

Informative Brief



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Cannabis Legalization and Injury Prevention

With the legalization of recreational cannabis underway in Canada, the Atlantic Collaborative on Injury Prevention (ACIP) recognizes the importance of legalization impacts on injury. To better understand the links between cannabis-use and injury, we have put together an informative brief. The informative brief provides: data on injuries in Canada, data on cannabis use in Canada, and evidence linking cannabis use and injury related risks. Lastly, principles to help guide policy actions to address impacts of cannabis use on injury prevention are outlined.

Atlantic Collaborative on Injury Prevention (ACIP)

ACIP is a non-profit organization of injury prevention representatives from both government and non-government agencies. Working together, ACIP provides evidence-based policy advice and support to governments, NGOs and other interested agencies from across Atlantic Canada in efforts to reduce the burden of injury across the region.

Injuries in Atlantic Canada

Preventable injury is the leading cause of death for Canadians ages one to 44 and claims the lives of more children in Canada than all other causes. In Atlantic Canada, close to 900 people die each year and over 15,000 people require medical attention for preventable injuries. Nearly 4,000 of these people suffer a permanent disability as a result of their injury. Atlantic Canadians are injured most from falls, transport injuries, and unintentional poisonings. In addition to the human suffering, the treatment of preventable injuries is one of the largest burdens on Atlantic Canada, costing our provinces almost \$2 billion per year combined.¹ Each of these preventable injuries leaves a lasting impact on individuals, families, communities, and society.

Cannabis use in Canada (data from 2015, published in 2017)

- Canada is ranked among the top countries for past-year cannabis use.²
- The prevalence of cannabis use in the past year was 12.3% among the general population (i.e. ages 15 and older).^{3,4}
- For youth ages 15-24, the rate of past year cannabis was 25.5%, which was over two times greater than adults ages 25+ at 9.9%.⁵
- The median age of first cannabis use is 17 years.⁶
- About 33% of the general population (i.e. ages 15 and older) who reported using cannabis in the past three months, also reported daily or almost daily use of cannabis.⁷

Break down of cannabis use by Atlantic province (data from 2015, published in 2017)

- In 2015, 14.4% of Nova Scotians reported using cannabis in the past year, which was significantly higher than the rest of the Atlantic Provinces.⁸
- The other Atlantic provinces ranked as follows (for prevalence of past year use of cannabis): Newfoundland and Labrador at 9.9%, New Brunswick at 9.0%, and Prince Edward Island at 8.2%.⁹

Evidence linking cannabis use and injury

Cannabis use has been linked to significant impacts on health, particularly among people who start to use cannabis early in life and/or use cannabis frequently.¹⁰ Below is a summary of the current evidence that best describes the associations between cannabis use and injury as studied from those jurisdictions that have legalized recreational cannabis use, and from lessons learned around alcohol and tobacco control.

Overall, studies have reported cannabis use causes acute impairment to various cognitive functions, including attention, decision making, concentration, reaction time, working memory, risk taking and impulsivity, and inhibition. These functions were considered impaired based on a dose dependent manner.¹¹

Motor vehicle collisions:

- A component of cannabis, known as THC, is associated with cognitive impairment to motor coordination which decreases driving performance.¹²
- There is a growing body of evidence demonstrating that recent use of cannabis THC before driving increases risk for motor vehicle crashes, particularly at higher concentrations of THC, compared to drivers who were drug free.¹³
- In fact, epidemiological studies have demonstrated that individuals who drive while impaired with cannabis double their risk of a motor vehicle crash.¹⁴
- The degrees of impairment (observed in laboratory or actual driving tests) after doses of up to 300 µg/kg THC were comparable levels of impairment experienced with alcohol doses reaching a BAC ≥ 0.05g/dl (i.e. the legal limit for driving under the influence in Canada, and most Western countries).¹⁵
- Compared to alcohol, the effects of cannabis use on motor vehicle related injuries is a significant adverse health outcome for public health, specifically regarding mortality in higher income countries.¹⁶

Workplace injuries:

- The effects of cannabis impairment on executive cognitive functions such as motor coordination, attention, and decision making, can create implications for workplace safety where operating a vehicle or heavy machinery is involved.¹⁷

Unintentional poisonings:

- A recent study in Colorado showed an increase in the number of emergency department visits of children due to ingestion were linked to cannabis ingestions (after legalization). Most of the ingested cannabis sources were edibles.¹⁸ In Colorado, the rate of cannabis exposure cases (mostly from edible products) captured by the regional poison center increased by 34% (from 2009-2015).¹⁹
- Many cannabis edible products are marketed as appetizing and indistinguishable from non-cannabis products, making them appealing, especially to younger people.²⁰

