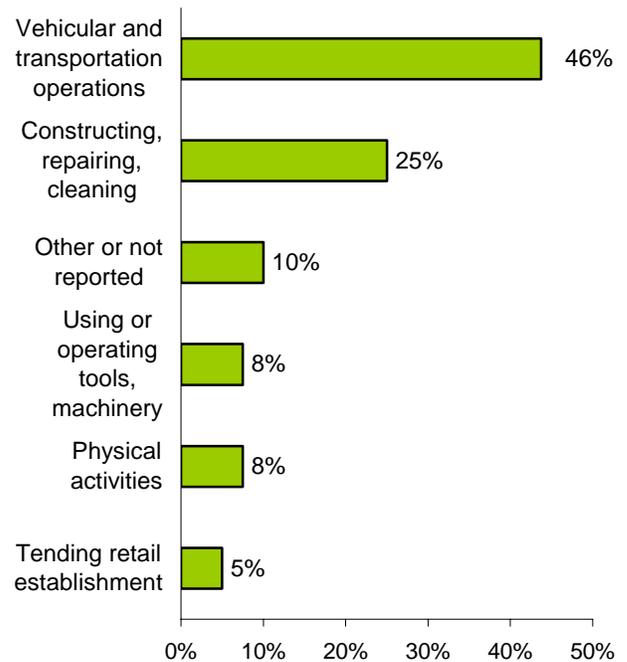
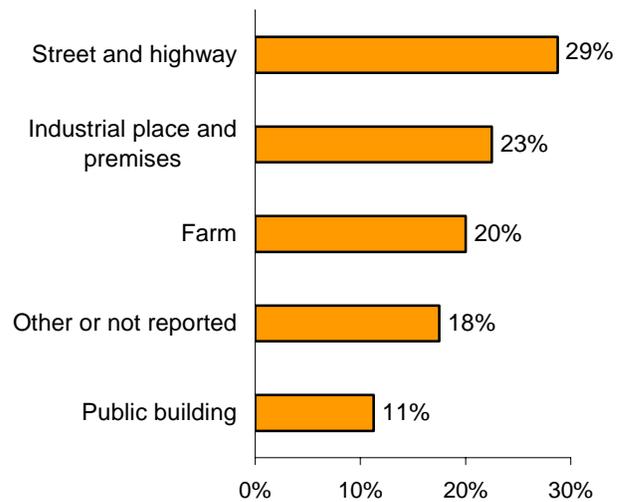


Figure 5.12 Fatal incident location, Minnesota, 2004



6

Workplace safety programs and services of the Department of Labor and Industry

The Department of Labor and Industry (DLI) has a variety of programs and services to help employers maintain safe and healthful workplaces. Minnesota has an approved state occupational safety and health plan under the federal Occupational Safety and Health Act (OSHA). Minnesota operates its plan under the Minnesota Occupational Safety and Health Act of 1973 (MNOSHA) and its related standards.

DLI administers MNOSHA through two work-units, each with a focus on different parts of MNOSHA. The Compliance unit is responsible for compliance program administration, which includes conducting enforcement inspections, adoption of standards and operation of other related MNOSHA activities. The Workplace Safety Consultation (WSC) unit provides free consultation services, on request, to help employers prevent workplace injuries and illnesses by identifying and correcting safety and health hazards. Both units provide information about workplace safety and health standards.

Further information

For further information about MNOSHA requirements, standards and procedures, contact the Compliance unit by phone at (651) 284-5050 or 1-877-470-6742, by fax at (651) 284-5741, by e-mail at OSHA.Compliance@state.mn.us and on the Web at www.doli.state.mn.us/mnosha.html.

For further information about WSC services and programs, contact WSC by phone at (651) 284-5060 or 1-800-657-3776, by fax at (651) 284-5739, by e-mail at OSHA.Consultation@state.mn.us or on the Web at www.doli.state.mn.us/wsc.html.

Occupational safety and health compliance

Workplace inspections

The department conducts workplace inspections to determine whether employers are complying with safety and health standards. The inspectors are trained about OSHA standards and the recognition of safety and health hazards. With certain exceptions, inspections are required to be without advance notice. Employers are required to allow the inspector to enter work areas without delay and must otherwise cooperate with the inspection.

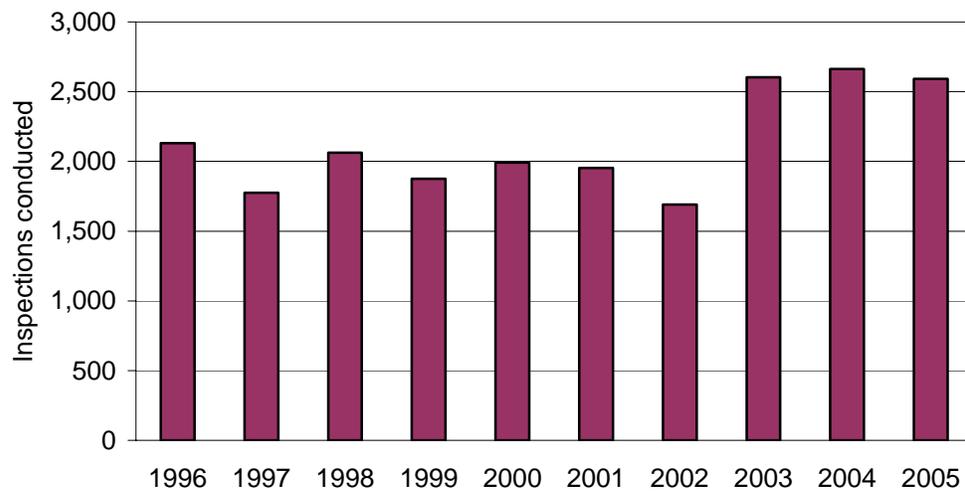
MNOSHA's compliance program is based on a system of inspection priorities. The priorities, from highest to lowest, are:

- imminent danger (established from reports by employees or the public or from observation by an OSHA compliance investigator);
- fatal accidents and catastrophes (accidents causing hospitalization of three or more employees);
- employee complaints (not concerning imminent danger);
- programmed inspections (which target high-hazard employers and industries); and
- follow-up inspections (for determining whether previously cited violations have been corrected).

Employers found to have violated MNOSHA standards receive citations for the violations and are assessed penalties based on the seriousness of the violations. These employers are also required to correct the violations. Employers and employees may appeal citations, penalties and the time periods allowed for correcting violations.

Figure 6.1 shows statistics for compliance inspections from federal fiscal years (FFY) 1996 through 2004. More statistics describing MNOSHA activity are available from the MNOSHA annual report, on the Web at www.doli.state.mn.us/pdf/osha2004report.pdf.

- During the most recent five-year period, FFY 2001 through FFY 2005, an average of 2,300 inspections were conducted annually, covering an average of 98,000 workers. MNOSHA compliance inspections reached the worksites of 128,000 workers in FFY 2005, the highest number ever.
- The increase in inspections conducted in FFY 2003 was due to an increased emphasis on field inspections. The number of safety inspections per 100 hours of inspector work time increased from 2.8 inspections in 2002, to 4.1 inspections in 2003.
- During FFY 2005, 70 percent of inspections resulted in at least one violation. Among inspections with violations, an average of 2.7 violations were cited.
- A total of 21,754 violations were cited from FFY 2001 through FFY 2005, resulting in an average annual assessment of \$3.3 million. Serious, willful and repeat violations accounted for 79 percent of the violations cited in FFY 2005.
- As shown in Figure 6.2, the majority of inspections in most industries were planned, programmed inspections.
- The construction industry accounted for 44 percent of the inspections and for 25 percent of the violations.
- Manufacturing accounted for 31 percent of the inspections and for 49 percent of the violations.
- MNOSHA Compliance initiated inspections for 24 fatalities during calendar-year 2004, and for 28 fatalities during 2005. From 2000 through 2004, 38 percent of the fatality investigations have been in the construction industry. Falls and crushing incidents accounted for 60 percent of the fatalities investigated.
- MNOSHA Compliance initiated inspections for 25 serious-injury incidents during 2004, and for 34 incidents during 2005. Since 2000, workers injured by falls and crushing incidents and injuries resulting in amputation have accounted for 70 percent of the serious injuries investigated. Additional details about the fatality and serious injury incident investigations are available at www.doli.state.mn.us/oshainfo.html.
- The MNOSHA Compliance unit also performs outreach activities. Compliance staff members present information about MNOSHA standards and other workplace safety topics to employer organizations, safety professionals, unions and labor-management organizations. During FFY 2005, Compliance staff members participated in 42 outreach sessions with 3,267 people in attendance, a 38 percent increase from FFY 2004.
- Construction safety is a major focus for both the inspections and outreach efforts. The majority of programmed inspections were conducted at construction worksites. Five construction safety breakfasts were organized, with 470 construction managers and supervisors in attendance, a 51 percent increase from FFY 2004.
- MNOSHA established the 75/25 program in FFY 2004. This is a penalty-reduction incentive program available to qualified employers that links workers' compensation claims and MNOSHA compliance penalties. This program allows an employer to obtain a 75 percent reduction in penalties if that employer reduces the number of workers' compensation claims by 25 percent within a one-year period. Participants are encouraged to use WSC services to achieve this goal. During FFY 2005, 23 employers entered the program and a much larger number is expected during FFY 2006. More information about this program is available on the Web at www.doli.state.mn.us/75_25program.html.

