

Canada

2021 CANNABIS REPORT

SEPTEMBER 2022



UNIVERSITY OF
WATERLOO

Forward

In October 2018, Canada became the second country to legalize non-medical cannabis. The primary objectives of the federal Cannabis Act includes preventing young persons from accessing cannabis and protecting public health and safety by establishing a legal regulatory framework.

The current report summarizes Canadian findings from the International Cannabis Policy Study (ICPS). The ICPS Project is an international research collaboration designed to examine the public health impact of cannabis policies, including legalization of medical and non-medical cannabis. The ICPS Project includes annual population-based surveys conducted in Canada and the United States (since 2018), as well as Australia and New Zealand (since 2021). The current report presents indicators of cannabis use in the year prior to legalization, and in the three years following legalization of non-medical cannabis in Canada.

Visit the study website for more information:
www.cannabisproject.ca.



FUNDING

FUNDING FOR THIS STUDY WAS PROVIDED BY A CANADIAN INSTITUTES OF HEALTH (CIHR) PROJECT GRANT AND A CIHR PARTNERSHIPS FOR CANNABIS POLICY EVALUATION TEAM GRANT.

ETHICS CLEARANCE

THE PROJECT HAS BEEN REVIEWED BY AND RECEIVED ETHICS CLEARANCE THROUGH A UNIVERSITY OF WATERLOO RESEARCH ETHICS COMMITTEE (ORE#31330).

SUGGESTED CITATION

HAMMOND D, CORSETTI D, GOODMAN S, IRANIPARAST M, DANH HONG D, BURKHALTER R, ON BEHALF OF THE ICPS RESEARCH TEAM. INTERNATIONAL CANNABIS POLICY STUDY – CANADA 2021 SUMMARY. SEPTEMBER 2022.

CONTACT

DAVID HAMMOND PhD
PROFESSOR
SCHOOL OF PUBLIC HEALTH SCIENCES
UNIVERSITY OF WATERLOO
DHAMMOND@UWATERLOO.CA
519 888 4567 EXT. 46462
WWW.CANNABISPROJECT.CA



Methods

OVERVIEW

The International Cannabis Policy Study is a repeat cross-sectional survey conducted annually in the United States and Canada (since 2018), as well as Australia and New Zealand (since 2021) to examine trends in cannabis. This report summarizes key indicators from the 2021 ICPS survey in Canada from September 14 to November 8, 2021.

SAMPLE

Respondents were 16–65 years of age and were recruited through the Nielsen Consumer Insights Global Panel. The analytic sample for 2021 comprised 52,938 respondents in Canada (n= 16,952), the United States (n= 30,081), Australia (2,925) and New Zealand (2,980). The current report focuses on the Canadian subsample of 58,045 respondents who participated in the 2018 (n=10,057), 2019 (n=15,526), 2020 (n=15,780), or 2021 (n= 16,952) surveys. All 2018 surveys were conducted prior to cannabis legalization.

SURVEY

The survey covers the following content areas:

- prevalence and patterns of cannabis use;
- cannabis purchasing and price;
- cannabis consumption and modes of use;

- commercial retail environment;
- risk behaviours;
- cannabis knowledge, perceptions of risk and social norms;
- exposure to health warnings and public educational campaigns;
- exposure to cannabis marketing and branding;
- substance use and other risk behaviours; and
- socio-demographics and socio-economic status.

DATA ANALYSIS

Post-stratification survey weights were created using age-by-sex-by-province, education, and age-by-smoking status groups. All estimates in the current report are weighted and rescaled to the original sample size within each province. Comparisons are provided between Canada across years, as well as between provinces.

TECHNICAL REPORT

The survey and technical report are available at:

www.cannabisproject.ca/methods.

The technical report includes detailed information on methodology and survey weighting.



Sample profile

Canada

	2018 n=10,057	2019 n=15,256	2020 n=15,780	2021 n=16,952
Sex				
Female	5,012	7,583	7,843	8,420
Male	5,045	7,673	7,937	8,532
Age group				
16-25	1,902	2,867	2,946	3,108
26-35	2,087	3,191	3,328	3,600
36-45	1,969	3,014	3,156	3,441
46-55	2,088	3,038	3,068	3,252
56-65	2,011	3,147	3,282	3,550
Education level				
<High school	1,552	2,355	2,413	2,606
High school	2,671	4,035	4,173	4,484
Some college	3,264	4,936	5,103	5,483
Bachelor's degree	2,489	3,755	3,882	4,178
Province				
British Columbia	1,329	2,094	2,173	2,352
Alberta	1,209	1,813	1,875	2,011
Saskatchewan	312	464	476	508
Manitoba	360	547	563	604
Ontario	3,926	5,983	6,205	6,672
Québec	2,272	3,387	3,494	3,733
Atlantic provinces	649	969	995	1,073
Nova Scotia	260	390	401	435
New Brunswick	204	308	316	340
Nfld & Lab	144	209	213	226
PEI	41	62	65	72

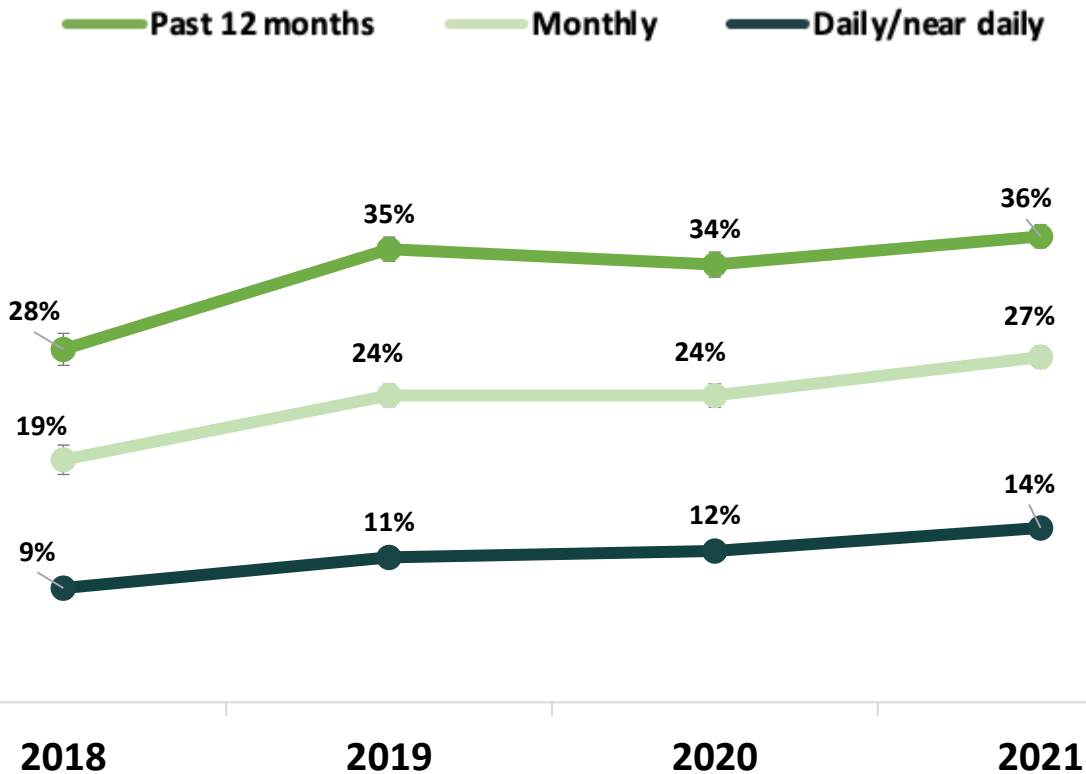
Trends in cannabis prevalence

Canada 2018 - 2021

Cannabis prevalence increased in Canada following legalization of non-medical cannabis in 2018. Prevalence stabilized between 2019 and 2020, with modest increases in 2021.

