



Cannabis

Introduction

Cannabis, more commonly called marijuana, is a tobacco-like greenish or brownish material consisting of the dried flowers, fruiting tops and leaves of the cannabis plant, *Cannabis sativa*. Hashish or cannabis resin is the dried brown or black resinous secretion of the flowering tops of the cannabis plant and can be further processed to produce hash oil, wax or shatter. There is preliminary evidence of higher risks of resins due to the higher concentrations of THC. Cannabis is usually smoked as a cigarette (“joint”) or smoked as resins in a pipe or bong, also known as “dabbing.”¹ Vaporizers are also used to reduce the toxins inhaled from cannabis smoke. Some individuals who use cannabis slice open and hollow out cigars and replace the tobacco with marijuana (called “blunts”). In some cases, joints and blunts may be laced with other substances, such as cocaine. Cannabis can also be baked into foods and orally ingested. Commonly used street names for cannabis include “weed,” “pot,” “herb,” “ganja,” “grass,” “Mary Jane” and “reefer.”

Illegal drugs, including cannabis, accounted for approximately \$8.2 billion (about 20%) of the nearly \$40 billion cost of substance abuse in Canada in 2002.² It is estimated that in 2017, Canadians spent around \$5.7 billion on medical and non-medical cannabis in Canada.³ According to the 2017 Canadian Cannabis Survey (CCS),* respondents who had used cannabis in the past year spent approximately \$75 every month on non-medical cannabis products.⁴

Key Points

- Cannabis is not a benign drug: there are risks and harms associated with its use.
- Cannabis use among the Canadian general population increased for the first time since 2008 in 2013 and again in 2015.
- Although cannabis use among Canadian youth aged 15-24 has been declining since 2008, their use is almost three times higher than that of adults.
- The rate of daily cannabis use among the Canadian general population remains steady.

Effects of Cannabis Use

Short-term: Cannabis produces euphoria and relaxation, changes in perception, time distortion and deficits in attention span. It also negatively impacts the ability to divide attention and results in deficits in memory, body tremors and impaired motor functioning. Cannabis also impairs coordination and balance. Other physical effects of recent cannabis use include increased heart rate and appetite, increased blood pressure, dilated pupils, red eyes, dry mouth and throat, and bronchodilation (expansion of breathing passages).^{5,6}

* The Canadian Cannabis Survey 2017 does not provide general population prevalence estimates on cannabis use, as the survey overrepresents the number of individuals who use cannabis.



Long-term: Chronic cannabis use is associated with deficits in memory, attention, psychomotor speed and executive functioning, particularly among those who started using cannabis during early adolescence.⁷ Chronic use of this drug can also increase the risk of psychosis, depression and anxiety, and breathing problems and respiratory conditions (e.g., aggravation of asthma).^{7,8} Use of cannabis during pregnancy – particularly heavy use – can affect children’s birthweight, cognitive functioning, behaviour, future substance use behaviour and mental health.⁹

Legal Status of Cannabis in Canada

Cannabis is currently a Schedule II drug under the *Controlled Drugs and Substances Act*, meaning that growing, possessing, distributing and selling cannabis are illegal. The possession of cannabis can result in less than five years’ imprisonment; its production can result in seven years’ imprisonment; and trafficking it can result in life imprisonment. A cannabis-related conviction results in a criminal record, which can affect education acceptance, employment and travel. In April 2017, the Government of Canada introduced Bill C-45, which, if passed, will create a new *Cannabis Control Act* that will legalize and regulate cannabis for adult use. The government plans to enact this legislation by late summer 2018. The federal bill establishes the legal framework for regulation, but most details about sales will be developed and implemented at the provincial, territorial and municipal levels.¹⁰

