Caring for Our Caregivers

Facts About Hospital Worker Safety

September 2013

U.S. Department of Labor
OSHA
Occupational Safety and Health Administration
www.osha.gov • (800) 321-OSHA (6742)

Contents

Acronyms and Abbreviations

BLS	Bureau of Labor Statistics
DART	Days Away, Restricted, or Transferred
FTE	full-time employee (or full-time equivalent)
HIPAA	Health Insurance Portability and Accountability Act
MSD	musculoskeletal disorder
NAICS	North American Industry Classification System
NCCI	National Council on Compensation Insurance
OSHA	Occupational Safety and Health Administration
SIC	Standard Industrial Classification
SOC	Standard Occupational Classification
TCIR	Total Case Incidence Rate

Technical Note: Data Sources and Limitations

Data for this factbook were obtained primarily from the Bureau of Labor Statistics (BLS), workers' compensation insurers, and published literature. All sources have been documented in endnotes. BLS and other sources occasionally revise data; therefore, for the sake of transparency, each pertinent endnote identifies the date when the data presented in this document were downloaded from BLS's publicly accessible database or requested from BLS staff as part of a more detailed query. Injury and illness statistics, occupational characteristics, and certain other variables from BLS are estimates based on large national surveys.

For BLS data, the endnotes identify the exact industry definitions (e.g., North American Industry Classification System [NAICS] codes) used for each data set. Where possible, the authors sought data that were restricted to "hospitals" (NAICS 622) or "general medical and surgical hospitals" (NAICS 6221). Certain variables are only available for the broader "health care and social assistance" sector (NAICS 62), however. Similarly, the authors sought data for hospitals of all ownership types (both public and private) where possible, but certain injury totals and incidence rates are only available for privately owned entities.

Some types of cross-tab queries are not available because of differences in how the data are collected. For example, incidence rates are available by occupation but cannot be broken down further by industry (e.g., registered nurses in hospitals, excluding all other healthcare settings) because of limitations in the resolution of the employment data used to calculate incidence rates by occupation.

Injury reporting and classification systems have changed over time. In constructing the graphs in this factbook, OSHA has taken care to avoid discontinuities in the data. For example, Figure 1 shows injury and illness rates beginning in 1989 because pre-1989 data were collected differently and the results are not comparable with post-1988 data.

Workers' compensation claims data come from two sources: a survey of about 1,000 hospitals—slightly less than 20 percent of the hospitals in the United States—and a compilation of claims data from 38 states where the National Council on Compensation Insurance (NCCI) provides actuarial services. Benefits and limitations of these two data sets are explained in the text and endnotes.

1. The Problem at a Glance

Hospitals are hazardous workplaces.

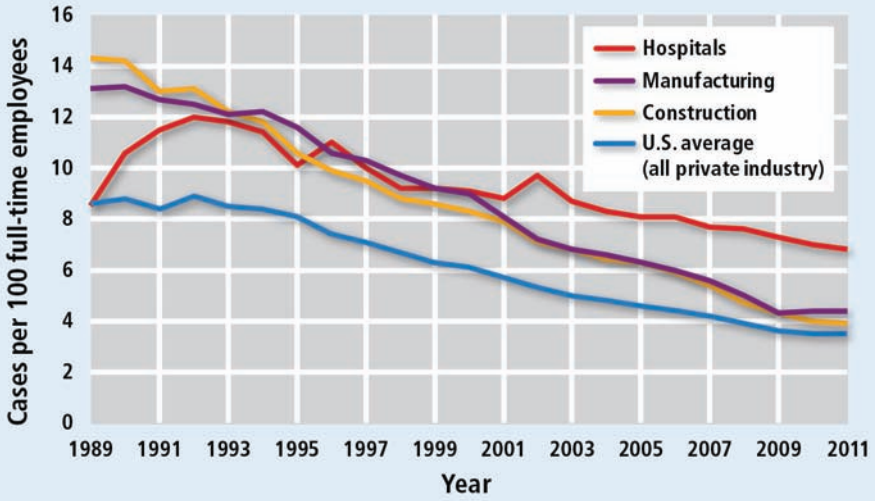
Statistics show that a hospital is one of the most hazardous places to work. In 2011, U.S. hospitals recorded 253,700 work-related injuries and illnesses, which computes to a rate of 6.8 work-related injuries and illnesses for every 100 full-time employees (Figure 1).

Rates of OSHA-recordable injuries and illnesses are broadly decreasing in all industries in the United States, including in hospitals. However, the injury and illness rate in hospitals remains nearly double the rate for private industry as a whole, and it is also higher than the rates in construction and manufacturing—two industries that are traditionally thought to be relatively hazardous (Figure 1). While this was not the case 20 years ago, improvements in workplace safety in both construction and manufacturing have surpassed those in hospitals.

Severe injuries can lead to workers missing work or being assigned to restricted or modified duty. Collectively, the rate of such injuries is referred to as the Days Away, Restricted, or Transferred (DART) rate. Figure 2 shows the subset of these injuries that result in days away from work—that is, days when the employee cannot come to work in any capacity. In the most recent year for which data are available, 2011, private hospitals experienced 58,860 cases of injury or illness resulting in days away from work.[1] Thousands more hospital employees continue to work through modified duty assignments while injured or ill.

As with total cases, hospitals have a higher rate of "days away" cases than construction, manufacturing, or private industry as a whole (Figure 2). Hospitals experienced injuries at nearly three times the rate of professional and business services, which is a large sector that covers a variety of traditional white-collar jobs.

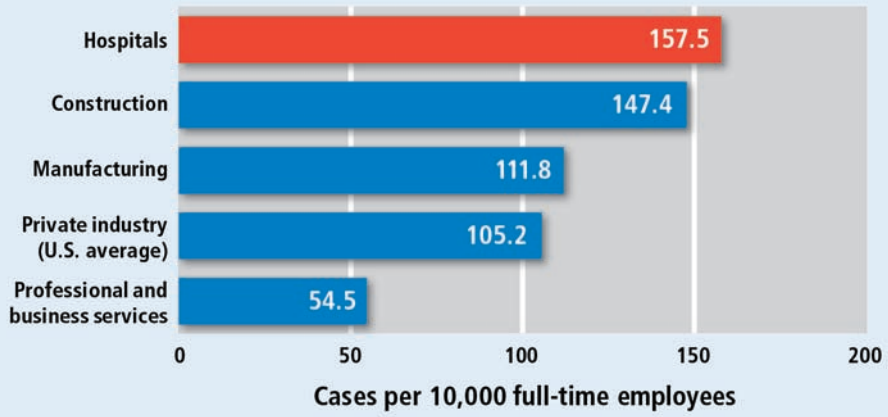
Figure 1. Injury and Illness Rates by Industry, 1989–2011[2]



Data source: Bureau of Labor Statistics

This graph shows injury and illness rates per 100 full-time equivalent employees (FTEs)—also known as the Total Case Incidence Rate (TCIR)—in hospitals and selected other industries from 1989 to 2011. The increase in hospital injuries and illnesses in 2002 is believed to reflect more complete reporting of sharps injuries in conjunction with OSHA's expanded Bloodborne Pathogens Standard. This figure includes data for all OSHA-recordable injuries and illnesses, regardless of whether they resulted in days away from work or modified duty assignments. "Days away" injuries, workers' compensation claims, and other analyses show a similar pattern of consistently elevated injury rates for hospitals.

Figure 2. Injuries and Illnesses Resulting in Days Away from Work, 2011[3]



Data source: Bureau of Labor Statistics

This graph compares hospitals with selected other industries in terms of injuries and illnesses resulting in days away from work in 2011. It shows rates in terms of cases per 10,000 FTEs.

Hospitals have reduced injuries over time, but not as effectively as certain other industries have.

Rates over time (Figure 3) show that improvements in both construction and manufacturing have surpassed those in hospitals. In the early 1990s, manufacturing and hospitals reported nearly equal rates of cases with days away from work, and the rate in construction was substantially higher. By 2009, however, the rate for construction had dropped below that of hospitals, and the manufacturing sector had cut its injury rate to the private industry average.

Hospitals face unique challenges that contribute to the risk of injury and illness.

Workers in hospitals encounter unique risks that are uncommon in other industries. In particular:

- Hospital workers lift, reposition, and transfer patients who have limited mobility. Larger patients can pose particular challenges for safe handling.
- Workers may be near potentially contagious patients and sharp devices contaminated with bloodborne pathogens.
- Hospitals serve patients with physical or mental health challenges, some of which increase the likelihood of violent outbursts.

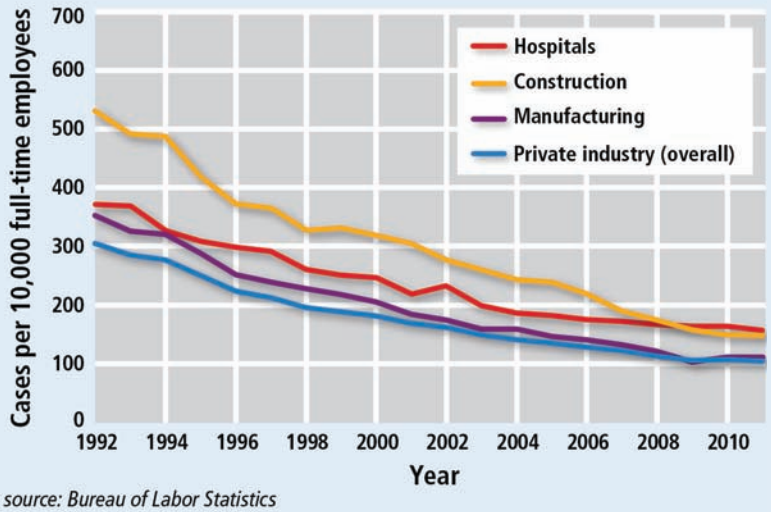
The unique culture of healthcare contributes to the challenge. Caregivers feel an ethical duty to "do no harm" to patients and often feel compelled to put patient safety above all else. Indeed, some will put their own safety and health at risk to help a patient.[4] Without adequate safeguards for workers, an increased emphasis on patient safety can potentially increase risks for workers—for example, reducing pressure ulcers requires more patient turning, while workers might feel compelled to put their own bodies at risk to prevent a patient from falling.

Work in hospitals is dynamic and unpredictable. A worker must be prepared to respond or react to various situations with split-second decisions.

In addition to the special challenges of healthcare workers, hospitals face the diverse safety challenges associated with food services, materials handling, maintenance, cleaning, office work, and various other functions.

Other healthcare fields face some of the same challenges. Nursing and residential care facilities—where a large proportion of patients need assistance with mobility—have even higher "days away" injury rates than hospitals (Figure 4). In contrast, rates in ambulatory care (e.g., doctors' offices) remain much lower than hospital rates.

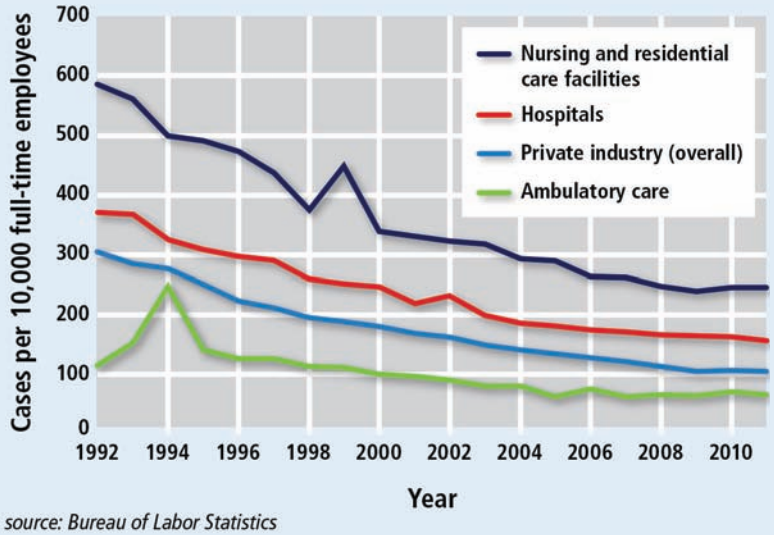
Figure 3. Injuries and Illnesses Resulting in Days Away from Work, by Industry, 1992–2011[5]



Data source: Bureau of Labor Statistics

This figure shows changes over time in the rate of injuries and illnesses resulting in days away from work for hospitals, construction, manufacturing, and private industry as a whole. Rates are expressed in terms of cases per 10,000 FTEs. The graph begins in 1992, the first year with consistent data available for all of these industries. Note that these data are not subject to any anomalies resulting from new sharps injury reporting requirements, as in Figure 1.

