

Cannabis in British Columbia:

Results from the 2021 BC Cannabis Use Survey

PREPARED BY THE BC CANNABIS SECRETARIAT
AND BC STATS – August 2022



Ministry of
Public Safety and
Solicitor General

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Executive Summary

Prior to non-medical cannabis being legalized in October 2018, the BC Cannabis Secretariat engaged BC Stats to conduct the first *BC Cannabis Use Survey* to gather baseline data (cannabis use, perceptions, and related behaviours) on a representative sample of people living in British Columbia. Three years later, the second *BC Cannabis Use Survey* was launched to understand how behaviours and perceptions surrounding cannabis use may have changed in British Columbia.

The survey covers a wide range of topics, including the methods and products that people living in British Columbia prefer, how cannabis use impacts their daily lives, experiences of stigma associated with cannabis use, and people's perspectives on the risks of driving after using cannabis. There were 24,974 respondents in the 2021 survey, making it the largest survey on cannabis use among people living in British Columbia since the 2018 version of the survey (n = 28,659).

Detailed findings can be found in the full report, but some key findings include:

- 32% of adults (19+) reported using cannabis at least once in the past year, which is an increase from 28% before legalization.
- Similar to 2018, people who use cannabis reported using it for either medical (24%) or non-medical purposes (37%), or both (39%).
- Around half (52%) of people who use cannabis for non-medical purposes use it weekly or daily, while 48% use it monthly or less often. This did not change from 2018.
- 24% of those who use cannabis for non-medical purposes do so every day (or almost every day), and more than half of those using cannabis daily (59%) report using it more than once per day.
- Ingestible methods of cannabis use (e.g., edibles, beverages, oils, tinctures) and vaping products have become more popular since legalization, while smoking dried flower has become less prevalent, although smoking is still the most popular method of use.

- Most people who use cannabis buy it from a licensed cannabis retail store (71%), but many also get it from friends (40%) and family (19%) or grow their own (14%).
- Since legalization, fewer people report buying cannabis from an unlicensed store (from 56% to 17%) or dealer (from 16% to 9%), although more people report buying it from unlicensed online sites (from 1% to 9%).
- Most people who use cannabis report more positive than negative effects in their daily life. Positive impacts were reported most often for peoples' quality of life, while negative impacts were often related to work or studies.
- Despite being legal for three years, there is still stigma associated with using cannabis. One in five (21%) people who use cannabis reported experiencing negative judgement or stigma about their use.
- Around one in four (27%) women who use cannabis and had given birth in the last 5 years reported using cannabis during the pregnancy.
- Most people acknowledge that using cannabis can impair a person's ability to drive (81%), and fewer people who use cannabis reported driving after using it (14%) compared to pre-legalization (27%).

Taken together, these findings suggest that most people are using cannabis responsibly, but there are still some concerns. While this survey provides meaningful insights into how cannabis legalization may have influenced the lives of people living in British Columbia, these findings only scratch the surface.

As the market continues to evolve and stigma around cannabis use slowly fades, there is a need for regular and continued monitoring and evaluation of the public health and safety impacts of cannabis use.

1. Introduction

1.1. Three years of legal cannabis in BC

Under the *Cannabis Act (Canada)*, cannabis was legalized for non-medical purposes in October 2018. One year later, additional cannabis products became available for sale, such as edibles, vape products, hash, and topicals.

In preparation for legalization, British Columbia enacted the *Cannabis Control and Licensing Act* and *Cannabis Distribution Act* to regulate licensing of cannabis retail stores and the possession, personal cultivation, public consumption, and distribution of non-medical cannabis. Like most provinces and territories, British Columbia set the legal age of cannabis use at 19 and allowed individuals to grow up to four cannabis plants at home.¹ British Columbia's regulatory framework aimed to prioritize public health and safety, while also fostering economic development.

In the last six months of the 2021/2022 fiscal year, people living in British Columbia spent an average of \$50.5 million dollars per month at licensed cannabis retail stores, which is a 28.5% increase compared to last year. This spending largely reflects consumers buying less cannabis from illicit sources and instead buying it from one of the 400+ authorized cannabis stores across B.C..

1.2. The BC Cannabis Use Survey

In 2021, the BC Cannabis Secretariat engaged BC Stats to conduct the follow-up survey to the initial *BC Cannabis Use Survey*, which was conducted prior to legalization. The first survey provided baseline data for people living in B.C. between June and August of 2018 to understand their perspectives and use of cannabis. Both surveys were planned prior to legalization with the intent of examining changes in cannabis use, perceptions, and related behaviours, and to

¹ To learn more about cannabis legislation and regulation, safe and responsible cannabis use, and growing your own cannabis, go to <https://www.cannabis.gov.bc.ca>.

provide insights into the impact of the cannabis sector on both public health and economic activities. While most items are consistent across each survey, there were some adjustments in the second survey to assess emerging issues (e.g., the impact of the Covid-19 pandemic on cannabis use).

The *BC Cannabis Use Survey* provides valuable information on the role of cannabis in the lives of people living in British Columbia, including how they use it, where they get it, how it impacts their lives, and the extent that they engage in potentially risky behaviours such as frequent or heavy cannabis use or driving shortly after using cannabis. Surveys such as Health Canada's *Canadian Cannabis Survey* cover similar topics, but this survey involves a much larger sample of people in British Columbia and includes quota sampling and post-survey response weighting to ensure a highly representative sample. Specifically, sampling quotas were set for each of the 16 Health Service Delivery Areas (HSDAs), by gender, by age group, and by Indigenous identity. Demographic questions also included whether respondents identified as a visible minority other than Indigenous, were born a Canadian citizen, were employed, their income range, and their level of education.

Following field tests in April and June 2021, the survey was conducted by telephone for 10 weeks between August and October of 2021. It was administered in English, Punjabi, Cantonese, and Mandarin, and only those aged 19 and older were eligible to participate. Respondents who had consumed cannabis in the past 12 months were invited to complete a supplementary online survey. In total, 24,794 people responded to the telephone survey, and 8,473 reported having used cannabis at least once during the past 12 months. Of those who reported using cannabis, 2,420 completed the online survey.²

BC Stats has developed an app to enable further exploration of the findings.

The BC Cannabis Use Survey App is available at:

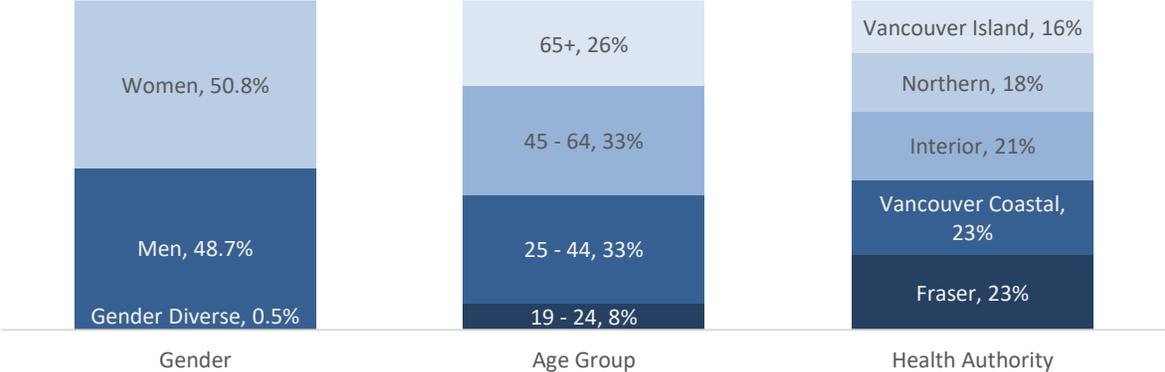
[bcstats.shinyapps.io/BC Cannabis Use App](https://bcstats.shinyapps.io/BC_Cannabis_Use_App).

² The overall survey response rate was 11%. There were 226,267 people in B.C. who were contacted by telephone to complete the survey, and 24,794 answered the call, were eligible to participate, and agreed to complete the survey. Unless otherwise specified, all findings in this report exclude responses from those who said "don't know" or "prefer not to say".

1.3. Respondent snapshot

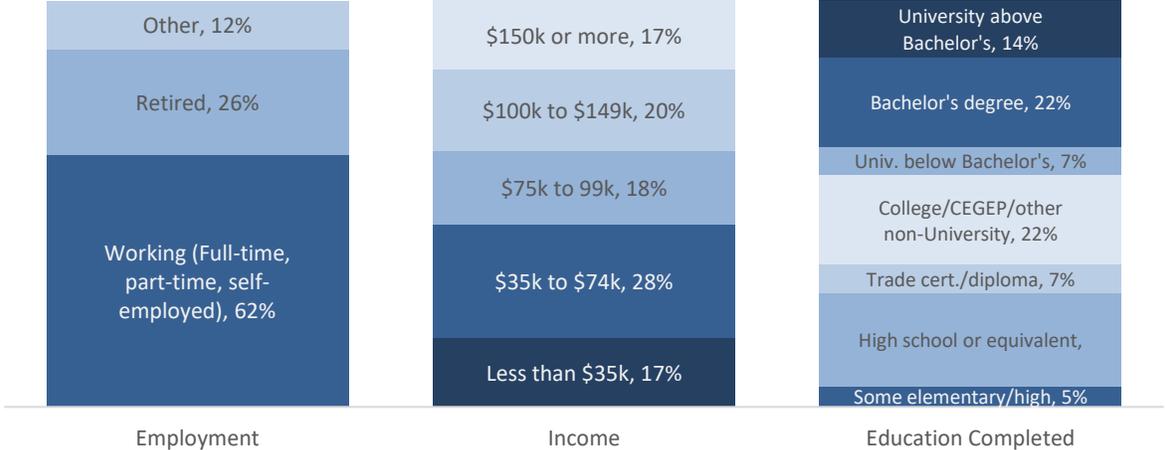
The sample was closely reflective of the gender³ and age distribution of adults in British Columbia, and respondents were widely sampled from each Health Authority (see Figure 1). The sample included 7% who identified as Indigenous, 16% of respondents who identified as a visible minority other than Indigenous,⁴ and 26% who reported having been born outside of Canada.

FIGURE 1: RESPONDENTS' GENDER, AGE, AND HEALTH AUTHORITY (UNWEIGHTED SAMPLE)



The majority of respondents worked full- or part-time (62%) at the time of the survey, and there was a wide range of income and education levels (see Figure 2).

FIGURE 2: RESPONDENTS' EMPLOYMENT, INCOME, AND EDUCATION (UNWEIGHTED SAMPLE)



³ There were 134 respondents who identified as gender diverse in the sample. Their responses are included throughout the report but excluded where results are presented by gender due to the limited sample size. Data tables for respondents identifying as gender diverse are available upon request.