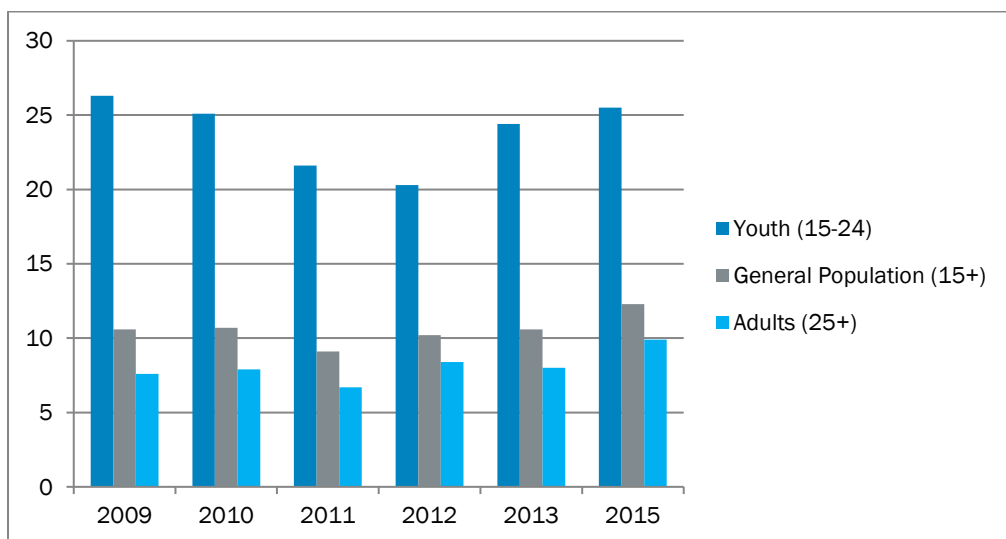
Driving while impaired by a drug, including cannabis, is an offence under the *Criminal Code* of Canada. Drivers who are impaired by drugs are subject to the same penalties as those impaired by alcohol. The government tabled Bill C-46 in April 2017 to strengthen the enforcement of impaired driving laws and also plans to enact this legislation in conjunction with the *Cannabis Control Act*.

Currently, Canadians can legally access cannabis for medical purposes. Under the *Marihuana for Medical Purposes Regulations* (MMPRs), all cannabis for medical use for those with a prescription from a doctor was to be obtained from a licensed producer authorized by Health Canada. However, a Supreme Court of Canada decision issued in February 2016 allowed those authorized to grow their own supply under the previous *Medical Marijuana Access Regulations* to continue doing so. Health Canada has replaced the MMPRs in light of this decision, with the *Access to Cannabis for Medical Purposes Regulations*.¹¹ According to recent statistics from Health Canada, 167,754 patients are registered with licensed producers.¹² The evidence on the efficacy and effectiveness of cannabis for medical purposes has been the focus of recent reviews.^{13,14}



Past-Year Use in Canada

Figure 1. Prevalence of self-reported cannabis use among Canadians by age category



Source: CADUMS 2008–2012, CTADS 2015

Note: Due to methodological differences between CADUMS and CTADS, comparisons of prevalence estimates between CADUMS (2008–2012) and CTADS data should be made with caution.

- **General population (age 15+):** The Canadian Tobacco, Alcohol and Drugs Survey (CTADS) reported that the prevalence of past-year use of cannabis among the general population was 12.3% in 2015, which is an increase from 2013 (10.6%).¹⁵
- **Adults (age 25+):** Among Canadian adults, 9.9% reported past-year use of cannabis in 2015, which represents an increase from the rate reported in 2013 (8.0%).¹⁵
- **Youth (age 15–24):** The rate of past-year cannabis use in 2015 was over two times higher among Canadian youth aged 15–24 compared to adults (25.5% vs. 9.9%). Among youth aged 15–19, the rate of past-year cannabis use in 2015 was 20.6%; the corresponding rate was 29.7% among young adults aged 20–24. On average, youth (15–19 years) initiated use of cannabis at 15.4 years, young adults (20–24 years) at 16.5 years and adults (over 25 years) at 18.8 years.¹⁵ Similar results were reported in the CCS 2017 in terms of age of initiation (18.7 years) and past year cannabis use which was two times higher among Canadians aged 16–24 compared to Canadians aged 25 years and older.⁴
- **Students (grades 7–12):** According to the Canadian Student Tobacco, Alcohol and Drugs Survey 2014–2015 (CSTADS), 16.5% of students from across Canada reported past-year use of cannabis, which is a decrease from rates reported in 2012–2013 (19.3%).¹⁶ Of those in grades 7 to 9, 5.7% reported past year use while 26.8% of those in grades 10 to 12 reported past year use. The average age of initiation was 14.2, with males on average initiating at age 14.1 and females at age 14.3.¹⁶ Provincial surveys of student drug use reveal that cannabis use increases with grade level. For instance, in 2014–2015, 1.2% of Canadian youth in Grade 7 reported using cannabis compared to 19.2% of those in Grade 10 and 33.0% of those in Grade 12 reporting past year use.¹⁶
- **Post-secondary students:** Data from the spring 2016 National College Health Assessment Survey, which is drawn from a convenience sample of 41 Canadian post-secondary institutions