Figure 6.1 Minnesota OSHA Compliance inspections, FFY 1996-2005¹

Federal fiscal year ¹	Inspections conducted	Employees covered ²	Inspections with violations	Violations	Penalties assessed (\$ millions) ³
1996	2,131	76,882	1,217	4,029	\$2.48
1997	1,775	64,515	964	2,786	\$1.90
1998	2,062	73,898	1,291	3,829	\$2.76
1999	1,876	103,029	1,255	3,957	\$3.15
2000	1,991	84,575	1,368	4,068	\$3.28
2001	1,953	73,451	1,342	3,855	\$3.29
2002	1,691	68,113	1,165	3,462	\$2.61
2003	2,604	107,314	1,797	4,653	\$2.83
2004	2,663	112,648	1,872	4,846	\$3.52
2005	2,591	128,491	1,821	4,938	\$4.07

1. Federal fiscal years are from Oct. 1 of the preceding year to Sept. 30 of the indicated year.

2. "Employees covered" refers to the number of employees who were affected by the scope of the inspection, but not always all employees at a facility.

3. These are the originally assessed amounts of penalties.

Source: OSHA Integrated Management Information System.

Figure 6.2 Minnesota OSHA Compliance inspections by industry, FFY 2005

Industry	NAICS code(s)	Initial inspections	Planned programmed inspections conducted	Number of Violations	Penalties assessed ¹
Natural resources and mining	11, 21	8	2	8	\$ 1,475
Agriculture, forestry, fishing and hunting	11	7	2	8	\$ 1,475
Construction	23	1,174	1,062	1,258	\$ 961,056
Manufacturing	31-33	829	704	2,505	\$ 1,351,843
Trade, transportation, and utilities	42-49,22	291	245	575	\$ 337,052
Wholesale trade	42	68	50	159	\$ 132,607
Retail trade	44-45	119	81	255	\$ 106,561
Transportation and warehousing	48-49	64	52	106	\$ 70,487
Utilities	22	34	27	51	\$ 24,982
Information	51	6	5	4	\$ 2,415
Financial activities	52-53	14	3	13	\$ 11,865
Professional and business services	54-56	37	19	44	\$ 12,531
Education and health services	61-62	111	73	217	\$ 165,685
Health care and social assistance	62	43	15	65	\$ 79,010
Leisure and hospitality	71-72	38	32	173	\$ 124,763
Other services	81	22	9	53	\$ 40,495
State government	all	14	6	20	\$ 9,650
Local government	all	130	113	222	\$ 120,002

1. These are the originally assessed amounts of penalties.

Source: OSHA Integrated Management Information System.

Figure 6.3 shows the most-commonly cited OSHA standards violations for 2005. All but five of these standards were on the list for 2004.

- Violations associated with the A Workplace Accident and Injury Reduction (AWAIR) Act have been the most frequently cited for many years.
- Other commonly cited violations are associated with the Employee Right-To-Know Act, lockout/tagout procedures and construction fall protection.

Under the AWAIR Act — also part of the state’s Occupational Safety and Health Act — employers in high-hazard industries must develop and implement a written safety and

health plan to reduce workplace injuries and illnesses.

Under the Employee Right-To-Know Act and its standards — part of the state’s Occupational Safety and Health Act — employers must evaluate their workplaces for the presence of hazardous substances, harmful physical agents and infectious agents, and determine which employees are routinely exposed to these substances and agents. Identified employees must be provided with appropriate training and readily accessible written information about identified hazardous substances and agents in their work areas. Containers, work areas and equipment must be labeled to warn employees of associated hazardous substances or agents.

Figure 6.3 Minnesota OSHA’s most frequently cited standards, 2005

Standard ¹	Description	Frequency
MN Statutes 182.653 subd. 8	A Workplace Accident and Injury Reduction (AWAIR) program	183
29 CFR 1910.147(c)(4)(i)	Development and use of lockout/tagout procedures	161
29 CFR 1910.151(c)	Emergency eyewash/shower facilities	139
MN Rules 5206.0700 subp.1B	Employee Right-To-Know written program deficiencies	134
MN Rules 5206.0700 subp.1G	Employee Right-To-Know training frequency	128
MN Statutes 182.653 subd. 2	General Duty Clause — unsafe working condition	124
MN Rules 5206.0700 subp.1	Overall Employee Right-To-Know training program	109
29 CFR 1910.212(a)(1)	Machine guarding — general requirements	104
29 CFR 1910.147(c)(6)(i)	Periodic inspections of energy control procedures (lockout/tagout)	104
29 CFR 1910.147(c)(7)(i)	Energy control program training	103
MN Rules 5205.0116 subp. 1	Forklifts — monitoring for carbon monoxide	96
29 CFR 1910.212(a)(3)(ii)	Point of operation guarding of machines	94
29 CFR 1926.451(g)(1)	Fall protection on scaffolds above 10 feet	93
29 CFR 1926.501(b)(13)	Fall protection in residential construction	90
29 CFR 1910.350(d)	Electrical hazards involving switchboards and panelboards	85
29 CFR 1926.501(b)(1)	Fall protection in construction — general requirements	83
29 CFR 1910.134(a)(2)	Respiratory protection program	80
29 CFR 1910.23©(1)	Guardrails for open-sided floors	79
29 CFR 1910.242(b)	Compressed air used for cleaning	73

1. 29 CFR refers to the U.S. Code of Federal Regulations Title 29, which covers the U.S. Department of Labor.

Source: OSHA Integrated Management Information System.

Workplace Safety Consultation

WSC offers a variety of workplace safety services. These services are voluntary, confidential and separate from the MNOSHA Compliance unit.

Workplace consultations

WSC offers free consultation services to help employers prevent workplace accidents and diseases by recognizing and correcting safety and health hazards. This service is targeted primarily toward smaller businesses in high-hazard industries, but is also available to public-sector employers. During FFY 2005, WSC conducted 1,549 worksite safety and health visits, training and assistance visits, and interventions.

WSC safety and health professionals conduct the on-site consultations. During consultations, employers are assisted in determining how to improve workplace conditions and practices to comply with MNOSHA regulations and to reduce accidents and illnesses and their associated costs. The consultants make recommendations dealing with all aspects of an effective safety and health program.

No citations are issued or penalties proposed as a result of WSC consultations. Employers are obligated to correct, in a timely manner, any serious safety and health hazards found. Consultants identify hazards in 99 percent of the visits. Information about an employer is not reported to the MNOSHA Compliance unit, unless the employer fails to correct the detected safety and health hazards within a specified period. This has happened only once in the past nine years.

Figure 6.4 shows statistics for WSC visits to worksites for FFY 1996 through 2005.

- The number of consultation visits increased significantly in 2002 and has remained at near 1,000 visits annually.

- The number of training and intervention visits declined in 2005 from the high levels of 2003 and 2004.
- WSC visits in 2005 resulted in the identification and correction of safety and health hazards that would have cost employers approximately \$4.2 million in MNOSHA penalties. This averages to nearly \$4,300 for each on-site consultation.

Figure 6.5 shows statistics for WSC services to worksites for some industries during FFY 2005.

- Similar to MNOSHA Compliance, visits to construction sites accounted for 47 percent of initial visits.
- Manufacturing and health care workplaces accounted for many of the remaining consultation visits and training contacts.