Prevalence of cannabis use in Canada 2018 -2021

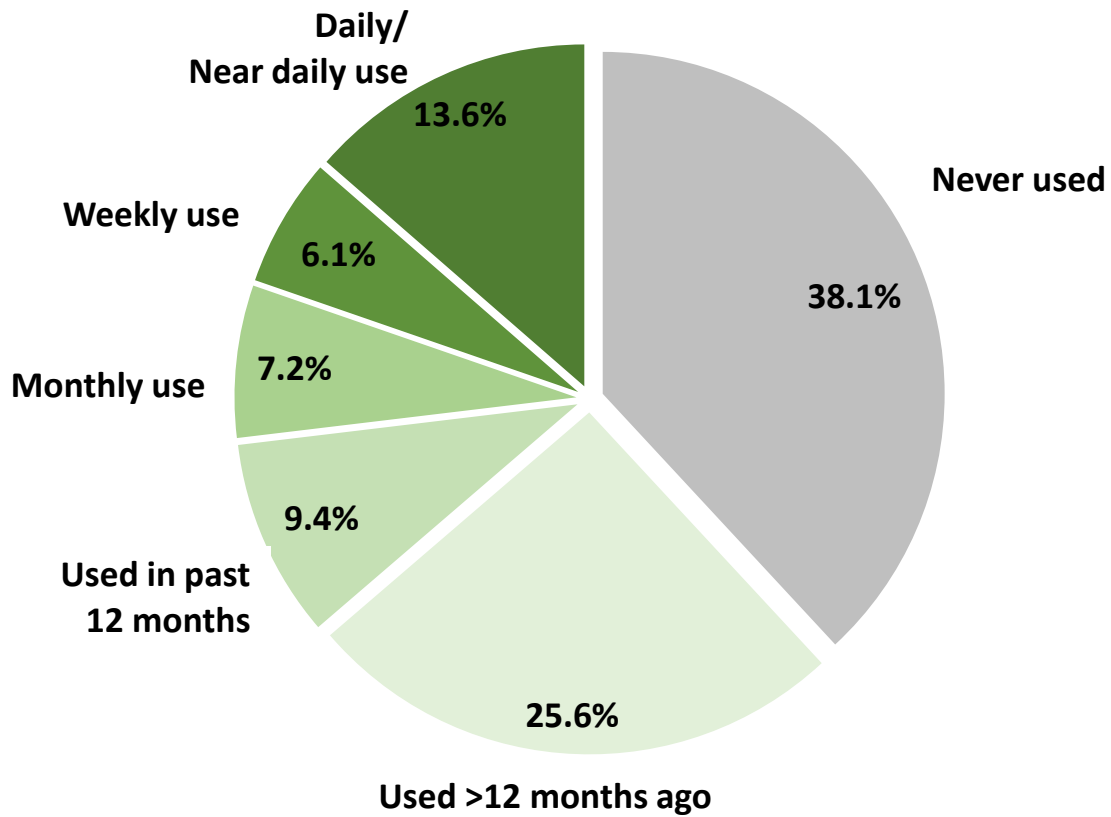
n=58,045



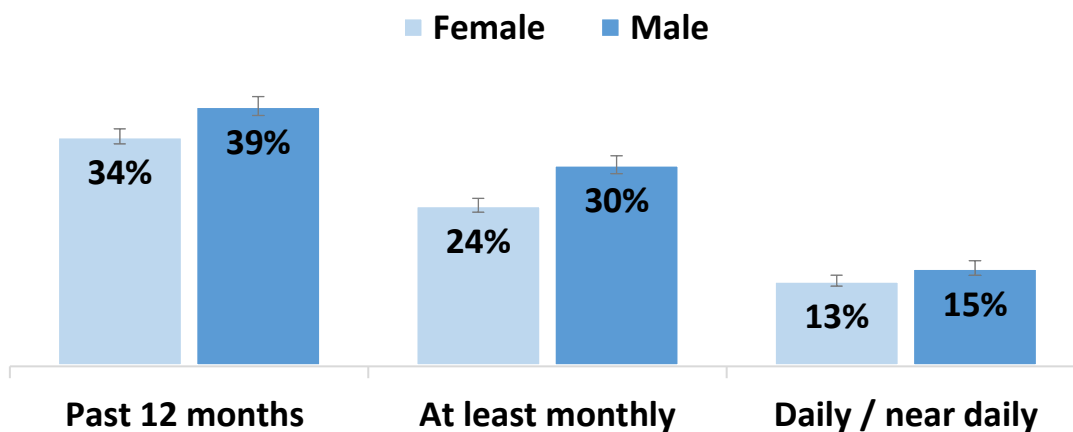


Cannabis prevalence

Canada 2021



By sex



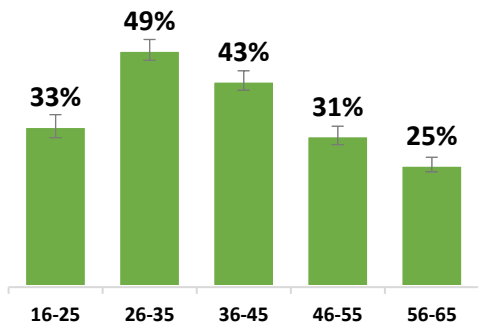
AMONG ALL RESPONDENTS (N=16,952). DAILY/NEAR DAILY USE ≥ 5 DAYS PER WEEK

Cannabis prevalence

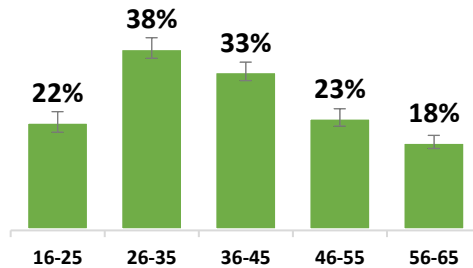
Canada 2021

By age

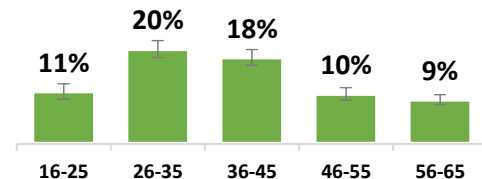
Past 12 months



Monthly

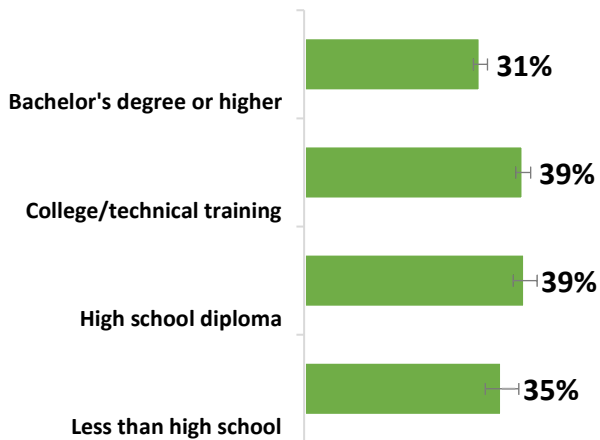


Daily/almost daily

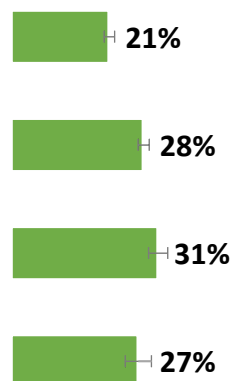


By education

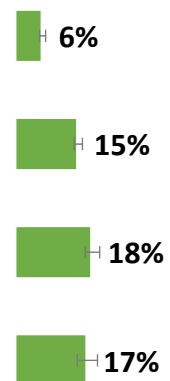
Past 12 months



Monthly

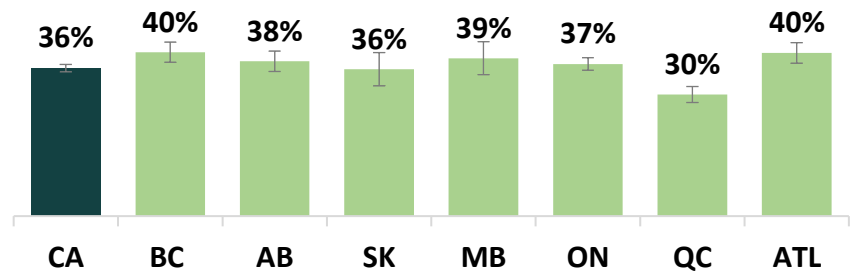


Daily/almost daily

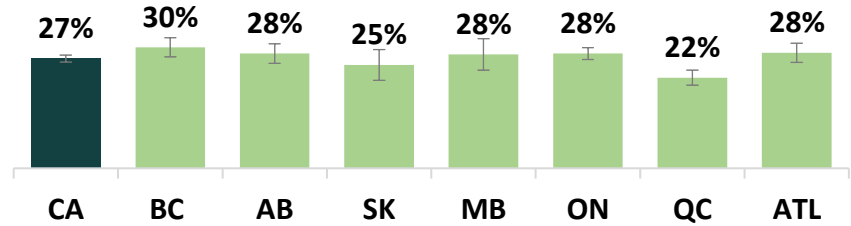


Cannabis prevalence 2021

**Past 12 months
Cannabis use**



**Past month
Cannabis use**



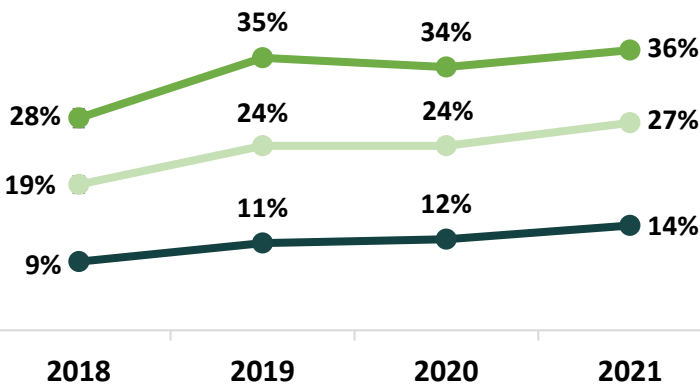
**Daily / near daily
Cannabis use**



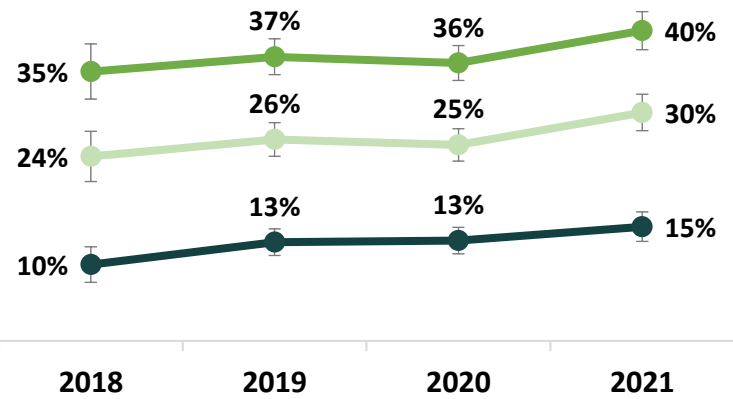
Trends in cannabis prevalence

— Past 12 months — Monthly — Daily/near daily

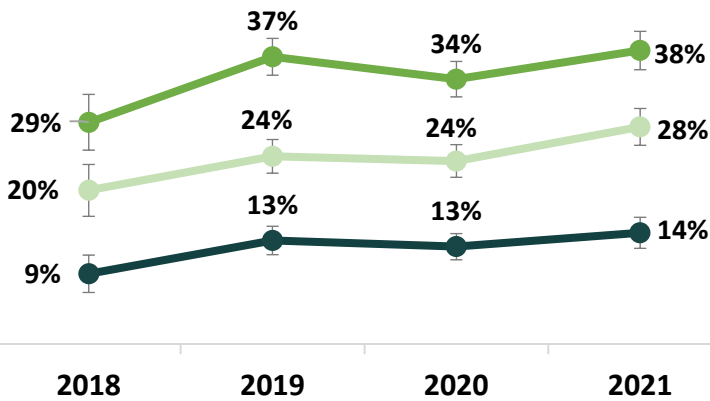
Canada n=58,045



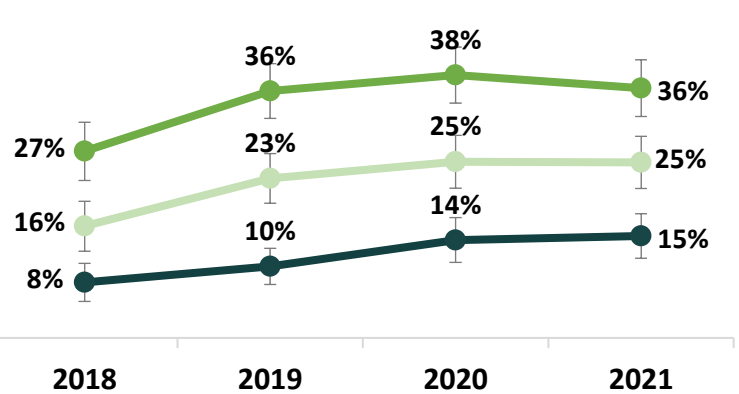
British Columbia n=7,857



Alberta n=7,746



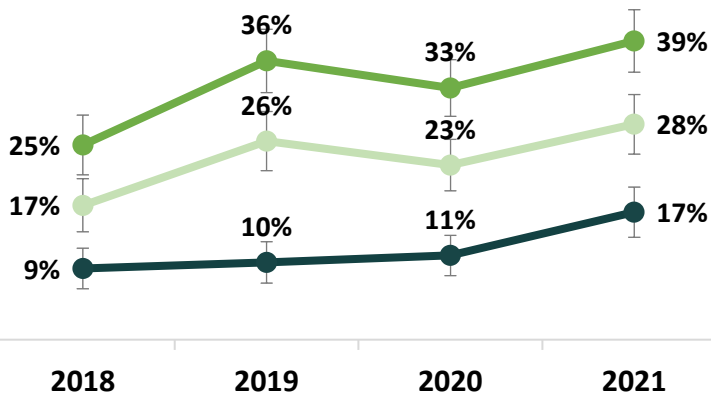
Saskatchewan n=3,484



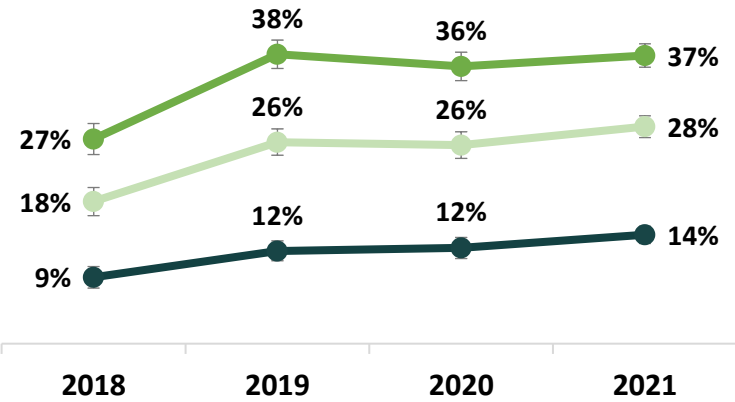
Trends in cannabis prevalence

— Past 12 months — Monthly — Daily/near daily

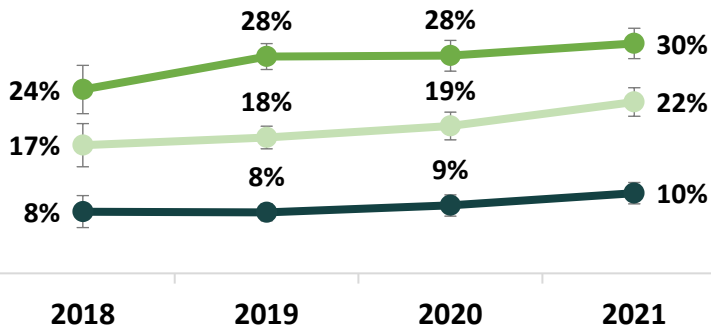
Manitoba n=3,612



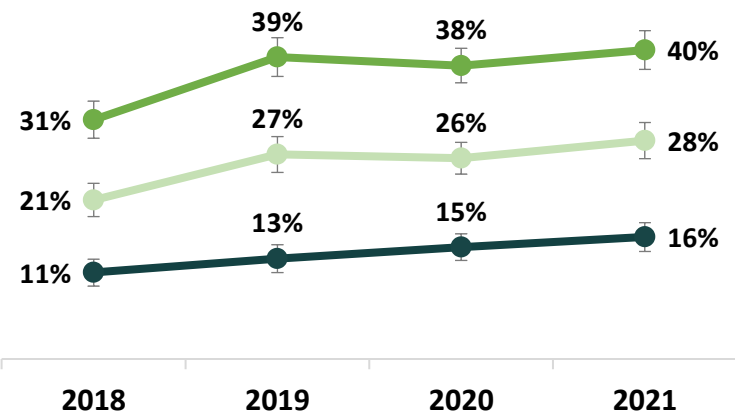
Ontario n=14,765



Quebec n=10,165



Atlantic n=10,416

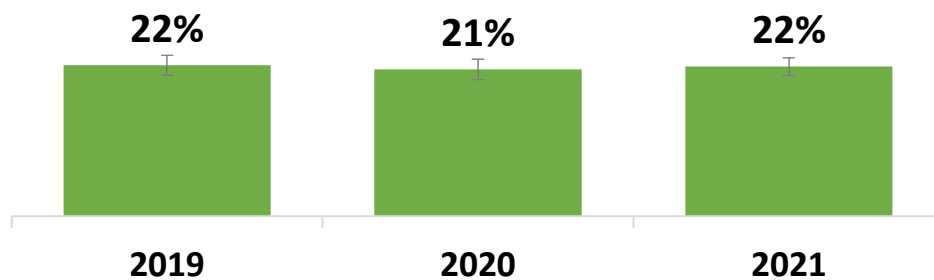


Medical authorization

In 2021, approximately 1 in 5 past 12-month cannabis consumers reported that their cannabis consumption was exclusively for medical purposes, with few differences since 2019.