and therefore not representative of all post-secondary students in Canada, indicates that 58.4% of post-secondary students had never used cannabis, 23.7% had used cannabis, but not in the past 30 days, 15.4% had used cannabis sometime in the past 30 days, while the remainder (2.5%) reported using cannabis daily.¹⁷

- **Gender:** Data from the 2015 CTADS indicate that the prevalence of past-year cannabis use was higher among males than females (14.9% vs. 9.7%). Prevalence of male use and female use increased from 2013 (13.9% and 7.4%, respectively).¹⁵ Similarly, CCS 2017 data revealed past-year cannabis use to be higher among male respondents than female respondents (26% and 18%, respectively).⁴
- **Daily use:** About 33% of Canadians aged 15 and older who used cannabis in the past three months in 2015 reported that they used this drug daily or almost daily, which was not a significant increase from the 27.7% in 2013. Of those who used in the past three months, 32.6% of youth age 15–19, 27.4% of young adults age 20–24 and 34.5% of those 25 and older reported daily or almost daily use.¹⁵ According to the CCS 2017, 18% of respondents who had used cannabis in the past 12 months reported daily cannabis use whereas 55% reported using cannabis less than three days per month.⁴
- **Methods of consumption:** More than one quarter (28%) of those who had used cannabis in the past year reported using a vaporizer to consume cannabis: 33.0% of youth aged 15–24 and 25.3% of adults aged 25 and older. ¹⁵ According to the CCS 2017, among respondents who had used cannabis in the past year, 94% reported smoking as the main method of consumption, followed by eating in food (34%) and then vaporizing (20% using a vape pen and 14% using a vaporizer). Vaping cannabis for non-medical reasons was considered to be completely acceptable by 26% of respondents aged 16 years and older.⁴
- **Obtaining cannabis:** According to the CCS 2017, respondents who had used cannabis in the past year were more likely to obtain cannabis from family, friends or acquaintances, as only 19% indicated obtaining cannabis from a dealer or dispensary.⁴ Furthermore, 73% of these respondents indicated someone else's home as the main location for obtaining cannabis.⁴
- **Provincial differences:** In 2015, the province with the lowest prevalence of past-year cannabis use was Prince Edward Island at 8.2%, while British Columbia had the highest prevalence at 17.3%. Newfoundland and Labrador, New Brunswick and Quebec had a prevalence rate of less than 10%, while the prevalence rates for Ontario, Manitoba, Nova Scotia, Saskatchewan and Alberta ranged between 10% and 14%.¹⁵
- **Attitudes toward cannabis (over 16 years):** Data from the CCS 2017 revealed that 28% of all surveyed respondents considered the recreational use of cannabis to be completely acceptable. Over three-quarters of all surveyed participants believed cannabis use could be habit forming (77%). Perceived benefits of cannabis use included positive effects on mood, anxiety, sleep and creativity, though most respondents perceived cannabis use to negatively impact thinking/decision making, attention, memory, and motivation/ambition.⁴