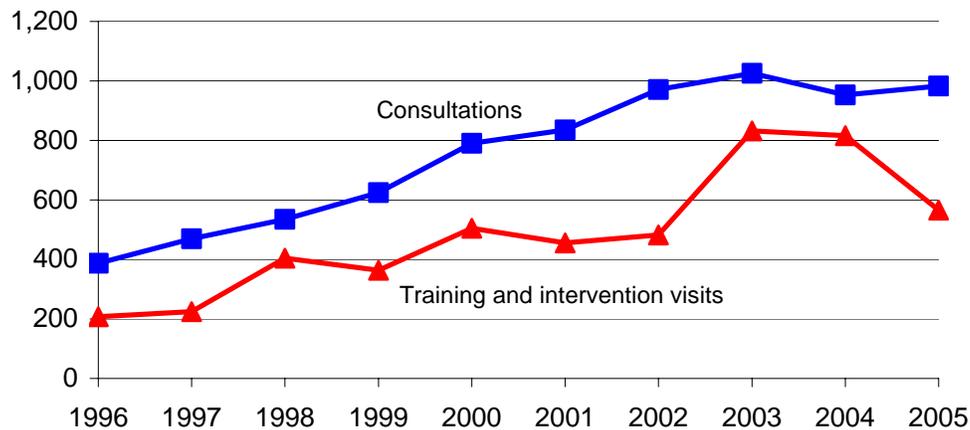
Safety and health seminars

WSC provides seminars to help employers and employees understand and comply with safety and health regulations and to develop and implement mandatory programs, including Employee Right-To-Know, AWAIR and labor-management safety committees. The seminars provide information that safety directors, supervisors, safety committee members and employees can use to help train their coworkers.

Some WSC seminars are coordinated and conducted with nine training-partner organizations throughout the state, which include community and technical colleges, labor-management associations and government training centers. WSC conducts bimonthly luncheon seminars for general industry. WSC speakers also participated in the construction safety breakfast seminars.

Excluding the construction safety breakfasts, WSC conducted 30 safety and health seminars during FFY 2005 for 474 participants.

Figure 6.4 Workplace Safety Consultation visit activity, FFY 1996-2005



Federal fiscal year ¹	Number of consultations conducted	Employees covered ²	Number of visits with identified hazards	Number of training and intervention visits	Potential penalties avoided (\$ millions)
1996	387	20,912	331	208	\$1.81
1997	470	75,071	346	225	\$1.60
1998	535	63,579	413	404	\$2.53
1999	625	62,816	554	364	\$2.73
2000	790	88,016	736	505	\$2.43
2001	835	61,191	715	456	\$2.93
2002	971	77,988	882	482	\$3.23
2003	1,026	64,985	877	832	\$3.48
2004	953	66,377	761	816	\$3.30
2005	983	72,704	973	567	\$4.20

1. Federal fiscal years are from Oct. 1 of the preceding year to Sept. 30 of the indicated year.
2. "Employees covered" refers to the number of employees affected by the scope of the consultation visit.

Source: OSHA Integrated Management Information System.

Figure 6.5 Workplace Safety Consultation visit activity for selected industries, FFY 2005

Industry	NAICS code	Initial visits	Number of employees covered	Training assistance and interventions	Number of people trained
Logging	113310	14	51	81	3,069
Construction	23	666	9,287	128	10,032
Manufacturing	31-33	75	11,470	108	4,324
Trade, transportation and utilities	42-49, 22	9	255	20	209
Nursing and residential care	623	51	8,330	13	1,193
Leisure and hospitality	71-72	8	483	29	420
Other services	81	18	355	26	405
State and local government	all	3	653	23	598

Source: OSHA Integrated Management Information System.

Loggers' safety education program

WSC also provides one-day logger safety training (LogSafe) seminars throughout the state. To receive workers' compensation premium rebates from the Targeted Industry Fund, logging employers must maintain current workers' compensation insurance and they or their employees must have attended, during the previous year, a Logsafe seminar or a seminar approved by DLI. WSC conducted 17 LogSafe seminars for 1,057 participants. WSC also conducted 22 training sessions and 78 interventions during FFY 2005, reaching 2,621 logging industry employers and employees.

Additionally, WSC conducts training sessions for public-sector employers and employees who are involved in tree removal following storms or other circumstances. In many cases, the trees are damaged and hazardous to work with for workers not routinely doing logging.

Safety Grants Program

The Safety Grants Program is a state-funded program that awards funds up to \$10,000 to qualifying employers for projects designed to reduce the risk of injury and illness to their employees. The project must be consistent with the recommendations of a safety and health inspection. Qualified applicants must match the grant money awarded.

During state fiscal-year 2005, WSC awarded \$1.0 million to 180 employers. These grants were applied toward projects with a total cost of \$4.4 million. State government units, nursing homes, manufacturers and construction employers were the most frequent recipients of safety grants.

Workplace Violence Prevention Program

The Workplace Violence Prevention Program, also state-funded, helps employers and employees reduce the incidence of workplace violence by providing on-site consultation, telephone assistance, education and training seminars, inspections and a resource center.

This program is targeted toward workplaces at high risk of violence, such as convenience stores, service stations, taxi and transit operations, restaurants and bars, motels, guard services, patient care facilities, schools, social services, residential care facilities and correctional institutions.

In FFY 2005, WSC presented 45 violence prevention outreach presentations, covering 1,390 employers and employees.

Ergonomics assistance

In response to recommendations made by the Ergonomics Task-force, which convened during the summer of 2002, WSC added two ergonomics specialist positions to help employers reduce the occurrence of work-related musculoskeletal disorders (WMSDs). The main responsibilities of the positions are to educate Minnesota employers and employees about the recognition and control of risk factors associated with WMSDs. This is being accomplished through development of training and education presentations and materials, on-site ergonomics evaluations and posting resources on the WSC Web pages.

In an effort to maximize the effect of the on-site ergonomics evaluations, the initial efforts have focused on the nursing home industry. Detailed measurements are being taken as part of this industry focus, in order to help WSC learn how to improve ergonomics-related services and to evaluate the changes at the nursing homes. The WSC ergonomists have enlisted 26 nursing homes in this effort, all of which have now received comprehensive safety and health on-site visits.

As a result of these visits, the consultants identified 651 safety and health hazards. The participating homes have also received ergonomics consultations to help manage ergonomic risk factors that contribute to worker injury.

A one-year summary of the project activities and results of the initial symptom survey of nursing home employees was published in *Safety Lines*, MNOSHA's quarterly newsletter.¹⁷

¹⁷ The fall 2005 edition of *Safety Lines* is on the Web at www.doli.state.mn.us/pdf/4905sl.pdf.

MNSHARP

The Minnesota Safety and Health Achievement Recognition Program (MNSHARP) is a voluntary program that assists small high-hazard employers in achieving safety and health improvements and recognizes them for doing so. For program purposes, high-hazard employers are those in high-hazard industries (e.g., construction and food processing) or special-emphasis industries (e.g., fabricated metals manufacturing and nursing homes) and those with higher-than-average lost-workday injury and illness rates for their industry. Eligibility is limited to employers with fewer than 500 workers at the worksite and priority is given to employers with fewer than 100 workers.

MNSHARP participants receive a comprehensive safety and health consultation survey from WSC, which results in a one-year action plan. Within a year, in consultation with WSC, participants must correct hazards identified in the initial survey and develop and implement an effective safety and health program with full employee involvement. Achievement of MNSHARP status requires that the employer's total injury and illness rate and DART case rate are below the national industry average for at least one year. Participants must also consult in advance with WSC about changes in work processes or conditions that might introduce new hazards.

After a year, a second on-site visit occurs to determine whether the employer has met these requirements and the injury and illness reduction goal. If so, the employer receives a MNSHARP "Certificate of Recognition" and is exempted from programmed MNOSHA Compliance inspections for one year. (Inspections will occur in the event of imminent danger, fatalities or other catastrophes, formal complaints or referrals, or as follow-up to previously cited violations.)

Certified MNSHARP employers may apply annually for certification renewal. If an on-site survey by WSC determines the employer continues to meet program requirements, the employer's certification is renewed and it continues to be exempt from programmed MNOSHA Compliance inspections.

All 13 MNSHARP employers certified in earlier years retained certification in FFY 2005. Six new employers joined the program in FFY 2005. The majority of the program participants are manufacturers. Another three employers are in MNSHARP deferral status, during which they must complete their action plan.

On average, the total case incidence rate of the 19 employers in MNSHARP was 56 percent below the national rate for their industry, and the DART rate was 71 percent below the national rate.

MNSTAR

The Minnesota Star program (MNSTAR) is a voluntary program patterned after the federal Voluntary Protection Program.¹⁸ It is available to Minnesota employers of all sizes. In comparison with MNSHARP, MNSTAR has more rigorous requirements and confers a higher level of recognition on certified employers. There are currently 14 MNSTAR employers.