Figure 4. Injuries and Illnesses Resulting in Days Away from Work, by Healthcare Sector, 1992–2011[6]



Data source: Bureau of Labor Statistics

This figure shows changes over time in the rate of injuries and illnesses resulting in days away from work for three types of healthcare settings. Rates are expressed in terms of cases per 10,000 FTEs. The graph begins in 1992, the first year with consistent data available for all of these industries.

Hospitals have much room to improve.

More than 90 percent of hospitals say they have systems or programs in place for managing employee safety and health.[7] Certainly, a program on paper is a good first step. However, it takes effective implementation and commitment to protect workers and reduce injuries and illnesses. The statistics show that hospitals are still relatively hazardous workplaces, and they have much room to improve.

OSHA has developed this factbook to help hospital safety managers and other stakeholders understand the challenges of worker safety in hospitals, recognize the many benefits of investing in workplace safety, and learn about practical solutions. The remainder of this factbook is organized into the following sections:

- **Section 2: How Workers Are Getting Hurt.** Learn more about the most common causes of hospital worker injuries and the types of injuries that result.
- **Section 3: The Workforce at Risk.** Understand the size, projected growth, and demographics of the hospital workforce, and learn which occupational groups experience the most injuries and illnesses.
- **Section 4: Why It Matters.** Explore the many costs of workplace injuries in hospitals, which include direct workers' compensation costs and "hidden" costs that relate to productivity, morale, and employee retention.
- **Section 5: Solutions.** Learn about the importance of recordkeeping and the OSHA requirements that hospitals must follow. Explore solutions that some of the nation's leading hospitals have used to keep their workers safe.
- **Section 6: Additional Resources.** Explore a suite of products that OSHA has developed to help hospitals provide a safer workplace for their employees.

[1] Bureau of Labor Statistics. Case and Demographic Numbers. Accessed September 2013. These data represent NAICS 622, which covers all types of hospitals. Data are limited to private industry.

[2] Bureau of Labor Statistics. Annual Survey Summary Numbers and Rates. Accessed September 2013. In this figure, "hospitals" represents SIC 806 (1989–2002) and NAICS 622 (2003–2011), which cover all types of hospitals. "Construction" represents SIC supersector 200000 (1989–2002) and NAICS supersector GP1CON (2003–2011); "manufacturing" represents SIC supersector 300000 (1989–2002) and NAICS supersector GP1MFG (2003–2011). Data are limited to private industry.

[3] Bureau of Labor Statistics. Case and Demographic Incidence Rates. Accessed September 2013. In this figure, "hospitals" represents NAICS 622, which covers all types of hospitals. "Construction" represents NAICS supersector GP1CON, "manufacturing" represents NAICS supersector GP1MFG, and "professional and business services" represents NAICS supersector SP1PBS. Data are limited to private industry.

[4] The Joint Commission. 2012. *Improving Patient and Worker Safety: Opportunities for Synergy, Collaboration, and Innovation*.

[5] Bureau of Labor Statistics. Case and Demographic Incidence Rates. Accessed September 2013. In this figure, "hospitals" represents SIC 806 (1992–2002) and NAICS 622 (2003–2011), which cover all types of hospitals. "Construction" represents SIC M200 (1989–2002) and NAICS 23 (2003–2011); "manufacturing" represents SIC M300 (1989–2002) and NAICS 31–33 (2003–2011). Data are limited to private industry.

[6] Bureau of Labor Statistics. Case and Demographic Incidence Rates. Accessed September 2013. In this figure, "hospitals" represents SIC 806 (1992–2002) and NAICS 622 (2003–2011), which cover all types of hospitals. "Nursing and residential care facilities" represents SIC 805 and 836 (1992–2002) and NAICS 623 (2003–2011), and "ambulatory care" represents SIC 801 and 802 (1992–2002) and NAICS 621 (2003–2011). Data are limited to private industry.

[7] OSHA. 2012. *2011 National Survey of Safety and Health Practices*. OSHA Directorate of Standards and Guidance, Office of Regulatory Analysis. This statistic comes from the response to the question, "At your establishment, do you have a system or program for managing employee safety and health?" A total of 598 hospitals responded to the survey, and the results have been weighted by establishment size. This question had a weighted response of 90.6 percent "yes."

2. How Workers Are Getting Hurt

Most injuries and illnesses result from a few well-known hazards.

Recordable work-related injuries have greatly outnumbered illnesses in hospitals throughout the past 20 years.[1] In 2011, injuries accounted for 93 percent of the total cases recorded; illnesses accounted for the remaining 7 percent. Illnesses are under-reported relative to injuries, however, in part because they are often not identified as work-related.

Detailed statistics are available for injuries and illnesses that result in days away from work, which result in more detailed data collection. These statistics include the nature (type) of each injury or illness, the event or exposure that caused it, and the source: the object, substance, bodily motion, or exposure that directly produced or inflicted the injury or illness.

The "days away from work" data show that hospitals suffer a particularly large number of musculoskeletal disorders (MSDs), largely categorized as sprains and strains. The most common cause of injury is "overexertion or bodily reaction."

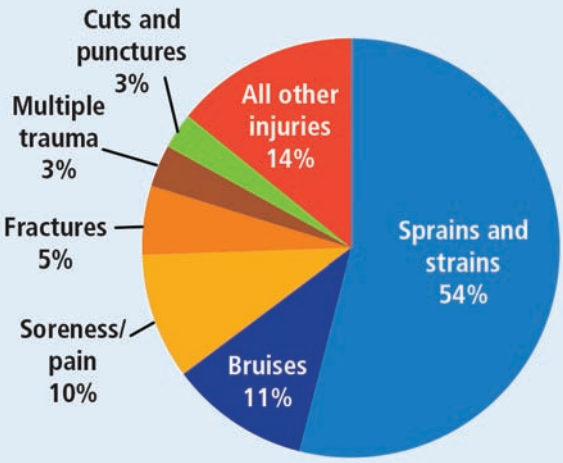
More than half of "days away from work" injuries are classified as sprains or strains.

The most common injuries resulting in days away from work are sprains and strains, which account for 54 percent of these injuries (Figure 5). Rounding out the top six injury categories are bruises, soreness, fractures, multiple trauma, and cuts and punctures. Note, though, that "days away" data tend to undercount needlestick punctures, exposure to tuberculosis or other communicable diseases, and other events that might have serious consequences even when they do not cause the injured worker to miss work immediately.

Many of these injuries can be classified as MSDs. In private industry as a whole, MSDs constituted 34.1 percent of the injuries that resulted in days away from work in 2011. In hospitals, MSDs accounted for 46.4 percent of these injuries: 27,340 MSDs out of a total of 58,860 "days away" injuries recorded in 2011.[2]

As for illnesses, the most common types recorded in hospitals are skin disorders (14 percent) and respiratory conditions (10 percent), but 75 percent of illness cases fall into other unspecified categories.[3] As noted above, however, illnesses account for only 7 percent of the total cases recorded.

Figure 5. Hospital Worker Injuries Resulting in Days Away from Work, by Nature of Injury, 2011[4]



Data source: Bureau of Labor Statistics, 2011 data

This figure shows the distribution of the types of injuries and illnesses resulting in days away from work, in hospitals, in 2011. These categories are coded as "nature of injury" in BLS data sets.

Nearly half of "days away from work" injuries are attributed to overexertion or related events.

Figure 6 identifies the most common causes of hospital worker injuries that result in days away from work. Nearly half of these injuries (48 percent) are caused by overexertion or bodily reaction, which includes motions such as lifting, bending, reaching, or slipping without falling. These motions often relate to patient handling. Other events or exposures that commonly lead to injury or illness include slips, trips, and falls; contact with objects or equipment; violence; and exposure to harmful substances.

One-third of "days away from work" injuries result from interactions with patients.

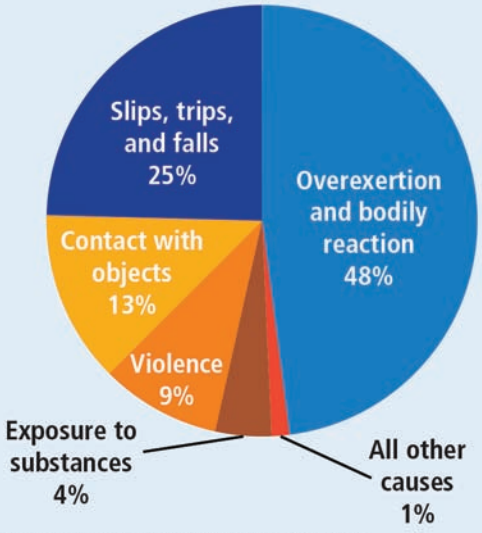
Roughly one-third of hospital worker injuries resulting in days away from work (32.7 percent in 2011) occur as a result of interaction with a patient (Figure 7). This category

encompasses patient handling activities (e.g., lifting, repositioning, transfer) as well as violence committed by patients. In 2011, 72 percent of these patient-related injuries resulted in an injury classified as an MSD.[5] Other common sources of injury include contact with surfaces and furniture.

Workplace fatalities are rare, but they do occur.

In the period from 2003 to 2011, hospitals reported 263 work-related fatalities, which equates to an average of 24 per year. In comparison, the United States experienced an average of 5,302 work-related fatalities overall per year during the same period. Of the 263 total fatalities in hospitals during this period, 96 involved motor vehicles, 76 were caused by violence (approximately half homicides and half self-inflicted), 37 were due to falls, and 37 resulted from exposure to harmful substances and environments (Figure 8).[6]

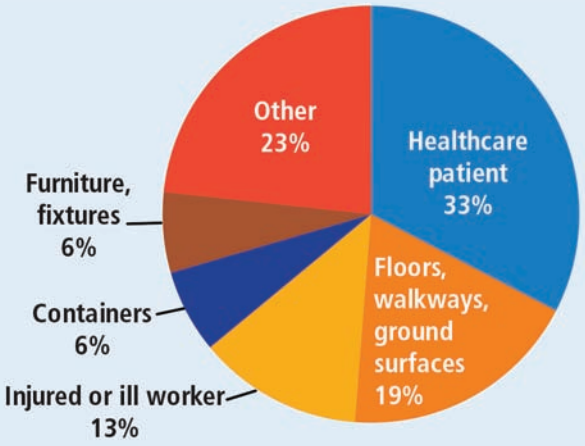
Figure 6. Hospital Worker Injuries Resulting in Days Away from Work, by Event or Exposure, 2011[7]



Data source: Bureau of Labor Statistics, 2011 data

This figure shows the distribution of events or exposures that led to injuries and illnesses resulting in days away from work, in hospitals, in 2011. These categories are coded as "event or exposure" in BLS data sets.

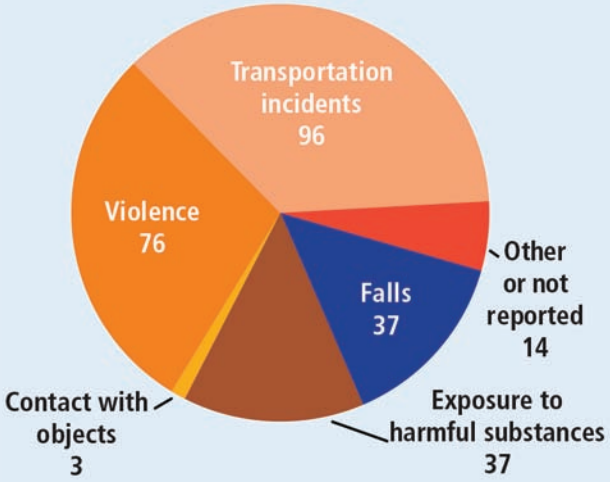
Figure 7. Hospital Worker Injuries Resulting in Days Away From Work, by Source of Injury, 2011[8]



Data source: Bureau of Labor Statistics, 2011 data

This graph provides another perspective on the causes of injuries and illnesses resulting in days away from work, in hospitals, in 2011. These categories are coded as "source of injury" in BLS data sets. The source of injury or illness identifies the object, substance, bodily motion, or exposure that directly produced or inflicted the injury or illness. If a worker is cut on the head by a falling brick, for example, the brick is the source of injury.

