

Commercialization of cannabis linked to increased traffic injuries

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Annual rates of emergency department visits for cannabis-involved traffic injury increased by 475% over 11 years, according to a new study from The Ottawa Hospital, Bruyère Research Institute, and ICES.

The study examined cannabis-involvement in [emergency department](#) (ED) visits for [traffic injuries](#) between 2010 and 2021 and looked for changes after the legalization of cannabis in October 2018 and following the commercialization of the legal market (expanded [cannabis products](#) and [retail stores](#)), which overlapped with the COVID-19 pandemic.

"Our findings highlight a concerning increase in cannabis-involvement in traffic-injury emergency visits over time, with even sharper spikes following the phases of legalization and commercialization," says lead author and ICES post-doctoral trainee Dr. Daniel Myran, who is also a [family physician](#) and fellow at the Bruyère Research Institute and The Ottawa Hospital. "Conversely, alcohol-involvement in traffic injury ED visits did not increase over the study period, which suggests that legalization of cannabis has played an important role in rising rates."

While documented cannabis-involvement in traffic injuries ED visits were very rare, the data raise concern about potential broader increases in cannabis-impaired driving which may have accelerated after legal market expansion.

Published in *JAMA Network Open*, the researchers examined medical record data of 947,604 ED visits for traffic in Ontario, Canada. They included records from January 2010 and December 2021, but excluded ED visits from individuals who were younger than 16 (minimum legal age of driving) at the time of the ED visit.

Key findings include:

1. The number of cannabis-involved traffic injury ED visits increased significantly. Annual rates of visits surged by 475%, from 0.18 visits per 1,000 total motor vehicle collisions in 2010 to 1.01 in 2021.
2. Legalization of non-medical cannabis with restrictions was

associated with a 94% increase in the rate of cannabis-involved traffic injury ED visits compared to the pre-legalization period. The subsequent phase of commercialization, which overlapped with the COVID-19 pandemic, saw an even greater increase of 223% in rates compared to the pre-legalization period.

3. Male sex (assigned at birth), living in lower-income neighborhoods, being aged 19–21, and having a prior cannabis-related ED visit were associated with higher rates of ED visits.

"The observed increase in cannabis-involved traffic injuries might reflect broader trends in cannabis-impaired driving," says Dr. Myran. "The study highlights the need for enhanced prevention efforts, including targeted education and policy measures."

One limitation of the study is that ED staff may have been more aware of the potential for cannabis-related traffic injuries after legalization, leading to higher levels of testing for cannabis. The researchers believe that this would not have explained all the observed increase due to the severity of traffic injuries, which would be thoroughly investigated despite policy or testing procedure changes.

The authors caution that it is too soon to understand the impact of [cannabis](#) legalization on [road safety](#) particularly because of the enormous decline in driving and mobility during the pandemic, which overlapped with much of the [legalization](#) period.

More information: Cannabis-Involved Traffic Injury Emergency Department Visits After Cannabis Legalization and Commercialization, *JAMA Network Open* (2023). [DOI: 10.1001/jamanetworkopen.2023.31551](#)

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