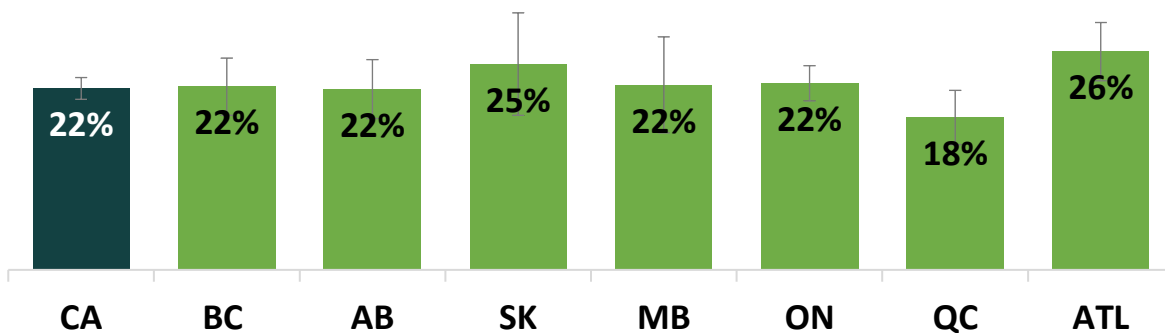
Percent of consumers who self-identify as a medical marijuana user only?

% 'YES', PAST 12-MONTH CONSUMERS, N=16,729



Percent of consumers who self-identify as a medical marijuana user only?

% 'YES', PAST 12-MONTH CONSUMERS, 2021 N=6,112



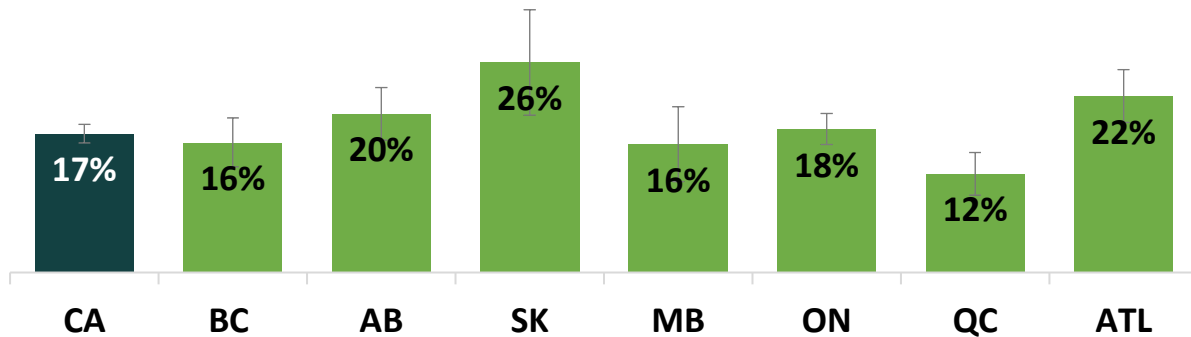
"Do you self-identify as a medical marijuana user only? By "medical marijuana user," we mean someone who uses marijuana only to treat a medical condition."

Medical authorization

Medical cannabis use was legalized in Canada in 2001. Almost 1 in 5 past 12-month cannabis consumers had 'ever' asked a health professional about authorization for medical cannabis. Among those who had asked, approximately 2 in 5 had ever been refused.

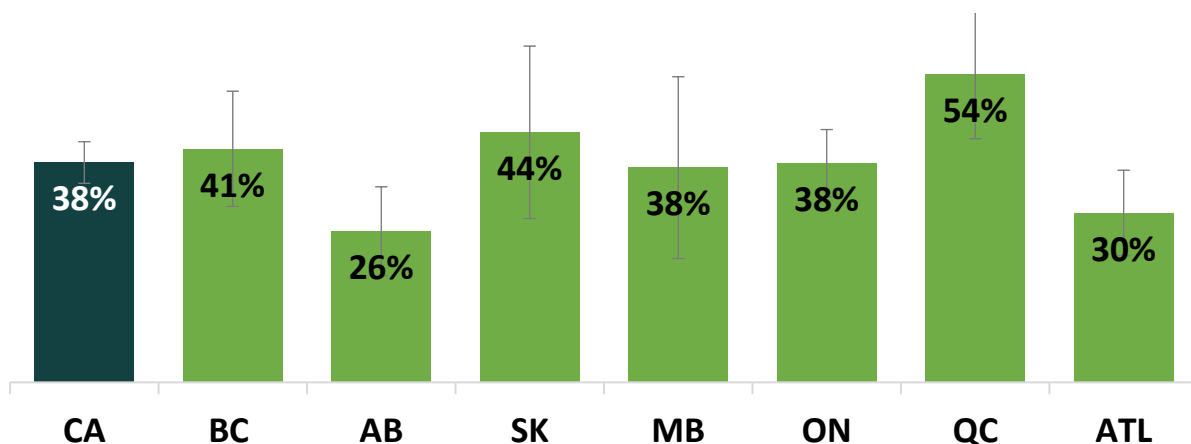
Have you ever asked a licensed health professional for authorization to use medical marijuana?

% 'YES', AMONG PAST 12-MONTH CONSUMERS, 2021, N=6,111



Have you ever been refused authorization for medical marijuana?

% 'YES', PAST 12-MONTH CONSUMERS WHO HAVE SOUGHT APPROVAL, 2021, N=1,059



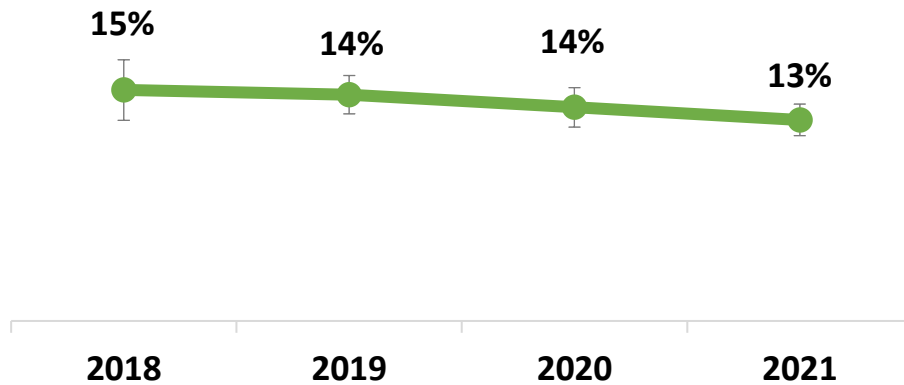


Medical authorization

In 2021, 13% of past 12-month cannabis consumers reported 'ever' receiving approval for medical cannabis use, a modest decrease since 2018.

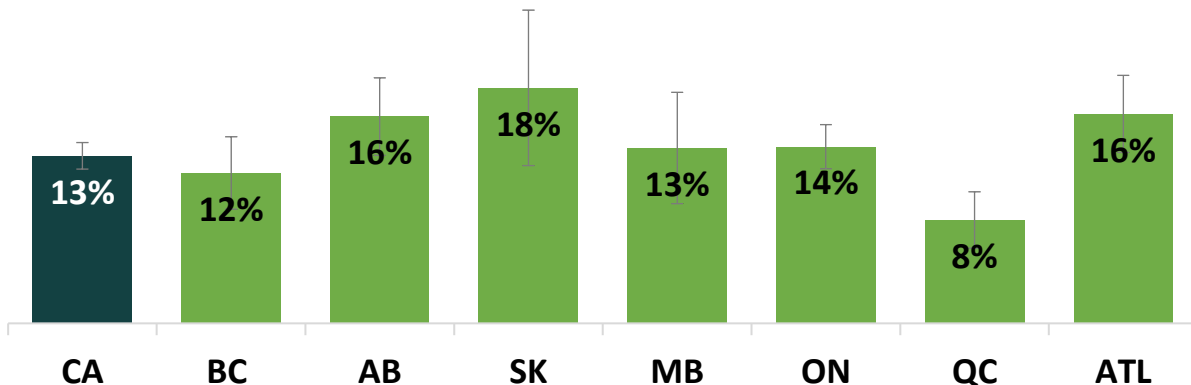
Have you ever received authorization for medical marijuana?

% 'YES', PAST 12-MONTH CONSUMERS, N=18,428



Have you ever received authorization for medical marijuana?

% 'YES', PAST 12-MONTH CONSUMERS, 2021, N=5,935

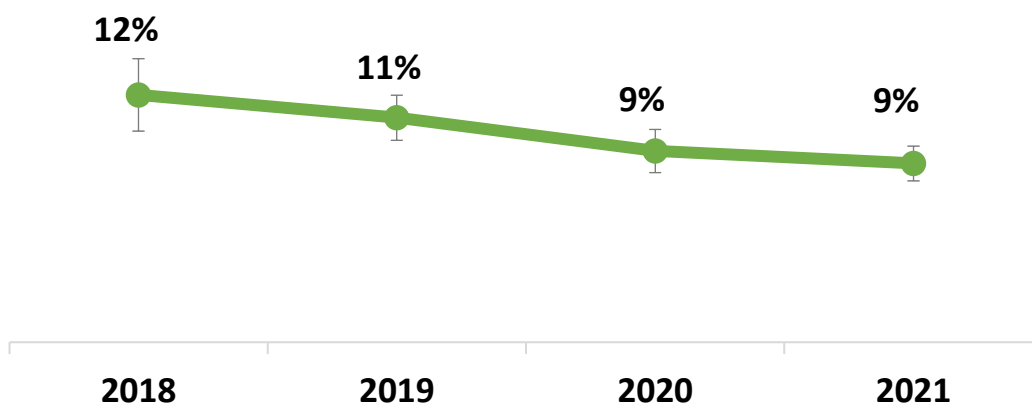


Medical authorization

In 2021, 9% of past 12-month cannabis consumers reported authorization for medical cannabis use in the past year, a decrease from 12% in 2018.

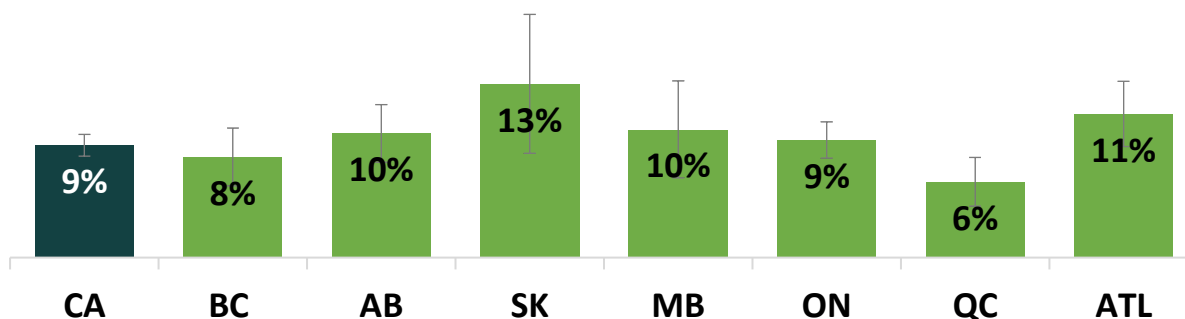
Were you authorized to use medical marijuana at any time in the past 12 months?