Figure 8. Causes of Fatal Workplace Injuries in Hospitals, 2003–2011[9]



Data source: Bureau of Labor Statistics

This graph shows the distribution of workplace fatalities in hospitals, by cause. Data have been aggregated for the 2003–2011 period to provide a sufficient sample size for analysis.

[1] Bureau of Labor Statistics. Annual Survey Summary Numbers and Rates. Accessed September 2013. These data represent NAICS 622, which covers all types of hospitals. Data are limited to private industry.

[2] Bureau of Labor Statistics. Case and Demographic Numbers. Accessed September 2013. These data represent NAICS 622, which covers all types of hospitals. Data are limited to private industry. The Bureau of Labor Statistics defines MSDs as follows: "Musculoskeletal disorders (MSDs) include cases where the nature of the injury or illness is pinched nerve; herniated disc; meniscus tear; sprains/strains/tears; hernia (traumatic and nontraumatic); pain, swelling, and numbness; carpal or tarsal tunnel syndrome; Raynaud's syndrome or phenomenon; musculoskeletal system and connective tissue diseases and disorders when the event or exposure leading to the injury or illness is overexertion and bodily reaction—unspecified; overexertion involving outside sources; repetitive motion involving microtasks; other and multiple exertions or bodily reactions; and rubbed, abraded, or jarred by vibration."

[3] Bureau of Labor Statistics. Annual Survey Summary Numbers and Rates. Accessed September 2013. These data represent NAICS 622, which covers all types of hospitals. Data are limited to private industry. The percentages cited here reflect the distribution of all recorded illnesses, not just those resulting in days away from work.

[4] Bureau of Labor Statistics. Case and Demographic Numbers. Accessed September 2013. These data represent NAICS 622, which covers all types of hospitals. Data are limited to private industry.

[5] Bureau of Labor Statistics. Case and Demographic Numbers: MSDs. Custom query obtained January 2013. These data represent NAICS 622, which covers all types of hospitals. Data are limited to private industry. See footnote above for the criteria that were used to define an MSD.

[6] Bureau of Labor Statistics. Census of Fatal Occupational Injuries. Accessed September 2013. These data represent NAICS 622, which covers all types of hospitals. These data cover all hospitals regardless of ownership type.

[7] Bureau of Labor Statistics. Case and Demographic Numbers. Accessed September 2013. These data represent NAICS 622, which covers all types of hospitals. Data are limited to private industry.

[8] Bureau of Labor Statistics. Case and Demographic Numbers. Accessed September 2013. These data represent NAICS 622, which covers all types of hospitals. Data are limited to private industry.

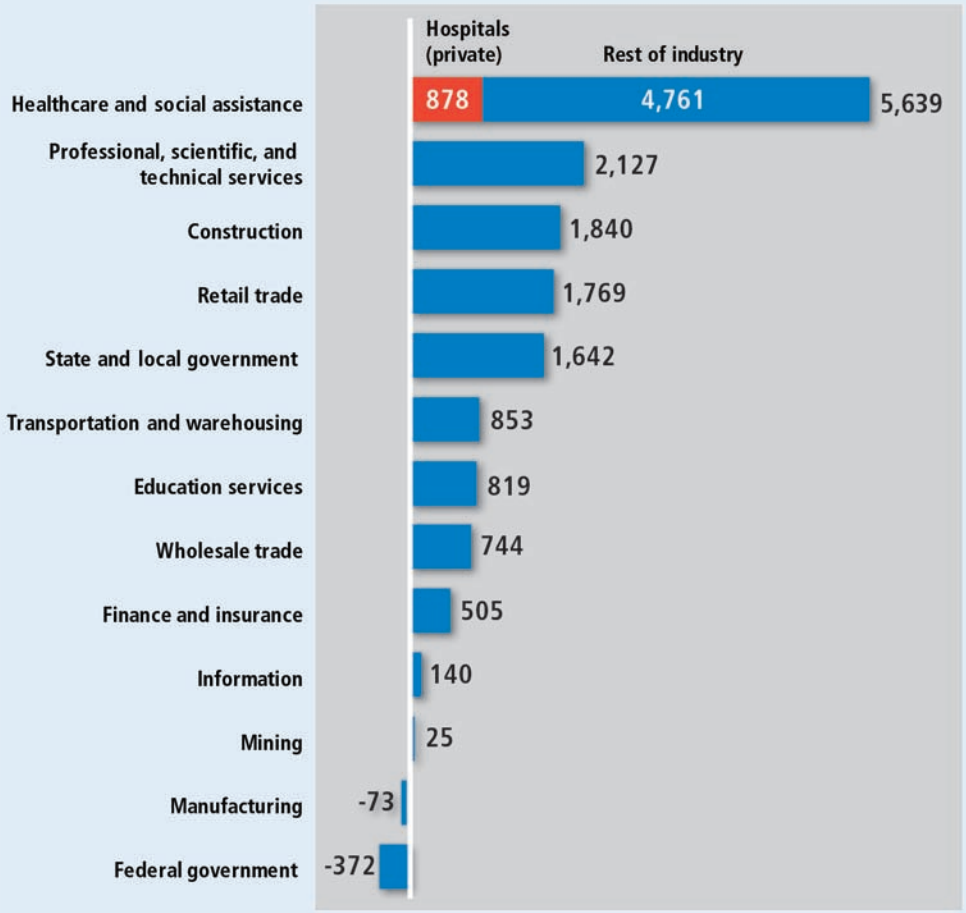
[9] Bureau of Labor Statistics. Census of Fatal Occupational Injuries. Accessed September 2013. These data represent NAICS 622, which covers all types of hospitals. These data cover all hospitals regardless of ownership type.

3. The Workforce at Risk

Hospital employment is growing, which puts an increasing number of workers at risk.

Heathcare is one of the fastest-growing sectors of the U.S. economy. Hospitals employed a total of 6.3 million people as of 2011, which represents an increase of more than 1 million since the year 2000.[1] According to the Bureau of Labor Statistics, the healthcare industry as a whole is projected to add 5.6 million jobs during the current decade, including roughly 900,000 new jobs in private hospitals (Figure 9). (Detailed projections are not readily available for publicly owned hospitals.)

Figure 9. Projected Change in Employment by Major Industry, 2010–2020[2]



Data source: Bureau of Labor Statistics

This graph shows the projected change in wage and salary employment by industry from 2010 to 2020.

Hospitals include a wide variety of occupations that face a wide range of hazards.

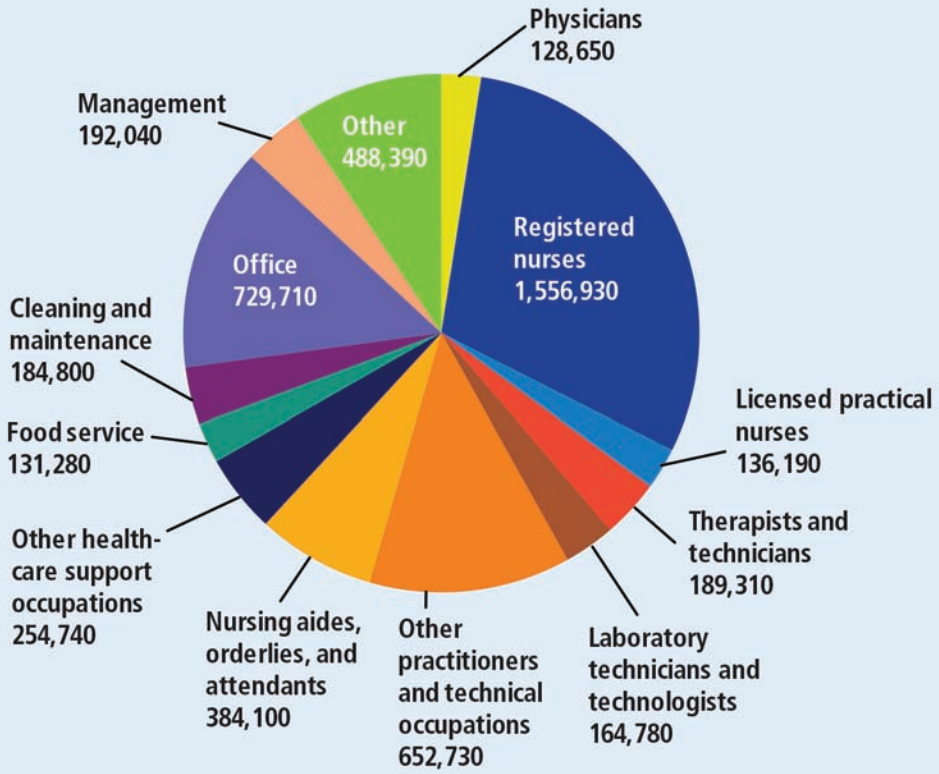
General medical and surgical hospitals—the most common type of hospital—employ 92 percent of the nation's hospital workforce. The remaining 8 percent work in psychiatric, substance abuse, or specialty hospitals.[3]

Within general medical and surgical hospitals, the number of workers classified as practitioners or technical occupations (e.g., physicians and nurses) increased by 10 percent between 2006 and 2011.[4] Figure 10 shows the occupational distribution of hospital employees in 2011—the most recent year with data available. Registered nurses are by far the largest group, at 30 percent of all general medical and surgical hospital workers. Nursing aides, orderlies, and attendants constitute 7.4 percent. Hospitals also employ many people in non-medical roles: food preparation, housekeeping and linen services, cleaning, maintenance, physical plant operations, landscaping, office functions, and more. These jobs come with their own unique hazards.

An aging workforce increases certain injury and illness risks.

The workforce in hospitals is getting older. Aging can bring valuable wisdom and experience—but it also can increase a worker's susceptibility to injuries and illnesses. The median age of hospital employees rose from 40.6 to 43.6 between

Figure 10. Occupations in Hospitals, 2011[5]



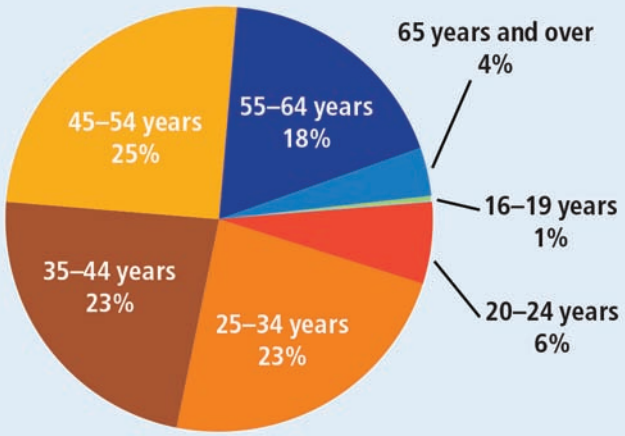
Data source: Bureau of Labor Statistics

This figure shows the occupational distribution of general medical and surgical hospital employees in 2011. It should be noted that these data vastly underrepresent the number of physicians who work in hospitals. The 2.5 percent shown are physicians employed directly by hospitals. Many other physicians have credentials to work in a hospital but are not legally employed by that hospital. The "other practitioners and technical occupations" category includes radiologic technologists and technicians, medical records and health information technicians, surgical technologists, pharmacists, emergency medical technicians and paramedics, and others.