⁴ Throughout this report, findings from those identifying as a visible minority does not include respondents who identified as Indigenous.

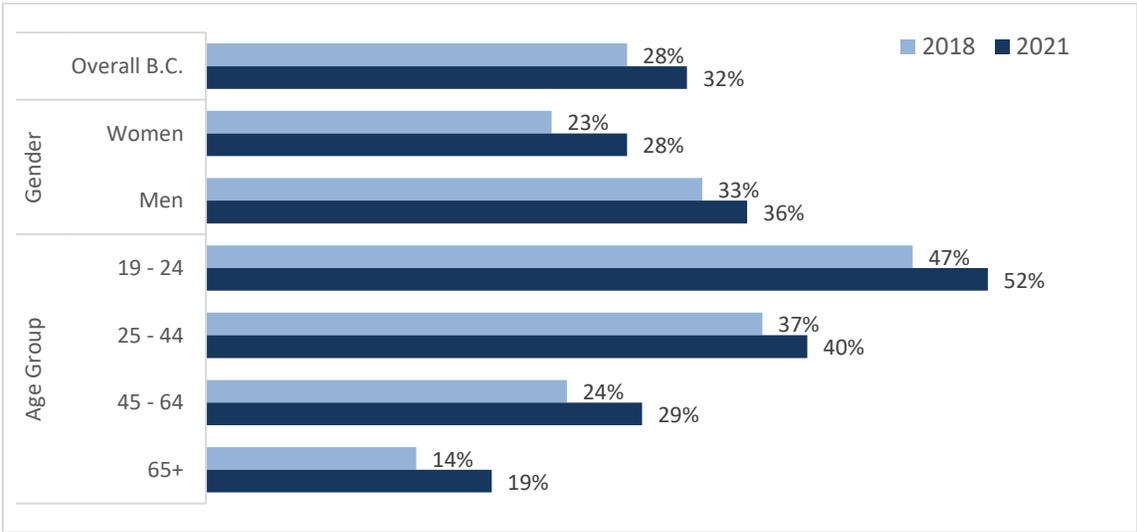
2. Cannabis use in BC

2.1. Changes in cannabis use since legalization

In 2021, roughly one in three people in B.C. (32%) reported having used cannabis in the past 12 months – an increase from 28% in 2018.⁵ This increase is consistent with the finding that 4% of all respondents reported that they used cannabis for the first time since it became legal. In total, more than half (58%) of the people surveyed reported having used cannabis at least once in their lifetime.

Cannabis use was more often reported among men (36%) than women (28%), and by younger compared to older respondents. All groups showed an increase in the prevalence of cannabis use since 2018 (see Figure 3).

FIGURE 3: PAST 12-MONTH CANNABIS USE IN 2018 AND 2021



Results also showed that cannabis use was more common among Indigenous respondents (50%) than the non-Indigenous population (32%), although the prevalence of use remained stable for Indigenous respondents since 2018 (50%). People who reported being born in Canada were also more likely to report past 12-month cannabis use (38%) than those born outside of Canada (18%) or those who identify as a visible minority (20%).

⁵ Unless otherwise specified, all differences described in this report are significant at $p < .05$.

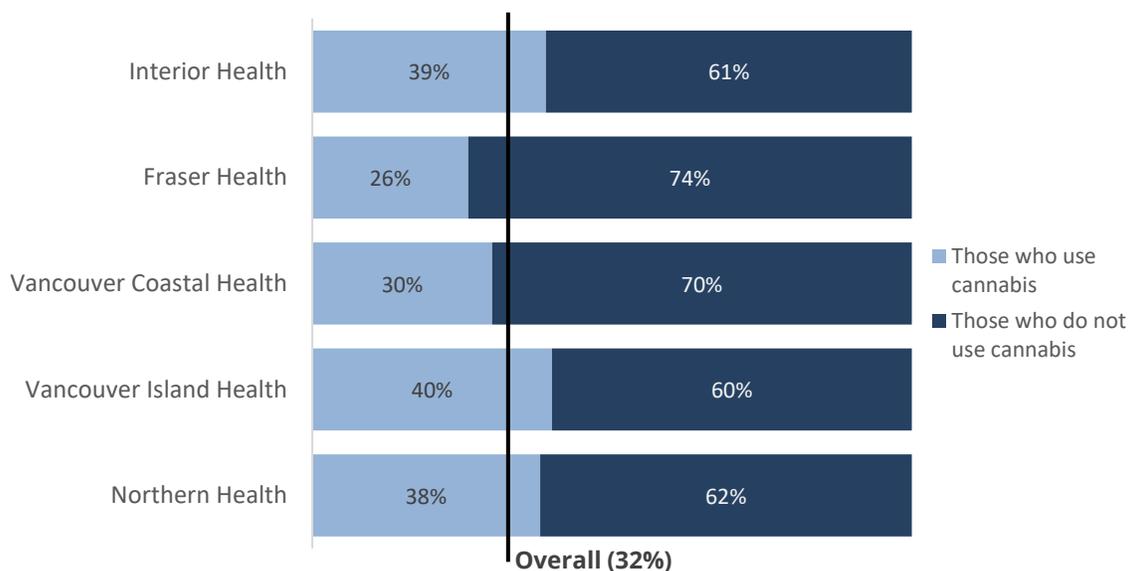
While there may be an increased willingness to report personal cannabis use as it becomes more socially acceptable, data sources that do not rely on self-reports have also shown an increase in cannabis use among people living in British Columbia since legalization. For example, there has been a steady increase in household spending on cannabis from 2018 to 2021.

Statistics Canada. (2021). *Table 36-10-0225-01 Detailed household final consumption expenditure, provincial and territorial, annual (x 1,000,000)* [Data Table]. <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3610022501>

2.1.1. Regional variations

As shown in Figure 4, there were also regional differences in the prevalence of cannabis use across British Columbia. The percentage of people in each Health Authority who reported using cannabis in the past 12 months ranged from 26% in the Fraser Health Authority to 40% in the Vancouver Island Health Authority. An increase was observed across all Health Authorities since legalization.

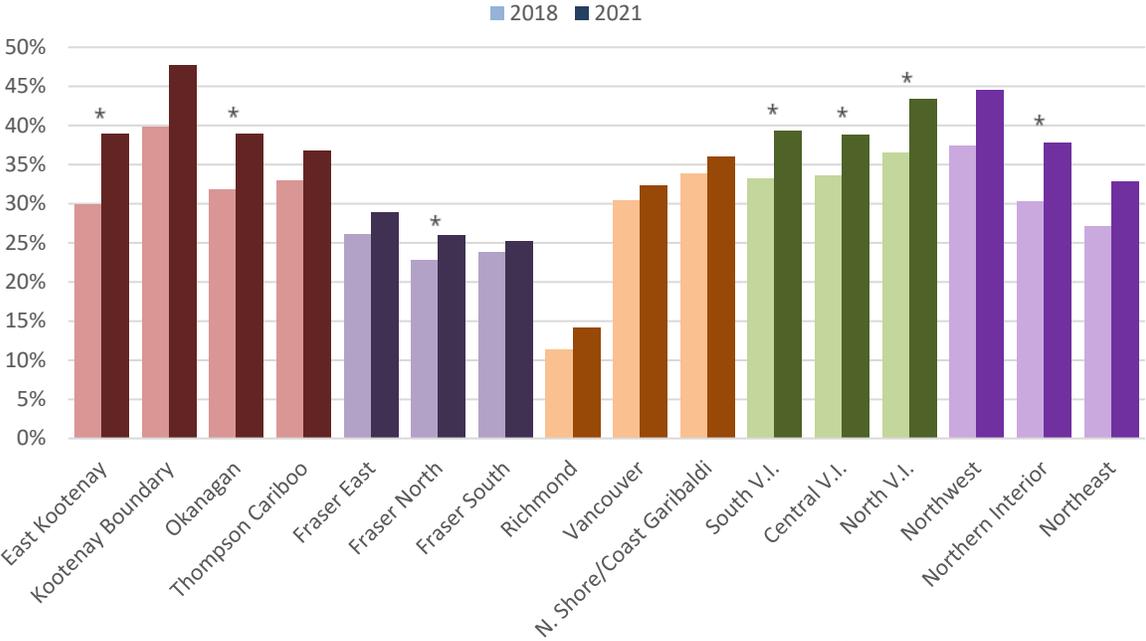
FIGURE 4: PAST 12-MONTH CANNABIS USE BY HEALTH AUTHORITY



Even greater regional variability in cannabis use emerged when focusing on each of the 16 Health Service Delivery Areas (HSDA) in B.C.. As shown in Figure 5, the HSDAs with the highest prevalence of reported cannabis use were Kootenay Boundary (48%), Northwest (45%), and North Vancouver Island (43%). Richmond

HSDA showed the lowest percentage of respondents who reported using cannabis in the past 12 months (14%), followed by Fraser South (25%), and Fraser North (26%). Although the increased prevalence of cannabis use in B.C. was statistically significant, not all increases within each HSDA are statistically significant due to differences in sample size. For example, there was a statistically significant increase in the prevalence of cannabis use in South Vancouver Island, but not in the Northeast HSDA.

FIGURE 5: PAST 12-MONTH CANNABIS USE BY HEALTH SERVICE DELIVERY AREA



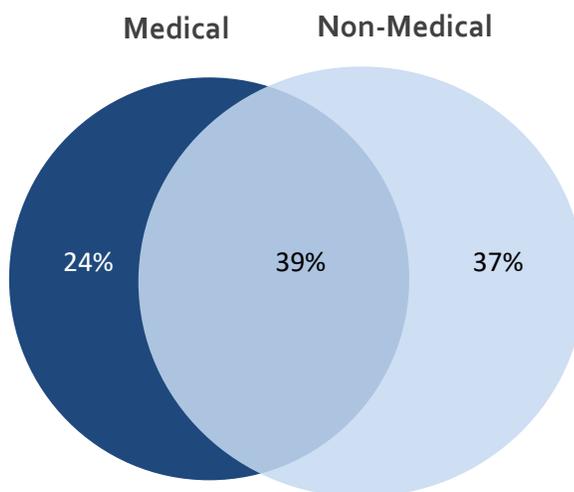
* Indicates difference is statistically significant

2.2. Medical and non-medical cannabis use

Throughout this report, results are sometimes reported for all respondents who reported using cannabis, and sometimes separately for medical and non-medical cannabis use (see Figure 6). Among respondents who reported using cannabis, some consumed it exclusively for **medical** purposes (24%), which was defined as use to treat pain, disease, or improve symptoms. Some people reported consuming cannabis exclusively for **non-medical** purposes (37%), while others consumed cannabis for **both medical and non-medical** purposes (39%). Only 11% of those who use cannabis for medical purposes reported being registered with

Health Canada for their medical use, suggesting that a significant number of people in British Columbia who use cannabis for medical purposes may be doing so without consulting a medical professional.⁶

FIGURE 6: PAST 12-MONTH CANNABIS FOR MEDICAL AND/OR NON-MEDICAL PURPOSES



Notably, women comprised 51% of those who use cannabis for medical purposes, but only 39% of those who use cannabis for non-medical purposes, indicating that women who use cannabis are more likely to report using it for medical (vs. non-medical) purposes than men who use cannabis.