% 'YES', PAST 12 MONTH CONSUMERS, N=18,428



Were you authorized to use medical marijuana at any time in the past 12 months?

% 'YES', PAST 12-MONTH CONSUMERS, 2021, N=5,935



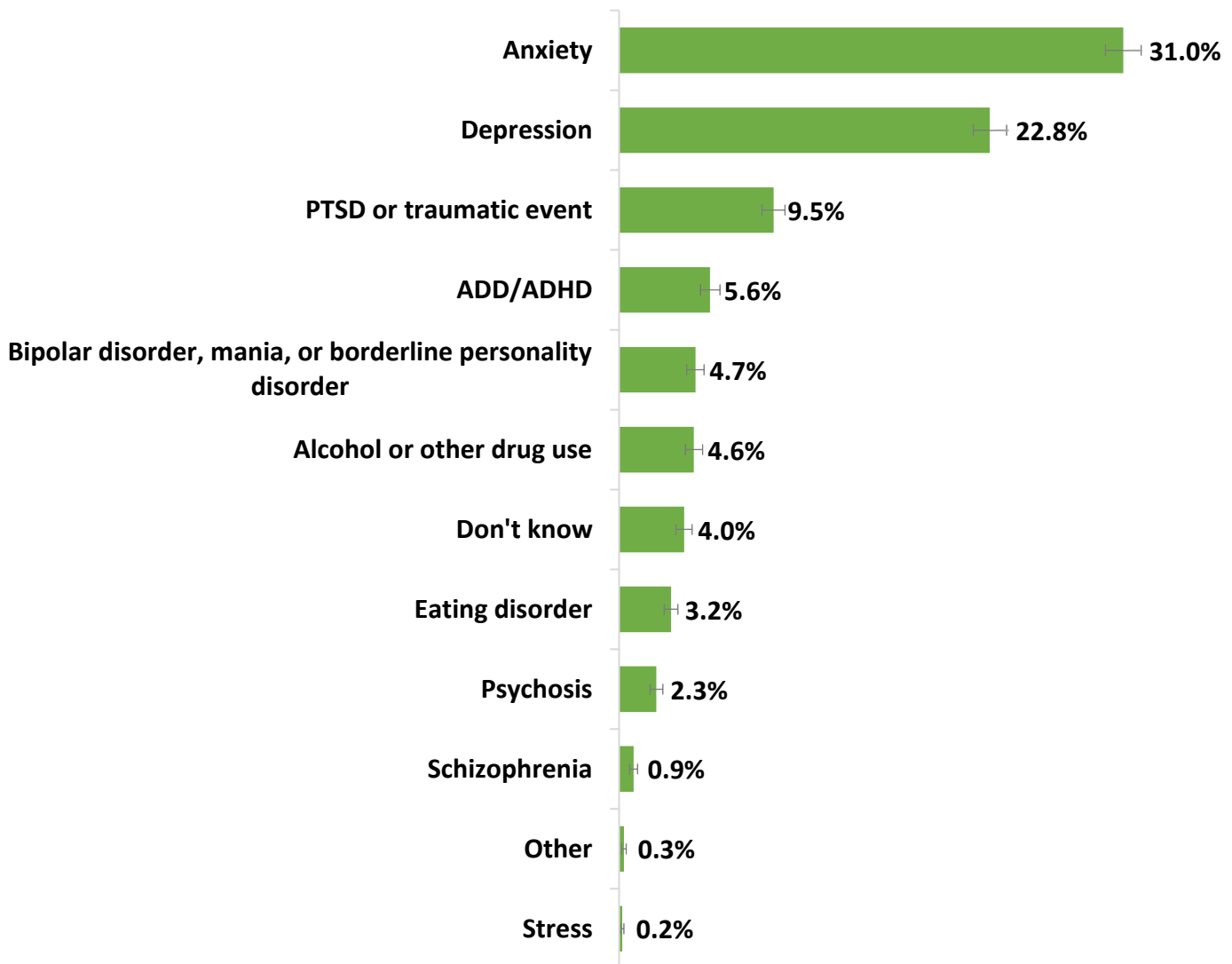


Cannabis use to manage or improve mental health

Among all 'ever' cannabis consumers, more than a third reported using cannabis to improve or manage their mental health. Consumers were most likely to report using cannabis to improve or manage anxiety, depression and PTSD.

Have you ever used marijuana to improve or manage symptoms for any of the following?

% 'YES' AMONG EVER CANNABIS CONSUMERS, 2021, N=10,688



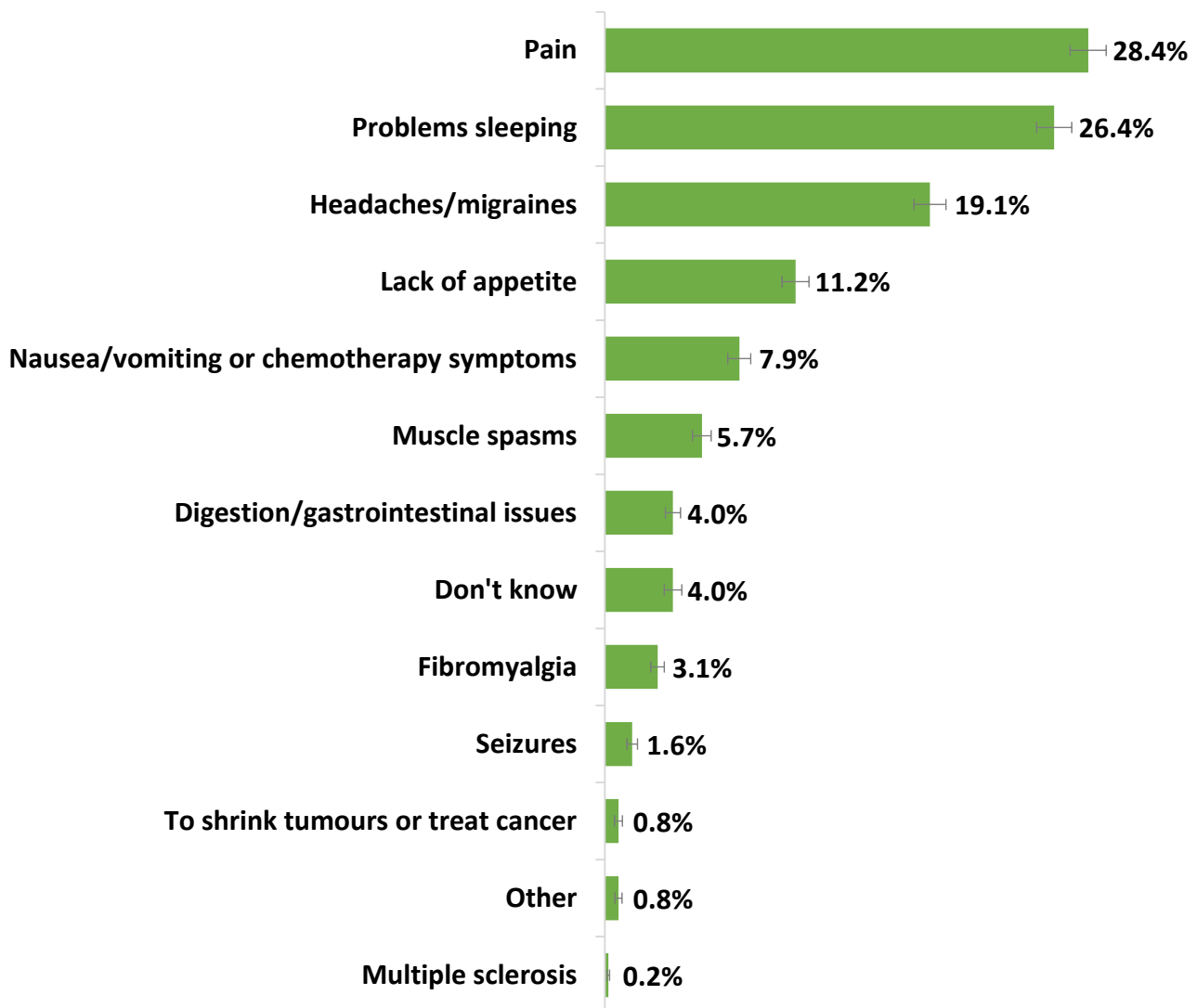


Cannabis use to manage or improve physical health

'Ever' cannabis consumers reported using cannabis to improve or manage a range of symptoms, including pain, sleeping problems and headaches/migraines.

Have you ever used marijuana to improve or manage symptoms for any of the following?

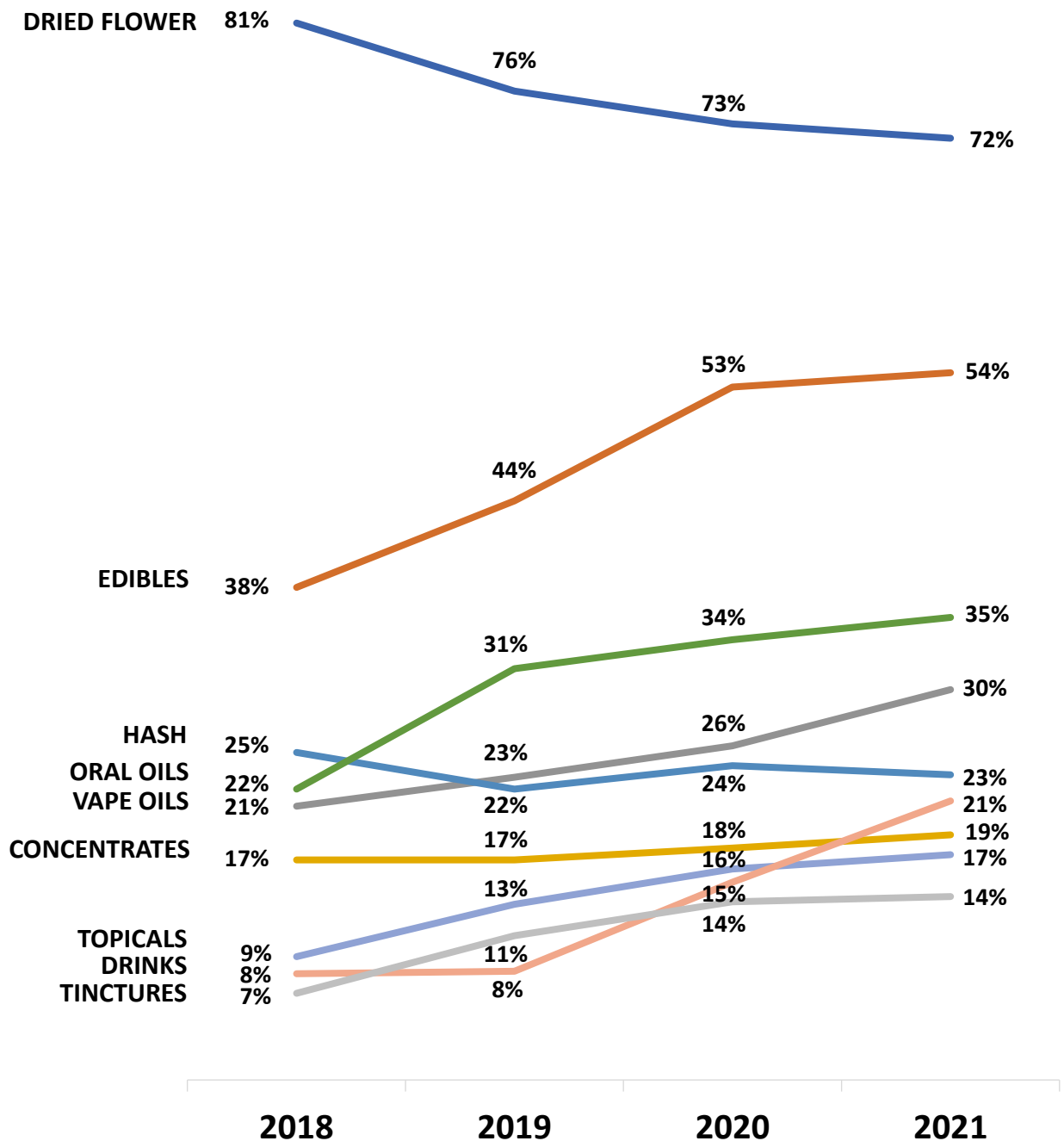
% 'YES' AMONG 'EVER' CANNABIS CONSUMERS, 2021, N=10,688



Types of cannabis products

Cannabis consumers 2018-2021

Dried flower was the most commonly-used product among past 12-month consumers in all years. The use of dried flower decreased between 2018 and 2021; whereas use of most other products increased, particular for edibles, oral oils, and vape oils.