Past-Year Use among High-Risk Populations

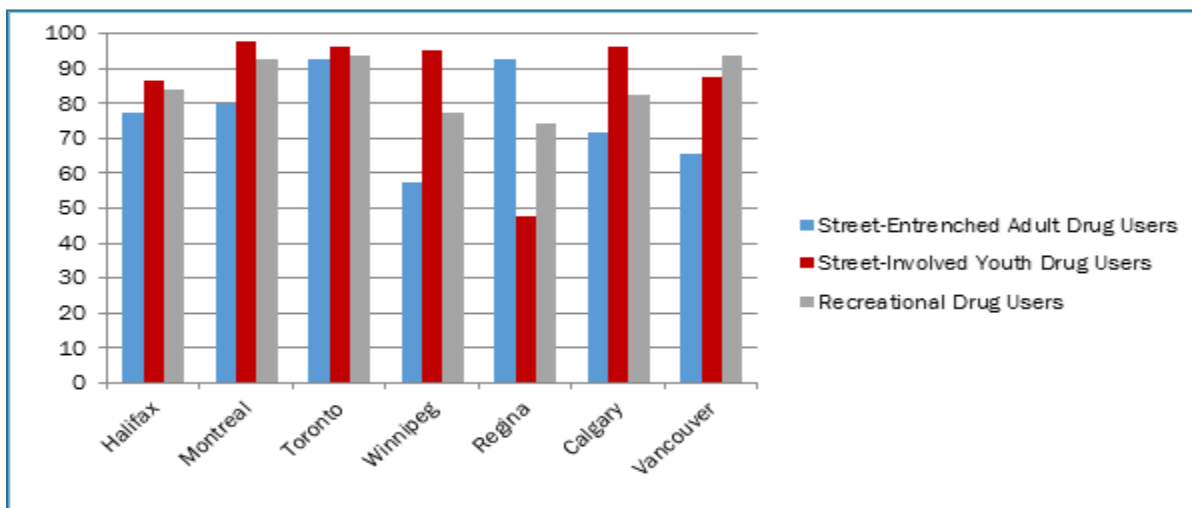
Data from Health Canada's Monitoring of Alcohol and Drug Use among High-Risk Populations Study (HRPS) considered three groups: recreational drug users, street-entrenched drug users and street-involved youth drug users.[†] The study found that cannabis was ranked first, after alcohol, for all

[†] **Recreational drug users** include individuals that were recruited at an event-specific site (e.g., rave, warehouse party) or permanent night club sites. To be included in the study, they had to have used at least one drug (excluding alcohol and tobacco) at least once in each of the last six months prior to each of the interviews.



three groups as the most used substance by the greatest proportion of users across all cities surveyed in 2012 and 2013. In some cases, cannabis was also the most used substance after alcohol in the participant’s lifetime. Figure 2 shows the prevalence of past-year cannabis use among these populations across the Canadian cities surveyed in 2013.¹⁸

Figure 2. Prevalence of past-year cannabis use among high-risk populations in 2013



Source: Monitoring of Alcohol and Drug Use among High-Risk Populations Study (HRPS), 2012–2013

Ranking among Top Five Substances

After alcohol, cannabis is the most commonly used substance in Canada according to data from the 2015 CTADS (see Table 1).

Table 1. Top five substances used in the past year by Canadians

	#1	#2	#3	#4	#5
General Population (15+)	Alcohol (76.9%)	Cannabis (12.3%)	Cocaine/Crack, Hallucinogens & Salvia (1.2%)	Ecstasy (0.7%)	Pharmaceutical to get high‡ (0.5%)*
Youth (15-24)	Alcohol (71.8%)	Cannabis (25.5%)	Cocaine/Crack (3.5%)*	Ecstasy (3.4%)*	Hallucinogens (2.7%)*
Adults (25+)	Alcohol (77.8%)	Cannabis (9.9%)	Hallucinogens and salvia (0.9%)*	Cocaine/Crack (0.8%)*	Pharmaceutical to get high (0.3%)*

Source: CTADS, 2015

Note: Figures identified with an asterisk should be interpreted with caution because of the small sample size.

Street-entrenched adults drug users include individuals 19 years of age or older with no permanent shelter. To be included in the study, they had to have used at least one drug (excluding alcohol and tobacco) at least once in each of the last six months prior to each of the interviews.

Street-involved youth drug users include individuals 15–24 years of age who might be experiencing total homelessness; have temporary, but not permanent, shelter; use services oriented to street youth; or were identified by local stakeholders as “street-involved.” To be included in the study, they had to have used at least one drug (excluding alcohol and tobacco) at least once in each of the last six months prior to each of the interviews.