2000 and 2011.[6] The median age of the entire U.S. workforce increased from 39.4 to 42.1 during the same period, so the aging of the hospital workforce is part of a broader trend.[7] Figure 11 shows the age distribution for hospital workers in 2011.

With age, the body becomes more vulnerable to certain illnesses and musculoskeletal injuries. Bones begin to weaken as people enter their 40s and 50s, increasing the probability of fractures and cumulative trauma while handling patients or as a result of a fall.[8] Beyond age 65, half of the U.S. population suffers from arthritis, a wearing away of the cartilage in joints, resulting in painful movement.[9] In addition, the immune system slows with age, which can result in higher susceptibility to illness and prolonged recovery time.[10] In isolation, an aging workforce is likely to lead to an increase in the frequency and severity of work-related injuries. However, Section 5 of this factbook describes solutions that can help protect workers of all ages.

Figure 11. Age Distribution of Hospital Workers, 2011[12]



Data source: Bureau of Labor Statistics, 2011 data.

This figure shows the age distribution of U.S. hospital workers in 2011.

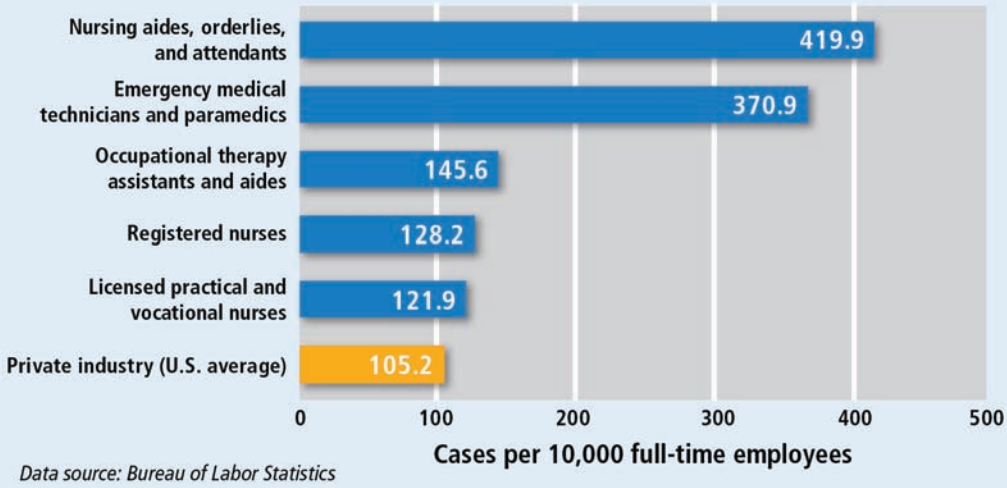
Nurses and nursing aides are among the occupational groups most at risk of injury, particularly for MSDs.

In terms of total injuries, registered nurses and nursing aides suffer more injuries than almost any other occupation nationwide. The category of "nursing aides, orderlies, and attendants" was one of the top five occupations for total days-away-from-work injuries in 2011, and nursing assistants and registered nurses were two of the top six occupations suffering MSDs.[11]

Although high injury totals may in part reflect the large number of people employed in healthcare occupations, injury incidence rates for these occupations are also high. Overall, the private sector workforce experienced injuries resulting in days away from work at a rate of 105 cases per 10,000 FTEs in 2011.[13] Nursing aides suffered days-away-from-work injuries at four times this rate (Figure 12). Other healthcare occupations with elevated injury rates include emergency medical technicians and paramedics, occupational therapy assistants and aides, registered nurses, and licensed practical and vocational nurses.

Figure 13 shows the total number of days-away-from-work injuries in 2011 for certain common healthcare occupations. Total counts are influenced by the number of workers in a particular occupation, but it is also worth noting how the injuries are distributed by cause (i.e., "event or exposure"). Almost all of these occupations are dominated by "overexertion and bodily reaction" injuries, which in turn can lead to MSDs (Figure 14).

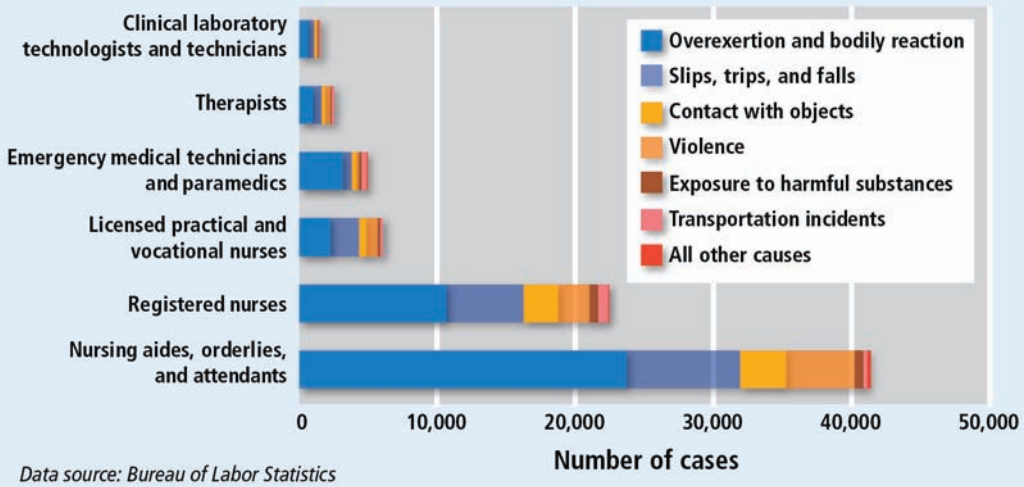
Figure 12. Rates of Injuries Resulting in Days Away from Work for Selected Healthcare Occupations, 2011[14]



Data source: Bureau of Labor Statistics

This figure shows healthcare-related occupations with the highest rates of injuries resulting in days away from work in 2011. Rates are expressed per 10,000 FTEs. This graph is not restricted to hospitals, due to limitations of the underlying data.

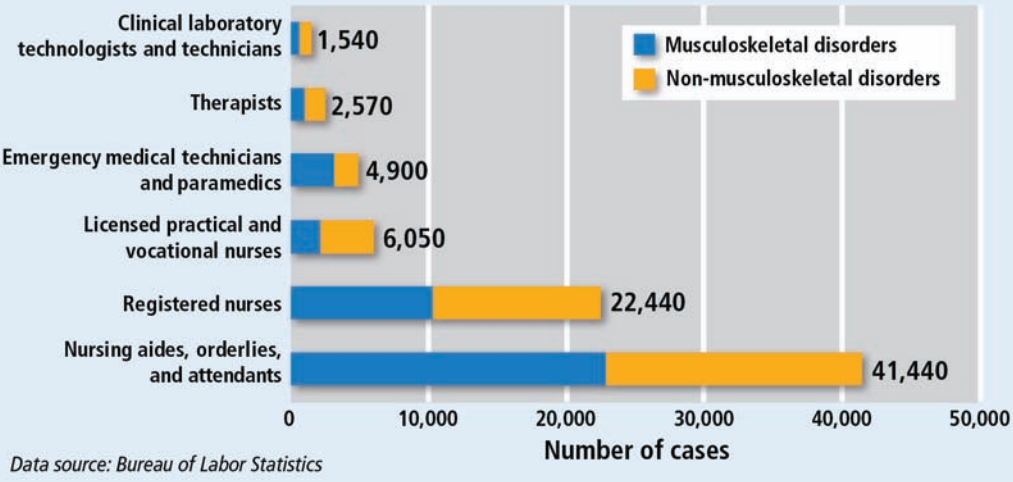
Figure 13. Causes of Injuries Resulting in Days Away from Work for Selected Healthcare Occupations, 2011[15]



Data source: Bureau of Labor Statistics

This figure shows injury counts for selected healthcare occupations in private industry in 2011. The distribution of these injuries by event or exposure is shown. This graph is not restricted to hospitals, due to limitations of the underlying data.

Figure 14. Musculoskeletal Disorders Resulting in Days Away from Work for Selected Healthcare Occupations, 2011[16]



Data source: Bureau of Labor Statistics

This figure shows injury counts for selected healthcare occupations in private industry in 2011. The distribution of these injuries by MSD and non-MSD is shown. This graph is not restricted to hospitals, due to limitations of the underlying data. MSDs are known to account for a significant portion of the injuries in hospitals (see Section 2).

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[1] Bureau of Labor Statistics. Current Population Survey. Employed Persons by Detailed Industry, Sex, and Age. www.bls.gov/cps/demographics.htm. Accessed September 2013. These data represent NAICS 622, which covers all types of hospitals. These data cover all hospitals regardless of ownership type.

[2] Bureau of Labor Statistics. Employment Projections. Table 2.7: Employment and Output by Industry. www.bls.gov/emp/ep_table_207.htm. Updated January 2012. In this figure, "healthcare and social assistance" represents NAICS 62, and "hospitals" represents NAICS 622, which covers all types of hospitals. "Healthcare and social assistance" projections reflect all ownership types (public and private), but hospital-specific projections are limited to private ownership. Projections are based on the Current Employment Survey.

[3] Bureau of Labor Statistics. Occupational Employment Statistics: Health Sector Employment. Accessed September 2013. These data represent NAICS 6221, "general medical and surgical hospitals," as a percentage of NAICS 622 (all hospitals). These data cover all ownership types.

[4] Bureau of Labor Statistics. Occupational Employment Statistics: Health Sector Employment. Accessed September 2013. These data represent NAICS 6221, "general medical and surgical hospitals," for all ownership types.

[5] Bureau of Labor Statistics. Occupational Employment Statistics: Health Sector Employment. Accessed September 2013. These data represent NAICS 6221, "general medical and surgical hospitals," for all ownership types. Occupational groups are identified by Standard Occupational Classification (SOC) and include physicians (SOC 29-1060); registered nurses (SOC 29-1111); licensed practical nurses (SOC 29-2061); therapists and technicians (SOC 29-2122 through 29-2126, 29-2128, and 29-2054); laboratory technicians and technologists (SOC 29-2011 and 29-2012); other practitioners and technical occupations (SOC 29-0000 excluding physicians and registered nurses); nursing aides, orderlies, and attendants (SOC 31-1012); other healthcare support occupations (SOC 31-0000 excluding 31-1012); food service (SOC 35-0000); cleaning and maintenance (SOC 37-0000); office (SOC 43-0000); management (SOC 11-0000); and other occupations (hospital total excluding the previously specified groups).

[6] Bureau of Labor Statistics. Current Population Survey. Employed Persons by Detailed Industry, Sex, and Age. www.bls.gov/cps/demographics.htm. Accessed September 2013. These data represent NAICS 622, which covers all types of hospitals. These data cover all hospitals regardless of ownership type.

[7] Bureau of Labor Statistics. Current Population Survey. Employed Persons by Detailed Industry, Sex, and Age. www.bls.gov/cps/demographics.htm. Accessed September 2013.

[8] National Institutes of Health. 2007. Eight areas of age-related change. *NIH Medline Plus.* 2(1): 10-13. See www.nlm.nih.gov/medlineplus/magazine/issues/winter07/articles/winter07pg10-13.html.

[9] National Institutes of Health. 2007. Eight areas of age-related change. *NIH Medline Plus.* 2(1): 10-13. See www.nlm.nih.gov/medlineplus/magazine/issues/winter07/articles/winter07pg10-13.html.

[10] Hall, W.J., and B. Ahmed. 2007. Pulmonary disorders. In Duthie, E.H., P.R. Katz, and M.L. Malone, eds. *Practice of Geriatrics*. 4th ed.

Minaker, K.L. 2011. Common clinical sequelae of aging. In Goldman, L., and A.I. Schafer, eds. *Goldman's Cecil Medicine*. 24th ed.

[11] Bureau of Labor Statistics. 2012. Economic news release: Nonfatal occupational injuries and illnesses requiring days away from work, 2011. November. See www.bls.gov/news.release/osh2.nr0.htm.

[12] Bureau of Labor Statistics. Current Population Survey. Employed Persons by Detailed Industry, Sex, and Age. www.bls.gov/cps/demographics.htm. Accessed September 2013. These data represent NAICS 622, which covers all types of hospitals. They cover all hospitals regardless of ownership type.

