

Data Working for a Working Nation—Uses of BLS Occupational Safety and Health Statistics

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The BLS [Occupational Safety and Health Statistics \(OSHS\)](#) program publishes data on nonfatal workplace injuries and illnesses and fatal workplace injuries. These data are from two ongoing BLS programs, the Survey of Occupational Injuries and Illnesses (SOII) and the Census of Fatal Occupational Injuries (CFOI).¹ Aggregate data from these programs, which include data for the nation as a whole, many individual states, and some other geographic groupings, as well as aggregates by industry, occupation, and other variables, are available to the public and updated annually. These data are used for many and varying purposes in both the private and public sectors of the economy.

What follows is a compilation of major uses of OSHS data, organized by the type of use and user. Included are direct quotations from many users demonstrating how they have incorporated OSHS statistics into their work. These data are used

1. By proponents and opponents of occupational safety and health legislation to evaluate legislative impact and to support their points of view in testimony.

Example A: In Congressional testimony, Occupational Safety and Health Administration (OSHA) Administrator David Michaels cited SOII data on state and local governments and private industry to support the Protecting Americas Workers Act, which would expand OSHA jurisdiction to all state and local government entities:

We are . . . here today in the knowledge that 14 Americans fail to come home from work to their families every single day of the year. ²

Example B: Industry groups cited the BLS declining number of musculoskeletal disorder (MSD) cases in voicing their opposition to OSHAs proposed rule related to ergonomics:

According to the bureau, 582,300 cases of MSDs requiring time away from work were reported in 1999. This represents a 1.7% decline from 1998 and a 25.7% drop since 1992, when 784,100 work-related MSD cases were reported. ³

Example C: Eric Frumin, Health and Safety Coordinator for Change to Win, testifying before the Subcommittee on Workforce Protections Committee on Education and Labor in the United States House of Representatives, used BLS data to propose strengthening OSHAs enforcement mechanisms and policies:

The continuing high death toll in the oil and gas well drilling industry—which has one of the highest fatality rates of any industry sector—demonstrates that flagrant and repeated violators persist at the level of entire industries as a whole. In fact, in the most recent 2-year period for which data is available (2006-07), this industry still accounts for two-thirds of ALL deaths in the “mining” industry. . . The number has increased by 30% compared to the prior three year period. Compare that to the 43% decrease in coal mining in 2007 alone. ⁴

Example D: Minnesota Senator Al Franken cited SOII occupation and MSD data in a hearing examining injuries to health care workers due to lifting patients:

In 2007, nursing aides experienced musculoskeletal injuries at a rate of more than seven times the national average for all occupations. ⁵

2. By employers seeking to improve safety at their worksites through comparing their injury rates to those in BLS data and identifying areas for special emphasis.

Example A: Department of Energy Laboratories used special tabulations from the SOII to benchmark and mitigate the injuries and illnesses of their own workers. As a result, between 2002 and 2006, the Office of Science reduced its number of injury and illness cases from 593 to 283, a decrease of over 50 percent. During that same period, cases that resulted in either days away from work or restricted activity and transfer decreased 71 percent from 301 to 87. Dr. Raymond Orbach, director of the Department of Energy's Office of Science, credits BLS data

For helping the Office of Science set safety goals and improve our laboratories. ⁶

Example B: Industry managers call BLS on a regular basis to request specific data to compare the injury or fatality rate of similar industries/regions to their own for inclusion in contracts and internal safety assessments. In 2011 there were over 8 million page views of the BLS Occupational Safety and Health Statistics website (<http://www.bls.gov/iif/>). In addition, data requestors use the BLS online injury-and-illness-rate calculator to calculate their own injury rates and compare them with those of their industry or state. The calculator is available at <http://data.bls.gov/iirc/>.

3. By government agencies such as OSHA and the National Institute for Occupational Safety and Health (NIOSH) to develop regulatory policy, standards, and guidance.

