

CANNABIS: What You Need to Know

Legislation: A brief history

The Cannabis Act Bill C-45

www.justice.gc.ca/eng/cj-jp/cannabis/

The Cannabis Act creates a strict legal framework for controlling the production, distribution, sale and possession of cannabis across Canada. The Government of Canada's goal for legalizing, strictly regulating, and restricting access to cannabis is to keep cannabis out of the hands of Canadian youth, and to prevent organized crime from continuing to profit from the illegal cannabis market. The new legal framework aims to take a public health approach to cannabis legalization and regulation.

The new law may:

- better prevent youth from accessing cannabis
- displace the illegal cannabis market
- protect public health and safety with product quality and safety requirements for cannabis

Research will need to be conducted to determine the effectiveness of the legislation in reducing access and in protecting public health and safety.

Amended Cannabis Regulations: Bill C-45

Amendments permit the legal production and sale of diverse cannabis products commencing Oct 17th 2019: Three new cannabis products:

- Edible cannabis, such as baked goods and beverages
- Cannabis extracts, such as vaping liquids, tinctures, wax, hash and cannabis oil
- Cannabis topicals, such as creams, lotions and balms, and similar products that are meant to be applied to a person's skin, hair or nails

Highlights of Amended Cannabis Regulations: 2019

To minimize the risks of overconsumption, Health Canada is setting strict THC limits for all the new cannabis products:

- Maximum of **10 mg** of THC per package of edible cannabis
- Maximum of **10 mg** of THC per unit (such as capsule) or dispensed amount of ingested cannabis extract AND maximum of **1000 mg** of THC per package of cannabis extract (ingested or inhaled)
- Maximum of **1000 mg** of THC per package of cannabis topical

Aspects of the Amended Regulation include:

- Controls to reduce appeal to youth
- Controls to reduce the risk of contamination and food-borne illness, and support the production of quality-controlled cannabis products
- Address timing of product availability



Standardized cannabis symbol for products containing THC

Note: Bill C-46 deals with impaired driving associated with cannabis. It will allow for the creation of offences for impaired driving due to cannabis and will permit biological sampling for drivers suspected of being impaired.

Subject to provincial or territorial restrictions, adults over 18 years of age would be able legally to:

- Possess up to 30 grams of legal cannabis, dried or equivalent in non-dried form in public
- Share up to 30 grams of legal cannabis with other adults

Subject to provincial or territorial restrictions, adults over 18 years of age would be able legally to:

- *Buy dried or fresh cannabis and cannabis oil from a provincially-licensed retailer*
In provinces and territories without a regulated retail framework, individuals would be able to purchase cannabis online from federally-licensed producers.

Subject to provincial or territorial restrictions, adults over 18 years of age would be able legally to:

- Grow, from licensed seed or seedlings, up to 4 cannabis plants per residence for personal use
- Make cannabis products, such as food and drinks, at home as long as organic solvents are not used to create concentrated products

Cannabis edible products and concentrates will be legal and for sale approximately one year after the Cannabis Act has come into force on October 17th, 2018.

Prevalence of Cannabis Use

Cannabis has been used for > 10,000 years, globally 2.5 % of the population use cannabis.

Canada has one of the highest rates of cannabis use. According to the National Cannabis Survey, first quarter 2018 - 14% of the population used cannabis in the past 3 months (> age 15 years).

According to the Canadian Tobacco, Alcohol and Other Drugs survey 2017, 15% of Canadians aged 15 and older reported using cannabis in the past year.

- 15% in 2017

- 12% in 2015
- 11% in 2013
- 10% in 2012

Cannabis is the most used non-prescription drug in the CAF according to the DND survey. It is still lower than the Canadian population.

According to the **2013/14 Health and Lifestyle Information survey** Regular Force report, 12% of CAF personnel reported using drugs for recreational (non-medical) purposes. Marijuana or hashish use was reported by 3.9% of CAF personnel. This is low compared to the Canadian population. The lower prevalence may be due to a reluctance to report due to fear of repercussions in spite of anonymity of the survey.