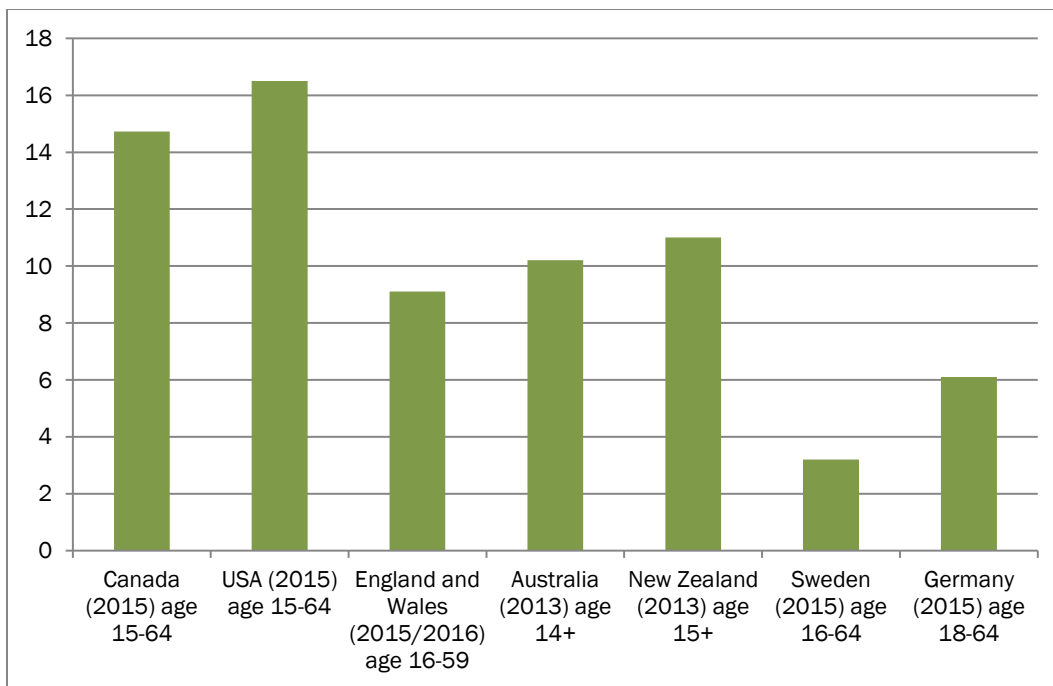
‡ Pharmaceuticals used to get high include any pharmaceutical such as pain relievers, sedatives and stimulants.



Past-Year Use of Cannabis Internationally

Canadians are among the highest past-year users of cannabis. Figure 3 presents data on the prevalence of self-reported past-year cannabis use for several countries as reported in the United Nations Office on Drugs and Crime (UNODC) *World Drug Report 2017* (see Figure 3).¹⁹ As this data is reported by individual member states based on different survey years and age ranges, the prevalence rates are not directly comparable. These estimates are based on annual report questionnaire data and other official sources.

Figure 3. Prevalence of self-reported past-year cannabis use among the general population by country



Source: UNODC World Drug Report (2017)

Since 2012, eight U.S. states plus the District of Columbia and Uruguay have passed legislation to legalize cannabis for personal use. Definitive conclusions about the impact of these policy changes on cannabis use and the cannabis market are not yet possible due to how recent the policy changes are and variations in the scope and quality of data collected.[§]

Associated Harms

Morbidity

Hospital administrative data provide an important measure of the impact of substance use on the healthcare system. Data collected by the Canadian Institute for Health Information indicate that the rate of hospital separations (defined as the departure of an inpatient from hospital, owing either to discharge** or death) where cannabis was recorded as the primary diagnosis doubled between 1996 and 2005, from 14 to 31 per 100,000.²⁰

§ Additional information on policy approaches to cannabis is available through CCSA's policy briefs and considerations publications, available at www.ccsa.ca/Eng/topics/Marijuana/Pages/default.aspx.

** Reasons for discharge include being discharged home, transfer to other hospitals, units or settings, absent without leave, leave of absence, discharged against medical advice, etc.



Between 2006 and 2011, cannabis increased as a reason for the use of hospital resources: hospital stays due to cannabis-related disorders (e.g., cardiovascular issues) increased by approximately 44% during this time and the number of days spent in the hospital due to cannabis-related disorders increased as well by 40%. This increase was mainly due to the increase in cannabis-related disorders among youth aged 15–24. Overall, the costs associated with hospitalization due to cannabis increased 52%, from approximately 9 million to 14 million during this time.²¹

Data from the 2012 Canadian Community Health Survey – Mental Health reported that 1.3% of Canadians aged 15 and older met the criteria for cannabis abuse or dependence during 2012. Males were found to have higher rates of abuse of or dependence on cannabis than did females (1.9% vs. 0.7%).²² According to Health Canada, among those who use cannabis, approximately 9% will develop a cannabis addiction, with risks increasing for individuals who begin using cannabis during adolescence (17%).²³