MNSTAR relies mainly on employer self-assessment and requires an extensive application, including submission of written safety and health policies and procedures. After one or more on-site safety and health surveys, the employer will qualify for MNSTAR status if all eligibility requirements have been met, including an injury and illness rate below the state and national averages for the industry. MNSTAR recognition exempts the employer from programmed MNOSHA Compliance inspections for three years.

¹⁸ See www.osha.gov/dcsp/vpp/index.html

MNOSHA performance

Minnesota OSHA sets its strategic and performance goals in five-year strategic plans. Some of the performance goals use BLS survey results. In this section of the report, performance measures relating to the 1999 to 2003 and 2004 to 2008 strategic plans are reviewed.

1999 to 2003 strategic plan

The Minnesota OSHA strategic plan for 1999 to 2003 included performance goals to reduce the lost-workday (LWD) injury and illness case rates by 15 percent in six high-hazard industries and in construction. The six industries were identified through a combination of factors, including the number of workers in the industry and the industry's LWD rate. Both the Compliance and Workplace Safety Consultation programs focused attention on these industries.

The six high-hazard industries are listed in Figure 6.6, along with construction, and the LWD rates and DART rates are presented. Percent changes in the LWD rates between the baseline period (1995 to 1997) and 2004 are not available because of the changes in the OSHA recordkeeping standards and the industry classification change from the SIC to the NAICS system.

Four of the industries showed substantial decreases (decreases of at least 19 percent) in their LWD rates by 2001. There have been continued decreases in the DART rates for these industries, even in those industries that did not show substantial decreases by 2001. The overall result is that the DART rates for each of these industries are noticeably lower than the rates during the baseline period.

Figure 6.6 MNOSHA high-hazard industry outcomes for the 1998-2003 strategic plan

Industry name	SIC code	NAICS code	Lost workday case rate 1995-97 average (baseline)	Lost workday case rate 2001	Pct. change baseline-2001	DART rate ¹			Pct. Change 2002-2004
						2002	2003	2004	
Construction	15-17	23	5.3	5.3	0%	5.1	4.3	3.8	-25.5%
Meat products manufacturing	201	3116	14.0	9.7	-31%	9.4	7.7	7.2	-23.4%
Millwork, veneer, plywood & structural wood members	243	3219	10.2	6.9	-32%	7.4	5.1	4.0	-45.9%
Primary metal industries	33	331	11.5	11.3	-2%	9.9	6.8	na	
Fabricated structural metal products	344	3329	6.8	4.9	-28%	7.7	5.5	5.7	-26.0%
Transportation equipment mfg.	37	336	11.7	9.5	-19%	10.0	9.3	7.9	-21.0%
Nursing and personal care facilities	805	623	10.8	11.7	8%	11.9	7.5	5.2	-56.3%

1. DART rate for NAICS industry corresponding to SIC category.

2004 to 2008 strategic plan

The current Minnesota OSHA strategic plan has performance goals to reduce the days-away-from-work (DAFW) case incidence rate by 15 percent for a set of inspection emphasis industries. The industries, listed in Figure 6.7, were identified through a combination of factors, including the number of workers in the industry and the industry's LWD rate.

The only rate available to use for the baseline period is for 2003, because the pre-2003 BLS rates are not directly comparable. The 2003 and 2004 DAFW rates and case count estimates are shown in Figure 6.7.

The value of targeting these emphasis industries is shown at the bottom of Figure 6.7; these industries, which account for 23 percent of the work establishments and 32 percent of employment, account for nearly half of the DAFW cases.

Establishments in the emphasis industries receive considerable attention from MNOSHA. During FFY 2005, 63 percent of programmed compliance inspections and 86 percent of the consultation initial visits were in the emphasis industries.

Figure 6.7 Minnesota OSHA emphasis industries for the 2004-2008 strategic plan

Industry name (NAICS)	NAICS code	Establishments 2004	Wage and salary employment 2004	BLS DAFW rate 2003	BLS DAFW cases 2003	BLS DAFW rate 2004	BLS DAFW cases 2004
Logging	1133	188	815	na	na	na	na
Construction	23	18,047	125,346	2.8	2,870	2.6	2,890
Food manufacturing	311	747	43,811	1.4	620	1.4	630
Animal slaughtering and processing ¹	3116	136	15,434	1.6	260	0.9	150
Wood product manufacturing	321	373	16,980	2.6	410	2.6	420
Paper manufacturing	322	135	12,386	1.6	210	1.9	240
Printing and related support activities	323	948	30,300	1.4	430	1.1	320
Plastics and rubber products mfg.	326	410	16,371	1.5	240	2.2	340
Foundries	3315	52	4,816	2.4	150	na	na
Architectural and structural metals manufacturing	3323	304	8,368	2.9	240	3.7	300
Machinery manufacturing	333	880	34,138	1.2	420	2.0	700
Motor vehicle manufacturing	3361	11	2,519	3.5	100	5.9	130
Lumber and other construction materials merchant wholesalers	4233	310	5,628	4.0	200	2.1	120
Motor vehicle and parts dealers	441	2,341	34,874	1.2	380	2.5	790
Gasoline stations	447	2,603	24,097	1.6	280	1.2	200
Couriers and messengers	492	315	10,650	5.3	440	4.3	360
Telecommunications	517	856	14,880	0.9	130	0.3	40
Nursing care facilities ²	6231	376	44,961	3.1	1,700	3.0	1,730
Traveler accommodations	7211	1,273	25,418	1.5	230	1.8	270
State and local government	all	6,263	335,044	1.6	4,310	1.9	4,700
Emphasis industry total		36,568	806,836		13,660		14,180
State total (excludes federal government)		157,899	2,543,613	1.5	29,860	1.5	28,700
Percentage of state total		23%	32%		46%		49%

1. Animal slaughtering and processing is an industry group in the food processing subsector.

2. DAFW numbers and rates are not available for this industry; the rate for the three-digit NAICS industry is reported and the number of DAFW cases is estimated.

Sources: BLS *Quarterly Census of Employment and Wages* and *Annual Survey of Occupational Injuries and Illnesses*.

Appendix A

Major changes to OSHA's recordkeeping rule in 2002

To remove some of the subjectivity involved in making decisions about what injuries and illnesses employers need to record on the *OSHA Log of Work-Related Injuries and Illnesses*, OSHA instituted changes in its recordkeeping requirements, that became effective Jan. 1, 2002. By improving the consistency in recordkeeping by employers, these changes should improve the quality of the estimates produced by the BLS *Survey of Occupational Injuries and Illnesses (SOII)*, which relies on the OSHA log records.

To disseminate information about the new recordkeeping requirements, all employers participating in the 2002 SOII were sent new OSHA log packets with introductory material. During 2002, the Workplace Safety Consultation unit of MNOSHA traveled throughout the state, conducting 53 training sessions about the new recordkeeping requirements.

Additional information about the new recordkeeping requirements and the changes to the OSHA log for 2004 is available on the DLI Web site at www.doli.state.mn.us/recordkeeping.html.

The following are some of the major changes and how they might affect the SOII estimates.

- Where a pre-existing (non-work-related) condition is present, a case is recordable only if a significant aggravation by a workplace event or exposure occurs. A significant aggravation is any of the following, if caused by the occupational event or exposure:
 1. death;
 2. loss of consciousness;
 3. one or more days away from work;
 4. one or more days of restricted work or job transfer; or
 5. medical treatment.

Under the old requirements, any aggravation of a pre-existing condition by a workplace event or exposure makes a case recordable.

This change clarifies when to record cases involving pre-existing conditions. **This change tends to reduce the number of cases.**

- An aggravation of a case where signs or symptoms have not been resolved is not a new case, even if the aggravation was caused by a new event or exposure. Previously, each new event or exposure was treated as a new case. **This change tends to reduce the number of cases.**
- Under the previous requirements, a cumulative trauma disorder was considered a new case if no care was received for the previous 30 days. The new requirements have no such criteria. In the absence of a new work-related event or exposure, the reappearance of signs or symptoms may be treated as part of the previous case. **This change tends to reduce the number of cases.**
- Under the previous requirements, all work-related illnesses were recordable. Under the new requirement, work-related illnesses are recordable only if they meet the general recording criteria applicable to all injuries and illnesses. **This change tends to reduce the number of cases.**
- Restricted work activity occurs when an employee cannot perform all of his or her routine job functions, which are defined as any duty regularly performed at least once a week. The previous requirements defined normal job duties as any duty the worker would be expected to do throughout the calendar year. **This change tends to reduce the number of cases of restricted work activity.**
- Restricted work activity limited to the day of injury does not make a case recordable. Under the previous requirements, restricted work limited to the day of injury was a recordable case. **This change tends to**

reduce the number of cases of restricted work activity and may also reduce the total number of cases.