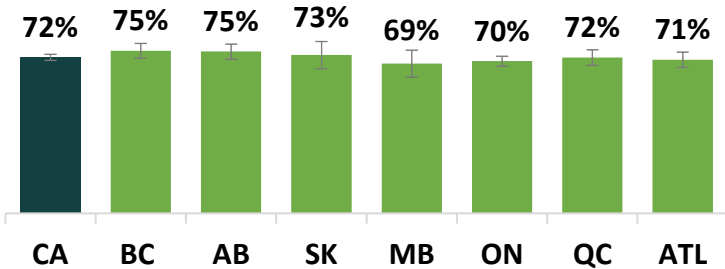


Types of cannabis products 2021

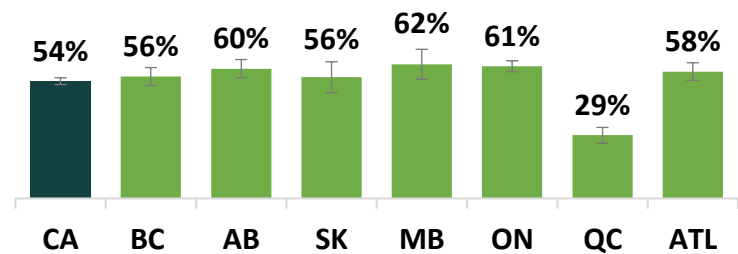
Use of cannabis products among past 12-month consumers was similar across provinces, with the notable exception of Québec, in which consumers were likely to report using edibles, vape oils, and solid concentrates. Québec is the only Canadian province to implement a limit of 30% THC, with additional restrictions on edibles and vape oils.



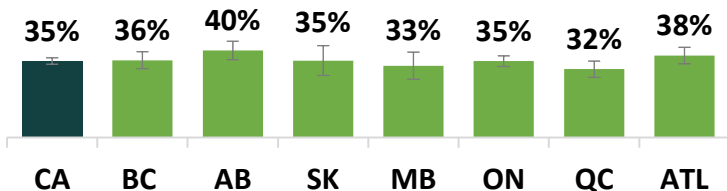
Dried flower



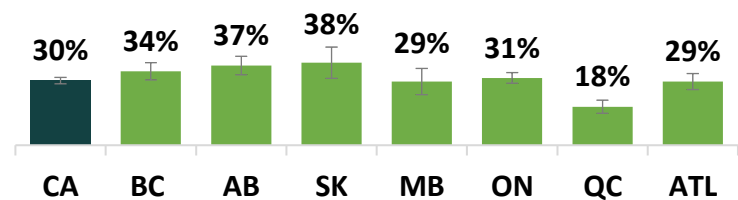
Edibles



Drops or capsules



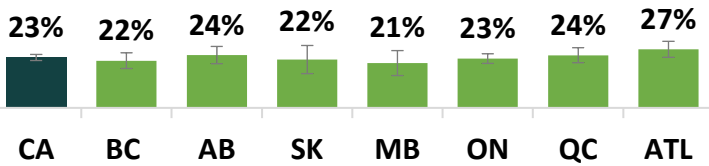
Vape oils



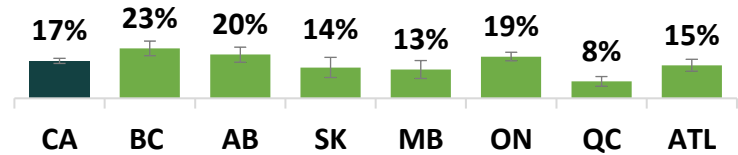
Types of cannabis products 2021



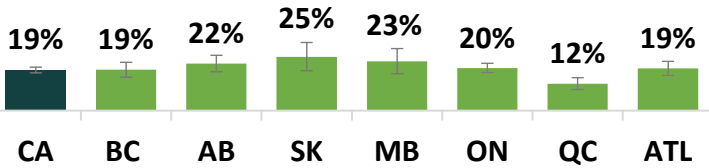
Hash or kief



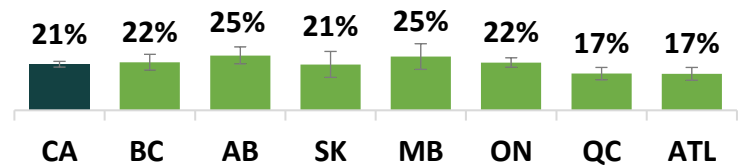
Topicals



Solid concentrates



Drinks



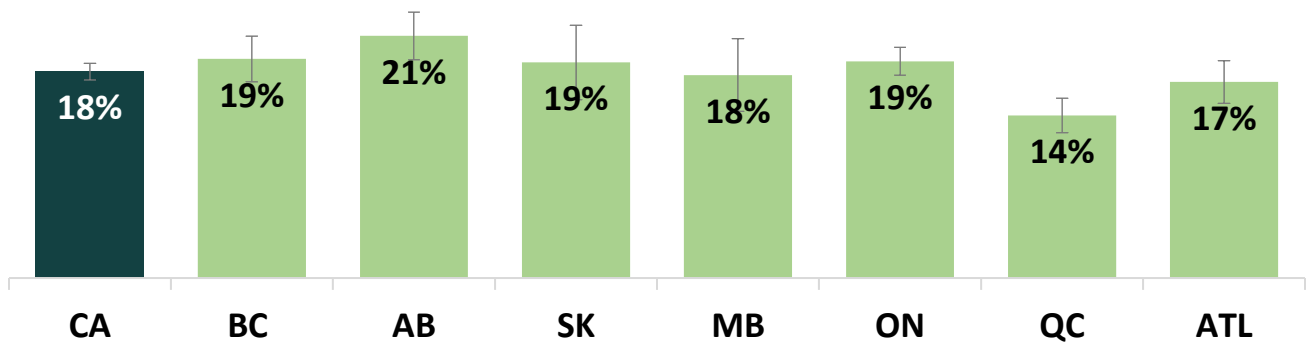
Tinctures



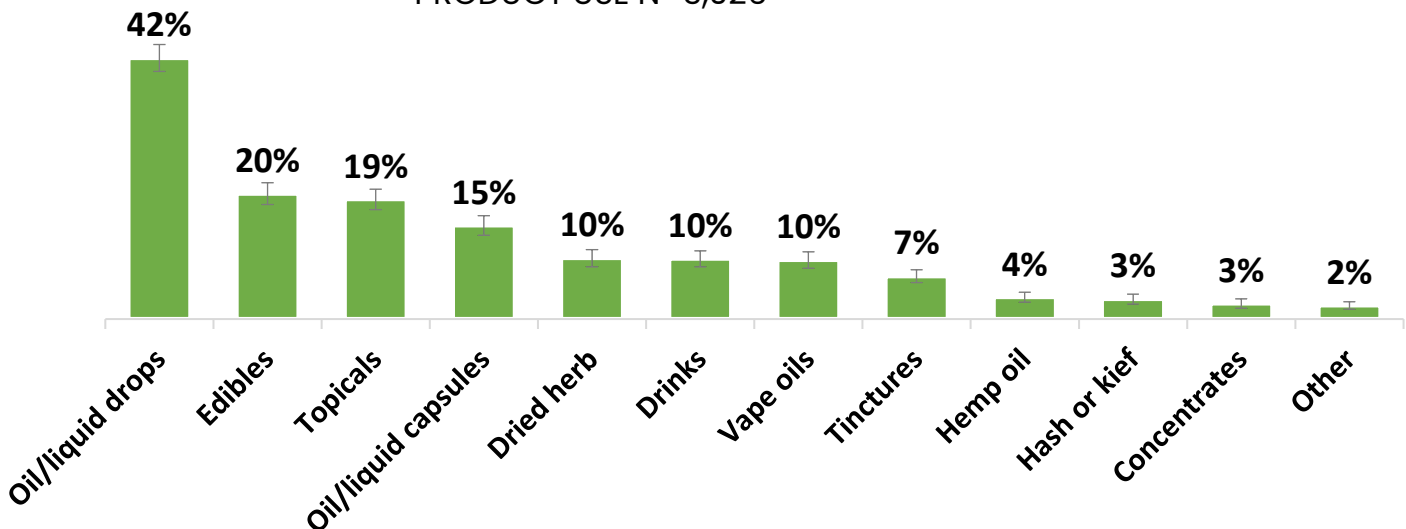
Use of 'non-THC' CBD products

In 2021, 18% of all respondents reported using “CBD-only products” (with no THC) in the past 12 months. The most common CBD product types were oil/liquid drops, edibles, and topicals.

Use of CBD-only products
IN PAST 12 MONTHS N=16,952



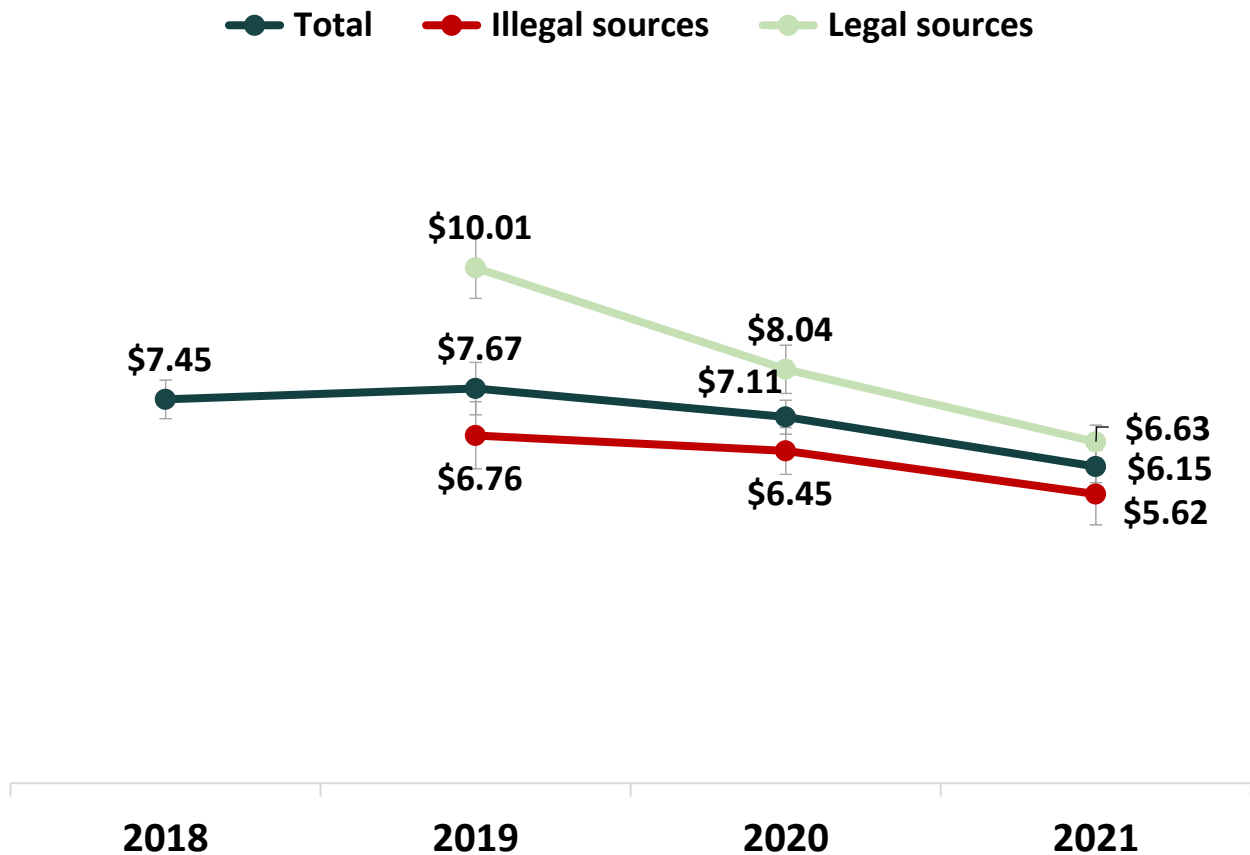
Type of CBD-only products used
AMONG THOSE WHO REPORTED CBD-ONLY
PRODUCT USE N=3,026



Price of dried flower

Consumers reported paying an average of \$6.15 per gram of dried flower in 2021, including from legal and illegal sources. The price paid for dried flower from legal retail sources markedly decreased between 2019 to 2021, with more modest decreases in price from illegal sources. In 2019, the average price paid from legal sources was \$10.01 per gram, 48% higher than from illegal sources, compared to \$6.63 in 2021, 18% higher than illegal sources.

