

Annual price tag for nonfatal injuries in the US tops \$1.8 trillion

October 8 2018



Nonfatal injuries in the US cost \$1.8 trillion in 2013, new analysis from Brown University finds. Credit: Brown University

A new analysis by researchers from Brown University and the Pacific Institute for Research and Evaluation has found that nonfatal injuries in

the U.S. in the year 2013 cost more than \$1.8 trillion.

And nearly all injuries are preventable, said Dr. Mark Zonfrillo, an associate professor at Brown University's Warren Alpert Medical School and a pediatric emergency medicine physician at Hasbro Children's Hospital.

The study, led by Zonfrillo, found that in 2013 about one in 10 individuals in the U.S. was treated for an [injury](#) at a hospital, resulting in an annual cost of \$1.853 trillion. The findings were published on Monday, Oct. 8, in the journal *Injury Epidemiology*.

The team analyzed anonymized data from hospital-treated nonfatal injuries and determined three different [costs](#) for the 31,038,072 injuries: total medical spending, work lost, and decreased quality of life. Medical spending—which included costs such as hospital and home care, emergency transportation, medicines and physical therapy—cost \$168 billion. Future lost work from permanent disability cost \$223 billion, and quality of life losses cost \$1.46 trillion.

"Having an economic analysis that focuses on the burden of injury from the perspective of not only acute [medical costs](#), but also ongoing costs like quality of life, raises awareness around injury and the importance of injury-prevention efforts," Zonfrillo said. "These injuries are preventable, and quantifying the costs is one strategy to encourage societal injury prevention efforts."

Injury prevention depends on engineering, education, economics and enforcement, he said. For example, a well-designed child car seat is of limited use if it's not used consistently or properly. On the enforcement side, Zonfrillo said a common reason people give for not using safety devices, such as bicycle helmet, or not behaving safely, such as putting their cellphone away while driving, is "if it was important enough, it

would be a law.' Laws are powerful—legislation has absolutely been shown to reduce deaths caused by injuries."

Previous analyses of injury costs have focused only on certain populations, such as children or Medicaid recipients, included medical treatment costs only or used much older data sets, Zonfrillo said.

In addition to the total cost of injury, the researchers looked at the data by various categories including age, household income, region and cause of the injury. Injuries caused by falls and being hit by objects were the most common in all age groups. On the other hand, near drownings, firearm-related injuries and self-harm injuries were less common, but more expensive.

The study found the following, among many other key data points:

- 12.08 million injuries were caused by falls or being hit by an object accidentally, which cost almost \$808 billion in total (an average of \$66,857 per injury); an additional 654,688 assaults involved hitting with an object or pushing, which cost \$67.66 billion (average \$103,352 each)
- 3.08 million injuries were caused by car-related accidents—whether to a vehicle occupant, pedestrian or cyclist—and these cost \$207 billion (average \$67,163)
- 10,772 near drownings—including accidents, self-harm, assaults and those of unspecified intent—cost \$3.89 billion (average \$361,354)
- 74,072 firearm-related injuries cost \$16.32 billion (average \$220,380)
- 437,963 self-harm injuries cost \$30.17 billion (average \$68,894); poisonings were the most common (63.8 percent) but the least costly (average \$44,316); self-harm injuries excluding poisonings cost an average of \$112,222 each

- Children between the ages of 1 and 11 received injuries costing \$47,663, on average, which is the lowest for any age group; infants under the age of 1 were the costliest age group at \$97,623 each
- Households with incomes in the bottom 25 percent experienced more injuries, accounting for 30.8 percent of all injuries; households with incomes in the top 25 percent had slightly more expensive injuries, at \$64,950 per injury, compared to an average \$59,687 across all income levels
- 91.5 percent of patients with injuries were treated and released from the emergency room, while the remaining 8.5 percent were admitted to the hospital; patients who were admitted had far more costly injuries averaging \$343,535, compared to \$33,184; of that number, \$38,112 was from medical costs and \$305,423 from lost work and decreased quality of life due to disability
- Of the 8.5 percent of patients admitted to the hospital, 38.7 percent were admitted in the South, which is proportional to the percent of the U.S. population living in the region (37.4 percent); however injuries admitted to hospitals in the West were 11 percent more costly than average, both in terms of straight medical costs (19.8 percent) and lost work and decreased quality of life (10.4 percent)

More information: Mark R. Zonfrillo et al, Incidence and costs of injuries to children and adults in the United States, *Injury Epidemiology* (2018). [DOI: 10.1186/s40621-018-0167-6](https://doi.org/10.1186/s40621-018-0167-6)

Provided by Brown University

Citation: Annual price tag for nonfatal injuries in the US tops \$1.8 trillion (2018, October 8) retrieved 5 May 2024 from

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