Example A: The Wyoming State Government used CFOI data to demonstrate the high rate of fatal work injuries in the state, which led its officials invite NIOSH to assist them in developing strategies to reduce fatalities in Wyoming.⁷

Example B: OSHA tracks its performance in part based on changes in BLS workplace safety and health statistics:

Despite OSHA's efforts, every year over 6,000 Americans die from workplace injuries . . . and 6 million people suffer non-fatal workplace injuries. These numbers are too high, because many workplace injuries and illnesses are predictable and preventable . . . To help [OSHA] accurately gauge the success of its endeavors, OSHA is developing a comprehensive performance measurement system that will shift the focus from tracking activities to monitoring results. ⁸

4. By public policy analysts and researchers to evaluate government safety and health program regulatory effectiveness.

Example A: Researchers Wayne Gray (Clark University) and John Mendeloff (University of Pittsburgh and the Rand Corporation) used SOII micro data to evaluate the effectiveness of OSHA's workplace inspections in reducing occupational injuries and illnesses in those establishments. BLS has a program that allows researchers, such as Gray and Mendeloff, to apply for access to data from individual establishments under strict confidentiality procedures, to conduct research such as this:

The injury information in all of our datasets came from confidential plant level injury data from the Bureau of Labor Statistics (BLS) Survey of Occupational Injuries and Illnesses. BLS collects data from hundreds of thousands of establishments each year in a stratified sampling process. . . Since we looked at changes in an establishments injuries over time, we focused on those establishments that have BLS injury data for consecutive years. . . We used the number of injuries with days away from work . . . during the year as our injury measure. ⁹

Example B: Researcher Morris Kleiner (University of Minnesota) used SOII and CFOI micro data to study the relationship between occupational licensing requirements and job safety in the construction trades, the results of which are forthcoming.

5. By public health officials and researchers to monitor trends in workplace injuries and illnesses.

Example A: The Council of State and Territorial Epidemiologists (CSTE), an organization providing technical advice and assistance on various public health issues, developed State Occupational Health Indicators, several of which rely on OSHA data. These indicators increase public and policy-maker attention to occupational health issues in the states

and assist in the allocation of public health resources to treat or mitigate injuries and illnesses in their respective states:

Work-related injuries are generally defined as injuries that result from single events such as falls, being struck or crushed by objects, electric shocks, or assaults. Work-related illnesses, such as asthma, silicosis and carpal tunnel syndrome, typically occur as the result of longer-term exposure to hazardous chemicals, physical hazards (e.g., radiation, noise), or repeated stress or strain at work. Infectious diseases also can be caused by workplace exposures. . . The Bureau of Labor Statistics (BLS) Annual Survey of Occupational Injuries and Illnesses (Annual Survey) provides yearly estimates of the numbers and incidence rates of work-related injuries and illnesses at national and state levels. Information is collected from a nationwide sample of employers on all work-related injuries and illnesses that result in death, lost work-time, medical treatment other than first aid, loss of consciousness, restriction of work activity, or transfer to another job. ¹⁰

Example B: Insurance agencies calculate workplace safety indices, such as the Liberty Mutual Workplace Safety Index:

Marking a 10-year milestone, the annual WSI combines information from Liberty Mutual, the U.S. Bureau of Labor Statistics (BLS), and the National Academy of Social Insurance to identify the top causes of serious workplace injuries. ¹¹

6. By researchers to identify factors associated with, and causes of, workplace injuries and illnesses.

Example A: The Rand Corporation used OSHA data to establish a correlation between substance abuse and workplace injuries, illnesses, and fatalities.

In 2005, private industry employers reported 1.2 million injuries and illnesses that required days away from work, representing 135.7 per 10,000 [full-time equivalent] workers. . . The same year, data from the Census of Fatal Occupational Injuries (CFOI) estimated that there were approximately four occupational-injury deaths per 100,000 employed workers, which represented a total of 5,702 such deaths that year. ¹²

Example B: Academic researchers perform studies relating the workplace injury and illness risk of industries or occupations to compensation received (termed “compensating differentials”). The estimates are used to calculate parameters that are used in safety and environmental cost-benefit analyses:

The results using the gender-specific injury measures are in stark contrast to those obtained for women using the standard industry risk measures. Estimates based on the U.S. Department of Labor, Bureau of Labor Statistics (BLS), industry injury and illness incidence rates do not indicate a significant wage-risk trade-off. These findings suggest that assigning industry risk measures to female workers without adjusting for gender differences in injury experience may lead to biased estimates of the returns to job risk and a misleading view of who bears injury risks in the workplace. ¹³

Example C: Researchers explore the contributing factors to occupational injuries resulting in at least one day away from work in the construction industry and recommend methods to address specific injury types:

In 1996 the US construction industry comprised 5.4% of the annual US employment but accounted for 7.8% of nonfatal occupational injuries and illnesses and 9.7% of cases involving at least a day away from work. ¹⁴

7. To identify vulnerable populations and health disparities.

Example A: At a National Action Summit for Latino Worker Health and Safety held in Texas in April 2010, both Department of Labor Secretary Hilda Solis and NIOSH Director John Howard cited CFOI statistics to emphasize the magnitude of Hispanic worker deaths.