Price paid for dried flower
SALES WEIGHTED PRICE-PER-GRAM OF DRIED FLOWER
AT LAST PURCHASE, 2018-2021 n=7,151

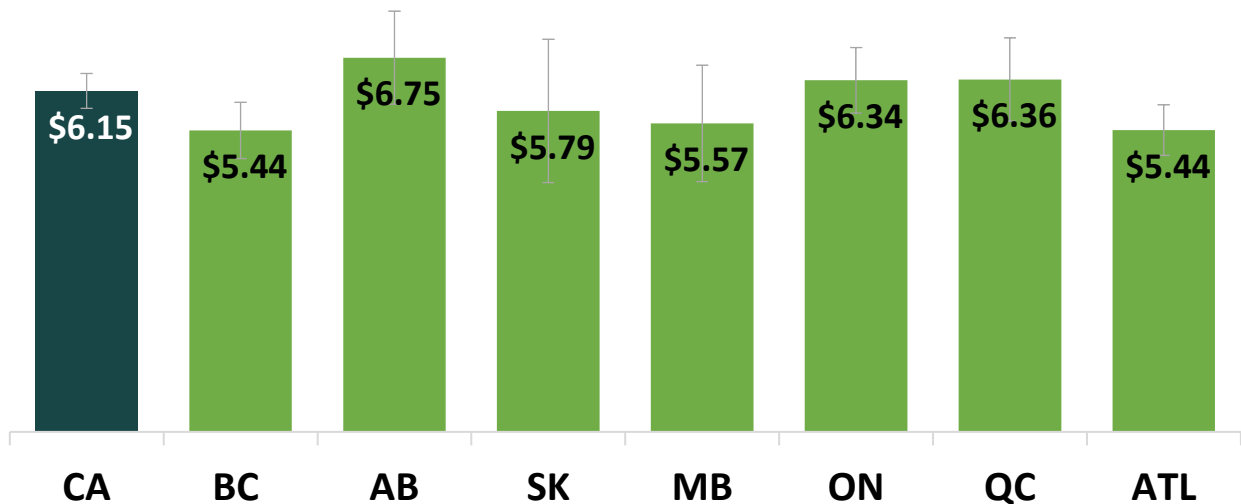


Price of dried flower 2021

In 2021, consumers reported paying different prices for cannabis across provinces. Consumers in Alberta reported paying higher prices, with lower prices reported by consumers in BC and the Atlantic provinces.

Price paid for dried flower

SALES WEIGHTED PRICE-PER-GRAM OF DRIED FLOWER AT LAST PURCHASE, 2021

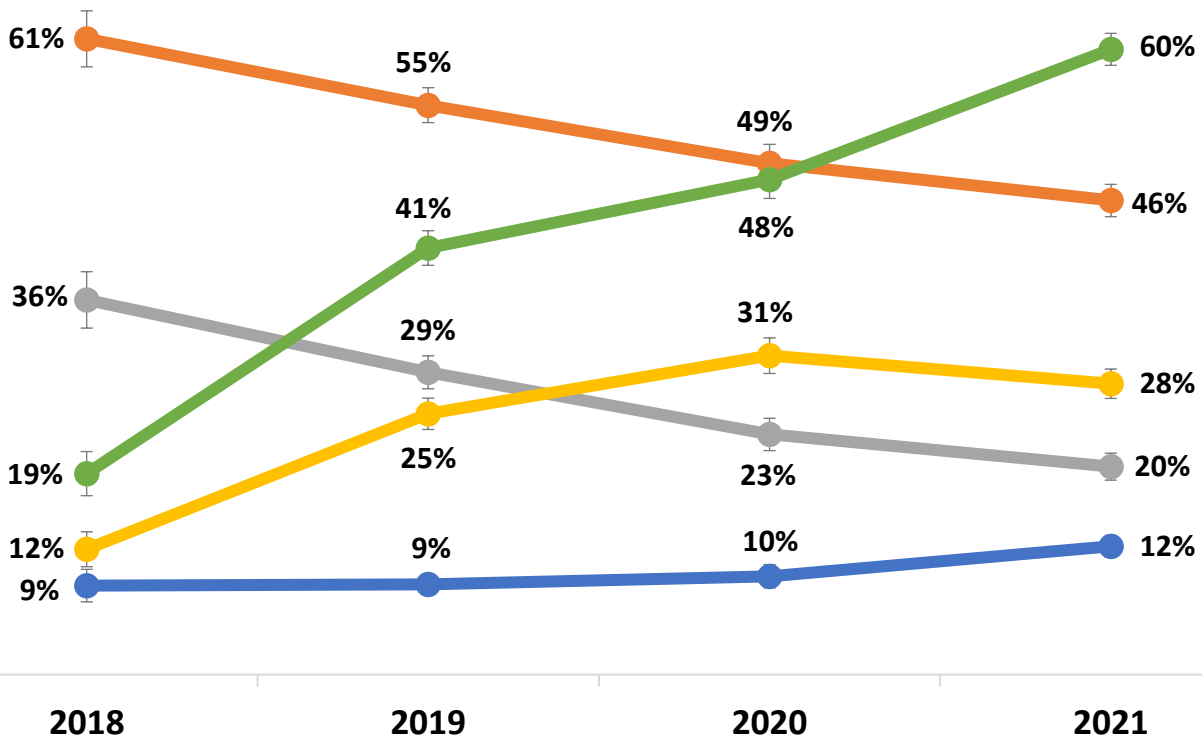


Cannabis sources

Substantial changes have occurred in the source of cannabis among Canadian consumers, with a shift from social sources and 'dealers' to retail stores and internet/mail delivery. By 2021, almost two thirds of consumers got their cannabis from 'stores', with few changes in 'home grow'.

Cannabis sources in the past 12-months

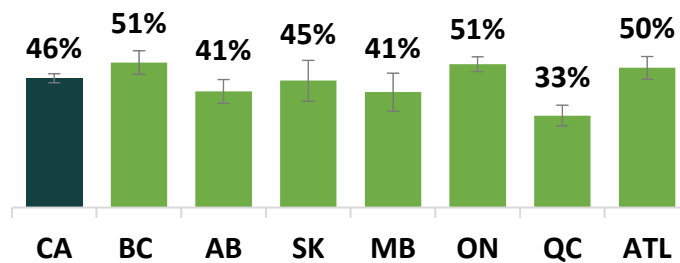
AMONG PAST 12-MONTH CONSUMERS



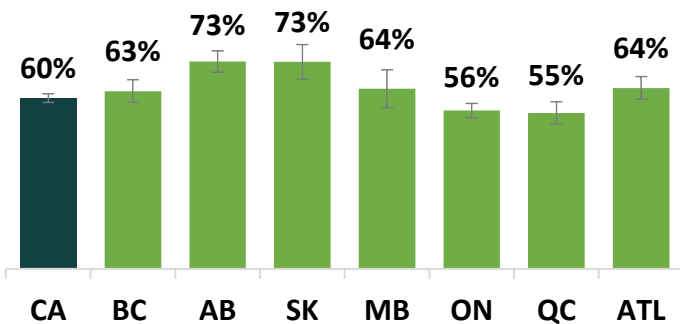
Cannabis sources

In 2021, use of stores was highest among consumers in Alberta and Saskatchewan, and lowest in Ontario and Québec. Internet delivery/mail order was highest in Ontario, with home-grow highest in Ontario and Atlantic provinces.

Family member or friend



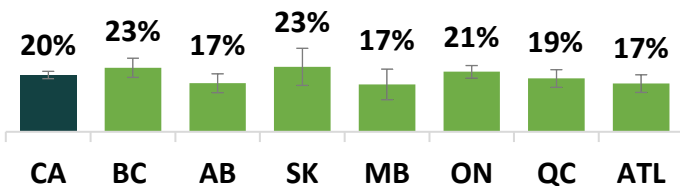
Store, co-op, or dispensary



Internet delivery/mail order



Dealer



Made or grew my own

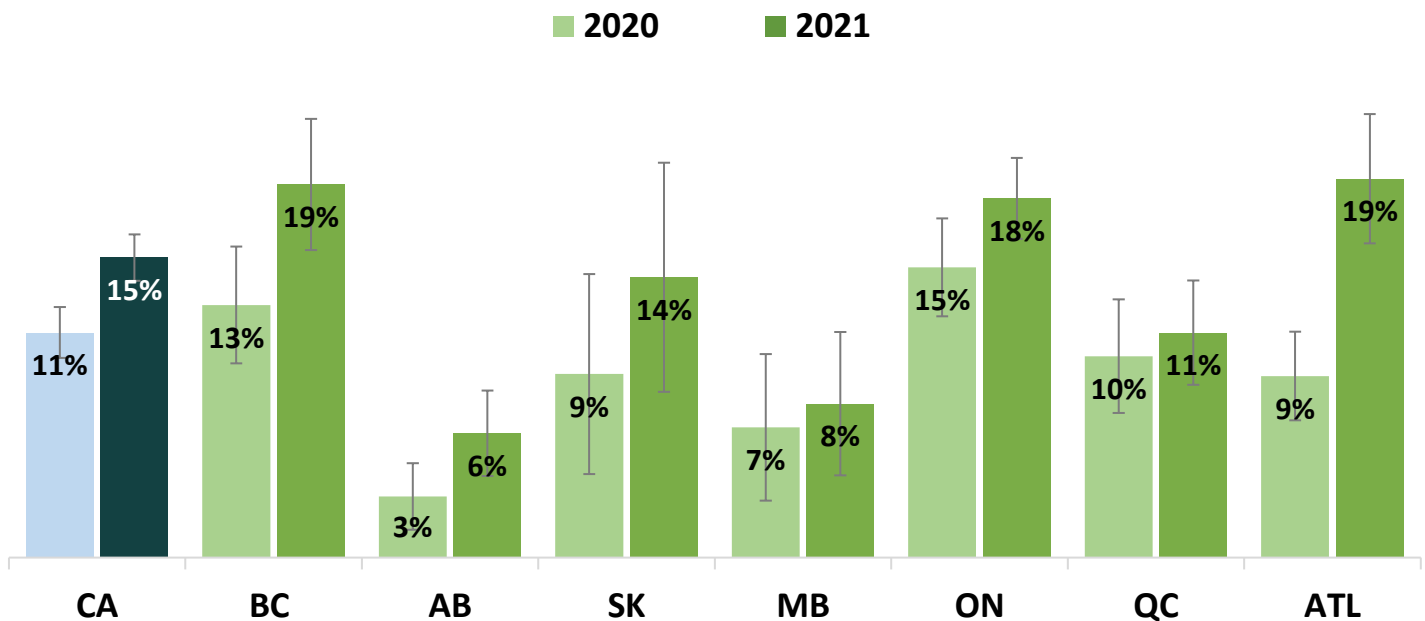


Purchasing cannabis from a First Nation store

Approximately 15% of consumers reported purchasing cannabis from a First Nation Reserve in 2021, an increase from 11% in 2020. Consumers who purchased from a First Nation Reserve reported buying an average of 50% of 'all' their cannabis from a Reserve, compared with a national average of 46%.