According to the 2012 Canadian Alcohol and Drug Monitoring Survey (CADUMS), 2.6% of Canadians reported driving within two hours of using cannabis during the past year,²⁴ which represents a modest decrease since 2008 (2.9%).²⁵ Rates of driving after using cannabis do not significantly differ between Canadian youth and adults; 5% of youth aged 15–24 reported engaging in such behaviour in 2012 compared to 7.6% among 25–34 year olds.²⁵

The results from a nighttime roadside survey conducted in British Columbia during 2012 revealed that 7.4% of drivers tested positive for at least one psychoactive substance (i.e., cannabis, opiates, cocaine, amphetamines, methamphetamine or benzodiazepines) other than alcohol.²⁶ This result reflects a downward trend from the 10.4% of drivers who tested positive for at least one psychoactive substance in 2008.²⁷ From 2010 to 2012, blood samples were collected from injured British Columbia drivers six hours following a crash to determine the presence of active drugs in their systems. Samples from 1,097 drivers aged 20 to 50 years were analyzed and 7.3% of them tested positive for recent cannabis use.²⁸

Cannabis accounted for nearly half of the drugs detected in 2012. Data from a recent roadside survey in Ontario revealed that marijuana was the most common illegal drug present among young drivers.²⁹ According to the 2017 CCS, 39% of respondents aged 16 and older who had used cannabis in the past year reported driving within two hours of cannabis use. Males were more likely to engage in this behaviour than females (45% and 31% respectively).⁴ Furthermore, 39% of these respondents also reported being a passenger in a vehicle operated by an individual who had recently used cannabis.⁴

Mortality

It is estimated that cannabis use can increase the risk of serious or fatal injury in a motor vehicle crash by 2 to 3 times,^{30, 31} although this could be a slight overestimation.³² A national study of fatally injured drivers in Canada reported that in 2014, between 36.2% and 47.7% of fatally injured drivers aged 16 to 45 who were tested for the presence of drugs were found to have tested positive for drugs in their system. Among the 342 drivers who were tested, 44.7% tested positive for cannabis. During a baseline period of 2006 to 2010, 36.3% of fatally injured drivers who were tested for drugs tested positive. Between 2011 and 2014, incidents of fatally injured drivers testing positive for drugs increased to 41.9%, a 15.4% increase from the previous baseline sample.^{33,††} In 2012, it is estimated that cannabis-attributable motor vehicle incidents accounted for 4,407 injuries and 75 deaths across all Canadian provinces, totalling an estimated \$1.09 billion in annual costs.³⁴

†† This study did not include data from British Columbia.



Treatment

According to the *National Treatment Indicators Report: 2014–2015 Data (2017)*,^{‡‡} cannabis was identified as the second most common substance for which treatment was sought in Ontario, accounting for 35.2% of treatment service events in 2014–2015, following alcohol (66.9%). In both Prince Edward Island and Nova Scotia, cannabis was the third most common substance for which treatment was sought.³⁵ When looking at the substance use history of those seeking treatment that year, cannabis was the second most common substance used in the 12 months preceding treatment in Alberta, Saskatchewan and Manitoba. This data was not available for all jurisdictions.³⁵

Enforcement

In 2016, police reported approximately 95,400 drug offences, of which 58% were cannabis-related incidents. There were a total of 44,301 arrests for possession of cannabis and 10,639 arrests related to production, trafficking and distribution of cannabis during 2016.³⁶ The 2016 arrests for cannabis possession decreased by 12% from the previous year as did the arrests for trafficking, production and distribution of cannabis by 4%.