Proportions of cannabis use for medical and/or non-medical purposes were unchanged from 2018, although the average age that people first reported using cannabis increased from 34 to 38 years for medical purposes, and from 18 to 19 years for non-medical purposes.

2.3. Frequency of cannabis use

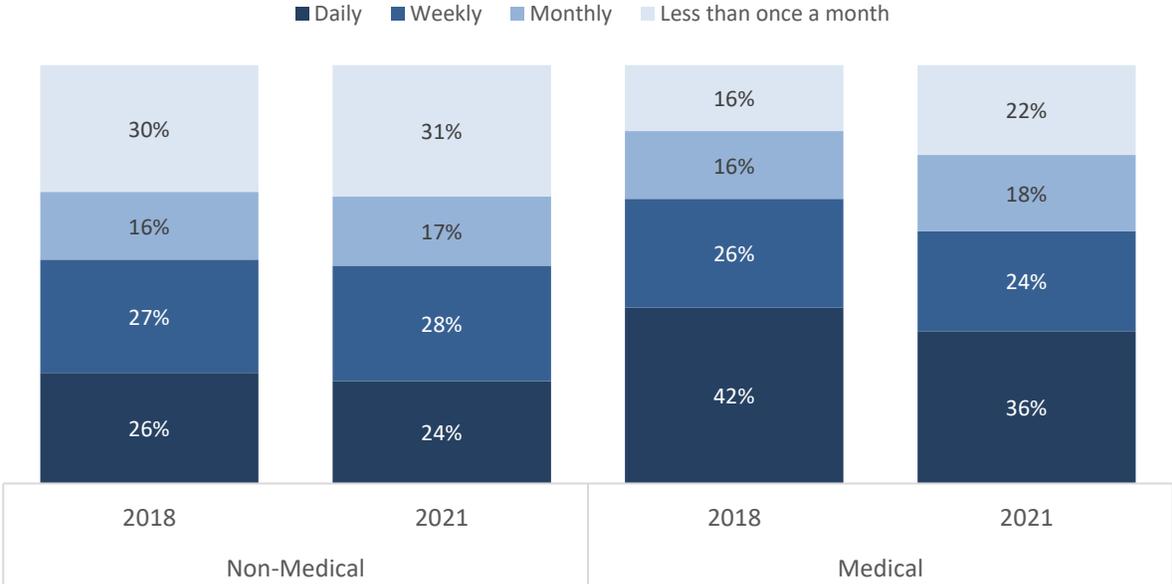
When asked whether their cannabis use had changed since legalization, most people reported no change (62%), but 10% reported using it less frequently and 28% reported using it more frequently. This self-reported increase in cannabis use was more common among women (32%) than men (25%), and among those age 19 to 24 (47%) compared to older age groups (25%). Interestingly, weekly (36%)

⁶ Registration with Health Canada for medical cannabis use requires authorization from a doctor.

and monthly (37%) cannabis users were more likely to report having increased their use since legalization, compared to those who use it daily (21%) or less than monthly (24%).

However, despite many respondents reporting an increase in their cannabis use since legalization, Figure 7 suggests there has been little change in the proportions of those using cannabis daily, weekly, monthly, and less than monthly. In part, this could be because respondents' increased use was only a minor increase (e.g., not enough to go from a monthly to a weekly user), or because those who are new to cannabis since legalization tend to use it infrequently (i.e., less than monthly; 44%). The only shift in frequency of use was a decrease in daily cannabis use for medical purposes from 2018 to 2021 (42% to 36%), and a corresponding increase in less than monthly use (16% to 22%).

FIGURE 7: FREQUENCY OF CANNABIS USE FOR MEDICAL AND NON-MEDICAL PURPOSES

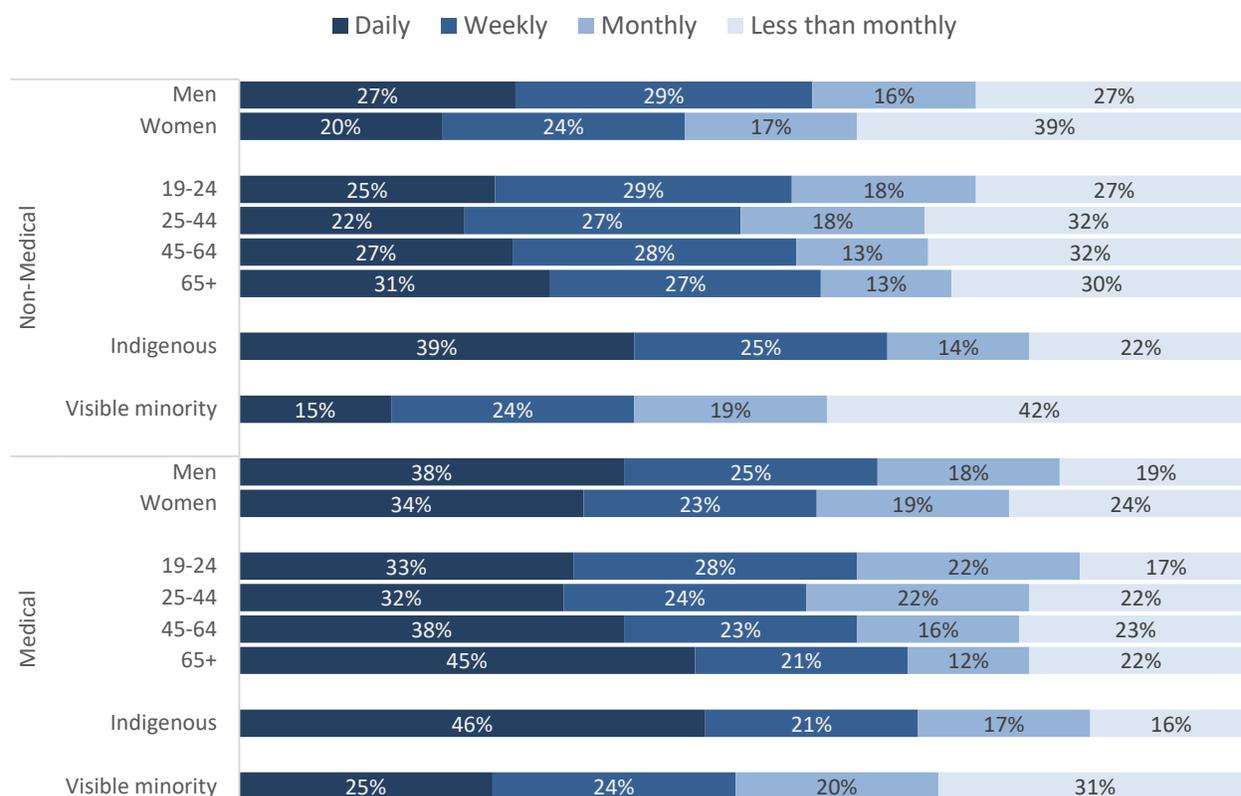


The frequency that people use cannabis seemed to also depend on several demographic factors:

- Women who use cannabis for non-medical purposes were more like to report monthly or less than monthly use compared to men (56% vs. 43%).
- Respondents identifying as a visible minority were less likely to report daily medical (25%) or non-medical cannabis use (15%) than those who did not identify as a visible minority.

- Indigenous respondents who reported using cannabis for medical purposes were more likely to report daily use (46%) than the non-Indigenous population (36%).
- Those aged 45+ were more likely than younger respondents to report using cannabis for non-medical purposes at least weekly (55% vs. 51%).

FIGURE 8: FREQUENCY OF CANNABIS USE BY DEMOGRAPHIC



On average, people living in British Columbia report spending more on cannabis each year if they use it daily (\$1746) or weekly (\$827), compared to those who use it monthly (\$308) or less than monthly (\$119). Another study found that the top 10% Canadian cannabis users are responsible for 66% of all cannabis used in Canada, highlighting substantial differences in how much cannabis people use.

Callaghan, R. C., Sanches, M., Benny, C., Stockwell, T., Sherk, A., & Kish, S. J. (2019). *Who consumes most of the cannabis in Canada? Profiles of cannabis consumption by quantity*. *Drug and Alcohol Dependence*, 205, 107587.

2.3.1. Changes in cannabis use during the Covid-19 pandemic

It's possible that some changes in cannabis use could be due to the impact of the Covid-19 pandemic, which influenced many aspects of peoples' behaviour and daily life. When those who use cannabis were asked whether their cannabis use changed during the Covid-19 pandemic, one in four reported increased use (24%), while most people reported no change (68%) and few (8%) reported a decrease. Younger respondents aged 19 to 24 were more likely to report an increase in cannabis use during this period compared to older age groups (47% vs. 20%). These findings are consistent with other studies showing an increase in cannabis use across Canada during this period.⁷

Most respondents who indicated a change in their cannabis use due to Covid-19 said that it was to manage their mental health (70%) or to relax (70%).* Boredom was also commonly reported as a reason for a change in cannabis use (46%). Less commonly reported reasons included the increased availability of cannabis (21%), unemployment due to the Covid-19 pandemic (14%), reduced access to healthcare (7%), and having a loved one directly or indirectly affected by Covid-19 (4%).