[13] Bureau of Labor Statistics. 2012. Economic news release: Nonfatal occupational injuries and illnesses requiring days away from work, 2011. November. See www.bls.gov/news.release/osh2.nr0.htm.

[14] Bureau of Labor Statistics. Case and Demographic Characteristics for Work-Related Injuries and Illnesses Involving Days Away from Work. Accessed September 2013. www.bls.gov/iif/oshcdnew2011.htm#Resource_Table_categories_-_2011. These data are not limited to people who work in hospitals or other healthcare settings, as this particular data set cannot be subdivided by industry in addition to occupation. However, the occupations chosen are healthcare-related by nature. Data are limited to private industry.

[15] Bureau of Labor Statistics. Case and Demographic Characteristics for Work-Related Injuries and Illnesses Involving Days Away from Work. Accessed September 2013. www.bls.gov/iif/oshcdnew2011.htm#Resource_Table_categories_-_2011. These data are not limited to people who work in hospitals or other healthcare settings, as this particular data set cannot be subdivided by industry in addition to occupation. However, the occupations chosen are healthcare-related by nature. Data are limited to private industry.

[16] Bureau of Labor Statistics. Case and Demographic Characteristics for Work-Related Injuries and Illnesses Involving Days Away from Work. Accessed September 2013. www.bls.gov/iif/oshcdnew2011.htm#Resource_Table_categories_-_2011. These data are not limited to people who work in hospitals or other healthcare settings, as this particular data set cannot be subdivided by industry in addition to occupation. However, the occupations chosen are healthcare-related by nature. Data are limited to private industry. The Bureau of Labor Statistics defines MSDs as follows: "Musculoskeletal disorders (MSDs) include cases where the nature of the injury or illness is pinched nerve; herniated disc; meniscus tear; sprains/strains/tears; hernia (traumatic and nontraumatic); pain, swelling, and numbness; carpal or tarsal tunnel syndrome; Raynaud's syndrome or phenomenon; musculoskeletal system and connective tissue diseases and disorders when the event or exposure leading to the injury or illness is overexertion and bodily reaction—unspecified; overexertion involving outside sources; repetitive motion involving microtasks; other and multiple exertions or bodily reactions; and rubbed, abraded, or jarred by vibration."

4. Why It Matters

Workplace injuries take a toll on workers and their families.

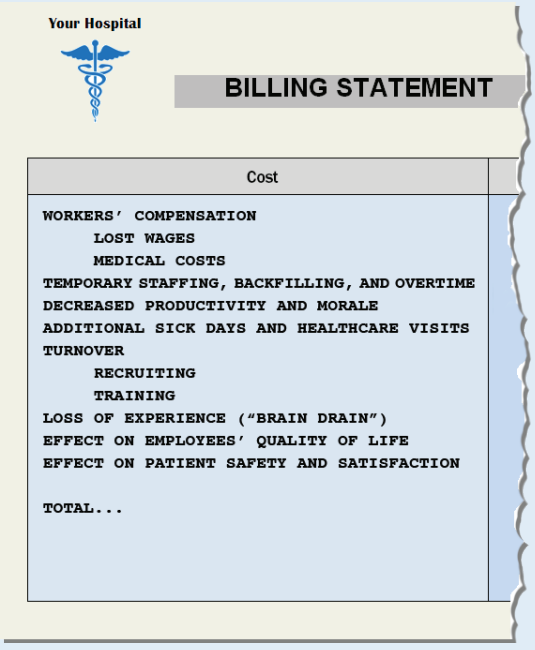
First and foremost, workplace injuries and illnesses harm the worker—not only in terms of physical harm and disability, but also in many other ways. Injuries can prevent hospital workers from doing the job they love: caring for patients. Their lives are disrupted. In the case of irreversible serious injury or illness, workers are required to change careers, which affects their role in society, their identity, and the income their families may depend on.

As institutions devoted to healing, hospitals should see protecting their workers from harm as a natural extension of their mission.

Workplace injuries and illnesses come at a high cost to hospitals.

When an employee gets hurt on the job, hospitals pay the price in many ways—some obvious, some not. While some of these costs are difficult to quantify, a single serious injury can lead to losses of tens of thousands of dollars or more. Figure 15 summarizes many of these costs, and the sections that follow explore several of the major costs in more detail.

Figure 15. Summary of Costs Associated with Hospital Worker Injuries



Hospitals spend thousands of dollars (or more) on workers' compensation for injuries and illnesses.

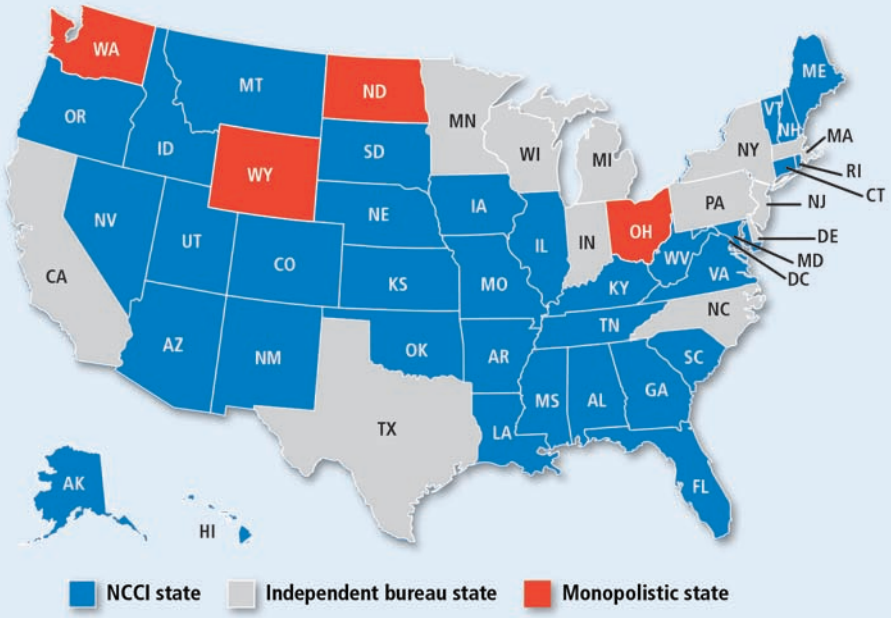
Workers' compensation claims include medical costs to treat or recover from the illness or injury, compensation for wages lost—also known as indemnity—and administrative costs. This factbook presents data from two sources that describe workers' compensation costs for hospitals in the United States:

- **The Aon Barometer Survey.**[1] In 2012, Aon Risk Solutions surveyed hospitals nationwide. A total of 53 healthcare systems responded, representing about 1,000 hospitals across all 50 states and the District of Columbia. These hospitals ranged in size from small community hospitals to multi-state systems. From 2002 to 2011, workers at participating hospitals filed 311,000 claims.
- **The National Council on Compensation Insurance (NCCI).**[2] NCCI is an insurance rating and data collection bureau that collects data from commercial insurance carriers and helps to establish rates for workers' compensation insurance in 38 states, which collectively cover about 50 percent of the nation's insured market (Figure 16). As the nation's largest aggregator of workers' compensation data, NCCI can provide detailed data from claims covering many years. These data are restricted to customers who purchase insurance from commercial carriers in the participating states, so hospitals that self-insure and hospitals in non-NCCI states are not included. For policies written from 2005 to 2009, NCCI collected information on 30,198 claims resulting in lost time and 158,305 cases of medical-care-only claims occurring in hospitals. Note that 2009 is the most recent policy year available.

The costs associated with workers' compensation claims depend on both the frequency of claims and the severity of these claims. Although neither source covers all hospitals in the United States, Aon and NCCI's data sets provide valuable insight into both frequency and average cost of claims by injury type.

Claim frequency. According to Aon's survey, in 2011, hospitals experienced injury claims at a rate of 0.099 claims per $100,000 of payroll. Over the last decade, the frequency of claims has decreased. Aon attributes this reduction in claim frequency to improvements in assistive technology (e.g., safe patient handling equipment), increased experience of staff due

Figure 16. States Covered by NCCI[3]



Data source: National Council on Compensation Insurance

This map shows states in which insurance departments have designated NCCI as the licensed rating and statistical organization.

to lower turnover rates, and a focus on improving the safety environment for patients that has also benefited workers.

Claim severity. According to the Aon survey, during the most recent five years of claims, hospitals have seen a steady loss rate of about $0.78 per $100 of payroll. However, as the total number of claims has decreased somewhat, severity—the average loss per claim—has increased over time. In 2011, the average loss per claim settled was $15,860. Of this cost, on average, indemnity accounted for $12,420, medical $2,790, and administrative expenses $650 per claim.

A few large claims typically account for a considerable portion of the total cost. Between 2006 and 2011, claims over $100,000 in Aon's survey accounted for only 1.3 percent of total claims but 47.1 percent of total costs. In contrast, 87.5 percent of all claims were for less than $5,000, yet these claims collectively accounted for only 11 percent of total costs.

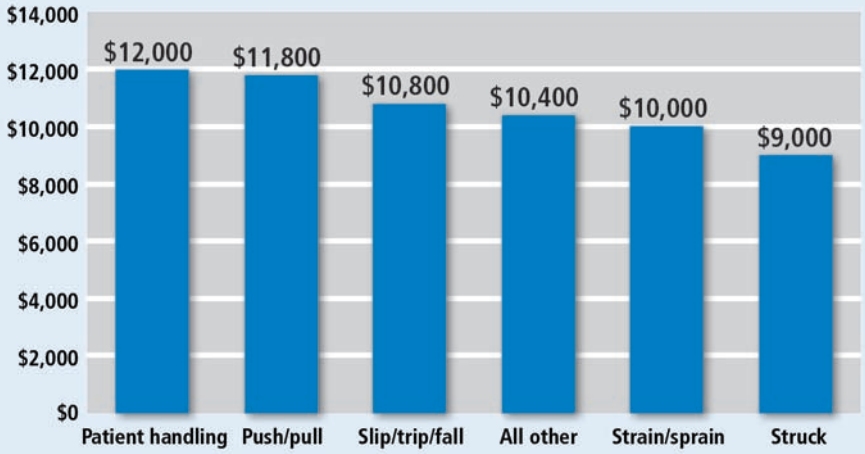
Figure 17 shows the average indemnity (wage replacement) cost for several common causes of hospital worker injuries, according to Aon's survey. Of these common injuries, patient handling claims had the highest average indemnity cost per claim, at $12,000. When medical and administrative expenses are added, the total cost of a patient handling claim rises to an average of $15,600.[4]

NCCI's data set includes costs for a wider variety of injuries. For claims in which employees lost time, average medical and indemnity costs were typically around the same order of magnitude (Figure 18). Within NCCI's data for 2005–2009, the most common type of claim was "strain or injury by," which is a category that includes lifting, pushing or pulling, reaching, holding or carrying, and several other activities. The average "strain or injury by" claim with lost time cost $22,440: $11,854 in medical expenses and $10,587 in indemnity costs. Motor vehicle-related claims were the most expensive type, but they do not occur as frequently as other types of claims.

Unlike other industries, hospitals can treat their own injured workers on site. This can result in underestimates of the cost of medical treatment for workers' compensation claims, as hospital employees are often given an "employee discount" for treatment. In the Aon survey, 30 percent of participating hospitals provided a discount, often of 50 percent or more.[5] During a four-year period, the average medical claim costs for these facilities were 60 percent lower than at facilities that did not provide an employee discount.

