The Liberty Mutual Workplace Safety Index

The Liberty Mutual Workplace Safety Index is produced annually and identifies the 10 leading causes of the most disabling U.S. workplace injuries based on data reported from 1998 (the baseline year for Workplace Safety Index data) through the most recent year for which data are available. The Workplace Safety Index captures cost trends for the overall and leading causes of the most disabling injuries with "most disabling" defined as those injuries that cause an employee to miss six or more days from work.

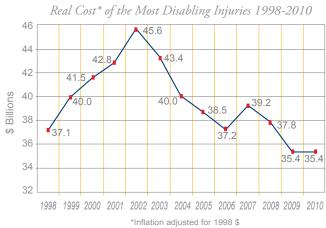
The Workplace Safety Index combines cost data from Liberty Mutual's workers compensation claims with frequency data from the U.S. Department of Labor's Bureau of Labor Statistics (BLS) annual survey of U.S. occupational injuries and national estimates of the cost of workers compensation benefits from the National Academy of Social Insurance (NASI). NASI includes cost data from a broad range of insurers. By including NASI data, the Workplace Safety Index covers groups missed by the BLS survey and be more representative of the national experience of disabling occupational injuries.

2012 Liberty Mutual Workplace Safety Index



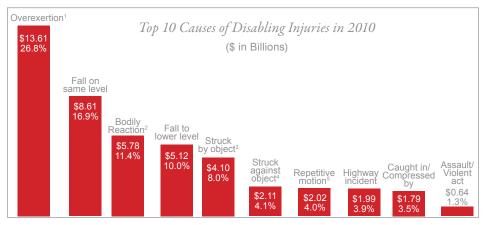
According to the 2012 Liberty Mutual Workplace Safety Index, the most disabling workplace injuries and illnesses in 2010 amounted to \$51.1 billion in direct US workers compensation costs. After adjusting for inflation, this year's costs decreased negligibly, down only 0.1 percent from 2009. The annual Workplace Safety Index identifies the leading causes of serious non-fatal workplace injuries based on information from Liberty Mutual workers compensation insurance claims, the US Bureau of Labor Statistics (BLS), and the National Academy of Social

Insurance. Using injury-event definitions developed by the BLS, researchers collect data about injuries that cause an employee to miss six or more days from work, and rank those injuries according to total workers compensation costs. The latest Workplace Safety Index provides statistics for injuries that occurred in 2010, the most recent year for which data are available.



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- ¹Overexertion Injuries from excessive lifting, pushing, pulling, holding, carrying, throwing
- ²Bodily reaction Injuries from bending, climbing, reaching, standing, sitting, slipping or tripping without falling
- ³Struck by object Such as a tool falling on a worker from above
- ⁴Struck against object Such as a worker walking into a door
- ⁵Repetitive motion Injuries due to repeated stress or strain

Top Five Injury Causes

The top five injury causes—overexertion, fall on same level, bodily reaction, fall to lower level, and struck by object—accounted for 73.1 percent of the total 2010 cost burden. Overexertion maintained its first-place rank. This event category, which includes injuries related to lifting, pushing, pulling, holding, carrying, or throwing, cost businesses \$13.61 billion in direct costs and accounted for more than a quarter of the overall national burden. Fall on same level ranked second as a leading cause of disabling injury. With direct costs of \$8.61 billion, this category accounted for 16.9 percent of the total injury burden. Bodily reaction, which

includes injuries resulting from free bodily motion, such as bending, climbing, reaching, standing, sitting, and slipping or tripping without falling, ranked third at \$5.78 billion in costs. *Fall to lower level* ranked fourth at \$5.12 billion. *Struck by object* took the fifth-place ranking at \$4.10 billion.

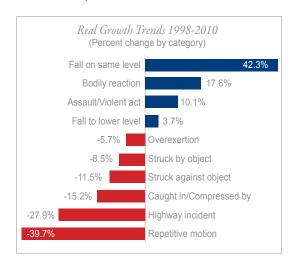
Remaining Injury Causes

The remaining five injury causes in the top ten each accounted for less than 5.0 percent of the direct cost of disabling injuries in 2010. *Struck against object* accounted for 4.1 percent at \$2.11 billion; *repetitive motion*, with related injuries, accounted for 4.0 percent of the cost burden at \$2.02 billion; *highway incident* represented 3.9 percent of the total injury burden at \$1.99 billion; *caught in/compressed by* (injuries resulting from workers being caught in or compressed by equipment or objects) accounted for 3.5 percent of the total injury burden at \$1.79 billion; and *assault/violent act* accounted for 1.3 percent at \$0.64 billion.

Overall, the top ten cause categories comprised 89.9 percent of the entire cost burden of disabling work-related injuries in 2010.

Real Growth Trends 1998 to 2010

The overall real (inflation-adjusted) direct costs of disabling workplace injuries decreased 4.7 percent between 1998 and 2010. However, for injuries caused by a *fall on the same level*, the direct cost burden of the most disabling injuries increased by nearly two billion dollars. Two categories also declined substantially. *Repetitive motion* injuries decreased by nearly one billion dollars, and *highway incident* decreased by half a billion during this same period. All three categories experienced gradual and continual shifts in cost over a five-year period or longer.



To learn more about the Liberty Mutual Research Institute for Safety and its programs, or to download Scientific Updates and our Annual Report of Scientific Activities, visit our website at www.libertymutual.com/researchinstitute.