2.4. Methods of using cannabis

A wide range of cannabis products are available in Canada, each intended for either inhalation, ingestion, or topical application. Smoking dried flower or cannabis extracts (e.g., hash) has long been a popular method of use and vaporizing dried flower or cannabis vaping liquid is also common. Some people prefer to use cannabis by eating or drinking it. New edible products continue to be developed, and typically come in the form of candies, chocolates, baked goods, sodas, teas, or cannabis drops that can be added to beverages. There are also various "topical" cannabis products that are meant to be applied directly to a

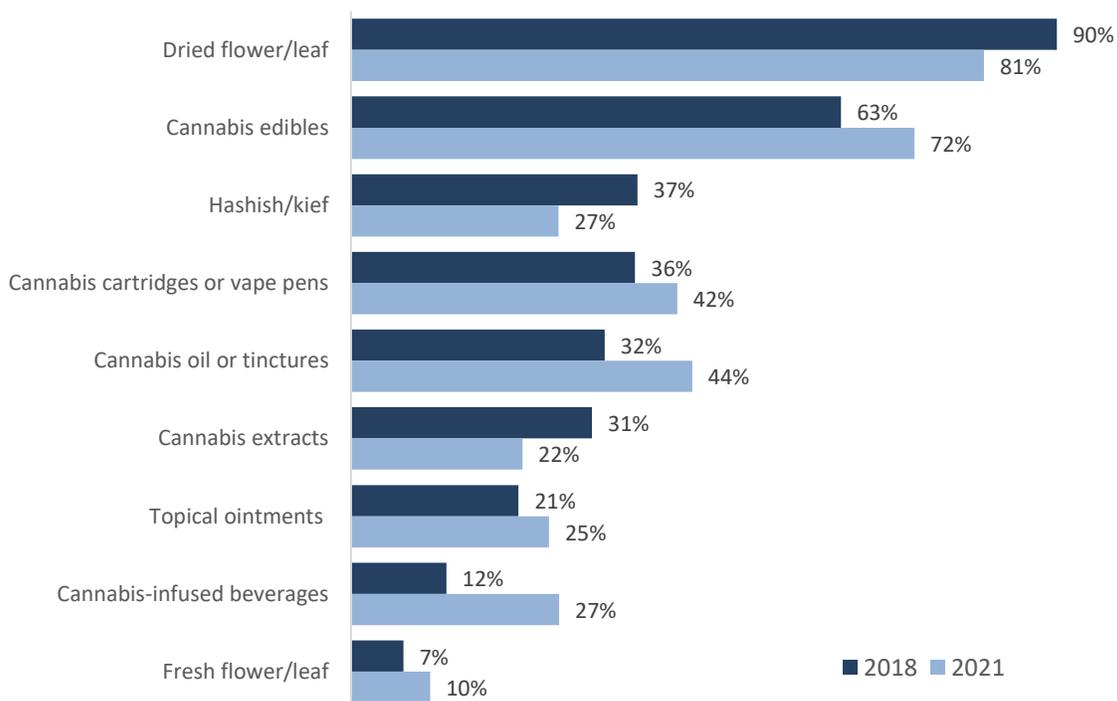
⁷ Imtiaz, S., Wells, S., Rehm, J., Hamilton, H. A., Nigatu, Y. T., Wickens, C. M., ... & Elton-Marshall, T. (2021). [Cannabis use during the COVID-19 pandemic in Canada: A repeated cross-sectional study](#). *Journal of Addiction Medicine*, 15, 484-490.

* These figures do not add to 100% because respondents could select more than one option.

person's skin for transdermal absorption, such as cannabis creams, lotions, and oils.

When asked which types of cannabis products they use, people living in British Columbia reported an average of 3.4 types of products – up from 3.2 in 2018. Younger respondents aged 19 to 24 reported using a wider range of cannabis products (4.0) than those aged 25+ (3.3).

FIGURE 9: CANNABIS PRODUCTS USED FOR NON-MEDICAL PURPOSES



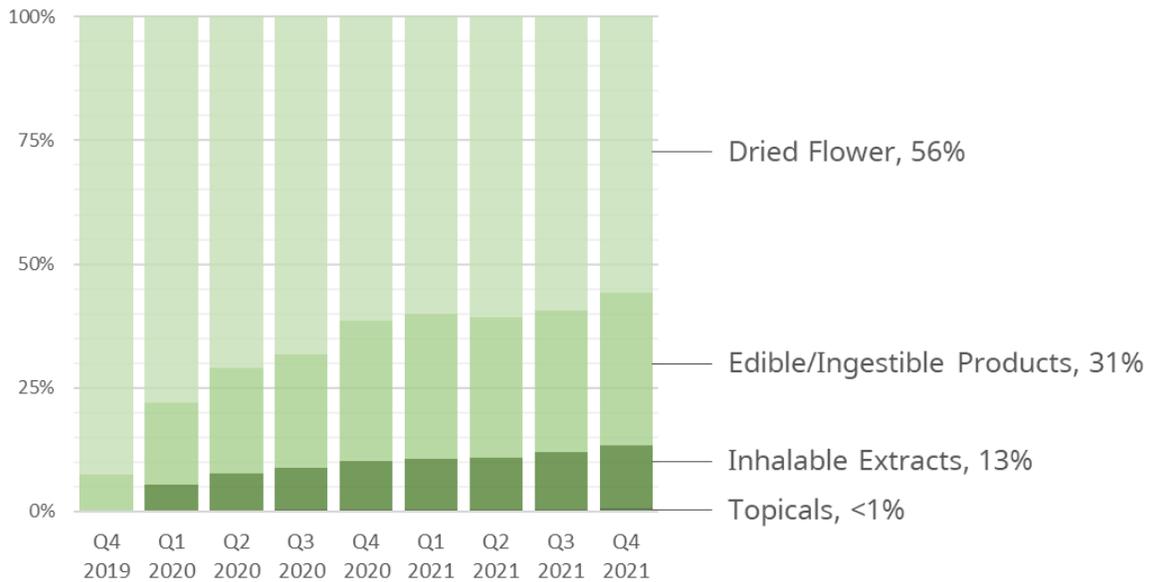
Since legalization, more people living in British Columbia who use cannabis for non-medical purposes report using ingestible cannabis products, such as edibles, beverages, tinctures, and oils. As shown in Figure 9, more people also report using cannabis cartridges or disposable vape pens for non-medical purposes, while fewer report using dried flower (typically smoking) and cannabis extracts such as hash.

Compared to those who use cannabis for non-medical purposes, those who use it for medical purposes were more likely to report using cannabis oils or tinctures (59% vs. 44%) and topical ointments (43% vs. 25%), and less likely to report using

dried flower (64% vs. 81%) or cannabis vape cartridges or disposable vape pens (30% vs. 42%).

Sales data from licensed cannabis retail stores in B.C. shows similar trends in the types of products that people are choosing. As depicted in Figure 10, dried flower (including pre-rolls) is still the most common product purchased by consumers but has been declining in market share. Ingestible products (e.g., edibles, beverages, tinctures) make up an increasing number of the cannabis products sold in B.C.. The trend is similar for inhalable extracts (e.g., vape cartridges) and topicals, although topicals make up a very small proportion of the cannabis products.

FIGURE 10: CANNABIS PRODUCTS (UNITS) SOLD AT LICENSED RETAIL STORES IN BC EACH QUARTER BY CATEGORY



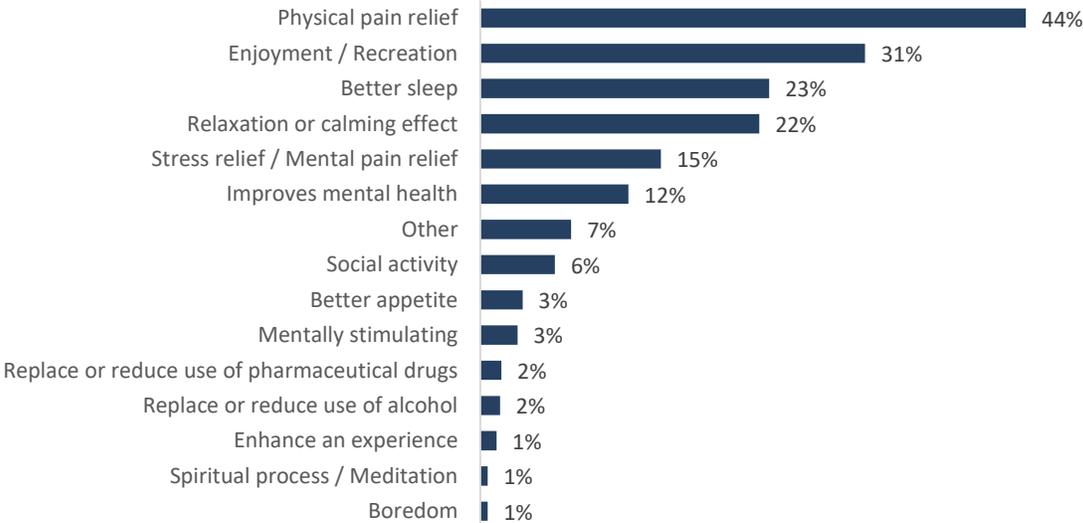
3. Cannabis and life in BC

3.1. Reasons for using cannabis

Cannabis has historically been used for a wide range of recreational and therapeutic purposes. The *BC Cannabis Survey* asked respondents why they use cannabis to explore these reasons and understand how they may differ across demographic groups. Not surprisingly, people’s reasons for cannabis use are largely dependent on whether they use it for medical or non-medical purposes. However, because of the significant overlap in medical and non-medical cannabis use in this sample (see section 2.2), the results in this section are reported for all respondents who reported using cannabis.

Respondents most often reported using cannabis for physical pain relief (44%), for enjoyment or recreation (31%), to get better sleep (23%), and/or for a relaxation/calming effect (22%).* As shown in Figure 11, using cannabis for stress relief (15%) and to improve mental health (12%) were also reported by many respondents.

FIGURE 11: REASONS FOR USING CANNABIS



* These figures do not add to 100% because respondents could select more than one option.

Reasons for cannabis use varied across several demographic factors:

- Respondents age 45+ were more likely than those age 19 to 44 to report using cannabis for physical pain relief (54% vs. 36%), and less likely for enjoyment or recreation (21% vs. 38%), for a relaxing/calming effect (18% vs. 25%), or for stress relief (10% vs. 18%).
- Men were more likely than women to use it for enjoyment or recreation (37% vs. 23%), or for a relaxing/calming effect (26% vs. 18%).
- In contrast, women were more likely to report using cannabis for physical pain relief (51% vs. 38%) or to get better sleep (28% vs. 19%).
- Most Indigenous respondents reported using cannabis for physical pain relief (54%), and/or for enjoyment or recreation (24%).

Those who use cannabis for medical purposes were also asked to indicate which symptom(s) they treat with cannabis. More than half of respondents reported using cannabis because of problems sleeping (60%), although anxiety (43%), chronic non-cancer pain (39%), acute pain (35%), and depression (30%) were also often reported.

