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68% of deaths from gun use are from self-harm by older men in rural regions

Ontario study points to need for targeted prevention

A new study of gun injuries and deaths in Ontario found that 68% of deaths were from self-harm among older men in rural regions, pointing to the need for targeted prevention efforts. The study is published in CMAJ (Canadian Medical Association Journal). [VIEW EMBARGOED ARTICLE](#).

“This is equivalent to a firearm-related injury secondary to self-harm every 3 days; 92% of these injuries were fatal,” writes Dr. David Gomez, a trauma surgeon at St. Michael’s Hospital, Unity Health Toronto, adjunct staff scientist at ICES, and assistant professor at the University of Toronto, with coauthors.

In Canada, nonfatal firearm-related injuries are largely unmeasured.

To better understand injuries and deaths from firearms, a major burden to the health care system, researchers looked at data on all residents of Ontario with a valid OHIP number who were injured or died of gun injuries between 2002 and 2016. They categorized injuries as assault, unintentional (accidental), self-harm and undetermined intent. ICES provided data that was linked to other databases, including the Office of the Registrar General Deaths database, which captured deaths without a hospital visit.

Some findings:

- Injuries related to assault accounted for 40% of nonfatal injuries and 25% of deaths. Young men living in low income neighborhoods were overrepresented in this group.
- Injuries and deaths were higher in rural areas versus urban areas, largely owing to higher rates of self-harm in these regions.
- Injury patterns varied by age, with assault most common in people aged 15–34, and self-harm the most common injury among those aged 45 or older.
- Five of 10 Census divisions with the highest injury rate from assault were in the Greater Toronto Area and Hamilton.
- Firearm injury rates varied over time, with a high of 4.71 per 100 000 in 2005/06, after which rates declined, followed by an increase in the last 2 years of the study (3.51 per 100 000 in 2015/16). Both peaks were related to injuries from assault, as self-harm rates showed less variability.

Targeted initiatives are required to address the different causes of injuries in rural and urban regions.

“This urban–rural divide highlights the need for tailored interventions to address these 2 contrasting injury patterns,” write the authors. “Our findings highlight the need for suicide-prevention strategies in rural Ontario targeted at men aged 45 or older. Restricting access to lethal methods by such means as safe-storage campaigns and reduction in firearm ownership must go hand in hand with depression screening and treatment.”

“*Firearm-related injuries and deaths in Ontario, Canada, 2002–2016: a population-based study*” is published October 19, 2020.

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

Research: <http://www.cmaj.ca/lookup/doi/10.1503/cmaj.200722>

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