<http://cmp-cpm.mil.ca/en/health/reports-pubs/health-lifestyle-info-survey.page>

What Is Cannabis

Cannabis refers to the plant species *Cannabis sativa*. The cannabis plant originally comes from Asia, but is now grown around the world, including in Canada. Cannabis is a tobacco like (green, brown) substance consisting of the dried flowers, fruiting tops and leaves of plants from the Cannabis family which contains hundreds of chemical substances, called **Cannabinoids**. Cannabinoids effect neuro-transmitter receptors in the brain and body. They can change how those cells behave and communicate with each other.

Cannabinoids are made and stored in the plant's trichomes. **Trichomes** are tiny, clear hairs that stick out from the flowers and leaves of the plant. **Terpenes** are chemicals made and stored in the trichomes of the cannabis plant, with the cannabinoids. Terpenes give cannabis its distinctive smell.

The two most commonly known cannabinoids are **Delta-9-Tetrahydrocannabinol (THC)** and **Cannabidiol (CBD)**.

Delta-9-Tetrahydrocannabinol (THC)

Cannabidiol (CBC)

<u>Mood-altering</u>	<u>Relaxing, calming</u>
<u>Gives the “high” or intoxication</u>	<u>No high or no intoxication</u>

THC

The most researched cannabinoid is **delta-9-tetrahydrocannabinol (THC)**. THC is responsible for the way your brain and body respond to cannabis, including the high and intoxication. THC has

some therapeutic effects but it also has harmful effects. Harmful effects may be greater when the strength of THC is higher. The potency (concentration or strength) of THC in cannabis is often shown as a percentage of THC by weight (or by volume of an oil). THC potency in dried cannabis has increased from an average of 3% in the 1980s to around 15% today. Some strains can have an average as high as 30% THC. Cannabis that contains very low amounts of THC in its flowers and leaves (less than 0.3%) is classified as hemp.

[CBD](#)

Cannabidiol (CBD) is another cannabinoid. Unlike THC, CBD does not produce a high or intoxication. There is some evidence that CBD may block or lower some of the effects of THC on the mind. This may occur when the amount of CBD in the cannabis is the same or higher than the amount of THC. CBD is also being studied for its possible therapeutic uses.

[THC vs CBD](#)

You can consider THC for instance being the accelerator of the car, and CBD the brakes. They are two different compounds within cannabis with completely different effects. So on the whole, we can't say marijuana is all dangerous, there's some bits of it, compounds like CBD that are being used for medicinal effects. However, knowing the difference and knowing the combinations and understanding the risk is very important in young people and older people.

Most cannabis products come from or can be made using the flowers and leaves of the cannabis plant. Depending on how they are made, these products can have a range of potencies of THC. **This table lists the main forms of cannabis and typical potencies of THC.**

Cannabis: Form and Potency

Form	Description	THC potency
Chemically concentrated extracts (e.g., hash oil/shatter/budder/wax)	Highly concentrated cannabis extract dissolved in petroleum-based solvent (e.g., butane). Shatter, budder and wax most highly concentrated.	Up to 90%
Physically concentrated extracts (e.g., hash/kief)	Loose trichomes or pressed resin from the cannabis plant.	Up to 60%
Fresh or dried herbal material	Flowers and leaves from the cannabis plant	Up to 30%
Cannabis oil	Cannabis extract dissolved in oil. Can be used to make other forms (e.g., edibles).	Up to 3%
Edibles	Foods and drinks containing extracts of cannabis	Depends on the amount of extract added
Tinctures/sprays	Cannabis extract dissolved in a solvent, often alcohol. Can be used to make other products (e.g., edibles).	Varies
Creams/salves/liniments	Cannabis extract preparation prepared with alcohol, oil or wax and applied to the skin.	Varies

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30% THC. Cannabis that contains very low amounts of THC in its flowers and leaves (less than 0.3%) is classified as hemp.

What about Synthetic Cannabis?