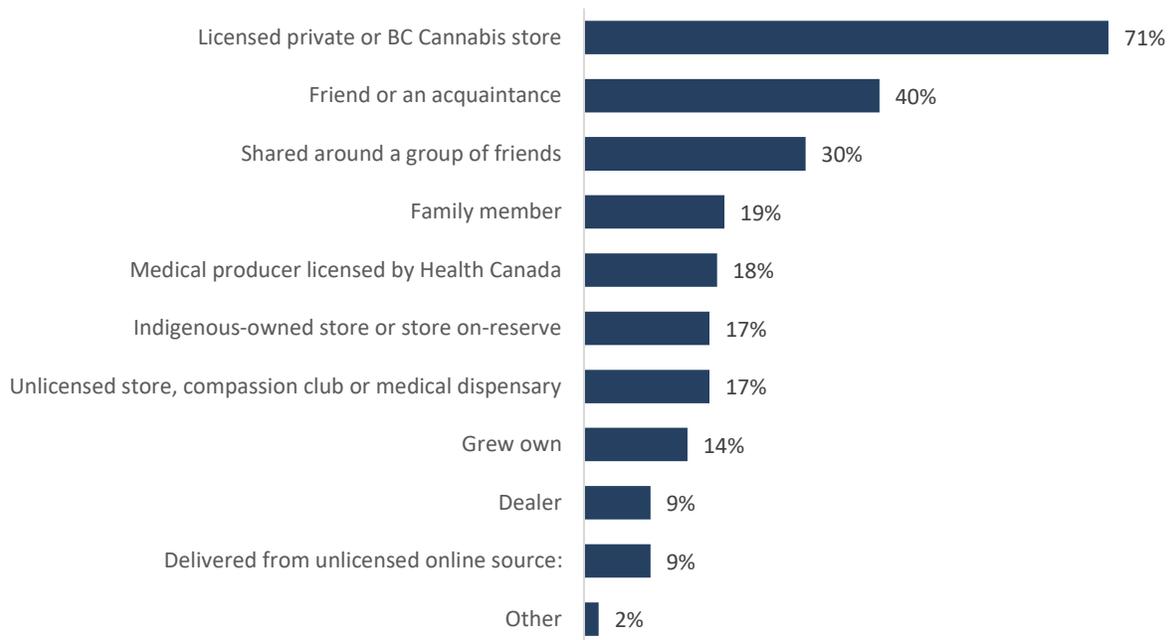
These figures do not add to 100% because respondents could select more than one option.

3.2. Where people get their cannabis

Licensed cannabis retail stores are accessible in most parts of B.C., but there are a range of both legal and illicit sources where people get their cannabis. As shown in Figure 12, most people who use cannabis reported buying it from a licensed private or government store (71%).* Getting cannabis from “social sources” (e.g., friends or family) was also common, while illicit sources were less common, such as getting cannabis from a dealer (9%), an unlicensed store or compassion club (17%) or ordering from an unlicensed online source (9%).

* These figures do not add to 100% because respondents could select more than one option.

FIGURE 12: SOURCES OF CANNABIS

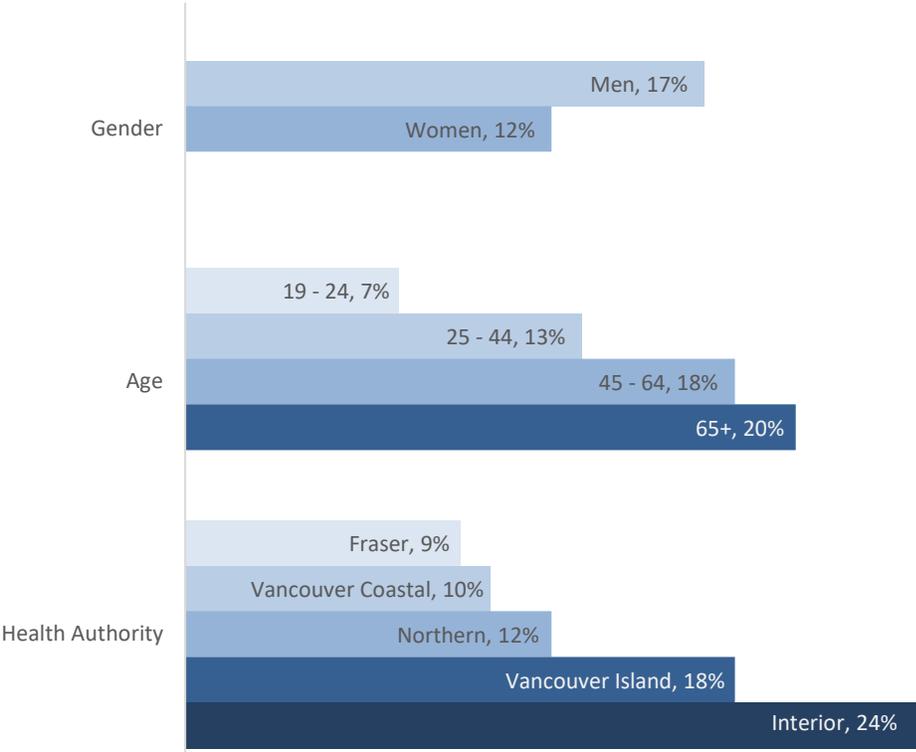


Those who use cannabis for medical and non-medical purposes tended to report similar sources for their cannabis, with a few exceptions. As expected, getting cannabis from a licensed medical producer was more common among those who use it for medical purposes (20%) than for non-medical purposes (12%). Getting cannabis from a licensed store was more often reported among non-medical (73%) than medical cannabis users (62%). In addition, compared to those who use cannabis for medical purposes, those who use it for non-medical purposes were more likely to report getting it from a friend or acquaintance (44% vs. 27%) or through sharing among friends (36% vs. 14%). This may reflect a greater tendency for non-medical cannabis use to take place in social settings.

Since legalization, the use of some illicit sources has decreased, such as an unlicensed store (56% to 17%) or dealer (16% to 9%). However, getting non-medical cannabis from an unlicensed *online* source (e.g., mail order cannabis website) increased sharply since 2018 (1% to 9%). There are also fewer people who report getting cannabis through sharing among friends (47% vs. 36%) compared to pre-legalization.

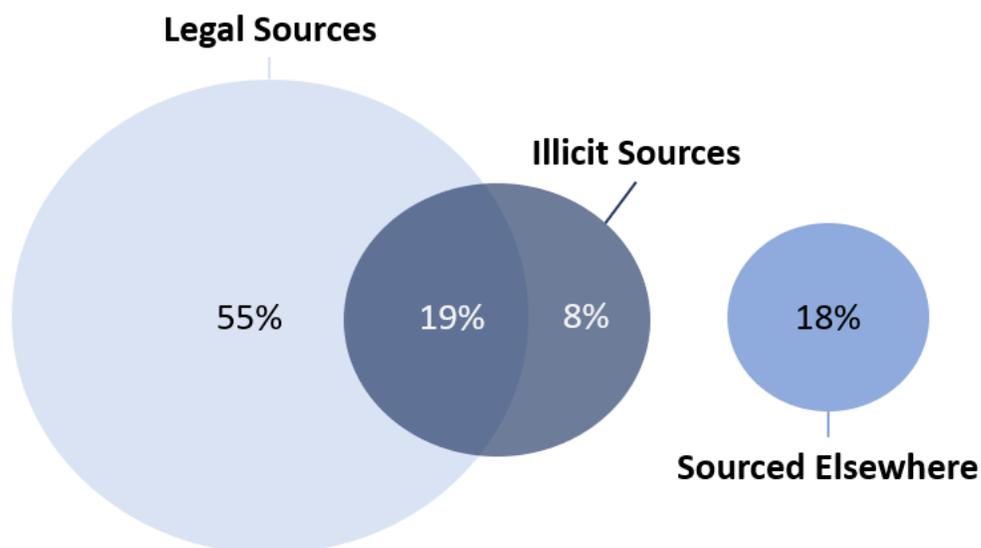
When asked for the three factors that are most important when selecting a source to buy cannabis, those who use cannabis reported quality and safety (46%) and location most often (32%), followed by the availability of preferred THC and/or CBD potencies (28%), lowest prices (27%), and sales support (26%).

FIGURE 13: GROWING ONE'S OWN CANNABIS



People living in British Columbia can legally grow up to four cannabis plants per household (or more if they hold a medical authorization), and growing one’s own cannabis has also become more common since 2018 (9% to 14%). As shown in Figure 13, growing cannabis was more often reported by older (vs. younger) respondents, and by those living in the Interior (24%) and Vancouver Island Health Authorities (18%). The HSDAs with the highest proportion of respondents growing their own cannabis was the Kootenay Boundary (32%) and Okanagan (24%).

FIGURE 14: BUYING CANNABIS FROM LEGAL AND ILLICIT SOURCES



More than half (55%) of people in British Columbia report buying cannabis from only legal sources (Figure 14).⁸ Few people (8%) reported buying cannabis exclusively from illicit sources, and a further 19% report buying it from both legal and illicit sources. The remaining 18% of the sample only get cannabis from other sources which were not clearly defined as legal or illicit, such as from friends or by growing their own.

3.3. Preferences for different levels of THC and CBD

Over 100 different cannabinoids have been identified in the cannabis plant, but the two that are most commonly found and well-understood are tetrahydrocannabinol (THC) and cannabidiol (CBD). THC is commonly associated with psychoactive effects of cannabis (i.e., the “high”), whereas CBD does not produce a high or intoxication and is often studied for medicinal use in reducing pain and anxiety.⁹

⁸ “Legal sources” included licensed retail stores or authorized medical producers, while “illicit sources” included unlicensed stores, dealers, and unlicensed websites. Growing one’s own cannabis was not included as a legal or illicit sources since the survey did not specify whether the person grew four or fewer plants. Indigenous-affiliated stores or stores on reserve were also not included because the survey did not specify whether they were licensed or unlicensed stores.

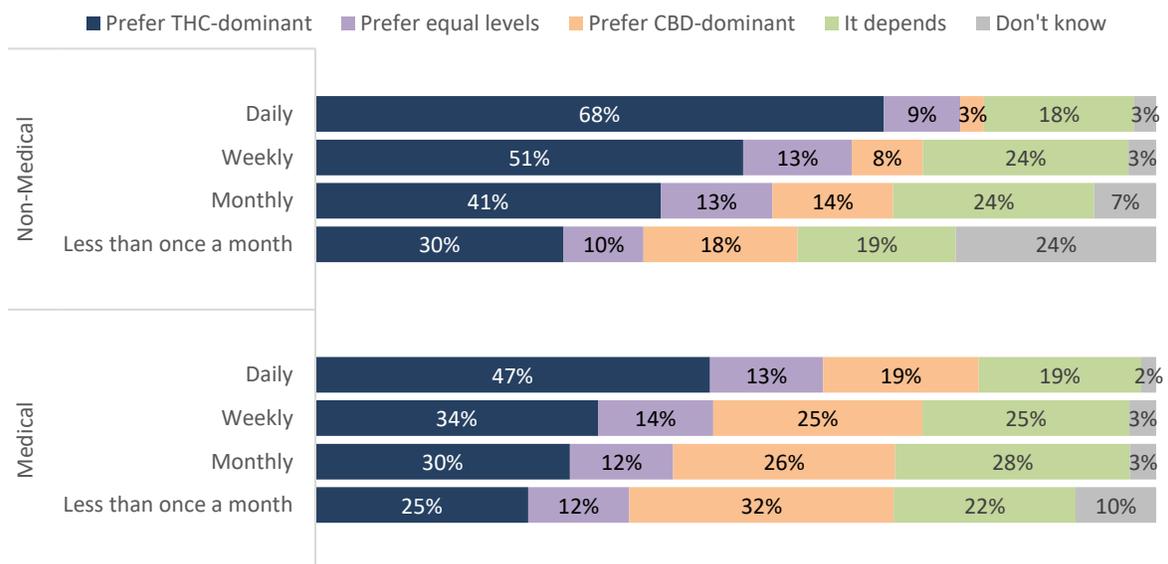
⁹ Health Canada. (2018). [About cannabis](#). Ottawa, Canada.