Respondents who purchased cannabis from a store on a First Nation Reserve in the past 12-months

AMONG PAST 12-MONTH CANNABIS USERS, N=10,946

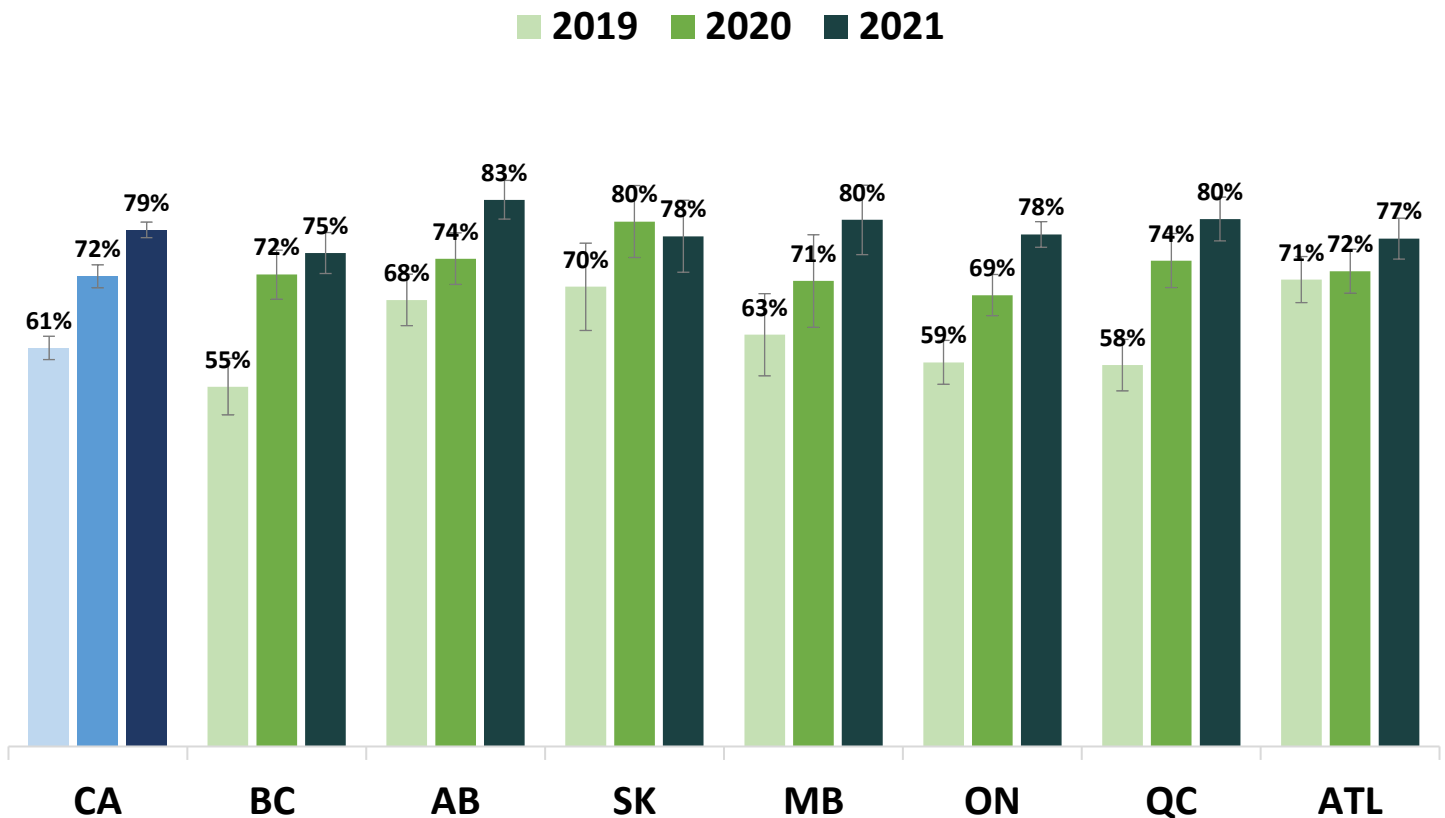


Purchasing cannabis from 'legal' sources

In 2021, past 12-month consumers reported purchasing a total of 79% of products from legal retail sources, a substantial increase from 61% in 2019. Reported use of legal sources was highest in Alberta and lowest in BC.

Mean percentage of all cannabis products purchased in last 12-months from a legal retail source

AMONG PAST 12-MONTHS CONSUMERS

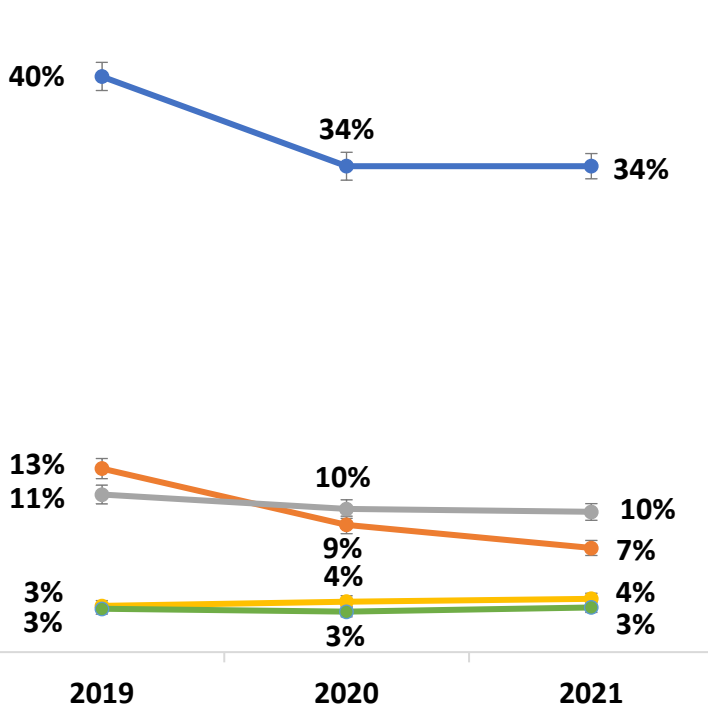


Perceptions of legal cannabis

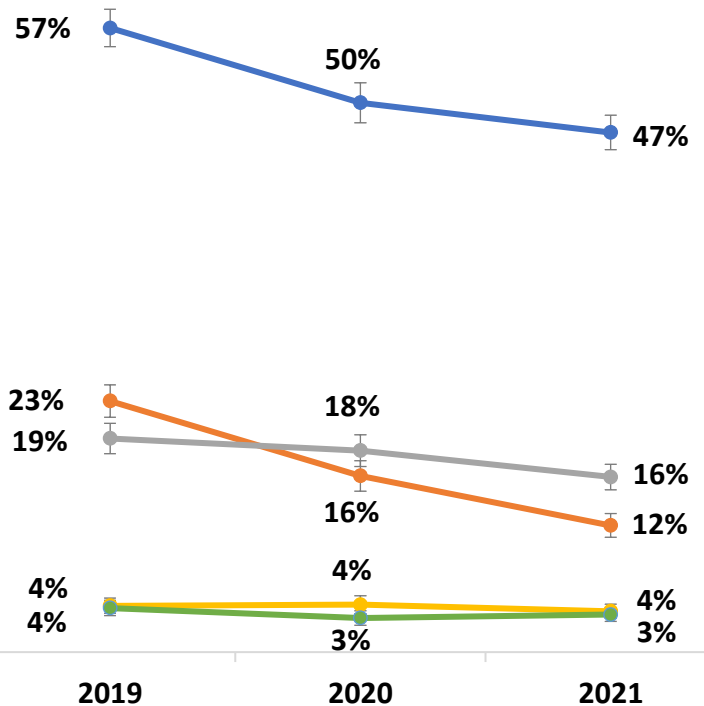
Past 12-month consumers were more likely than non-consumers to perceive cannabis from 'legal' sources as more expensive and less convenient to purchase. However, the perception that legal cannabis is 'more expensive' and 'less convenient' decreased between 2019 and 2021 among consumers. Fewer respondents perceived differences in the quality and safety of cannabis from legal versus illegal sources.

- Legal marijuana is 'more expensive'
- Legal marijuana is 'less convenient to buy'
- Legal marijuana is 'lower quality'
- Legal marijuana is 'less safe to use'

ALL RESPONDENTS



PAST 12-MONTH CONSUMERS



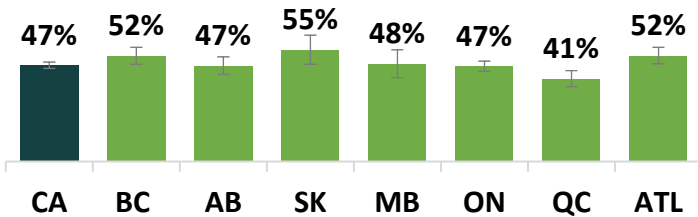
RESPONDENTS COULD SELECT ALL THAT APPLIED.

Perceptions of legal cannabis 2021

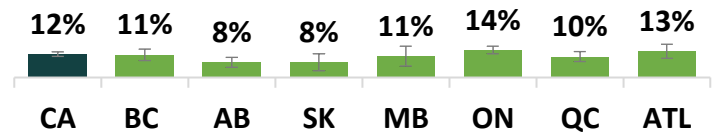
Consumers in Québec were least likely to perceive legal cannabis as more expensive or lower quality, whereas consumers in Alberta and Saskatchewan were least likely to perceive legal cannabis as less convenient to buy.

AMONG PAST 12-MONTH CONSUMERS

Legal marijuana is 'more expensive'



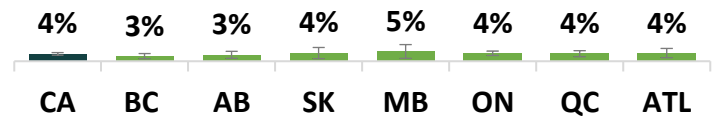
Legal marijuana 'less convenient to buy'



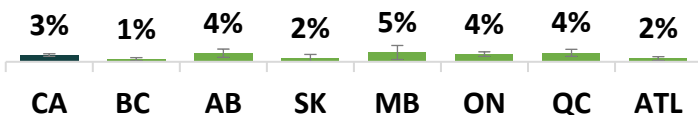
Legal marijuana is 'lower quality'



Legal marijuana is 'less safe to use'



Legal marijuana is 'less safe to buy'