In 2015, Canada seized^{§§} the following amount of cannabis herb:^{***}

- 955 capsules
- 1,004 litres
- 13,123.37 kilograms
- 725 tablets

In addition, a total of 618,863 cannabis plants were seized in 2015.¹⁹

Police reported 70,500 charges of alcohol- and drug-impaired driving in 2016, representing a decrease of 3% from the previous year.³⁶ Drug impairment accounted for approximately 4% of all impaired driving charges, with 3,098 violations in 2016, an increase of 343 from the previous year.^{†††} In 2015, Yukon had the highest rate of police-reported drug-impaired driving incidents, while Ontario had the lowest.³⁷

Additional Resources

- [Substance Abuse in Canada: The Effects of Cannabis Use during Adolescence](#)
- [A Guide to Facilitate Discussions about Youth Cannabis Use in Your Community](#)
- [Summary of Provincial and Territorial Cannabis Regulations](#)
- [Clearing the Smoke on Cannabis Series – Highlights](#)
- [Canadian Youth Perceptions on Cannabis](#)

^{‡‡} *Addiction Treatment in Canada: The National Treatment Indicators Report: 2014–2015 Data* provides 2014–2015 fiscal-year information on public, specialized substance use treatment from eight provinces (Newfoundland and Labrador, New Brunswick, Prince Edward Island, Nova Scotia, Ontario, Manitoba, Saskatchewan and Alberta) one territory (Yukon) and three federal organizations (First Nations and Inuit Health Branch, National Youth Solvent Abuse Program and National Native Alcohol and Drug Abuse Program).

^{§§} It is unclear the extent to which seizure data accurately reflects illegal activity level.

^{***} Reporting of cannabis seizures has changed since previous reporting. Definitions for each measurement are not available. Please see www.unodc.org/wdr2017/ for more information.

^{†††} In Canada, driving while impaired by drugs or alcohol is the same offence. This means it is difficult to calculate the exact number of offences that were alcohol related, drug related or both.



- [Impaired Driving in Canada \(Topic Summary\)](#)
- [Drug-Impaired Driving Toolkit](#)
- [Marijuana for Non-Therapeutic Purposes \(Policy Brief\)](#)
- [Marijuana for Medical Purposes \(Policy Brief\)](#)
- [Drug-impaired driving infographic](#)
- [Health effects of cannabis infographic](#)
- [Marijuana fact and fiction infographic](#)
- [Cost of cannabis collisions infographic](#)

¹ National Institute on Drug Abuse (NIDA). (2015). *DrugFacts: Marijuana*. Retrieved March 15, 2016, from www.drugabuse.gov/publications/drugfacts/marijuana.

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⁴ Health Canada. (2017). *Canadian cannabis survey 2017 – Summary*. Ottawa, Ont.: Author. Retrieved April 9, 2018, from <https://www.canada.ca/en/health-canada/services/publications/drugs-health-products/canadian-cannabis-survey-2017-summary.html>.

⁵ Canadian Centre on Substance Abuse. (2016). *Clearing the smoke on cannabis: highlights – an update*. Ottawa, Ont.: Author.

⁶ Beirness, D.J., & Porath, A.J. (2017). *Clearing the smoke on cannabis: cannabis use and driving – an update*. Ottawa, Ont.: Canadian Centre on Substance Abuse.

⁷ McInnis, O., & Porath-Waller, A.J. (2016). *Clearing the smoke on cannabis: chronic use and cognitive functioning and mental health – an update*. Ottawa, Ont.: Canadian Centre on Substance Abuse.

⁸ McInnis, O.A., Plecas, D. (2016). *Clearing the smoke on cannabis: respiratory effects of cannabis smoking – an update*. Ottawa, Ont.: Canadian Centre on Substance Abuse.

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¹² Health Canada (2018). *Market data*. Ottawa, Ont.: Author. Retrieved March 19, 2018, from www.canada.ca/en/health-canada/services/drugs-health-products/medical-use-marijuana/licensed-producers/market-data.html.

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¹⁵ Statistics Canada. (2017). *Canadian Tobacco, Alcohol and Drugs Survey: Summary of results for 2015*. Ottawa, Ont.: Author. Retrieved April 28, 2017, from www.canada.ca/en/health-canada/services/canadian-tobacco-alcohol-drugs-survey/2015-summary.html?undefined&wbdisable=true.

¹⁶ Health Canada. (2016). *Summary of results: Canadian Student Tobacco, Alcohol and Drugs Survey 2014–2015*. Ottawa, Ont.: Author. Retrieved April 28, 2017, from www.canada.ca/en/health-canada/services/canadian-student-tobacco-alcohol-drugs-survey/2014-2015-supplementary-tables.html#t13.

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¹⁹ United Nations Office on Drugs and Crime. (2017). *World Drug Report 2017*. New York: United Nations. Retrieved: March 19, 2018, from www.unodc.org/wdr2017/.

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