Products known as synthetic cannabis (K2, Spice) are not cannabis. They are dried plant matter sprayed or coated with man-made hallucinatory substances that can mimic THC.

Use can lead to severe health problems, such as seizures, irregular heartbeat, hallucinations and, in rare cases, death. Avoid using synthetic cannabis products, which are illegal.

Signs of Cannabis Use Could Include:

- Odor of cannabis
- Glassy or red eyes
- Unusual talkativeness
- Slow reaction
- Inattention
- Lethargy
- Unsteady gait
- Poor coordination
- Anxiety

How is Cannabis Used?

SMOKING

Method	Time to effect	Health
Joints, Pipes Blunts <ul style="list-style-type: none">• Material from the plant is burned and smoke is inhaled	<ul style="list-style-type: none">• Seconds to minutes• Effects can last from 6 to 24 hours	<ul style="list-style-type: none">• Smoke of any kind irritates the lungs & contains cancer causing chemicals• Smoking around others exposes them to second hand smoke
Waterpipes, bongs <ul style="list-style-type: none">• Smoke goes through water before it is inhaled		



VAPING

Method	Time to effect	Health
E-cigarettes, vape pens, vaporizers <ul style="list-style-type: none">• THC extract is heated and the vapor is inhaled	<ul style="list-style-type: none">• Seconds to minutes• Effects can last from 6 to 24 hours	<ul style="list-style-type: none">• Safety is unknown• Can have high levels of THC and other chemicals which can be dangerous• Tools for vaping are not regulated for health and safety



EATING OR DRINKING

Method	Time to effect	Health
Cannabis infused edibles or drinks <ul style="list-style-type: none"> • THC extract is added to food or drinks to be digested. 	<ul style="list-style-type: none"> • 30 minutes to 3-4 hours • Effects can last from 8 to 24 hours 	<ul style="list-style-type: none"> • The body slowly digests edibles so it takes longer to feel the effects • Need to wait before consuming additional edibles and use caution for > one serving



DABBING

Method	Time to effect	Health
Hash oil, dab, wax, shatter <ul style="list-style-type: none"> • THC extract is heated and the vapor is inhaled 	<ul style="list-style-type: none"> • Seconds to minutes • Effects can last from 6 to 24 hours 	<ul style="list-style-type: none"> • High potency • Can contain 60-80% THC



Health Effects: Short-Term

Every time cannabis is used it can:

- Cannabis can slow reaction times, lower one's ability to pay attention, and affects coordination¹ and affect learning and decision-making.²
- Using cannabis can reduce one's ability to perform well on the job or at school.
- Cannabis use can cause anxiety or panic and can cause psychosis.²
- Cannabis can trigger a psychotic episode (not knowing what is real, experiencing paranoia, having disorganized thoughts, and in some cases having hallucinations).²
- Impair one's ability to drive safely or operate equipment.

Using [cannabis and driving](#) can result in a car accident, serious injuries or death.

Note: Acute versus Residual effects:

- Acute effects: significant impairments in physical and mental functioning, often accompanied by changes in appearance and behaviour, which may be easily perceived by the individual or observers. Some observable acute effects may include: glassy or red eyes, unusual talkativeness, inattention, lethargy, unsteady gait, poor coordination, anxiety; and
- Residual effects: subtle impairments in physical and mental functioning, such as attention and judgement, which may not be perceived by the individual or observers.

Acute effects normally persist only a few hours, varying from 2-6 hours when inhaled, to up to 12 hours when ingested. Residual effects may persist as long as 24 hours. This is based on

healthy casual users consuming a moderate dose. Both acute and residual effects may be prolonged in frequent or heavy users, and longer when consumed with alcohol or other drugs which can delay absorption and/or elimination.

Cannabis Poisoning:

Accidental consumption (especially for children & pets)

- Products may be confused with similar non-cannabis products.