When those who use cannabis were asked whether they prefer a THC-dominant or CBD-dominant product, they most often (45%) reported a preference for THC-dominant products, but many (21%) reported a preference for CBD-dominant products, 12% had a preference for equal levels of THC and CBD, and 22% noted that it depends on other factors, such as the time of day or purpose of use. Preferences for THC- and CBD-dominant products also seemed to depend on whether the respondent used cannabis for medical or non-medical purposes. As shown in Figure 15, THC-dominant products were more often preferred by those using cannabis for non-medical (52%) than medical purposes (38%), while CBD-dominant products were more often preferred for medical (25%) than non-medical purposes (13%).

Some studies suggest that the percentage of THC in dried cannabis has increased over recent decades. Although products with high CBD or a balance of CBD and THC are available for purchase, most dried flower grown today contains around 20% THC, which may be considerably higher than the potency of similar products available 30 years ago.

Chandra, S., Radwan, M. M., Majumdar, C. G., Church, J. C., Freeman, T. P., & El-Sohly, M. A. (2019). [New trends in cannabis potency in USA and Europe during the last decade \(2008–2017\)](#). *European archives of psychiatry and clinical neuroscience*, 269, 5-15.

FIGURE 15: PREFERENCE FOR THC OR CBD DOMINANT PRODUCTS



Daily and weekly users were also more likely to prefer THC-dominant products (50%) than less frequent users (27%), and less than monthly users were more likely to report that they “don’t know” (24%) compared to more frequent users (4%).

Unless respondents preferred CBD-dominant products, they were also asked to indicate the level of THC they prefer and choose most often. Those who use cannabis most often preferred greater than 20% THC (41%) or between 10-20% THC (31%). Those who use cannabis less often preferred lower than 10% THC (15%) or indicated that the effects of the individual strain are more important than THC content (14%).

3.4. Places where people use non-medical cannabis

Although people (19+) in British Columbia may smoke or vape cannabis in public places, there are restrictions. Smoking and vaping cannabis is not allowed in places such as playgrounds, parks, near the entrance of public buildings, and other areas set out in provincial legislation and regulation.¹⁰ Tenancy and rental agreements may also restrict smoking or vaping cannabis in a person’s home.

Nonetheless, when those who use cannabis for non-medical purposes were asked where they typically use it, nearly all respondents (91%) said that they typically use it at home.¹¹ Many respondents also reported using it at friends’ homes (46%) or in outdoor public spaces (35%).* Using cannabis at home was most commonly reported across all age groups (ranged from 87% to 95%), but those age 19 to 24 were more likely than older age groups to report using cannabis at friends’ homes (73% vs. 41%) or in outdoor public spaces (53% vs. 31%).

Other locations for using non-medical cannabis were reported by fewer than 3% of respondents, and included indoor public spaces, work, school, in a car, at a dispensary, compassion club, or consumption lounge.

¹⁰ For more information, go to <https://www.cannabis.gov.bc.ca>.

¹¹ This survey question did not ask *how* cannabis was used, so it also includes those who use other products such as edibles and topicals.

* These figures do not add to 100% because respondents could select more than one option.

3.5. Impacts of cannabis on daily life

In addition to where and why people use cannabis, the survey aimed to determine how it impacts different aspects of their life. Overall, respondents reported more positive than negative impacts of cannabis use. For example, cannabis was often reported to have positive impacts on quality of life (68%), emotional well-being (66%), and mental health (60%). Work or studies (8%) and physical health (5%) were the aspects of life that people most often identified negative effects from their cannabis use.

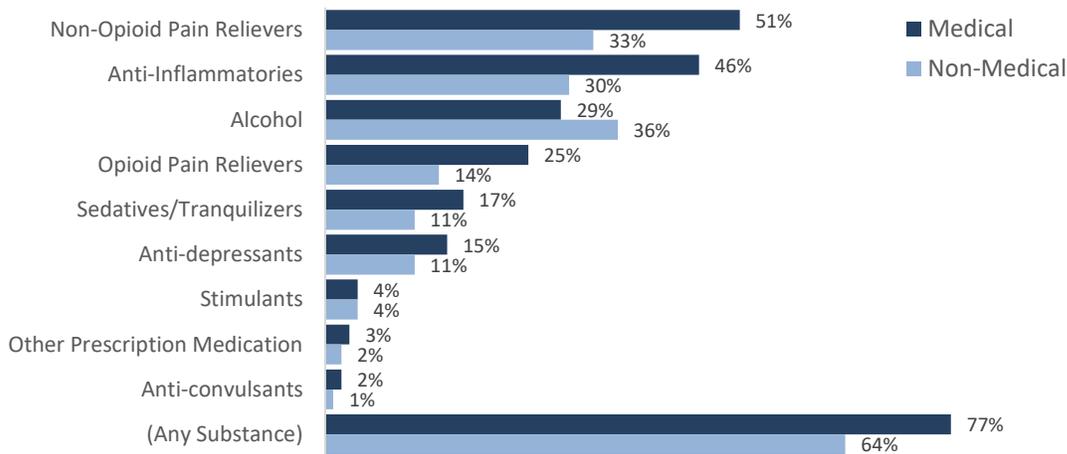
From 2018 to 2021, there was no change in self-reported negative impacts from cannabis use, but there was a decrease in positive impacts across all domains (6% on average). A higher proportion of respondents now report that cannabis has “no impact” on different aspects of their lives. This trend could reflect cannabis becoming more normalized and therefore having less impact on people’s daily lives, or possibly that cannabis took a “backseat” to more pressing issues over recent years (e.g., climate change, Covid-19).

3.6. Replacing alcohol and other substance use with cannabis

As shown in section 3.1, few people who use cannabis reported that one of the reasons they use cannabis is to reduce their use of alcohol or pharmaceutical drugs. However, most people still reported having reduced their use of at least one substance because of their cannabis use – both among those using cannabis for medical purposes (77%) and non-medical purposes (64%).

As shown in Figure 16, reduced use of pain relievers (non-opioids), anti-inflammatories and alcohol were most often reported by respondents. Alcohol reduction was more common among those who used cannabis for non-medical purposes (36% vs. 29%), while those who use it for medical purposes were more likely to report using fewer non-opioid pain relievers (51% vs. 33%) and anti-inflammatories (46% vs. 30%).

FIGURE 16: REDUCING USE OF ALCOHOL AND OTHER SUBSTANCES BECAUSE OF CANNABIS USE

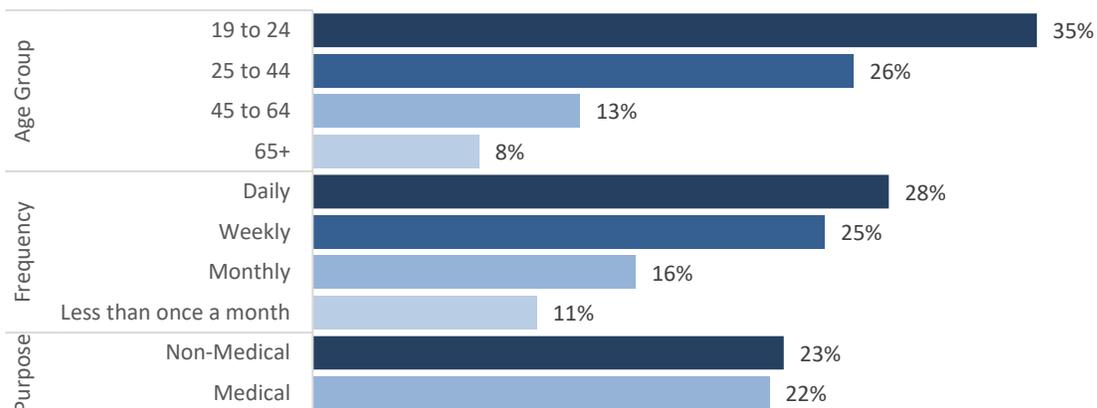


In looking at changes since legalization, the only considerable shift when comparing 2018 and 2021 results was that those who use cannabis for medical purposes were less likely to report reducing alcohol use because of using cannabis (42% vs. 29%). When comparing 2018 and 2021 results, this did not change among those who use cannabis for non-medical purposes (37% to 36%).

3.7. Stigma associated with cannabis consumption

Despite being legal for adult use, there remains stigma associated with using cannabis in B.C. and across Canada. In this survey, one in five (21%) of those who use cannabis report experiencing negative judgement or stigma from friends, family, or co-workers about their cannabis use. Experiencing stigma was more often reported among those age 19 to 44 (27%) than older age groups (11%), and more often among daily and weekly users (25%) than less frequent users (12%).

FIGURE 17: REPORTED STIGMA BY AGE GROUP, FREQUENCY OF USE, AND MEDICAL/NON-MEDICAL USE

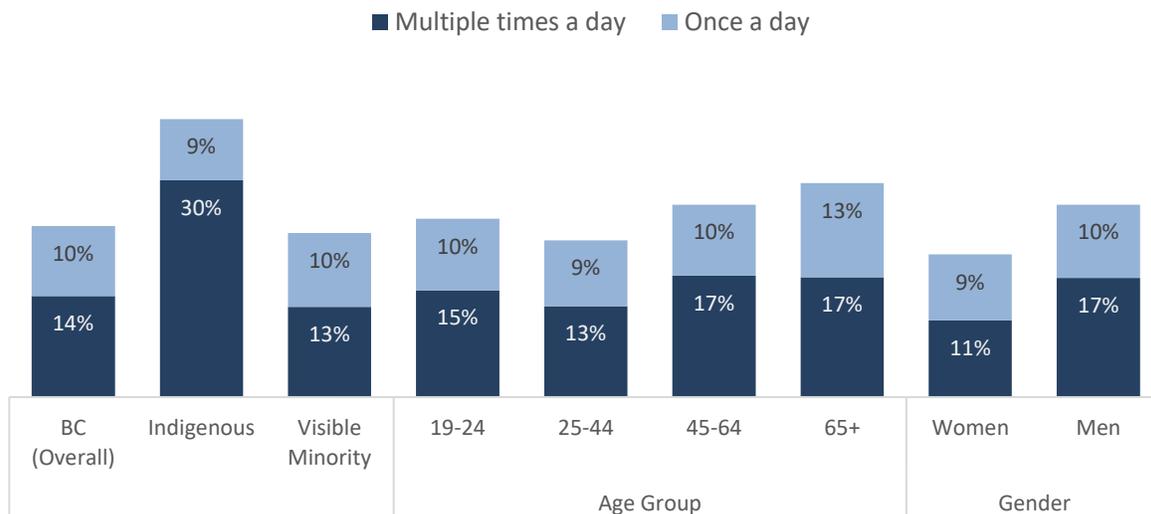


4. Potential risks of cannabis use

4.1. Frequent/heavy non-medical cannabis use

Cannabis is sometimes perceived as relatively safe to use, but health experts recommend avoiding frequent or intensive use which could be harmful to a person’s health.¹² Despite these concerns, one in four people (24%) who reported past 12-month cannabis use for non-medical purposes reported using it daily. This amounts to an estimated 6% of adults (around 260,000 people) in British Columbia who use cannabis for non-medical purposes at least once per day. Moreover, over half (59%) of those who use non-medical cannabis every day reported using it multiple times per day.