- The counting of days away from work and days of restricted work activity changed from workdays to calendar days. To the extent that employers previously only counted workdays, **this tends to increase the number of cases of days away from work and days of restricted work activity. This will also increase the number of days for both categories.**
- The new criteria allow employers to cap the number of days at 180. Previously, there was no cap on the count of days. This change will not affect the calculation of the median number of days away from work or the distribution of cases by days away from work.
- Changes and clarifications to what is considered first aid (not recordable) and what is considered medical treatment (recordable) may result in slight changes in the number of recordable cases. The new criteria include a comprehensive list of first aid, so that less discretion is needed to know when a case should or should not be recorded. To the extent that different employers may have interpreted treatments and first aid differently, **it is unclear how the total number of recordable cases will be affected.**
- A significant injury or illness diagnosed by a licensed health care provider is recordable, even if it does not result in death, days away from work, restricted work or job transfer, medical treatment beyond first aid or loss of consciousness. This list includes cancer, chronic irreversible diseases, a fractured or cracked bone, or a punctured eardrum. The previous criteria only included fractures and second and third degree burns. **This may increase the total number of cases.**
- All work-related needlestick injuries and cuts from sharp objects that are contaminated with another person's blood or other potentially infectious material are recordable as injuries. Previously, these cases were recordable only if they met the criteria for all injuries or if sero-conversion was present. **This will increase the number of reported needlestick cases.**
- Work-related musculoskeletal disorders (WMSDs) are recordable when general recording criteria are met. Previously, WMSDs were recordable under the general criteria or when identified through a clinical diagnosis or diagnostic test. **This tends to reduce the number of WMSD cases.**

Appendix B

High-level NAICS industry structure

This appendix provides the number of establishments and employment in Minnesota for 2004. It is organized by the North American Industry Classification System (NAICS) supersectors and sectors, with a list of the subsectors within each sector. Establishments and employment are annual averages for 2004 from the Quarterly Census of Employment and Wages conducted by the Minnesota Department of Employment and Economic Development. Federal government establishments and employment have been excluded.

Industry		Private ownership		State government		Local government	
Supersector		Average number of establishments	Average number of employees	Average number of establishments	Average number of employees	Average number of establishments	Average number of employees
Sector	NAICS codes						
Subsector							
All industries		151,636	2,208,569	1,576	69,462	4,687	265,582
Natural resources and mining		2,029	21,451	4	111		
Agriculture, forestry, fishing and hunting	11xxxx	1,849	16,269	4	111		
Crop Production	111xxx						
Animal Production	112xxx						
Forestry and Logging	113xxx						
Fishing, Hunting and Trapping	114xxx						
Agriculture & Forestry Support Activity	115xxx						
Mining	21xxxx	180	5,182				
Oil and Gas Extraction	211xxx						
Mining (except Oil and Gas)	212xxx						
Support Activities for Mining	213xxx						
Construction		18,047	125,346	141	3,535	86	3,640
Construction	23xxxx	18,047	125,346	141	3,535	86	3,640
Construction of Buildings	236xxx						
Heavy and Civil Engineering Construction	237xxx						
Specialty Trade Contractors	238xxx						
Manufacturing		8,690	341,024				
Manufacturing	31xxxx	8,690	341,024				
Food Manufacturing	311xxx						
Beverage & Tobacco Product Manufacturing	312xxx						
Textile Mills	313xxx						
Textile Product Mills	314xxx						
Apparel Manufacturing	315xxx						
Leather and Allied Product Manufacturing	316xxx						
Wood Product Manufacturing	321xxx						
Paper Manufacturing	322xxx						
Printing and Related Support Activities	323xxx						
Petroleum & Coal Products Manufacturing	324xxx						
Chemical Manufacturing	325xxx						
Plastics & Rubber Products Manufacturing	326xxx						
Nonmetallic Mineral Product Mfg	327xxx						
Primary Metal Manufacturing	331xxx						
Fabricated Metal Product Manufacturing	332xxx						
Machinery Manufacturing	333xxx						
Computer and Electronic Product Mfg	334xxx						
Electrical Equipment and Appliances	335xxx						
Transportation Equipment Manufacturing	336xxx						
Furniture and Related Product Mfg	337xxx						
Miscellaneous Manufacturing	339xxx						

Industry		Private ownership		State government		Local government	
		Average number of establishments	Average number of employees	Average number of establishments	Average number of employees	Average number of establishments	Average number of employees
Supersector, sector and subsector	NAICS codes						
Trade, transportation and utilities		38,633	513,155	1	9	188	7,262
Wholesale trade	42xxxx	13,797	127,471			2	5
Merchant Wholesalers, Durable Goods	423xxx						
Merchant Wholesalers, Nondurable Goods	424xxx						
Electronic Markets and Agents/Brokers	425xxx						
Retail trade	44xxxx	19,826	297,369			36	392
Motor Vehicle and Parts Dealers	441xxx						
Furniture and Home Furnishings Stores	442xxx						
Electronics and Appliance Stores	443xxx						
Building Material & Garden Supply Stores	444xxx						
Food and Beverage Stores	445xxx						
Health and Personal Care Stores	446xxx						
Gasoline Stations	447xxx						
Clothing and Clothing Accessories Stores	448xxx						
Sporting Goods/Hobby/Book/Music Stores	451xxx						
General Merchandise Stores	452xxx						
Miscellaneous Store Retailers	453xxx						
Nonstore Retailers	454xxx						
Transportation and warehousing	48xxxx-49xxxx	4,693	76,465			104	5,531
Truck transportation	484xxx						
Transit and ground passenger transport	485xxx						
Support Activities for Transportation	488xxx						
Postal Service	491xxx						
Couriers and messengers	492xxx						
Warehousing and Storage	493xxx						
Utilities	22xxxx	317	11,851			46	1,335
Utilities	221xxx						
Information		2,905	60,141			88	3,505
Information	51xxxx	2,905	60,141			88	3,505
Publishing Industries	511xxx						
Motion Picture & Sound Recording	512xxx						
Broadcasting (except Internet)	515xxx						
Internet Publishing and Broadcasting	516xxx						
Telecommunications	517xxx						
ISPs, search portals, & data processing	518xxx						
Other Information Services	519xxx						
Financial activities		17,226	173,276	3	266	40	354
Finance and insurance	52xxxx	10,079	135,712	3	266	6	44
Insurance carriers & related activities	524xxx						
Real estate and rental and leasing	53xxxx	7,147	37,564			34	310
Real estate	531xxx						
Rental and leasing services	532xxx						
Lessors, nonfinancial intangible assets	533xxx						
Professional and business services		24,674	298,663	50	913	67	1,364
Professional, scientific and technical services	54xxxx	16,311	116,870			18	372
Professional and technical services	541xxx						
Management of companies and enterprises	55xxxx	887	63,161				
Management of Companies and Enterprises	551xxx						
Administrative and support and waste management and remediation services	56xxxx	7,476	118,632	50	913	49	992
Administrative and Support Services	561xxx						
Waste Management and Remediation Service	562xxx						

Industry		Private ownership		State government		Local government	
Supersector, sector and subsector	NAICS codes	Average number of establishments	Average number of employees	Average number of establishments	Average number of employees	Average number of establishments	Average number of employees
Education and health services		12,689	357,675	138	38,623	2,270	153,918
Education services	61xxxx	1,550	34,117	73	33,952	2,108	128,518
Educational Services	611xxx						
Health care and social assistance	62xxxx	11,139	323,557	65	4,671	162	25,400
Ambulatory Health Care Services	621xxx						
Hospitals	622xxx						
Nursing and Residential Care facilities	623xxx						
Social Assistance	624xxx						
Leisure and hospitality		13,499	232,945	30	396	87	16,167
Arts, entertainment and recreation	71xxxx	2,538	35,410			61	10,705
Performing Arts and Spectator Sports	711xxx						
Museums, Parks and Historical sites	712xxx						
Amusement, gambling & recreation industries	713xxx						
Accommodation and food services	72xxxx	10,961	197,535			26	5,461
Accommodation	721xxx						
Food Services and Drinking Places	722xxx						
Other services, except public administration		13,246	84,894	8	20	13	65
Other services, except public administration	81xxxx	13,246	84,894	8	20	13	65
Repair and Maintenance	811xxx						
Personal and Laundry services	812xxx						
Membership Organizations & associations	813xxx						
Private Households	814xxx						
Public administration				1,198	25,450	1,848	79,308
Public administration	92xxxx			1,198	25,450	1,848	79,308
Executive, Legislative, & Gen Government	921xxx						
Justice, Public Order, and Safety Activities	922xxx						
Administration of Human Resource Program	923xxx						
Administration of Environmental Programs	924xxx						
Community and Housing Program Admin	925xxx						
Administration of Economic Programs	926xxx						
National Security & International Affairs	928xxx						

1. Establishments and employment are annual averages for 2004 from the Quarterly Census of Employment and Wages conducted by the Minnesota Department of Employment and Economic Development. Federal government establishments and employment have been excluded.