Consuming too much cannabis

- Especially with ingesting (eating or drinking) cannabis

Symptoms of poisoning include: chest pain, rapid heartbeat, nausea/vomiting, psychotic episode, respiratory depression, severe anxiety and/or panic attacks

Health Effects: Long-Term

Using cannabis regularly (daily or almost daily) and over a long time (several months or years) can:

- Damage the lungs and make it harder to breathe.
- Cannabis smoke contains many of the same harmful substances as tobacco smoke. Like smoking cigarettes, smoking cannabis can damage one's lungs.³
- Affect mental health.
- Using cannabis regularly and continuously over time can cause anxiety, depression, psychosis, and schizophrenia.⁴
- Higher-strength cannabis products (such as concentrates like "shatter", wax, dabs) can worsen the mental health effects of cannabis use.⁴
- Make one physically dependent or addicted.
- It is estimated that 1 out of 11 (or 9%) of those who use cannabis in their lifetime will become [addicted to cannabis](#).⁵
- This rate increases to 16% for those who start using cannabis during adolescence and up to 1 out of 2 people who smoke cannabis daily.⁵

Health Effects: Addiction

- Cannabis can be addictive.
- Frequent cannabis use that starts in adolescence, increases the chance of addiction.
- Close to 1 in 10 adults who have ever used cannabis will develop an addiction to it. This statistic rises to about 1 in 6 for people who started using cannabis as a teenager.
- Between 1 in 4 and 1 in 2 of those who smoke cannabis daily will develop an addiction to it.

How cannabis affects young peoples health:

- Cannabis use that begins early in adolescence, that is frequent and that continues over time is more likely to bring about harms. Some of those harms may never fully go away.

- [Youth are especially vulnerable to the effects of cannabis](#), as research shows the brain is not fully developed until around age 25. *The higher the amount of THC in cannabis, the more likely one is to be harmed by it.*

Health Effects: According to Sex

Males

- greater prevalence of problematic cannabis use

Females

- more sensitive to the effects of THC
- need less THC to achieve intoxication
- more likely to experience adverse effects related to acute cannabis consumption
- progress more quickly to dependence/addiction

More research is needed to explain sex-dependent differences relating to cannabis use

Driving While Impaired

Driving while impaired by cannabis can result in injury or death. Cannabis can impair the skills needed to drive safely. After alcohol, cannabis is the drug most often linked to car accidents. Cannabis can affect concentration, attention, coordination and slow reaction time. Drugs impair one's: balance and coordination, motor skills, judgement, reaction time, attention, decision-making skills

Using cannabis and driving increases the risk of having a car accident which can result in serious injuries or death. Using cannabis and drinking alcohol with or without the use of other drugs such as pain medications (opioids) and tranquilizers (benzodiazepines) further lowers one's ability to concentrate and react quickly to emergencies or in operational situations.

Don't drive high.

How long the impairing effects of cannabis last depends on how this substance was used (smoked, inhaled, ingested) and how much was taken, but the effects can last for several hours or longer after use. 50% of cannabis users don't think that drugs affect their driving much, while 1 in 5 don't think it has any negative effect at all. Over 1 in 3, 39% of those who have used cannabis in the past year have driven within two hours of consuming cannabis.

- 149 – Number of fatally injured Canadian drivers who tested positive for cannabis in 2014.
- 3,098 – Number of DID incidents reported in Canada in 2016.
- 2 in 5 – Approximate number of people who were a passenger in a vehicle driven by someone who had recently used cannabis.
- Every 3 hours – How often a drug-impaired driving offence is recorded in Canada
- Increases likelihood – Recent research shows a 1.3- to 3.0-fold increase in risk of a motor vehicle collisions after cannabis use.
- 1000\$ + a 1-year suspension – Minimum penalty if caught driving impaired