Many hospitals are self-insured, so they bear the entire cost of workers' compensation losses directly. According to the Aon barometer survey, 75 percent of the hospitals surveyed reported being self-insured.[6]

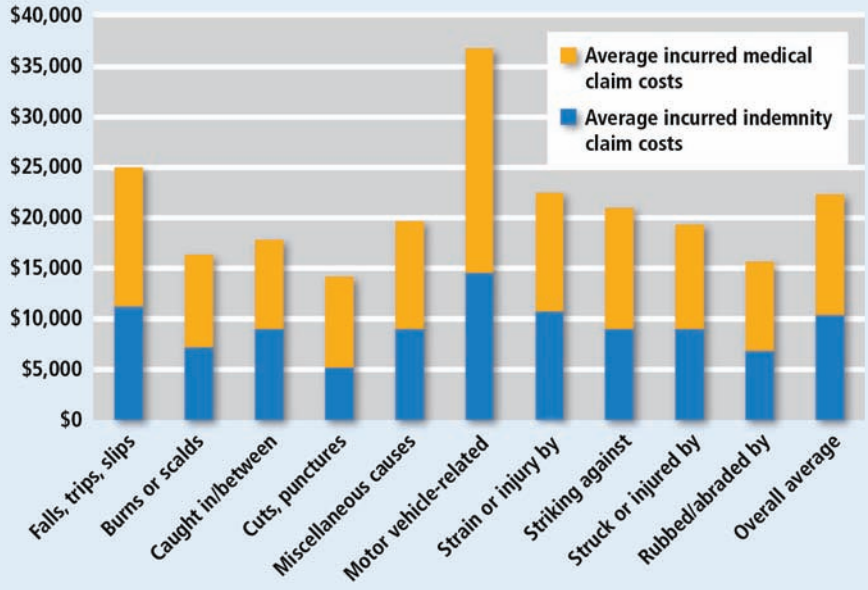
Figure 17. Average Indemnity Costs for Hospital Workers' Compensation Claims, by Cause of Injury, 2006–2011[7]



Data source: Aon Risk Solutions

This figure shows the average indemnity cost (i.e., lost wages) for workers' compensation claims from 2006 to 2011, as reported by Aon's survey of 1,000 U.S. hospitals. Note that the categories in Aon's survey do not necessarily match the categories used by NCCI and BLS. Injuries associated with patient handling are counted only in the "patient handling" category above. Thus, categories such as "strain/sprain" are restricted to injuries that are not associated with patient handling.

Figure 18. Average Indemnity and Medical Costs for Lost Time Claims, by Cause of Injury, 2005–2009[8]



Data source: National Council on Compensation Insurance, 2005–2009 data

This figure shows the division of costs between medical expenses and lost wage (indemnity) costs for claims involving lost time, according to NCCI's database. These costs are limited to the "first report," which occurs 18 months after the start of a workers' compensation policy, so they do not include additional costs that might arise in subsequent years for claims that take several years to resolve.

Hospitals that purchase workers' compensation insurance externally are typically subject to experience rating, in which insurance premiums are modified to reflect the insured party's claims history. With increased frequency and severity of injury and illness claims comes the potential for higher premiums in the future. Conversely, substantial improvements in injury and illness prevention can lower commercial premiums.

Sprains, strains, and other injuries associated with patient handling account for the largest share of workers' compensation claims and costs.

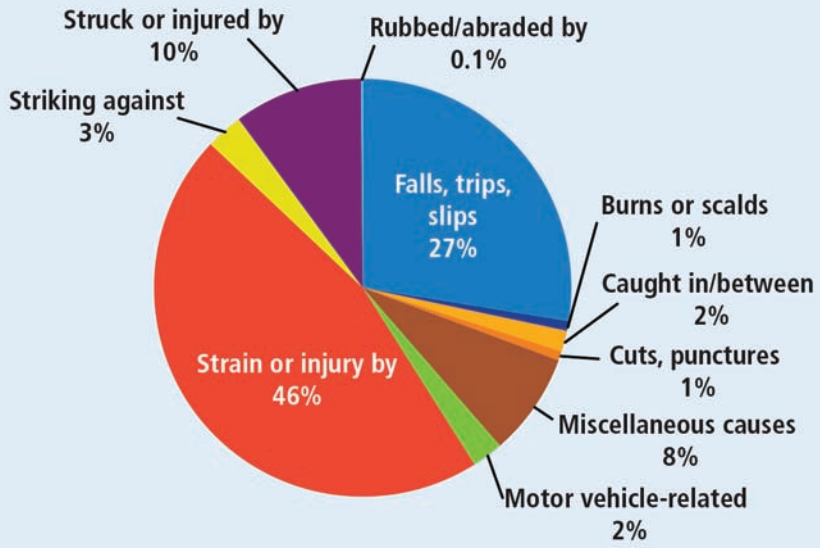
Aon's survey found that patient handling accounted for 25 percent of all claims, while NCCI's data indicate that the most common causes of workers' compensation claims in hospitals were strains (28 percent), followed by falls, trips, and slips (17 percent). Strains accounted for an even larger share of claims that resulted in lost time (46 percent), again followed by falls, trips, and slips (25 percent), and "strain or injury by" claims accounted for half of the total amount spent on lost-time injury claims in hospitals (Figure 19). More detailed data from NCCI show that 20 percent of lost-time injuries between 2005 and 2009 were caused by "lifting," although this category includes injuries that result from lifting anything, not just from lifting a patient.

When an injured employee has to miss work or take a modified duty assignment, his or her shifts typically must be backfilled by temporary workers or existing staff changing shifts or working overtime. Temporary workers not only cost money, but may also require additional training on hospital-specific policies and equipment. Overtime increases the burden on other workers and can contribute to fatigue, burnout, and a vicious circle that leads to higher risks of injury.[9]

An injury can lead to thousands of dollars in additional costs for overtime, temporary staffing, or—in cases of permanent disability—replacement.

When an employee quits due to an injury, illness, or perceived risk of future injury, the hospital incurs additional costs associated with turnover. The turnover process begins with termination, including exit interviews and associated paperwork. Advertising and recruiting costs additional money, and while recruitment is underway, the hospital may hire temporary workers to cover the vacancy or require existing staff to work overtime. This situation can cause productivity losses until the position is filled. Once a new employee is hired, expenses may include pre-employment physicals, drug screening, signing bonuses, moving expenses, classroom and clinical orientation materials, instructors, and the new employee's salary during orientation and training.

Figure 19. Total Spending on Lost-Time Claims, by Cause of Injury, 2005–2009[10]



Data source: National Council on Compensation Insurance, 2005–2009 data

This graph shows the distribution of costs for claims involving lost time, by cause of injury, according to NCCI's database.

The loss of experienced workers results in a decline of intellectual capital. Productivity suffers until new workers gain familiarity with the new system and their colleagues. Turnover is disruptive to both organizational culture and structure.[11] It has also been found to increase the risk of worker injuries. Taylor et al. (2012) found that for each 10 percent increase in turnover, nurse injuries increase by 68 percent.[12] Breslin and Smith (2006) found that new workers are more likely to get injured as a result of their inexperience; workers in the first month of a job are four times more likely to file a lost time workers' compensation claim than those with more than a year on the job.[13]

A number of studies have tried to estimate the cost of replacing a nurse who leaves the profession, factoring in the costs associated with separation, recruiting, hiring, productivity loss, and orientation and training. These studies place those costs in the range of $27,000 to $103,000 per nurse.[14] The Veterans Health Administration has estimated that it costs 100 percent of a nurse's salary to fill a vacated nursing position. For a hypothetical 600-bed facility with a 20 percent turnover rate and average annual nursing salary of $46,000, this costs more than $5.5 million a year.[15] Other experts estimate that turnover costs up to 150 percent of an employee's annual compensation.[16]

Even if an injured worker does not have to miss work, the injury can still lead to "hidden costs" for the hospital.

Whether or not injured workers stay on the job, the hospital can still incur other costs that may be difficult to quantify. These costs can stem from time spent investigating injuries, wages paid for absences not covered by workers' compensation, increased use of employee healthcare benefits, and deterioration of productivity and morale.

As employees continue to work with minor or unreported injuries or illnesses, they use more sick time and they visit the doctor more frequently to manage their conditions. In a 2001 survey of thousands of registered nurses, licensed practical nurses, and nursing assistants working for the Veterans Health Administration, 24 percent said they had experienced unreported injuries in the previous year that required them to change shifts or take sick leave to recuperate.[17] Another national survey found that eight out of 10 nurses say they frequently work with musculoskeletal pain.[18]

Worker injuries can adversely affect patient safety and satisfaction.

Worker injuries and high turnover can affect patient health and safety. If a unit is understaffed, the risk of medical errors and patient infections rises. Overtime is associated with worker fatigue, injury, and stress, which have been tied to a higher risk of medication error and patient infections.[19] Higher patient-nurse ratios are associated with patient urinary tract and surgical site infections.[20] In one national survey, more than 75 percent of nurses reported that unsafe working conditions interfered with their ability to deliver quality care.[21]

Caregivers and patients face many related hazards. For example, manual lifting can put patients at risk of falls, fractures, bruises, and skin tears. Practices that protect workers may also benefit patients. For example, implementation of a lift team at Stanford University Medical Center increased prevention of hospital acquired pressure ulcers, resulting in a savings of more than $1.7 million.[22] Strategies to improve patient safety and employee safety can go hand-in-hand—from high reliability management systems to specific steps such as reducing slippery floors.

A healthy, stable workforce also creates an atmosphere conducive to patient confidence and satisfaction. Studies have found higher patient satisfaction levels in hospitals where fewer nurses are dissatisfied or suffering burnout.[23] Patients who are handled with lifting equipment report an improved feeling of dignity—particularly bariatric (obese) patients. Patient satisfaction can lead to increased referrals, growth in market share, and philanthropic support from satisfied patients or their families.

All of society bears the cost of workplace injuries.

All of society pays a price when hospital workers are injured or ill. In particular:

- When injuries lead to long-term disabilities, society bears many of the costs resulting from long-term healthcare needs and difficulty working. Even when injured workers can still find employment, disabilities can permanently lower their income.

- As hospitals incur the cost of workplace injuries, they may pass the cost along to patients, insurance companies, or tax-funded government services through higher rates. They may also pay part of the cost out of earnings that could otherwise be reinvested to improve quality of care.
- When an experienced, skilled worker is injured and forced to leave the field, this "brain drain" requires additional investment by society to educate replacement workers.

"Workplace safety is inextricably linked to patient safety. Unless caregivers are given the protection, respect, and support they need, they are more likely to make errors, fail to follow safe practices, and not work well in teams."

— National Patient Safety Foundation, Lucian Leape Institute. *Through the Eyes of the Workforce: Creating Joy, Meaning, and Safer Health Care*[24]

[1] Aon Risk Solutions. 2012. *2012 Health Care Workers Compensation Barometer.* Additional information about workers' compensation claims related to patient handling was provided to OSHA by the authors in 2013.

[2] National Council on Compensation Insurance. 2013. *Hospital Workers' Compensation Claims for Policy Years 2005–2009*.

[3] National Council on Compensation Insurance. 2013. NCCI State Map. See https://www.ncci.com/nccimain/AboutNCCI/StateMap/Pages/default.aspx.

[4] Aon Risk Solutions. 2013. Personal communication from the authors of *2012 Health Care Workers Compensation Barometer* to ERG, an OSHA contractor.

[5] Aon Risk Solutions. 2012. 2012 *Health Care Workers Compensation Barometer*.

[6] Aon Risk Solutions. 2012. 2012 *Health Care Workers Compensation Barometer*.

[7] Aon Risk Solutions. 2012. *2012 Health Care Workers Compensation Barometer*.

[8] National Council on Compensation Insurance. 2013. *Hospital Workers' Compensation Claims for Policy Years 2005–2009*.

[9] O'Brien-Pallas, L., J. Shamian, D. Thomson, C. Alksnis, M. Koehoorn, M. Kerr, and S. Bruce. 2004. Work-related disability in Canadian nurses. *Journal of Nursing Scholarship*. 36(4): 352-357.

[10] National Council on Compensation Insurance. 2013. *Hospital Workers' Compensation Claims for Policy Years 2005–2009*.

[11] Waldman, J.D., F. Kelly, A. Sanjeev, A., and H.L. Smith. 2004. The shocking cost of turnover in health care. *Health Care Management Review*. 29(1): 2-7.