Appendix C

Definitions of key concepts in the *Survey of Occupational Injuries and Illnesses*

The U.S. Bureau of Labor Statistics conducts the annual *Survey of Occupational Injuries and Illnesses* to provide nationwide and state-level information about work-related injuries and illnesses, including their number and incidence.¹⁹ The survey includes all nonfatal cases recorded by participating employers on their OSHA 300 logs. Injuries and illnesses logged by employers conform with definitions and recordkeeping guidelines set by the Occupational Safety and Health Administration.

Work-related injuries and illnesses are events or exposures in the work environment that caused or contributed to the condition or significantly aggravated a pre-existing condition.

Recordable cases, for 2002 and later years, include work-related injuries and illnesses that result in:

- death;
- loss of consciousness;
- days away from work;
- restricted work activity or job transfer;
- medical treatment (beyond first aid); or
- significant work related injuries or illnesses that are diagnosed by a physician or other licensed health care professional. These include any work-related case involving cancer, chronic irreversible disease, a fracture or cracked bone, or a punctured eardrum.

Additional criteria that can result in a recordable case include:

- any needlestick injury or cut from a sharp object that is contaminated with another person's blood or other potentially infectious material;
- any case requiring an employee to be medically removed under the requirements of an OSHA health standard; or
- tuberculosis infection as evidenced by a positive skin test or diagnosis by a physician

or other licensed health care professional after exposure to a known case of active tuberculosis.

Some of the differences between recordable cases before and after 2002 are discussed in Appendix A. Information about the recordkeeping guidelines is available at www.doli.state.mn.us/recordkeeping.html.

Occupational injury is any wound or damage to the body resulting from an event in the work environment.

Occupational illness is any abnormal condition or disorder, other than one resulting from an occupational injury, caused by exposure to factors associated with employment. It includes acute and chronic illnesses or diseases that may be caused by inhalation, absorption, ingestion or direct contact.

For injuries prior to 2002, the following definitions apply:

Days away from work are days after the injury or onset of illness when the employee would have worked but does not because of the injury or illness.

Days of restricted work activity are days after the injury or onset of illness when the employee works reduced hours, has restricted duties or is temporarily assigned to another job because of the injury or illness.

Lost workday (LWD) cases are cases that involve days away from work, days of restricted work activity, or both.

1. *Lost workday cases involving days away from work* (DAFW cases) are cases that result in days away from work or a combination of days away from work and days of restricted work activity.

¹⁹ The survey and other BLS occupational safety and health statistics are described in greater detail in Chapter 9 of the *BLS Handbook of Methods*, at www.bls.gov/opub/hom/homtoc.htm.

2. *Lost workday cases involving restricted work activity* are cases that result in restricted work activity only.

Cases without lost workdays are recordable cases with no days away from work or days with restricted work activity.

For injuries in 2002 and later, the following definitions apply:

Days away from work, days of restricted work activity or job transfer (DART) are cases that involve days away from work, or days of restricted work activity or job transfer, or both.

1. *Cases involving days away from work (DAFW)* are cases requiring at least one day away from work with or without days of job restriction.
2. *Job transfer or restriction cases* occur when, as a result of a work-related injury or illness, an employer or health care professional keeps or recommends keeping an employee from doing the routine functions of his or her job or from working the full workday the employee would have been scheduled to work before the injury or illness occurred.

Other recordable cases are recordable cases that do not involve death, days away from work, or days of restricted work activity or job transfer.

For all survey years, the following definitions apply.

Publishable industry data are summary data about an industry selected for publication in the survey that meet the BLS reliability and confidentiality criteria. As part of the survey sample selection process, states decide which industries will include enough surveyed companies to provide potentially publishable data. The remaining industries are grouped into residual industries that provide data for the next-higher level of categorization.

The reliability criteria consider changes in an industry's employment during the survey period, the relative standard error for the number of lost workday cases and whether there is a minimum level of employment in that industry. The

confidentiality criteria are used to ensure the identity of data providers and the nature of their data cannot be determined. Industries must have more than six employees and three employers; there must be at least one reported case; one company cannot contribute more than 60 percent of employment or report more than 90 percent of the cases; and the total recordable case rate must be at least 0.05.

Median days away from work is the measure used to summarize the varying lengths of absences from work among the cases with days away from work. The median is the halfway point in the distribution: half the cases involved more days and half involved fewer days.

Incidence rates represent the number of injuries and illnesses per 100 full-time-equivalent workers. They are calculated as: $(N/EH) \times 200,000$ where:

N = number of injuries and illnesses;
EH = total hours worked by all employees during the calendar year;
200,000 = base for 100 full-time-equivalent workers (working 40 hours a week, 50 weeks a year).

Nature of injury or illness names the principal physical characteristic of a disabling condition, such as sprain/strain, cut/laceration or carpal tunnel syndrome.

Part of body affected is directly linked to the nature of the injury or illness cited, for example, back sprain, finger cut, or wrist and carpal tunnel syndrome.

Event or exposure signifies the manner in which the injury or illness was produced or inflicted, for example, overexertion while lifting or fall from ladder.

Source of injury or illness is the object, substance, exposure or bodily motion that directly produced or inflicted the disabling condition cited. Examples are a heavy box, a toxic substance, fire/flame and bodily motion of the injured worker.

Appendix D

Incidence rates and numbers from the *Survey of Occupational Injuries and Illnesses*

Nonfatal occupational injuries and illnesses by industry, Minnesota, 2004

Industry ²	NAICS code ³	2004 Average annual employment ⁴ (000's)	Rate of total recordable cases ¹	Number of total recordable cases
All industries including state and local government⁶		2,559.8	5.3	105.5
Private industry⁶		2,223.5	5.3	91.8
Goods producing⁶		488.1	7.3	33.6
Natural resources and mining^{6,7}		17.3	6.6	1.0
Agriculture, forestry, fishing and hunting⁶	11	12.1	8.6	0.8
Crop production ⁶	111	4.1	5.1	0.2
Animal production ⁶	112	5.2	12.8	0.6
Mining⁷	21	5.2	3.1	0.2
Mining (except oil and gas) ⁸	212	5.2	3.1	0.2
Metal ore mining ⁸	2122	3.5	2.6	0.1
Construction		128.1	8.6	9.5
Construction	23	128.1	8.6	9.5
Construction of buildings	236	30.4	6.7	1.8
Residential building construction	2361	17.6	6.9	1.0
Nonresidential building construction	2362	12.8	6.6	0.8
Heavy and civil engineering construction	237	15.5	8.8	1.2
Highway, street, and bridge construction	2373	6.9	9.2	0.6
Specialty trade contractors	238	82.2	9.2	6.4
Foundation, structure, and building exterior contractors	2381	20.3	12.4	2.1
Building equipment contractors	2382	35.9	7.3	2.3
Electrical contractors	23821	15.4	9.4	1.3
Plumbing, heating, and air-conditioning contractors	23822	18.2	6.0	1.0
Other building equipment contractors	23829	2.3	3.7	0.1
Building finishing contractors	2383	16.5	11.7	1.6
Other specialty trade contractors	2389	9.6	6.2	0.5
Manufacturing		342.7	6.9	23.1
Manufacturing	31-33	342.7	6.9	23.1
Food manufacturing	311	44.0	8.2	3.6
Fruit and vegetable preserving and specialty food manufacturing	3114	5.1	8.2	0.4
Dairy product manufacturing	3115	6.0	4.8	0.3
Animal slaughtering and processing	3116	15.5	10.4	1.7
Animal slaughtering and processing	31161	15.5	10.4	1.7
Animal (except poultry) slaughtering	311611	4.8	11.3	0.6
Meat processed from carcasses	311612	4.5	5.1	0.2
Poultry processing	311615	5.9	13.7	0.8
Wood product manufacturing	321	17.1	9.8	1.6
Other wood product manufacturing	3219	13.0	8.1	1.0
Millwork	32191	9.7	7.5	0.7