But every day in this country is a tragedy for American workers and families. Every day in this country, more than 14 workers lose their lives in preventable workplace incidents—close to 100 every week. The Latino community is also touched, losing 14 workers every week. ¹⁵

Example B: NIOSH administers the Occupational Health Disparities Program designed to improve the surveillance of injuries to vulnerable populations. OSHA data provide broad measures of the disparate effects of fatal and nonfatal occupational injuries. NIOSH identifies research methods and designs new approaches to better assist these populations.

One of the central features of the contemporary U.S. workforce is that it is increasingly diverse, reflecting the changing demographic characteristics of the country. Health disparities, including those resulting from work exposures, exist across racial and ethnic populations. These disparities arise both from overrepresentation of racial and ethnic minority workers in the most hazardous industries and from the incomplete penetration of occupational health and safety interventions to certain worker populations. ¹⁶

8. To increase awareness and inform the general public about workplace injuries and illnesses.

Example A: CNN published a report on “The Most Dangerous Jobs in America”.

The blast killing 25 West Virginia coal miners was a reminder of the sacrifices workers make daily; more than 5,000 died in 2008. These are the most treacherous jobs, according to the Bureau of Labor Statistics. ¹⁷

Example B: For the past 20 years, the AFL-CIO has produced a report on the state of safety and health protections for Americas workers. The report includes extensive data from the SOII and CFOI programs:

This 2011 edition of Death on the Job: The Toll of Neglect marks the 20th year the AFL-CIO has produced a report on the state of safety and health protections for Americas workers. . . This year is historic for worker safety and health. It is the 100th anniversary of the Triangle Shirtwaist Factory fire, where 146 workers—most of them young immigrant women—were killed, trapped behind locked doors with no way to escape. This year is also the 40th anniversary of the establishment of the Occupational Safety and Health Administration (OSHA) and the right of workers to a safe job. . . In 2009, 4,340 workers lost their lives on the job as a result of traumatic injuries, according to preliminary data from the Bureau of Labor Statistics (BLS). Each day in this country, on average 12 workers die because of job injuries—women and men who go to work, never to return home to their families and loved ones. . . In 2009, more than 4.1 million workers across all industries, including state and local government, had work-related injuries and illnesses that were reported by employers, with 3.3 million injuries and illnesses reported in private industry. ¹⁸

9. By researchers to improve data quality and assess the internal validity of data.

Example A: Private researchers compare and study the strengths and weaknesses of occupational safety and health data collection methodologies to one another:

Setting priorities for workplace health and safety research depends upon accurate and reliable injury and illness data. All occupational health databases have limitations when used to summarize the national scope of workplace hazards. The comparison of data from multiple sources may produce more credible estimates of the leading occupational injuries and illnesses. The purpose of this paper is to describe the

*strengths and weaknesses of six data collection systems that record occupational injuries and illnesses on a national level and to compare the leading estimates from these systems [including] the Bureau of Labor Statistics Census of Fatal Occupational Injuries [and] The Bureau of Labor Statistics [Survey of Occupational Injuries and Illnesses].*¹⁹

Example B: Insurance agencies such as Liberty Mutual compare the injury, illness, and fatality rates of their insureds (obtained through Workers Compensation claims) to BLS rates (obtained through SOII and CFOI).

10. As a tool to classify data in databases of workplace injuries

Example A: The Occupational Injury and Illness Classification System, developed and updated by the OSHA program, is used by firms in the insurance industry to classify the details of workers compensation cases. Information about the classification system is available at <http://www.bls.gov/iif/oshciics.htm>.

These examples show how the BLS Occupational Safety and Health data provide important information that helps users understand and improve the safety of the nation's workers. These data potentially affect large federal budgetary allocations and enforcement mechanisms (examples 1 and 3). They assist researchers in the private and public sector to assess the effectiveness of workplace safety programs, identify long-term trends, and isolate sources and events that lead to occupational injuries, illnesses, and fatalities (4, 5, and 6). Users apply BLS systems, tools, and data to classify or calibrate their own statistics (9 and 10). Individual data users apply the prevailing injury rate within their industry or sector of the economy to assess their own safety and health performance (2). Media outlets use BLS data to increase the awareness of the general public about workplace safety and health (8); more specialized interest groups use our data to call attention to segments of the workforce that are more at risk than others (7). The BLS Occupational Safety and Health Statistics program provides a reliable and timely source for concrete, unbiased statistics that ultimately affects the entire American workforce.