FIGURE 18: DAILY AND MORE THAN DAILY NON-MEDICAL CANNABIS USE AMONG THOSE WHO USED CANNABIS IN THE PAST 12 MONTHS



As shown in Figure 18, there were some differences in frequent cannabis use between groups of respondents. For example, those who use cannabis for non-medical purposes were more likely to report more than daily use if they were men (17%), identified as Indigenous (30%), or were over the age of 45+ (17%).

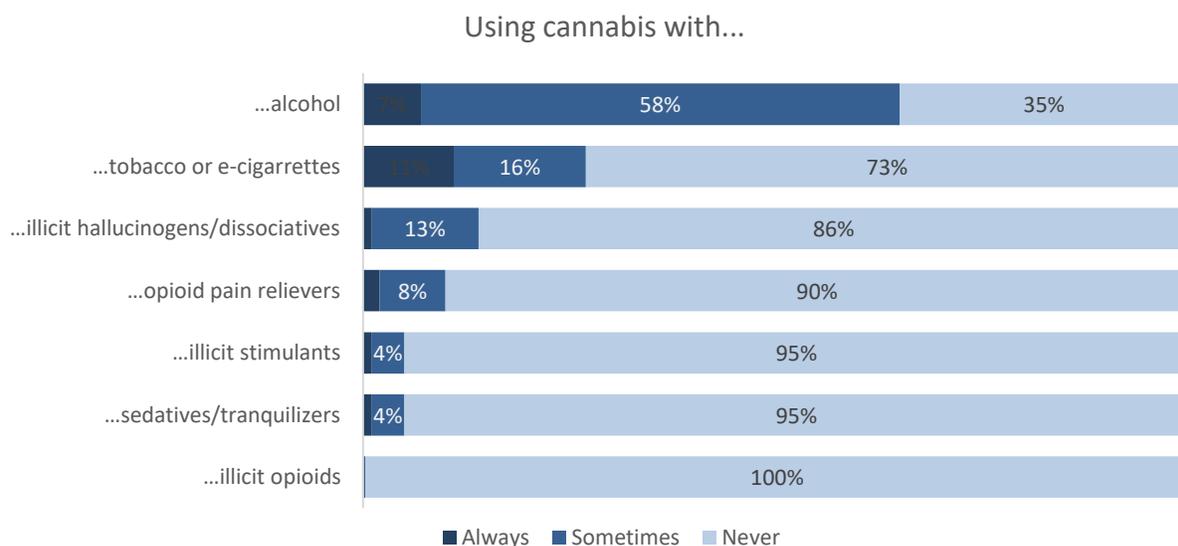
¹² Fischer, B., Russell, C., Sabioni, P., Van Den Brink, W., Le Foll, B., Hall, W., ... & Room, R. (2017). [Lower-risk cannabis use guidelines: a comprehensive update of evidence and recommendations](#). *American Journal of Public Health, 107*, e1-e12.

4.2. Using cannabis in combination with alcohol or other substances

Even with occasional or infrequent cannabis use, health experts recommend avoiding co-use of cannabis and certain drugs. With alcohol, for example, co-use with cannabis can have compounding effects on cognition¹³, and may increase the risk of negative outcomes.¹⁴

The *BC Cannabis Use Survey* asked respondents to indicate whether they “always”, “sometimes”, or “never” use cannabis in combination with other substances. As shown in Figure 19, alcohol was the substance reported most in combination with cannabis (65% sometimes or always), followed by tobacco (27% sometimes or always) and illicit hallucinogens (14% sometimes or always).

FIGURE 19: FREQUENCY OF CANNABIS USE IN COMBINATION WITH OTHER SUBSTANCES



¹³ Fares, A., Wright, M., Matheson, J., Mann, R. E., Stoduto, G., Le Foll, B., Wickens, C. M., Brands, B., & Di Ciano, P. (2022). [Effects of combining alcohol and cannabis on driving, breath alcohol level, blood THC, cognition, and subjective effects: A narrative review](#). *Experimental and Clinical Psychopharmacology*. Advance online publication.

¹⁴ Harrington, M., Baird, J., Lee, C., Nirenberg, T., Longabaugh, R., Mello, M. J., & Woolard, R. (2012). [Identifying subtypes of dual alcohol and marijuana users: A methodological approach using cluster analysis](#). *Addictive Behaviors*, 37, 119-123.

Compared to those age 25+, respondents aged 19 to 24 were more likely to report sometimes or always using cannabis with alcohol (71% vs. 63%), tobacco (39% vs. 24%), or illicit hallucinogens (20% vs. 13%). For alcohol, however, respondents age 25+ were more likely to report *always* using it with cannabis (7%) compared to those age 19 to 24 (4%).

Since 2018, fewer of those who use cannabis report using it in combination with alcohol (69% to 65%) and tobacco (31% to 27%), although more people report co-use with illicit hallucinogens such as LSD and magic mushrooms (10% to 14%).

4.3. Experience reducing cannabis use

Most people who used cannabis report more positive than negative impacts on their lives, but cannabis use can be problematic for some people. For example, a person may use it at inappropriate times, use it more often than they would like to, or may be dependent on it. In 2021, around one in eight (13%) people who use cannabis reported that someone (e.g., family member, co-worker) had expressed concern about their use, and 7% reported having failed an attempt to cut down or control their use. These 2021 figures were similar to 2018 (11% and 7%, respectively).

However, of the 7% of respondents who had tried and failed to control their use, one in four (26%) said they sought help to do it, which is a significant increase from 14% in 2018. A therapist or counsellor (53%), a friend or peer (51%), and a family member (43%) were the most frequently sought sources of help, although substance use rehabilitation programs (36%) and a family physician (25%) were also often reported.* It is possible that this shift from 2018 reflects a shift in social acceptability of both cannabis use and help-seeking. The survey did not ask respondents to indicate whether they had tried and successfully controlled their use, or if so, the sources they may have sought to help.

* These figures do not add to 100% because respondents could select multiple options.

4.4. Cannabis and childbearing

Current evidence suggests that the use of cannabis during pregnancy can lead to low birth weight¹⁵ and other adverse health outcomes.¹⁶ For these reasons, health experts recommend that pregnant and breastfeeding women avoid using cannabis.¹⁷

Among women who use cannabis and were between 19 to 50 years old, 12% confirmed they had given birth within the past five years. Among these women, around one quarter (27%) reported having used cannabis while pregnant. Of these pregnancies during the past five years, 91% of women who use cannabis report having breastfed the child, and 33% reported having used cannabis while breastfeeding. These findings are similar to those from 2018, which found that, among women who used cannabis and had given birth within the previous five years, 29% used cannabis during the pregnancy, and 35% used cannabis while breastfeeding.

Due to the length of the questionnaire, however, the survey did not include questions about the types of products or frequency that these women used cannabis during pregnancy and/or breastfeeding. Nonetheless, these findings highlight the need for further research into cannabis use and perceptions of use during pregnancy and while breastfeeding.

4.5. Cannabis on BC roads

When non-medical cannabis became legal in 2018, there was a strong concern that it would lead to an increase in cannabis-impaired driving. Although data is still being collected to understand the impact of cannabis legalization on road safety, the *BC Cannabis Survey* provides some initial evidence on possible changes in behaviour and perceptions.

¹⁵ Haight, S. C., King, B. A., Bombard, J. M., Coy, K. C., Ferré, C. D., Grant, A. M., & Ko, J. Y. (2021). [Frequency of cannabis use during pregnancy and adverse infant outcomes, by cigarette smoking status—8 PRAMS states, 2017](#). *Drug and Alcohol Dependence*, 220, 108507.

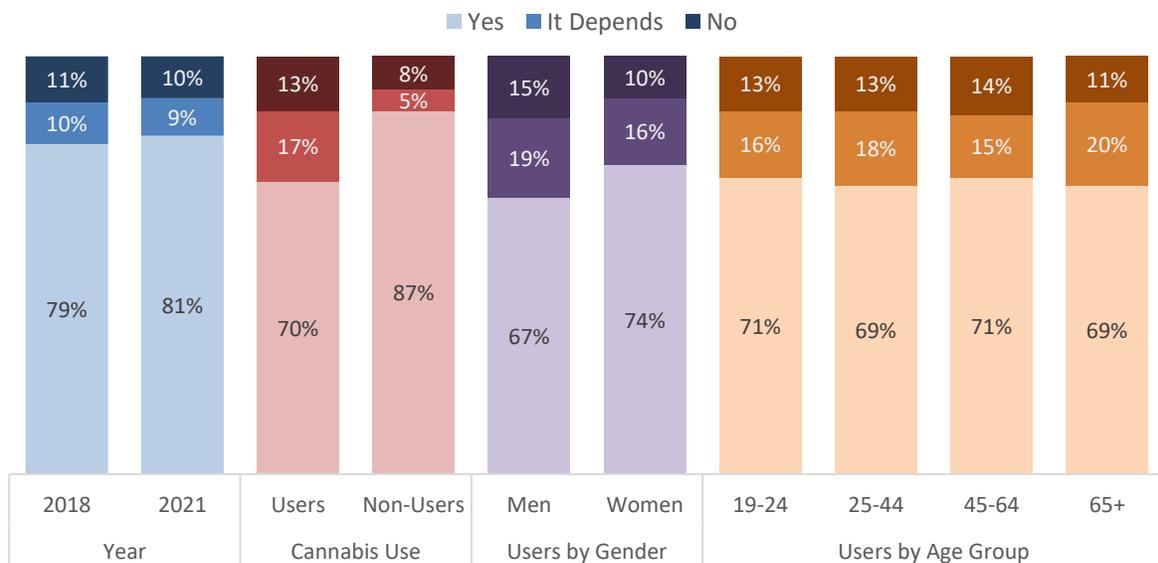
¹⁶ Luke, S., Hutcheon, J., & Kendall, T. (2019). [Cannabis use in pregnancy in British Columbia and selected birth outcomes](#). *Journal of Obstetrics and Gynaecology Canada*, 41, 1311-1317.