Industry ²	NAICS code ³	2004 Average annual employment ⁴ (000's)	Rate of total recordable cases ¹	Number of total recordable cases
Paper manufacturing	322	12.4	6.8	0.8
Converted paper product manufacturing	3222	9.2	8.0	0.7
Paperboard container manufacturing	32221	4.4	7.4	0.3
Printing and related support activities	323	30.5	4.2	1.3
Chemical manufacturing	325	9.7	3.6	0.3
Plastics and rubber products manufacturing	326	16.5	6.7	1.1
Plastics product manufacturing	3261	14.7	6.6	0.9
Nonmetallic mineral product manufacturing	327	10.2	7.4	0.8
Fabricated metal product manufacturing	332	41.4	7.4	3.0
Forging and stamping	3321	3.7	9.9	0.4
Architectural and structural metals manufacturing	3323	8.4	10.3	0.8
Other fabricated metal product manufacturing	3329	7.0	4.8	0.3
All other fabricated metal product manufacturing	33299	5.4	5.3	0.3
Machinery manufacturing	333	34.3	7.3	2.5
Agriculture, construction, and mining machinery manufacturing	3331	7.4	11.1	0.8
Metalworking machinery manufacturing	3335	4.6	6.1	0.3
Other general purpose machinery manufacturing	3339	10.1	7.3	0.8
All other general purpose machinery manufacturing	33399	6.1	6.4	0.4
Computer and electronic product manufacturing	334	53.6	2.4	1.3
Computer and peripheral equipment manufacturing	3341	14.9	1.3	0.2
Semiconductor and other electronic component manufacturing	3344	10.9	3.7	0.4
Navigational, measuring, electromedical, and control instruments mfg	3345	23.6	2.3	0.5
Electrical equipment, appliance, and component manufacturing	335	8.0	7.4	0.5
Electrical equipment manufacturing	3353	3.8	7.4	0.3
Transportation equipment manufacturing	336	15.0	13.2	1.9
Motor vehicle manufacturing	3361	2.5	39.7	0.9
Motor vehicle parts manufacturing	3363	3.2	8.5	0.3
Furniture and related product manufacturing	337	12.7	8.8	1.1
Miscellaneous manufacturing	339	20.7	5.1	1.0
Medical equipment and supplies manufacturing	3391	13.9	3.0	0.4
Other miscellaneous manufacturing	3399	6.8	9.6	0.6
Service providing		1,735.4	4.6	58.2
Trade, transportation, and utilities⁹		518.8	5.9	24.5
Wholesale trade	42	129.0	4.9	6.0
Merchant wholesalers, durable goods	423	63.1	5.1	3.0
Motor vehicle and motor vehicle parts and supplies	4231	7.5	9.1	0.6
Lumber and other construction materials merchant wholesalers	4233	5.7	10.7	0.6
Professional and commercial equipment and supplies	4234	14.1	2.2	0.3
Machinery, equipment, and supplies merchant wholesalers	4238	14.8	6.6	0.9
Merchant wholesalers, nondurable goods	424	43.2	6.0	2.5
Grocery and related product merchant wholesalers	4244	14.4	8.1	1.2
Wholesale electronic markets and agents and brokers	425	22.7	--	--
Retail trade	44-45	301.2	5.9	12.5
Motor vehicle and parts dealers	441	35.3	7.5	2.4
Furniture and home furnishings stores	442	11.9	6.0	0.6
Electronics and appliance stores	443	9.1	4.4	0.3
Building material and garden equipment and supplies dealers	444	27.3	6.4	1.5
Food and beverage stores	445	52.7	9.1	3.0
Grocery stores	4451	45.3	9.6	2.7
Health and personal care stores	446	14.7	1.6	0.2
Gasoline stations	447	24.6	4.1	0.7
Clothing and clothing accessories stores	448	21.6	1.7	0.2
Sporting goods, hobby, book, and music stores	451	14.5	2.9	0.3
General merchandise stores	452	59.3	7.1	2.6
Department stores	4521	45.7	7.2	2.0
Miscellaneous store retailers	453	20.2	3.6	0.5

Industry ²	NAICS code ³	2004 Average annual employment ⁴ (000's)	Rate of total recordable cases ¹	Number of total recordable cases
Transportation and warehousing⁹	48-49	76.7	7.6	5.3
Air transportation	481	18.8	8.1	1.2
Rail transportation ⁹	482	--	2.9	0.1
Truck transportation	484	22.8	7.3	1.6
Transit and ground passenger transportation	485	11.5	4.7	0.3
Support activities for transportation	488	5.7	2.7	0.1
Couriers and messengers	492	10.7	12.0	1.0
Utilities	22	11.9	6.2	0.7
Utilities	221	11.9	6.2	0.7
Electric power generation, transmission and distribution	2211	9.9	6.4	0.6
Information		60.4	2.2	1.2
Information	51	60.4	2.2	1.2
Publishing industries (except Internet)	511	26.0	1.9	0.5
Telecommunications	517	14.8	3.0	0.4
Financial activities		175.0	1.2	1.9
Finance and insurance	52	136.9	0.8	1.1
Real estate and rental and leasing	53	38.0	2.7	0.8
Real estate	531	26.7	2.4	0.5
Rental and leasing services	532	10.1	3.6	0.3
Professional and business services		301.7	2.5	5.1
Professional, scientific, and technical services	54	118.6	1.1	1.2
Management of companies and enterprises	55	63.3	4.0	2.1
Administrative and support and waste management and remediation services	56	119.7	3.6	1.8
Education and health services		359.7	6.8	17.2
Educational services	61	34.3	2.3	0.5
Health care and social assistance	62	325.3	7.3	16.7
Ambulatory health care services	621	106.9	4.4	3.5
Home health care services	6216	11.1	5.7	0.4
Hospitals	622	81.4	10.2	5.9
Nursing and residential care facilities	623	84.9	9.3	5.5
Social assistance	624	52.1	5.4	1.9
Leisure and hospitality		235.7	5.4	6.8
Arts, entertainment, and recreation	71	35.8	6.8	1.2
Performing arts, spectator sports, and related industries	711	7.5	10.7	0.5
Amusement, gambling, and recreation industries	713	26.1	5.0	0.6
Accommodation and food services	72	199.8	5.1	5.5
Accommodation	721	27.0	6.7	1.1
Traveler accommodation	7211	25.7	6.9	1.0
Food services and drinking places	722	172.9	4.8	4.5

Industry ²	NAICS code ³	2004 Average annual employment ⁴ (000's)	Rate of total recordable cases ¹	Number of total recordable cases
Other services		84.2	2.7	1.5
Other services, except public administration	81	84.2	2.7	1.5
Repair and maintenance	811	22.1	3.4	0.6
Automotive repair and maintenance	8111	16.0	3.8	0.5
Commercial and industrial machinery and equipment (except automotive and electronic) repair and maintenance	8113	2.4	6.8	0.1
State and local government		336.3	5.6	13.7
State government		69.7	4.5	2.5
Service providing		66.0	3.9	2.0
Education and health services		38.7	5.1	1.5
Educational services	61	34.0	4.4	1.2
Health care and social assistance	62	4.7	11.2	0.4
Hospitals	622	2.7	8.3	0.2
Public administration		25.6	2.2	0.5
Local government		266.6	6.0	11.2
Goods producing⁶		3.7	7.1	0.2
Service providing		262.9	6.0	11.0
Trade, transportation, and utilities⁹		7.3	7.2	0.4
Transportation and warehousing⁹	48-49	5.6	7.6	0.3
Education and health services		154.5	5.7	6.0
Educational services	61	129.0	4.8	4.1
Educational services	611	129.0	4.8	4.1
Elementary and secondary schools	6111	127.3	4.7	3.9
Health care and social assistance	62	25.4	9.6	1.9
Hospitals	622	17.8	10.4	1.5
Nursing and residential care facilities	623	4.4	10.6	0.3
Public administration		79.6	6.6	3.9

¹ Incidence rates represent the number of injuries and illnesses per 100 full-time workers and were calculated as: $(N/EH) \times 200,000$ where

N = number of injuries and illnesses
EH = total hours worked by all employees during the calendar year
200,000 = base for 100 equivalent full-time workers (working 40 hours per week, 50 weeks per year).

² Totals include data for industries not shown separately.

³ *North American Industry Classification System* 2002 Edition

⁴ Employment is expressed as an annual average and is derived primarily from the BLS-State Quarterly Census of Employment and Wages.