[12] Taylor, J. A., F. Dominici, J. Agnew, D. Gerwin, L. Morlock, and M.R. Miller. 2012. Do nurse and patient injuries share common antecedents? An analysis of associations with safety climate and working conditions. *BMJ Quality & Safety*. 21(2): 101-111.

[13] Breslin F.C., and P. Smith. 2006. Trial by fire: A multivariate examination of the relationship between job tenure and work injuries. *Occupational and Environmental Medicine*. 63: 27-32.

[14] Li, Y., and C.B. Jones. 2012. A literature review of nursing turnover costs. *Journal of Nursing Management*. 21(3): 405-418. (Dollar amounts presented here are adjusted to 2013 prices.)

[15] Kosel, K.C., and T. Olivo. 2002. The business case for workforce stability. *VHA Research Series*. See www.healthleadersmedia.com/content/132674.pdf.

[16] Contino, D.S. 2002. How to slash costly turnover. *Nursing Management*. 33(2): 10.

[17] Siddharthan, K., M. Hodgson, D. Rosenberg, D. Haiduven, and A. Nelson. 2006. Under-reporting of work-related musculoskeletal disorders in the Veterans Administration. *International Journal of Health Care Quality Assurance*. 19(6): 463-476.

[18] American Nurses Association. 2011. *2011 Health and Safety Survey Report*.

[19] Rogers, A.E., W.T. Hwang, and L.D. Scott. 2004. The effects of work breaks on staff nurse performance. *Journal of Nursing Administration*. 34(11): 512-519.

[20] Cimiotti, J.P., L.H. Aiken, D.M. Sloane, and E. Wu. 2012. Nurse staffing, burnout, and health care–associated infection. *American Journal of Infection Control*. 40(6): 486-490.

[21] Foley, M. 2004. Caring for those who care: A tribute to nurses and their safety. *Online Journal of Issues in Nursing*. 9(3): Manuscript 1.

[22] Celona, J., E. Hall, and J. Forte. 2010. Making a business case for safe handling. Presented at the 2010 West Coast Safe Patient Handling and Movement Conference, September 2010. San Diego, California. As cited in: Gallagher, S. M., W. Charney, and L.D. McGinley. 2010. Clinical nursing education series: Rethinking lift teams. *Bariatric Times*. 7(11): 18-23.

[23] McHugh M.D., A. Kutney-Lee, J.P. Cimiotti, D.M. Sloane, and L.H. Aiken. 2011. Nurses' widespread job dissatisfaction, burnout, and frustration with health benefits signal problems for patient care. *Health Affairs*. 30(2): 202-210.

[24] National Patient Safety Foundation, Lucian Leape Institute. 2013. *Through the Eyes of the Workforce: Creating Joy, Meaning, and Safer Health Care*.

5. Solutions

Your hospital can reduce injuries while saving money and improving patient care.

Although hospitals face many challenges when it comes to worker safety and health, there are also countless opportunities for improvement—and many of these opportunities use methods that are practical, cost-effective, and proven. Some of the nation's leading hospitals have already paved the way. Other hospitals can largely follow their example.

TCIR and DART rates from the Bureau of Labor Statistics show just how possible it is to improve:

- While the national average (mean) TCIR in 2011 for hospitals was 6.8 cases per 100 FTEs, the safest 25 percent of hospitals have already cut their rates below 3.1. A few have reduced injuries much further.[1]
- While the national average (mean) DART rate in 2011 for hospitals was 2.7 cases per 100 FTEs, the safest 25 percent of hospitals have already cut their rates below 0.6.[2]

Some of the safest hospitals are the strongest believers in continual improvement, so they are still finding ways to fine-tune their systems and prevent even more injuries and illnesses from occurring.

A good first step to improve workplace safety is to make sure your hospital is collecting all the necessary data. Good recordkeeping will help you understand your hospital's strengths and weaknesses and develop effective solutions.

Specific solutions will depend on the hazards that need to be controlled. For example, one solution that has yielded especially large benefits for many hospitals is to develop and implement a comprehensive safe patient handling program. Many worker safety solutions are consistent with—and can even enhance—patient safety. These solutions can also produce a net cost savings. Solutions can be coordinated through a safety and health management system, which provides a systematic framework for protecting workers and making safety a part of everyone's job.

Safe patient handling programs, policies, and equipment can help your hospital cost-effectively reduce the biggest cause of workplace injuries.

The data in Section 2 show that patient handling is the leading cause of serious injuries among hospital workers. Hospitals can prevent these injuries, reduce associated costs, and improve patient care through comprehensive programs to promote safe lifting, repositioning, and transfer of patients. Safe patient handling programs can include:

- Equipment, which can range from ceiling-mounted lifts to simple slide sheets that facilitate lateral transfer
- Minimal-lift policies and patient assessment tools
- Training for all caregivers or for dedicated lifting teams

Several states require hospitals to implement safe patient handling programs, and more are considering such programs. Many tools, resources, and best practices are available to help you build or enhance your program.

Visit www.osha.gov/dsg/hospitals to learn more about the benefits of safe patient handling and the many resources available to help. There, you will find:

- A "road map" for reviewing and improving your hospital's safe patient handling policies, programs, and equipment. This website provides links to a variety of helpful tools and resources.
- An overview for administrators that lays out the financial benefits of implementing and sustaining a safe patient handling program.
- A two-page fillable questionnaire that can help administrators and safety managers review their patient handling injury rates, examine existing policies and programs, and identify areas of concern and opportunities for improvement.
- A list of common myths, barriers, and concerns about safe patient handling, with facts to disprove them.

- A helpful list of factors to consider when starting or evaluating an existing safe patient handling program, based on lessons learned and best practices from various hospitals.
- Brief profiles that describe how five hospitals have implemented safe patient handling programs and successfully reduced worker injuries, reduced costs, and improved patient care.
- A customizable poster to engage patients and their families and educate them about safe patient handling policies and equipment.

A safety and health management system can help your hospital build a "culture of safety," reduce injuries, and save money.

Beyond patient handling injuries, there are a wide variety of other injuries—some unique to hospitals and some not—that are best approached through a comprehensive approach to safety and health.

A safety and health management system is a proactive, collaborative process to find and fix workplace hazards before employees are injured or become ill. Almost all successful systems include six core elements:

- Management leadership
- Employee participation
- Hazard identification and assessment
- Hazard prevention and control
- Education and training
- Program evaluation and improvement

Many hospitals already have these elements in place to comply with Joint Commission requirements for patient safety, and some have adopted a related set of "high reliability organization" concepts. Hospitals are well positioned to extend the same principles to employee safety.

Visit www.osha.gov/dsg/hospitals to learn more about how your hospital can benefit from a safety and health management system. There, you will find:

- A brief summary for hospital administrators using real-world examples to demonstrate the value of a systematic process for proactively addressing workplace safety.
- A table that shows how safety and health management concepts can easily be integrated into existing Joint Commission compliance plans.

Success with Safe Patient Handling

Tampa General Hospital (Tampa, Florida) has become a national leader in safe patient handling through its use of "lift teams"—two-person teams that specialize in using equipment to lift and transfer patients. Dedicated lift teams have not only helped Tampa General overcome barriers related to lift use and accessibility, but also contributed to a 65 percent decrease in patient handling injuries, a 90 percent reduction in lost workdays, and a 92 percent reduction in workers' compensation costs per dollar of payroll. Patients of all sizes say this approach makes them feel they are treated with dignity.[3]

Tampa General Hospital's lift teams

Statistically significant reductions in both frequency and severity of injuries were seen after 31 rural community hospitals in Washington implemented a "zero lift program" that replaced manual lifting, transferring, and re-positioning of patients with mechanical lifting or use of other patient assist devices. The frequency of patient handling injury claims decreased from 3.88 per 100 FTEs to 2.23, a 43 percent reduction. Total incurred loss per claim decreased by 24 percent.[4]

After purchasing mechanical patient lifts, a small community hospital in a suburb of St. Louis, Missouri, saw a decrease in annual workers' compensation costs from $484 to $151 per FTE.[5]

- A detailed tool to help safety managers determine how many of the recommended elements of a safety and health management system are in place at your hospital and identify opportunities for improvement.
- A "road map" to implementing a safety and health management system, featuring "success stories" and best practices from a variety of hospitals.

Good recordkeeping puts powerful data at your fingertips.

The first step toward solving a problem is to understand it. Fortunately, every hospital should already have access to a rich source of data from injury and illness records. These data can help you answer questions such as: When, where, and how are people being injured? Who is getting injured? (New employees? Workers performing a specific task?) Are there trends in the nature, frequency, or type of injuries? Do these trends correlate to other things happening in the workplace (e.g., changes in work methods, new equipment, turnover)?

By analyzing these data, you can gain greater insight into the hazards that exist in the workplace. This insight puts you on the path to controlling the hazards that can lead to injuries and illnesses.

> "What gets measured gets managed."
>
> — Peter Drucker

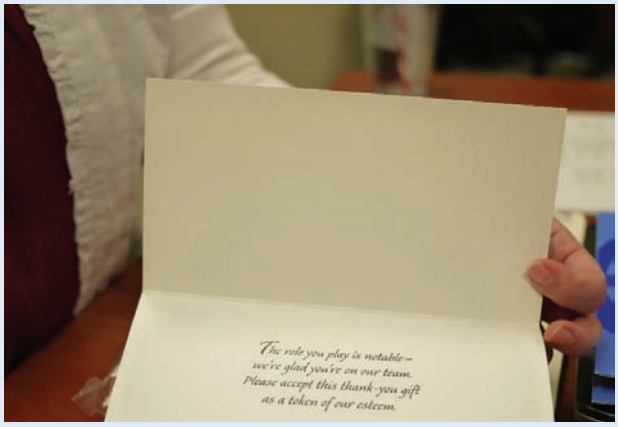
Most hospitals are required to keep injury and illness records.

Section 8(c)(1) of the Occupational Safety and Health Act of 1970 requires that:

> Each employer shall make, keep and preserve, and make available to the Secretary [of Labor] or the Secretary of Health and Human Services, such records regarding his activities relating to this Act as the Secretary… may prescribe by regulation as necessary or appropriate for the enforcement of this Act or for developing information regarding the causes and prevention of occupational accidents and illnesses.

A Systematic Approach Pays Off

University Medical Center at Brackenridge (UMC Brackenridge) (Austin, Texas) has adopted high reliability organization principles and applied them simultaneously to patient and worker safety. UMC Brackenridge empowers its associates with tools, resources, authority, and accountability that make it possible for everyone to integrate worker safety into their daily activities. For example, associates learn how to speak up about safety using the "language of care," and the Chief Operating Officer sends a note and a small gift to thank an associate who makes a "good catch" by reporting a safety concern or a near-miss event. This culture of safety has led to a decrease in both worker injuries and serious patient safety events.



Administrators at UMC Brackenridge thank an associate who makes a "good catch."

Cincinnati Children's Hospital (Cincinnati, Ohio) has used high reliability organization principles to reduce serious patient safety events by 80 percent. Applying similar principles to worker safety, the hospital implemented a more comprehensive risk planning program and took steps to reduce workplace injuries associated with patient handling, sharps, patient violence, and other hazards. These improvements reduced lost time days by 83 percent in just three years.[6]

All privately owned and most publicly owned hospitals must record all work-related injuries or illnesses resulting in:

- Death
- Days away from work
- Restricted work
- Transfer to another job
- Medical treatment beyond first aid
- Loss of consciousness
- Physician or other licensed healthcare professional-diagnosed significant injury or illness (e.g., cancer, chronic irreversible disease, fractured or broken bones, or a punctured eardrum)

Additional recordkeeping is required for the following cases:

- Needlesticks and sharps injuries
- Exposure to tuberculosis
- Occupational hearing loss
- Adverse reactions to work-related vaccinations

Hospitals and other employers keep records using the following forms:

- **OSHA Form 300: Log of Work-Related Injuries and Illnesses.** This form is used to record specific details about what happened, to whom, where, and how. The type of injury or illness and source is also recorded, as well as the resulting number of days away, restricted, or transferred to a different work assignment.
- **OSHA Form 300A: Summary of Work-Related Injuries and Illnesses.** This form provides an annual summary of the number of cases, number of days away from work/transferred/restricted, and number of each type of injury and illness. It is posted for employee review between February 1 and April 30 of the following year.
- **OSHA Form 301: Injury and Illness Incident Report.** This form records detailed information about each incident, including the date and time of the incident, how long the employee had been on the job, a description of the task the employee was performing before the incident, a description of what happened, a description of the injury or illness and affected body parts, and identification of the source of the injury. The date of death is recorded if the injury was fatal. This form must be kept for five years. An employer may use an alternate form as long as it includes all of the required fields. Many hospitals use their workers' compensation incident forms to meet this requirement.

