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Motorcycle crashes cause 5 times as many deaths as car accidents, 6 times the health care costs

HEALTH SERVICES

Motorcycle accidents are costly in terms of lives and health care costs. Compared with car accidents, motorcycle accidents cause 3 times the injuries, 6 times the medical costs and 5 times the deaths, found new research in *CMAJ* (*Canadian Medical Association Journal*).

Despite better motor vehicle safety, injuries from motorcycle crashes have not improved.

Researchers looked at data on adults who presented to hospital for injuries from either a motorcycle or car crash between 2007 and 2013 in Ontario, Canada's largest province with a population of more than 13.6 million people. During the study period, 26 831 people were injured in motorcycle crashes and 281 826 injured in car crashes. People in motorcycle injuries were younger, with a mean age of 36 years, and more likely to be men (81%) than those injured in car accidents. Compared with car accidents, motorcycle accidents caused 3 times the injuries, 10 times the severity, 6 times the medical costs and 5 times the deaths. People with injuries from motorcycle crashes were much more likely to be hospitalized and to be admitted to the intensive care unit (ICU) compared with car crash victims.

"The main results of our study were that each motorcycle in Ontario causes 10 times the severe injuries, 5 times the deaths, and 6 times the medical costs of each automobile," says Daniel Pincus, author of the study, PhD candidate at Institute for Clinical Evaluative Sciences and an orthopedic resident physician at Sunnybrook Hospital. "We know that the additional risk associated with driving a motorcycle has not translated into improvements in motorcycle safety. So we

MEDICAL COSTS OF MOTORCYCLE CRASHES

Question

How do the costs of medical care provided after motorcycle crashes compare with the costs after automobile crashes?

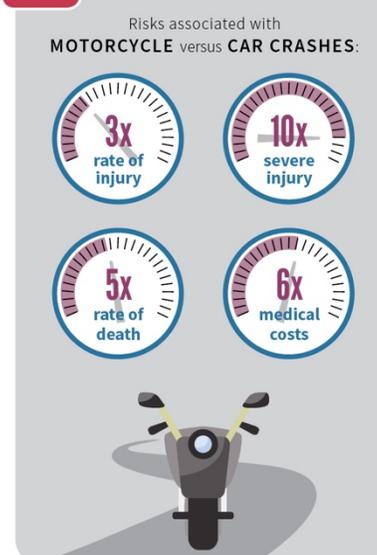
Background

- Although motor vehicle safety has improved in recent years, deaths and injuries from motorcycle crashes have not decreased.
- There is no reliable estimate of costs incurred by motorcycle crashes.

Study

- Population-based, matched cohort
- Adults in Ontario (2007–2013) who were hospitalized because of a motorcycle or automobile crash

Results



Interpretation

1. An understanding of the higher rate of injury and medical costs could inform public health strategy aimed at improving motorcycle safety.
2. Future research should investigate indirect or opportunity costs incurred by motorcycle crashes.

hope that estimating the medical costs of care for motorcycle crashes may provide an additional incentive to improve safety,” adds Pincus.

Before this study, there were no reliable estimates of medical costs from motorcycle accidents on a broader scale, as most calculations were from single hospitals.

“Although exact health care costs vary in other health care systems, we argue that the conclusions drawn from the relative comparison of motorcycle to automobile crashes apply beyond Canada to the rest of the developed world,” write the authors. “For example, in a privately funded health care system, insurance companies and individual providers may accept a larger share of the direct health care costs than we have estimated in this study.”

Limitations of the study include the inability to capture health care costs for outpatient rehabilitation for people with brain injury and other longer-term health needs. As they also could not capture health care spending by insurance companies and individuals or indirect costs such as missed workdays, the authors suggest that their cost estimates may be lower than in reality.

The study was conducted by researchers from the Institute for Clinical Evaluative Sciences, Sunnybrook Health Sciences Centre, Centre for Leading Injury Prevention Practice Education & Research and the University of Toronto.

“Direct medical costs of motorcycle crashes in Ontario” is published November 20, 2017.

MEDIA NOTE: Please use the following public links after the embargo lift:

Research: <http://www.cmaj.ca/lookup/doi/10.1503/cmaj.170337>

Infographic permanent link: www.cmaj.ca/lookup/suppl/doi:10.1503/cmaj.170337/-/DC1

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