⁵ Days-away-from-work cases include those that result in days away from work with or without job transfer or restriction.

⁶ Excludes farms with fewer than 11 employees.

⁷ Data for mining (Sector 21 in the *North American Industry Classification System* -- United States, 2002) include establishments not governed by the Mine Safety and Health Administration (MSHA) rules and reporting, such as those in oil and gas extraction and related support activities. Data for mining operators in coal, metal, and nonmetal mining are provided to BLS by the Mine Safety and Health Administration, U.S. Department of Labor. Independent mining contractors are excluded from the coal, metal, and nonmetal mining industries. These data do not reflect the changes the Occupational Safety and Health Administration made to its recordkeeping requirements effective January 1, 2002; therefore estimates for these industries are not comparable to estimates in other industries.

⁸ Data for mining operators in this industry are provided to BLS by the Mine Safety and Health Administration, U.S. Department of Labor. Independent mining contractors are excluded. These data do not reflect the changes the Occupational Safety and Health Administration made to its recordkeeping requirements effective January 1, 2002; therefore estimates for these industries are not comparable to estimates in other industries.

⁹ Data for employers in rail transportation are provided to BLS by the Federal Railroad Administration, U.S. Department of Transportation.

-- Indicates data not available.

Source: Bureau of Labor Statistics, U.S. Department of Labor, Survey of Occupational Injuries and Illnesses, in cooperation with participating state agencies.

Appendix E

Characteristics profiles of days-away-from-work cases for four occupations

Private-sector-only distribution of characteristics for the four occupations with the highest numbers of DAFW cases in Minnesota for 2004.

Characteristic	Laborers and freight, stock, and material movers, hand	Nursing aides, orderlies, and attendants	Construction laborers	Carpenters
Total:	2,270	1,450	900	860
Sex:				
Men	82%	12%	86%	99%
Women	18%	88%	13%	1%
Age:				
16 to 19	9%	7%	4%	--
20 to 24	13%	18%	33%	7%
25 to 34	21%	15%	26%	38%
35 to 44	26%	17%	12%	19%
45 to 54	16%	13%	12%	16%
55 to 64	4%	10%	4%	6%
65 and over	--	--	--	--
Length of service with employer:				
Less than 3 months	8%	19%	12%	26%
3 months to 11 months	26%	20%	36%	23%
1 year to 5 years	40%	44%	33%	28%
More than 5 years	26%	18%	19%	23%
Race or ethnic origin:				
White	45%	48%	78%	80%
Black or African American	5%	13%	7%	--
Hispanic or Latino	19%	9%		
Other and multi-race	2%	1%	3%	3%
Not reported	29%	29%	12%	16%
Number of days away from work:				
Cases involving 1 day	15%	33%	21%	20%
Cases involving 2 days	16%	16%	10%	6%
Cases involving 3-5 days	19%	18%	34%	17%
Cases involving 6-10 days	19%	14%	--	17%
Cases involving 11-20 days	8%	8%	13%	14%
Cases involving 21-30 days	6%	1%	--	9%
Cases involving 31 or more days	17%	10%	19%	16%
Median days away from work ⁵	6	3	4	10

Characteristic	Laborers and freight, stock, and material movers, hand	Nursing aides, orderlies, and attendants	Construction laborers	Carpenters
Nature of injury, illness:				
Sprains, strains	38%	63%	48%	23%
Fractures	10%	3%	10%	6%
Cuts, lacerations, punctures	8%	--	14%	17%
Bruises, contusions	17%	3%	3%	3%
Heat burns	3%	--	--	--
Chemical burns	--	--	--	--
Amputations	2%	--	--	--
Carpal tunnel syndrome	1%	--	--	--
Tendonitis	--	--	--	3%
Multiple injuries	1%	--	--	--
With fractures	--	--	2%	--
With sprains	--	--	--	--
Soreness, Pain	8%	19%		28%
Back pain	4%	9%	2%	6%
All other	11%	10%	16%	13%
Part of body affected:				
Head	4%	3%	8%	8%
Eye	3%	--	--	5%
Neck	--	8%	--	--
Trunk	35%	57%	41%	36%
Back	23%	41%	21%	24%
Shoulder	5%	11%	8%	6%
Upper extremities	21%	15%	16%	35%
Finger	10%	--	10%	8%
Hand, except finger	5%	4%	--	--
Wrist	3%	10%	--	5%
Lower extremities	33%	10%	30%	16%
Knee	9%	6%	9%	8%
Foot, toe	15%	--	--	--
Body systems	--	--	--	--
Multiple	5%	7%	--	5%
All other	--	--	--	0%
Source of injury, illness:				
Chemicals, chemical products				
Containers	22%	--	--	5%
Furniture, fixtures	9%	--	--	5%
Machinery	7%	--	--	--
Parts and materials	19%	--	26%	34%
Worker motion or position	13%	4%	21%	13%
Floor, ground surfaces	9%	8%	10%	12%
Handtools	2%	--	14%	5%
Vehicles	6%	3%	--	--
Health care patient	--	68%	--	--
All other	12%	14%	24%	24%

Characteristic	Laborers and freight, stock, and material movers, hand	Nursing aides, orderlies, and attendants	Construction laborers	Carpenters
Event or exposure:				
Contact with object, equipment	36%	3%	26%	27%
Struck by object	22%	--	21%	10%
Struck against object	5%	--	3%	10%
Caught in object, equipment	4%	3%	--	--
Fall to lower level	3%	--	8%	12%
Fall on same level	7%	8%	4%	--
Slips, trips	4%	--	11%	--
Overexertion	32%	78%	34%	36%
Overexertion in lifting	17%	30%	19%	9%
Repetitive motion	2%	2%	--	7%
Exposed to harmful substance	3%	--	2%	--
Transportation accidents	3%	--	--	--
Fires, explosions	--	--	--	--
Assault, violent act	--	--	--	--
by person	--	--	--	--
by other	--	--	--	--
All other	11%	6%	14%	13%
Day of Week:				
Sunday	2%	13%	--	--
Monday	22%	19%	23%	26%
Tuesday	18%	17%	26%	13%
Wednesday	18%	15%	12%	22%
Thursday	19%	25%	26%	19%
Friday	14%	6%	10%	20%
Saturday	7%	5%	--	--
Time of Day:				
12:01 AM - 4:00 AM	4%	4%	--	--
4:01 AM - 8:00 AM	8%	14%	9%	--
8:01 AM - 12:00 PM	25%	21%	40%	43%
12:01 PM - 4:00 PM	23%	23%	20%	22%
4:01 PM - 8:00 PM	8%	14%	19%	--
8:01 PM - 12:00 AM	8%	7%	--	--
Not reported	23%	17%	12%	30%
Hours Worked:				
Occurred before shift began	--	2%	--	--
Less than 1 hour	7%	11%	--	5%
1 - 2 hours	9%	23%	12%	9%
2 - 4 hours	18%	8%	18%	26%
4 - 6 hours	20%	13%	18%	10%
6 - 8 hours	15%	21%	11%	16%
8 - 10 hours	6%	3%	23%	--
10 - 12 hours	--	--	--	--
12 - 16 hours	--	2%	--	--
More than 16 hours	--	--	--	--
Not reported	23%	17%	13%	30%

1. Days away from work include those that result in days away from work with or without job transfer or restriction.
2. Excludes farms with fewer than 11 employees.
3. Data for mining (Sector 21 in the North American Industry Classification System -- United States, 2002) include establishments not governed by the Mine Safety and Health Administration (MSHA) rules and reporting, such as those in oil and gas extraction and related support activities. The Mine Safety and Health Administration, U.S. Department of Labor provide data on mining operators in coal, metal, and nonmetal mining to BLS. Independent mining contractors are excluded from the coal, metal, and nonmetal mining industries. These data do not reflect the changes the Occupational Safety and Health Administration made to its recordkeeping requirements effective January 1, 2002; therefore estimates for these industries are not comparable to estimates in other industries.
4. Data for employers in railroad transportation are provided to BLS by the Federal Railroad Administration, U.S. Department of Transportation.
5. Median days away from work is the measure used to summarize the varying lengths of absences from work among the cases with days away from work. Half the cases involved more days and half involved fewer days than a specified median. Median days away from work are represented in actual values.

NOTE: Because of rounding and data exclusion of nonclassifiable responses, data may not sum to the totals. Dashes indicate data that do not meet publication guidelines. The scientifically selected probability sample used was one of many possible samples, each of which could have produced different estimates.

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