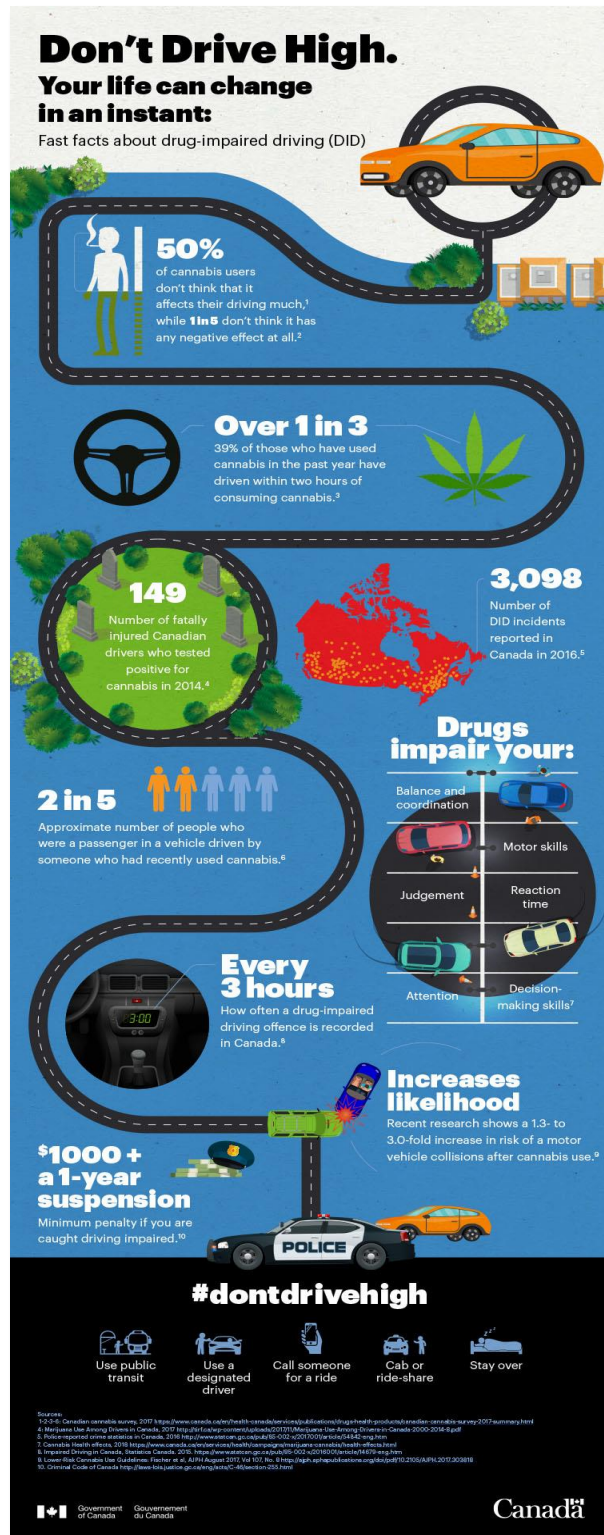
Government of Canada #dontdrivehigh Campaign

#dontdrivehigh Campaign

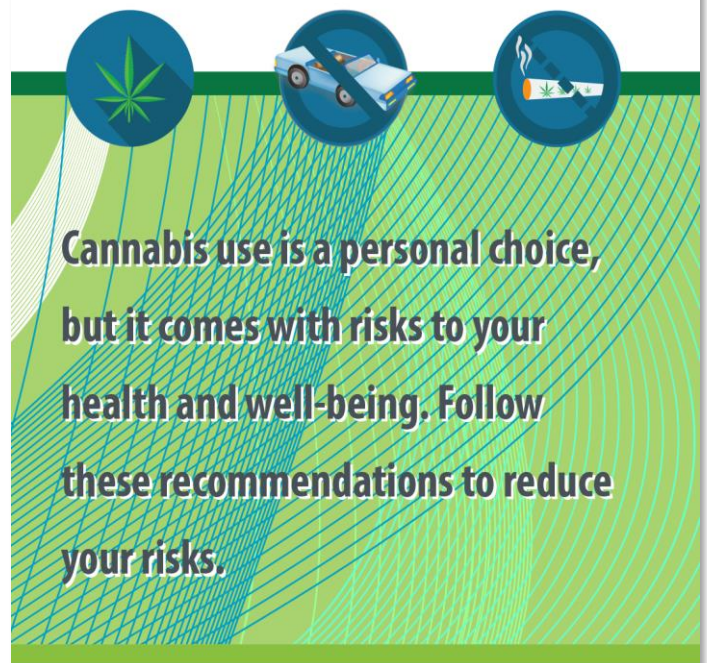
Use public transit
Cab or ride-share

Use a designated
Stay over

Call someone for a ride



Canada's Lower-Risk Cannabis Use Guidelines (LRCUG)