Within seven days of receiving information about an injury or illness, the employer must fill out Forms 300 and 301. OSHA makes these forms available online and provides guidance for reporting. Employees have a right to review their injury and illness records and must be provided with a copy within one business day of a request.

In accordance with Section 18 of the Occupational Safety and Health Act of 1970, 21 states and Puerto Rico have elected to develop and operate State Plans for occupational safety and health programs, which must be consistent with federal standards (Figure 20). Hospitals in these states should consult their state programs for additional recordkeeping guidance. Four other states and the U.S. Virgin Islands have State Plans that only cover public sector employment.

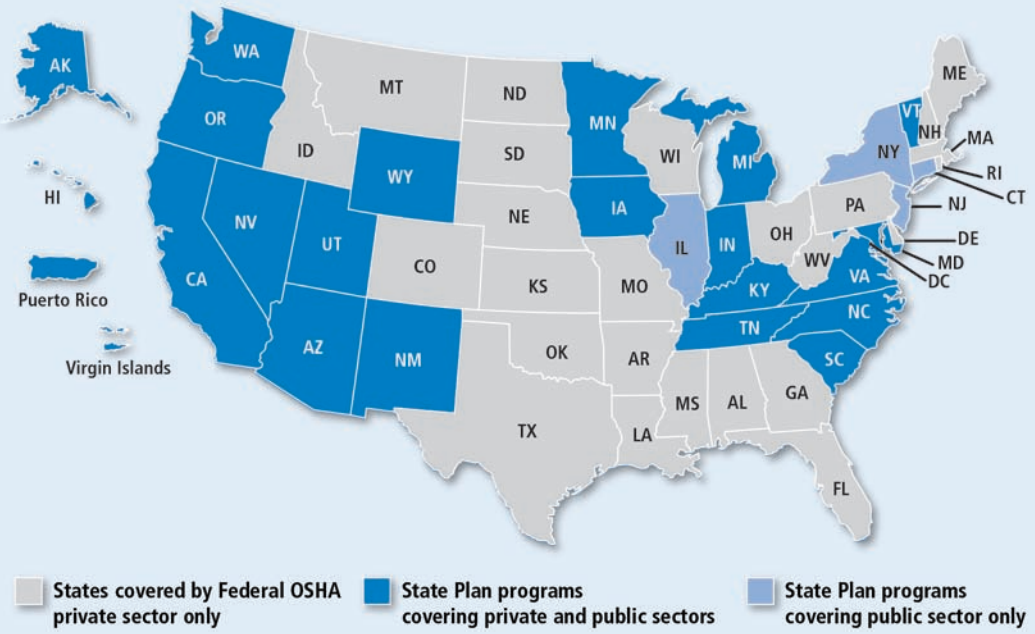
Your hospital may be able to improve the quality and completeness of your injury and illness records.

To ensure success in recordkeeping, hospital safety and health managers may want to keep the following considerations in mind:

- **Privacy.** Hospital workers may be especially sensitive to issues associated with the Health Insurance Portability and Accountability Act (HIPAA), which—among other things—guards the privacy of personal medical information. ***Recording an injury or illness in accordance with OSHA regulations is not a violation of HIPAA.*** OSHA's recordkeeping rule includes a provision that allows the employer to substitute "privacy case" for the employee's name in cases that involve:
  - An intimate body part or reproductive system
  - A sexual assault
  - A mental illness
  - A case of HIV, hepatitis, or tuberculosis
  - A needlestick injury or cut from an object contaminated with blood or potentially infectious material
  - An employee voluntarily requesting that his or her name not be entered

  In such cases, the employer must still record the injury on OSHA Form 300.
- **Incident tracking and reporting systems.** In an organization as large as a typical hospital, with round-the-clock operations and busy workers, it is especially important to provide an accessible, straightforward system

Figure 20. OSHA State Plan States[7]



Quick Links:

- *OSHA Recordkeeping Handbook* (OSHA Publication 3245-01R, 2005): www.osha.gov/recordkeeping/handbook/index.html
- *Recordkeeping Policies and Procedures Manual* (OSHA Directive CPL 02-00-135, 2004): www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=DIRECTIVES&p_id=3205
- OSHA Recordkeeping Forms: www.osha.gov/recordkeeping/RKforms.html

that allows the individual employee to report an injury or illness. Many hospitals use electronic intranet-based systems to record and manage this information. A variety of software packages are commercially available.

- **Tracking "near misses."** OSHA's rules do not require organizations to track "near misses" or precursor events that did not result in a recordable injury or illness. Many hospitals have found it useful to track these events, however, because they can reveal areas of concern and allow the hospital to implement measures that prevent future injuries from occurring. Near misses can be reported using electronic systems, just like actual injuries and illnesses. Some hospitals have successfully motivated employees to report near misses by giving prizes, offering recognition, and following up on reports so no employee feels that he or she is reporting into a "black hole."
- **Underreporting.** Many industries—including healthcare—underreport injuries and illnesses. One recent study found that healthcare facilities tend to underreport assaults by patients.[8] Another described high rates of work-related musculoskeletal pain that was not reported as injuries but required rescheduling work such as changing shifts and taking sick leave to recuperate.[9] MSDs can pose particular problems for underreporting because many of these injuries tend to accumulate gradually over time through repeated microfractures, rather than a single large trauma. Self-treatment—a possibility that is unique to medical professionals—can also lead to injuries and illnesses being underreported. See Menzel (2008) for a more detailed discussion of underreporting in healthcare, including some contributing factors that may be unique among healthcare workers.[10] To reduce underreporting, safety and health managers can make sure that all employees understand the hospital's reporting policy, create a culture that encourages transparency and avoids instant assignment of blame, eliminate incentives that might encourage workers not to report an injury, and put policies in place to make sure that any employee's visit to the Emergency Department for treatment during work hours is recorded appropriately.

[1] Bureau of Labor Statistics. Annual Survey Summary Numbers and Rates. Accessed September 2013. Both NAICS 622 (all hospitals) and NAICS 6221 (general medical and surgical hospitals) had an average TCIR of 6.8 in 2011. This average reflects private hospitals only.

[2] Bureau of Labor Statistics. Annual Survey Summary Numbers and Rates. Accessed September 2013. Both NAICS 622 (all hospitals) and NAICS 6221 (general medical and surgical hospitals) had an average DART rate of 2.7 in 2011. This average reflects private hospitals only.

[3] Tampa General Hospital. 2013 update to data that appeared in: Kutash, M., M. Short, J. Shea, and M. Martinez. 2009. The lift team's importance to a successful safe patient handling program. *Journal of Nursing Administration*. 39(4): 170-175.

[4] Charney, W., B. Simmons, M. Lary, and S. Metz. 2006. Zero lift programs in small rural hospitals in Washington state: Reducing back injuries among health care workers. *AAOHN Journal*. 54(8): 355-358.

[5] Li, J., L. Wolff, and B. Evanoff. 2004. Use of mechanical patient lifts decreased musculoskeletal symptoms and injuries among health care workers. *Injury Prevention*. 10(4): 212-216.

[6] Cincinnati Children's Hospital. 2013. Data provided to OSHA.

[7] OSHA. 2013. State occupational safety and health plans. See https://www.osha.gov/dcsp/osp/.

[8] Lanza, M.L., and D. Campbell. 1991. Patient assault: A comparison study of reporting methods. *Journal of Nursing Quality Assurance*. 5: 60-68.

[9] Siddharthan, K., M. Hodgson, D. Rosenberg, D. Haiduven, and A. Nelson. 2006. Under-reporting of work-related musculoskeletal disorders in the Veterans Administration. *International Journal of Health Care Quality Assurance*. 19(6): 463-476.

[10] Menzel, N.N. 2008. Underreporting of musculoskeletal disorders among health care workers: Research needs. *AAOHN Journal*. 56(12): 487-494.

6. Additional Resources

OSHA has developed tools to help your hospital.

OSHA has developed this factbook as part of a suite of products to help hospital administrators, safety managers, and other staff understand the problem of hospital worker injuries; explore practical, cost-effective solutions that have already been demonstrated successfully in some of the nation's leading hospitals; and measure progress toward reducing worker injuries and the associated costs.

Visit www.osha.gov/dsg/hospitals to get the full set of products and learn more.

OSHA's products at a glance:

Understanding the Problem

- **Worker Safety in Your Hospital: Know the Facts.** This four-page booklet provides a concise summary of injury and illness rates, the major causes of injuries, costs, and solutions. It is a high-level overview sprinkled with examples to inspire hospital administrators and staff to take action.
- **Facts About Hospital Worker Safety.** This compendium presents data from the Bureau of Labor Statistics, workers' compensation insurers, and detailed studies. For safety managers and others who want to explore the issue in depth, this booklet offers a comprehensive look at how hospital workers are getting hurt, which occupations are most at risk, how much these injuries cost (including "hidden" costs), and how thorough recordkeeping can help you identify problems and solutions.
- **How Safe Is Your Hospital for Workers? A Self-Assessment.** This three-page fillable questionnaire encourages data-driven self-evaluation by providing an opportunity for top administrators to talk with safety managers to find out how your injury rates compare with hospitals nationwide—and how these injuries affect your bottom line.

Solution: Safety and Health Management Systems

- **Integrating Patient and Workplace Safety Programs: Lessons from High-Performing Hospitals.** This brief summary for hospital administrators uses real-world examples to demonstrate the value of a systematic process for proactively addressing workplace safety.
- **Safety and Health Management Systems and Joint Commission Standards: A Comparison.** This table shows how core elements of a safety and health management system relate to Joint Commission hospital accreditation standards. You will see that safety and health can easily be integrated into existing Joint Commission compliance plans.
- **Hospital Safety and Health Management System Self-Assessment Questionnaire.** This detailed tool can help safety managers determine how many of the recommended elements of a safety and health management system are in place at your hospital and identify opportunities for improvement.
- **Safety and Health Management Systems: A Road Map for Hospitals.** This guidebook describes the six core elements of a safety and health management system and provides strategies for implementing them in a hospital setting. It features "success stories" and best practices from a variety of hospitals.

Solution: Safe Patient Handling

- **Safe Patient Handling Tools and Resources.** OSHA's website includes a "road map" for reviewing and improving your hospital's safe patient handling policies, programs, and equipment. This website provides links to a variety of helpful tools and resources.
- **Safe Patient Handling Programs: Effectiveness and Cost Savings.** This overview for administrators lays out the financial benefits of implementing and sustaining a safe patient handling program.

- **Safe Patient Handling: A Self-Assessment.** This two-page fillable questionnaire can help administrators and safety managers review their patient handling injury rates, examine existing policies and programs, and identify areas of concern and opportunities for improvement.
- **Safe Patient Handling: Busting the Myths.** This document lists common myths, barriers, and concerns about safe patient handling, and it provides the facts to disprove them.
- **Safe Patient Handling Program Checklist.** This customizable document includes a helpful list of factors to consider when starting or evaluating an existing safe patient handling program, based on lessons learned and best practices from various hospitals.
- **Safe Patient Handling Programs: Learn from the Leaders.** Brief profiles describe how five hospitals have implemented safe patient handling programs and successfully reduced worker injuries, reduced costs, and improved patient care.
- **Need a Lift? Just Ask!** This poster was designed to engage patients and their families and educate them about safe patient handling policies and equipment. Your hospital can customize this poster and post it in patient rooms.

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