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Notes

1 More information on the Survey of Occupational Injuries and Illnesses and the Census of Fatal Occupational Injuries can be found at on the Injuries, Illnesses, and Fatalities page of the BLS website at www.bls.gov/iif.

2 Testimony of David Michaels, Assistant Secretary for Occupational Safety and Health, U.S. Department of Labor, before the Committee on Health, Education, Labor and Pensions, U.S. Senate, April 27, 2010, http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=TESTIMONIES&p_id=1122.

3 Rich Christianson, "Musculoskeletal Disorders on Decline, According to BLS," *Wood & Wood Products*, June 2001, <http://www.allbusiness.com/human-resources/workplace-health-safety/796337-1.html>.

4 Testimony of Eric Frumin, health and safety coordinator, Change to Win, *Improving Oshas Enhanced Enforcement Program: Hearing before the Subcommittee on Workforce Protections, Committee on Education and Labor, U.S. House of Representatives, 111th Congress, April 30, 2009*, Serial no. 111-18 (Washington, DC: U.S. Government Printing Office, 2009), <http://www.gpoaccess.gov/congress/house/education/index.html>.

5 "MNAs Shogren Testifies Before U.S. Senate Committee on Safe Patient Handling," *Minnesota Nursing Accent*, 83, no. 1 (January-February 2011), <http://www.mnnurses.org/sites/default/files/documents/MN%20Accent%20January%3AFebruary%202011.pdf>.

6 See DOL *Annual Report, Fiscal Year 2007 Performance and Accountability Report* (U.S. Department of Labor, 2007), http://www.dol.gov/_sec/media/reports/annual2007/main.htm.

7 Centers for Disease Control and Prevention, Fatality Assessment and Control Evaluation Program, <http://www2a.cdc.gov/NIOSH-FACE/state.asp?Category=0000&Category2=ALL&State=WY&Submit=Submit>.

8 *The New OSHA: Reinventing Worker Safety and Health*, <http://govinfo.library.unt.edu/npr/initiati/common/reinvent-.htm>.

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- 11 Liberty Mutual Research Institute for Safety, Workplace Safety Index, <http://www.libertymutualgroup.com/omapps/ContentServer?pagename=LMDGroup/Views/LMG&ft=2&fid=1138356633468&ln=en>.
- 12 Rajeev Ramchand, Amanda Pomeroy, and Jeremy Arkes, *The Effects of Substance Abuse on Workplace Injuries* (Santa Monica, CA: Rand Corporation, 2009), http://www.rand.org/pubs/occasional_papers/2009/RAND_OP247.pdf.
- 13 Joni Hersch, "Compensating Differentials for Gender-Specific Job Injury Risks," *American Economic Review* 88, no. 3 (June 1998), 598–607.
- 14 Theodore K. Courtney, Simon Matz, and Barbara S. Webster, "Disabling Occupational Injury in the US Construction Industry, 1996," *Journal of Occupational & Environmental Medicine* 44, no. 12 (December 2002), 1161–1168, http://journals.lww.com/joem/Abstract/2002/12000/Disabling_Occupational_Injury_in_the_US.10.aspx.
- 15 *Remarks of Secretary of Labor Hilda Solis at the National Action Summit for Latino Worker Health and Safety, April 2010* (U.S. Department of labor, April 14, 2010), http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=SPEECHES&p_id=2146.
- 16 National Institute for Occupational Safety and Health, Occupational Health Disparities program, <http://www.cdc.gov/niosh/programs/ohd/>.
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- 18 AFL-CIO, "Death on the Job Report, 2011," available at http://www.aflcio.org/issues/safety/memorial/doj_2011.cfm.
- 19 Patrice L. Murphy, Gary S. Sorock, Theodore K. Courtney, Barbara S. Webster, and Tom B. Leamon, "Injury and Illness in the American Workplace: A Comparison of Data Sources," *American Journal of Industrial Medicine* 30, no. 2 (August 1996), 130–141.