Co-substance use of cannabis and injury risk:

- When combined with the use of alcohol, cannabis has been reported to increase an individual's risk of being injured, compared to control groups where substances were not used. The combination of alcohol and cannabis use is concerning, especially when it comes to impaired driving.²¹
- Factors that are likely to increase the initiation of co-substance use include; availability of the drug, the use of other drugs such as alcohol and tobacco at an early age, and the social norms around alcohol and tobacco use.^{22,23,24}

Best practices and policies to address cannabis use and associated injury risks

ACIP recommends a public health approach to the legalization and regulation of cannabis in Canada. A public health approach is based on the assumptions that population level health effects of cannabis use are linked to the number of users, the potency and quantity of cannabis used, the frequency of use, and the context of use (such as driving).²⁵

Other jurisdictions that have adopted a legalization model for cannabis provide a growing body of evidence and context to support policy options that address cannabis use and injuries. Lessons learned from tobacco control and alcohol provide further insight into successful policies that have more control over risk factors that impact associated harms. Efforts to reduce population level consumption of cannabis use will decrease overall harms, including injury.

People are not affected by injury equally. High unintentional and intentional injury rates result from a complex interaction of the social determinants of health. These determinants include (but are not limited to) income, socio-economic status, education, housing conditions, etc. Therefore, it is important to ensure a social policy lens in any

regulatory framework for legalization of cannabis use, so as to not further marginalize vulnerable populations.²⁶

The Centre for Addiction and Mental Health (2014) offers guiding principles that best describe minimum requirements to inform and address cannabis use and injury. Using this CAMH resource along with information from the Task Force on Cannabis Legalization and Regulation (2016) Report, ACIP has adapted the principles to be specific to the injury prevention context as well as provided additional principles relevant to Atlantic Canada. These are as follows^{27,28}:

- **Minimum age for purchase (access) and consumption:** like tobacco control and alcohol policies, a minimum age for purchase and consumption helps to protect against injuries associated with cannabis use by delaying the age of first use, protecting critical stages of brain development among youth and impacts into adulthood, informs social norms and behaviours of use among high risk users, and prevents the harmful effects of advertising and marketing of products to children and youth.
- **Restrict distribution and sales:** restrictions on distribution of products and sales helps to control population level consumption, which protects against risk factors related to frequent consumption and over consumption. Restrictions in place on the distribution system and sale of products seeks to protect against co-substance use and normalization of use (i.e. cannabis should not be sold in the same stores as alcohol).
- **Limit availability:** like tobacco control and alcohol policies, limiting the availability of cannabis by limiting the density of outlets and restricting hours of sale will seek to reduce population consumption and associated harms.
- **Pricing:** pricing is key for reducing harms associated with cannabis use because the demand of cannabis from the illegal market must be curbed through demand from a legal/regulated market. It's important to deter people from criminalization and to deter the use of products associated with higher harms. This will help reduce the risks of violence and other social harms associated with illicit drug markets.
- **Limit higher-risk products and formulations:** this seeks to prevent products with higher potencies entering the market and is especially important in protecting high-risk users. It would also help limit the availability of products with a design appeal – for example edible cannabis in the form of candy, beverages, etc.
- **Restrictions on marketing, advertising, and sponsorship:** like tobacco, cannabis products should be sold in plain packaging to restrict the effects of marketing. Packaging should also include health warnings regarding the risks of use, including poisonings.
- **Clear packaging and display of product information:** products should undergo testing for the chemical contents. The chemical content should also be labeled and displayed on product packaging – for example the THC content.
- **Enforcement:** building the capacity to enforce regulations and compliance for operators, consumers, and manufacturers. Enforcement is also important for monitoring drug impaired driving, which has been strongly linked to serious injuries in the literature.
- **Invest in communication and public education:** public awareness and education is needed to communicate the risks associated with cannabis use. Targeted education and awareness is needed for higher risks groups such as youth.
- **Surveillance and research:** developing a monitoring system and/or linking with other injury data sources, will help define the issue of cannabis-related injury and is a foundational step to preventing cannabis-related injuries in the future. Gathering outcome indicators on the incidence, prevalence, and burden of injury can help describe any problem which may emerge and guide all partners in developing activities and policies to mitigate negative impacts – all important steps for research.²⁹
- **Coordinated and consistent efforts across Atlantic region:** Atlantic provinces should work together in developing regulations in response to cannabis legalization so that regulatory policies are consistent and aligned across each province.

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