¹⁷ Public Health Agency of Canada. (2019). [Canada's lower-risk cannabis use guidelines](#). Ottawa, Canada.

4.5.1. Perceived risk of cannabis-impaired driving

Most respondents (81%) believe that cannabis impairs one’s ability to drive or operate a vehicle (unchanged from 79% in 2018; see Figure 20). Those who use cannabis were less likely to hold this belief (70%), and this was especially true among daily cannabis users (53%). Compared to non-users, those who use cannabis were more likely to believe that impairment to one’s driving ability depended on other factors (17% vs. 5%) such as the amount of cannabis used or the person using it.

FIGURE 20: OPINIONS ON WHETHER CANNABIS IMPAIRS ONE’S ABILITY TO DRIVE



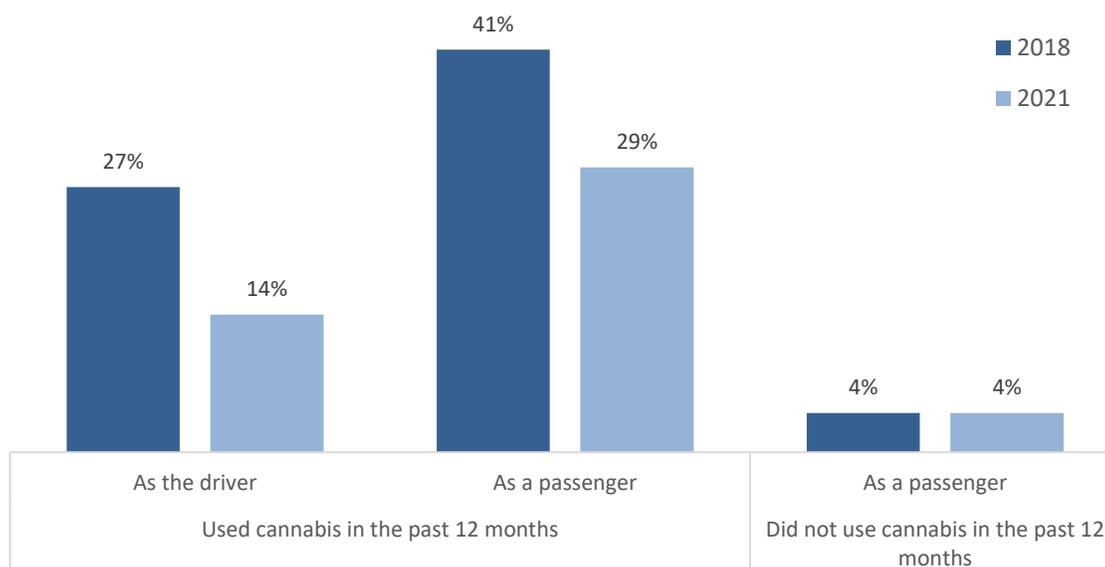
4.5.2. Driving after using cannabis

Those who use cannabis and had a valid driver’s license were asked to indicate whether they had ever driven a motor vehicle within 2 hours of inhaling or 4 hours of eating cannabis.¹⁸ One in five people in British Columbia who use cannabis reported having driven a motor vehicle shortly after using cannabis at some point in their lifetime (22%). Most people reported that this happened within the past 30 days (39%), or that it happened more than 30 days ago but within the past year (30%). In addition, 27% of these respondents who reported having driven after

¹⁸ The wording of this question changed from “Have you ever driven a motor vehicle within 2 hours of using cannabis?” in 2018 to “Have you ever driven a motor vehicle within 2 hours of inhaling or within 4 hours of eating cannabis?” in 2021.

using cannabis also reported that they had driven shortly after using cannabis in combination with alcohol or another drug (other than tobacco).

FIGURE 21: DRIVING WITHIN 2 HOURS OF SMOKING OR 4 HOURS OF INGESTING CANNABIS WITHIN THE PAST YEAR

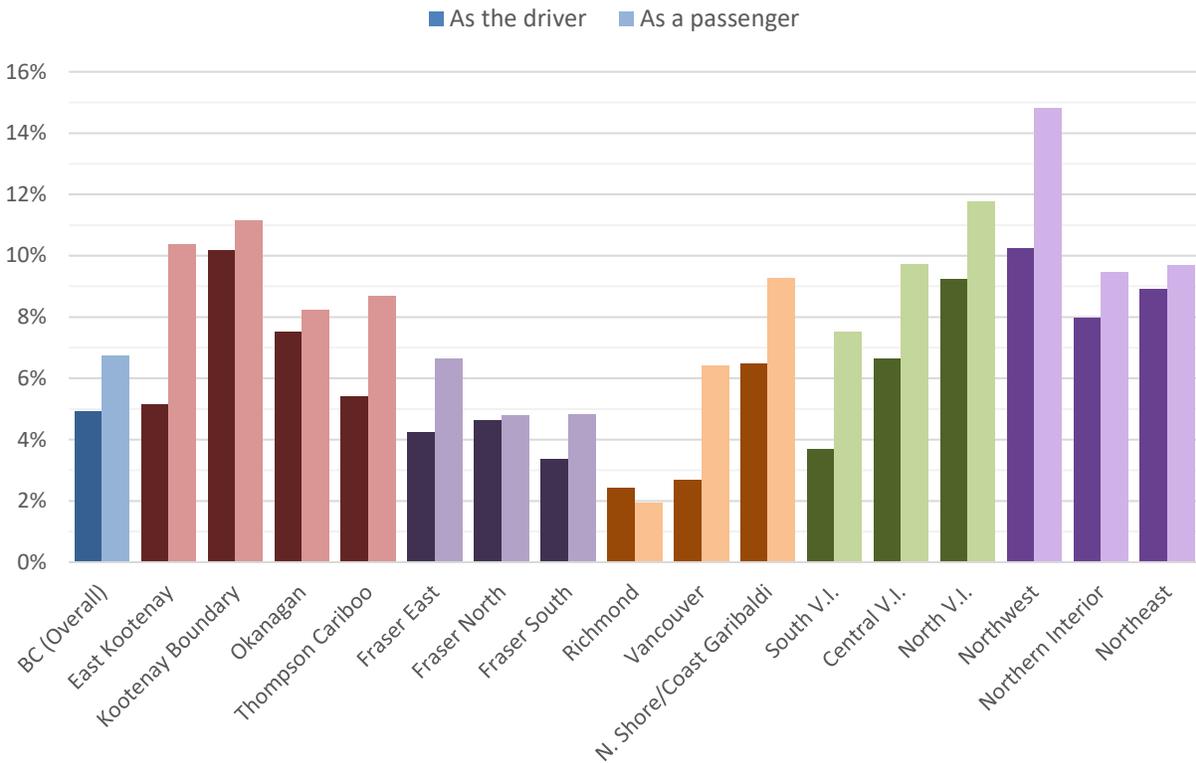


As shown in Figure 21, there was a decrease from 2018 to 2021 in self-reported driving after using cannabis (from 27% to 14%). This amounts to an estimated 4.9% of adults in British Columbia who report having driven shortly after using cannabis at least once within the past year, which is a decrease from 7.7% in 2018.

Also, compared to 2018, fewer people who use cannabis reported having been a passenger of a driver who recently used cannabis (from 41% to 29%). Riding as a passenger with a driver who recently used cannabis was reported much more often among respondents who use cannabis (64% in lifetime, 28% within the past year) than those who do not (23% in lifetime, 3% within the past year).

As shown in Figure 22, there were also significant variations in self-reported driving after cannabis use across British Columbia.

FIGURE 22: ESTIMATED PERCENTAGE OF ADULTS BY HSDA WHO REPORT HAVING DRIVEN AFTER USING CANNABIS WITHIN THE PAST YEAR



The Canadian Cannabis Survey also showed a decrease in driving after using cannabis across Canada, suggesting fewer people in British Columbia and Canada may be driving after using cannabis.¹⁹ However, other evidence suggests that, since legalization, B.C. drivers involved in motor vehicle collisions are increasingly likely to have THC in their blood.²⁰ These seemingly contradictory findings could reflect differences in study methodology, but highlight the need for more research and data in this area.

¹⁹ Health Canada. (2021). [Cannabis use for non-medical purposes among Canadians \(Aged 16+\)](#). *Data Blog*. Ottawa, Canada.

²⁰ Brubacher, J. R., Chan, H., Erdelyi, S., Staples, J. A., Asbridge, M., & Mann, R. E. (2022). [Cannabis legalization and detection of tetrahydrocannabinol in injured drivers](#). *New England journal of medicine*, 386, 148-156.

5. Conclusion and next steps

Taken together, these findings provide insight into how cannabis legalization has impacted the lives of people living British Columbia. Like many provinces and territories, cannabis use has gradually become more prevalent in B.C., with non-smoking methods of use increasing in popularity. Most people who use cannabis in British Columbia seem to do so responsibly. Findings from this survey did not suggest there have been sharp increases in heavy cannabis use, cannabis-impaired driving, or other potentially risky behaviours since legalization.

These findings also show that there have been significant changes in where people get their cannabis products compared to 2018. People in British Columbia are increasingly getting their cannabis products from provincially and federally authorized sources while illicit sources become less prevalent – a trend that is expected to continue in the coming years. However, there are still many unknowns regarding the legalization of cannabis in British Columbia, such as how it may have impacted the accessibility or perceived risk of cannabis to people under 19 years of age, and how an increase in cannabis use may impact people’s physical and mental health. In addition, most people who use cannabis reported reducing their use of alcohol or other substances (e.g., pain relievers), which highlights the need for further research into the scope and potential outcomes from using cannabis as a substitute. There is also a need for other sources of data on potential changes in cannabis-impaired driving, such as data on collisions and hospitalizations.

The *BC Cannabis Use Survey* helps address several data gaps regarding cannabis in British Columbia, but these findings only scratch the surface. As the market continues to evolve and stigma around cannabis use slowly fades there is a need for regular monitoring and evaluation to effectively assess public health and safety impacts of cannabis use.

We want to thank those who participated in this study. This research would not be possible without the nearly 25,000 people living in British Columbia who volunteered their time and effort to complete this survey.



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