CANADIAN RESEARCH
INITIATIVE IN
SUBSTANCE MISUSE

INITIATIVE CANADIENNE
DE RECHERCHE
EN ABUS DE SUBSTANCE

Harm Reduction

Research continues to evolve regarding the potential harms associated with cannabis use, the likelihood of developing a problematic relationship with cannabis (cannabis use disorder (CUD)) depends on **four elements**:

1. Length and intensity of consumption: Longer, more intense consumption increases risk.
2. Potency of the product: Consuming high levels of THC is more addictive.
3. Individual Factors: Genetic or individual vulnerabilities such as personality or experiences of trauma can impact whether a person experiences harms.
4. Age of initiation: People who begin to consume cannabis at a young age (under 16) at a high frequency are at greater risk.

Source: Canadian Public Health Association. (2018). Cannabasics: Plant and Products Fact Sheet. December 18, 2018. <https://www.cpha.ca/Cannabasics> Retrieved June 2019.

Health Effects of New Products

If you choose to consume cannabis, know that:

- Everyone's response to cannabis can differ
- Effects can vary from one time to the next
- It can take longer to feel the effects after eating or drinking cannabis compared with smoking or vaping cannabis and the effects can last longer
- The higher the THC content in a product, the more likely one will experience adverse effects and greater levels of impairment
- Avoid using cannabis with nicotine, alcohol, other drugs or health products

Health Effects: Lower the Risk

- Start low, go slow
- Choose a product with a low amount of THC and equal or higher level of CBD
- If consuming edibles, look for products that contain 2.5 mg of THC or less, and wait to feel effects before taking more
- Avoid smoking cannabis
- Avoid frequent use
- Avoid consuming with nicotine, alcohol, other drugs or health products
- Store all cannabis products securely and out of the reach of children and pets
- Don't drive high

Lower-Risk Cannabis Use Guidelines (LRCUG)

LRCUG are an evidence-based intervention project by the Canadian Research Initiative in Substance Misuse (CRISM), funded by the Canadian Institutes of Health Research (CIHR). Evidence indicates that a substantial extent of the risk of adverse health outcomes from cannabis use may be reduced by informed behavioral choices among users.

The LRCUG discusses:

- 10 Recommendations for people who use cannabis

- Addition information is provided to facilitators to give the context & evidence summaries

Note: These recommendations are aimed at Recreational (non-medical) cannabis use.

Application of LRCUG for CAF must align with DAOD 9004-1.

Lower-Risk Cannabis Use Guidelines, aimed at people who (may) use cannabis. The scientific version of the Lower-Risk Cannabis Use Guidelines was published in the American Journal of Public Health in 2017.

The original LRCUG had been tabled in 2011; the current version has been updated by an international team of addiction and health experts.

Cannabis use has health risks best avoided by abstaining

- Delay taking up cannabis use until later in life
- Identify and choose lower-risk cannabis products
- Don't use synthetic cannabinoids
- Avoid smoking burnt cannabis—choose safer ways of using
- If you smoke cannabis, avoid harmful smoking practices
- Limit and reduce how often you use cannabis
- Don't use and drive, or operate other machinery
- Avoid cannabis use altogether if you are at risk for mental health problems or are pregnant
- Avoid combining these risks

RESOURCES

- www.canada.ca/en/services/health/campaigns/marijuana-cannabis.html
- www.ccdus.ca/module/cannabis-adolescence-EN/story.html
- www.canada.ca/en/health-canada/services/drugs-medication/cannabis/resources.html
- www.camh.ca/en/your-care/access-camh
- www.ccsa.ca/Pages/default.aspx