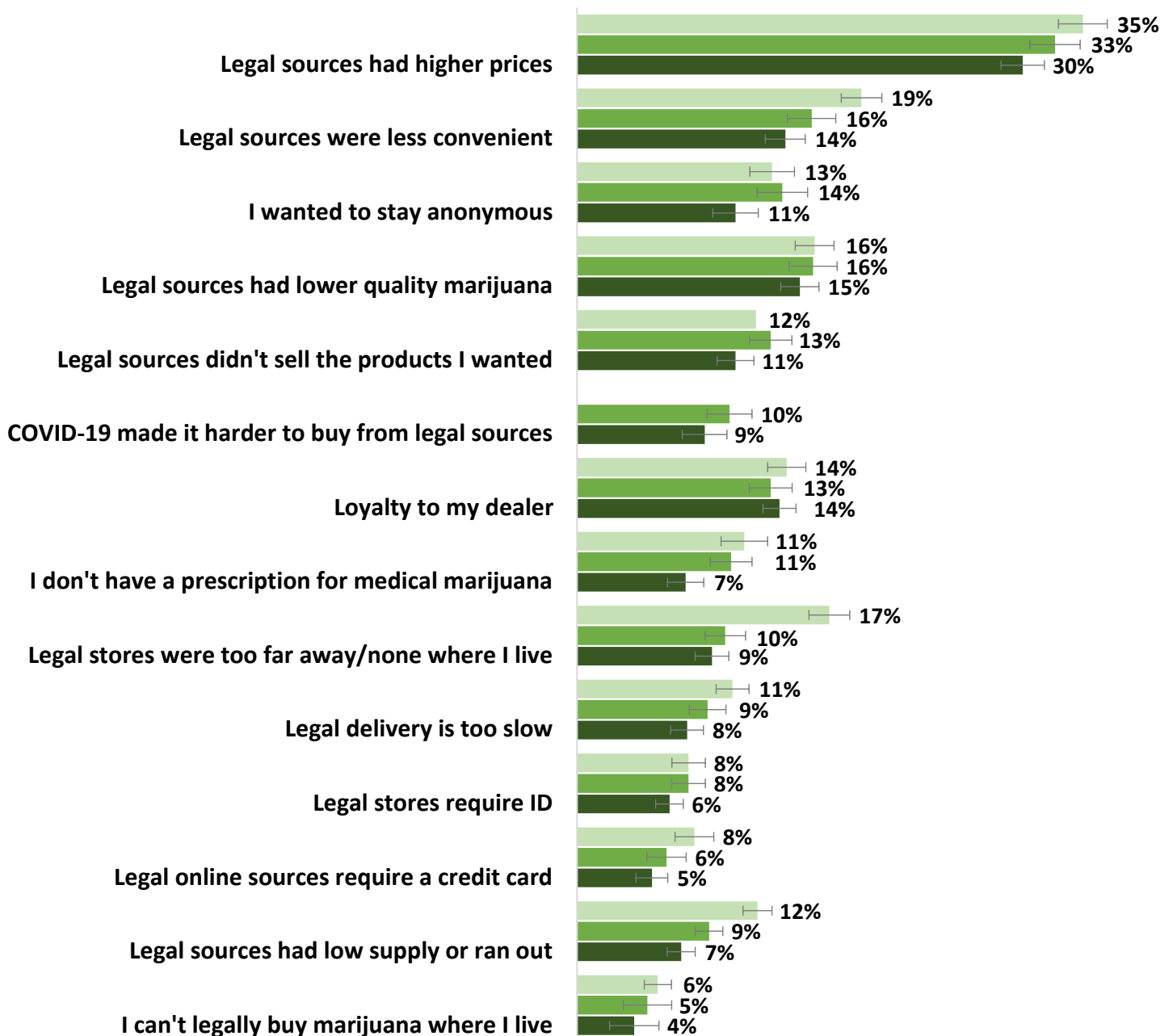




Reasons for purchasing from retail 'illegal' sources

Consumers who purchased cannabis from an illegal retail source reported a range of reasons for doing so. Higher price, lower quality, and lower convenience were the most common reasons for purchasing cannabis from illegal sources; however, all decreased between 2019 and 2021.

2019 2020 2021



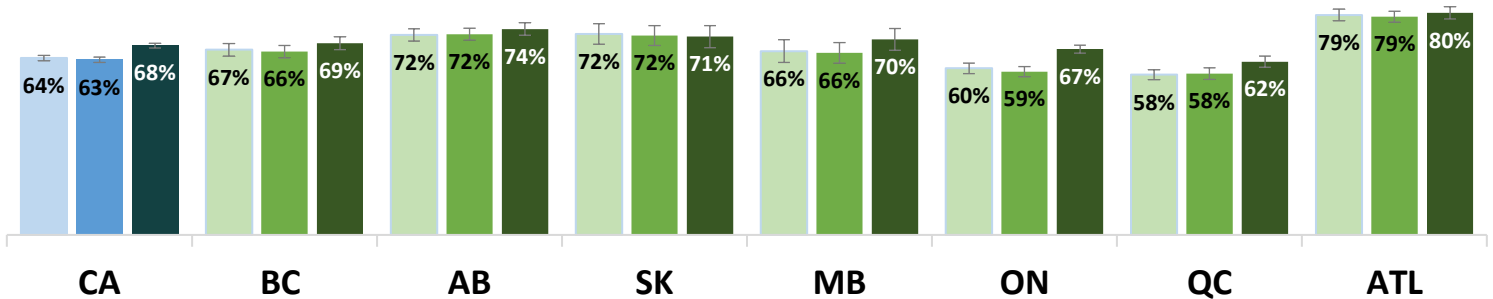


Perceptions of cannabis access

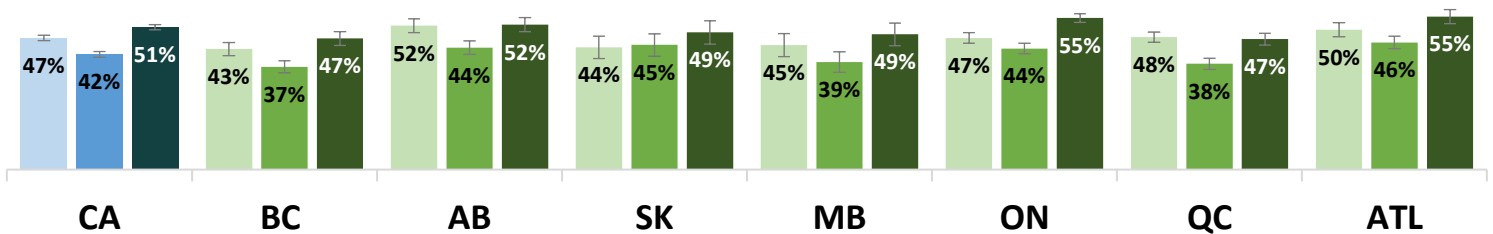
In 2021, the ease of getting cannabis increased, including from legal stores/dispensaries. Larger increases were observed in the ease of buying cannabis from legal online sources, likely due to increased delivery and 'curbside' pickup during the COVID19 pandemic.

2019 2020 2021

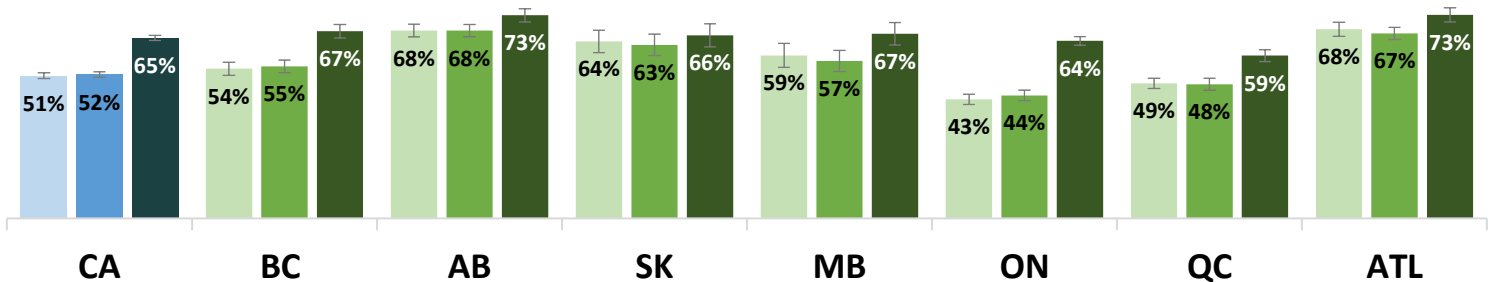
Ease of getting cannabis



Ease of buying cannabis from a legal store or dispensary



Ease of buying cannabis from a legal online source



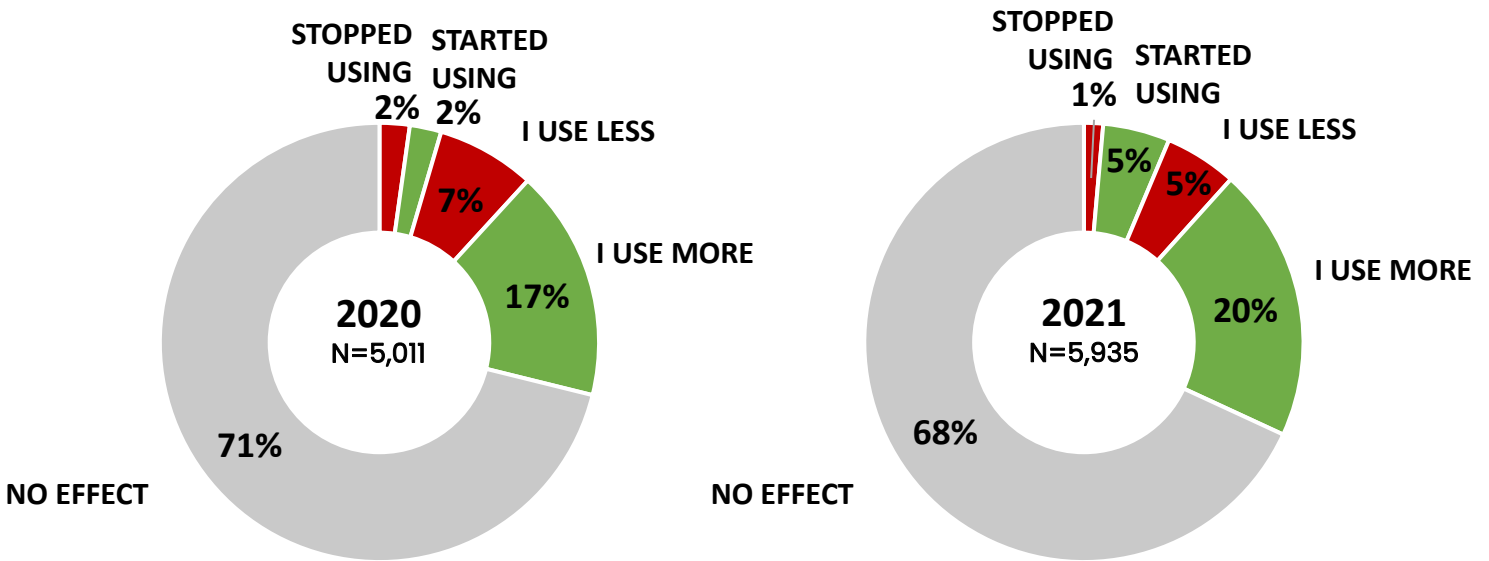
AMONG ALL RESPONDENTS. PERCENTAGE SELECTING 'VERY' OR 'FAIRLY' EASY.

COVID-19 impact on consumption

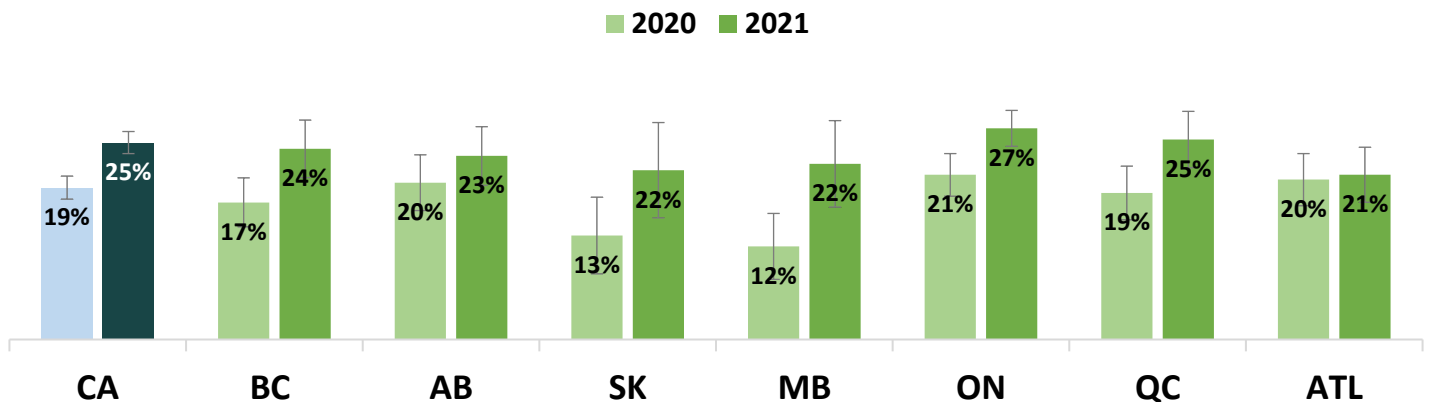
2020 and 2021

Almost 1 in 3 past 12-month consumers reported that the COVID-19 pandemic changed their cannabis use, with a greater percentage indicating increases, rather than decreases in consumption.

Impact of COVID-19 pandemic on cannabis use



Percent of consumers who 'used more' or 'started using' cannabis during the pandemic

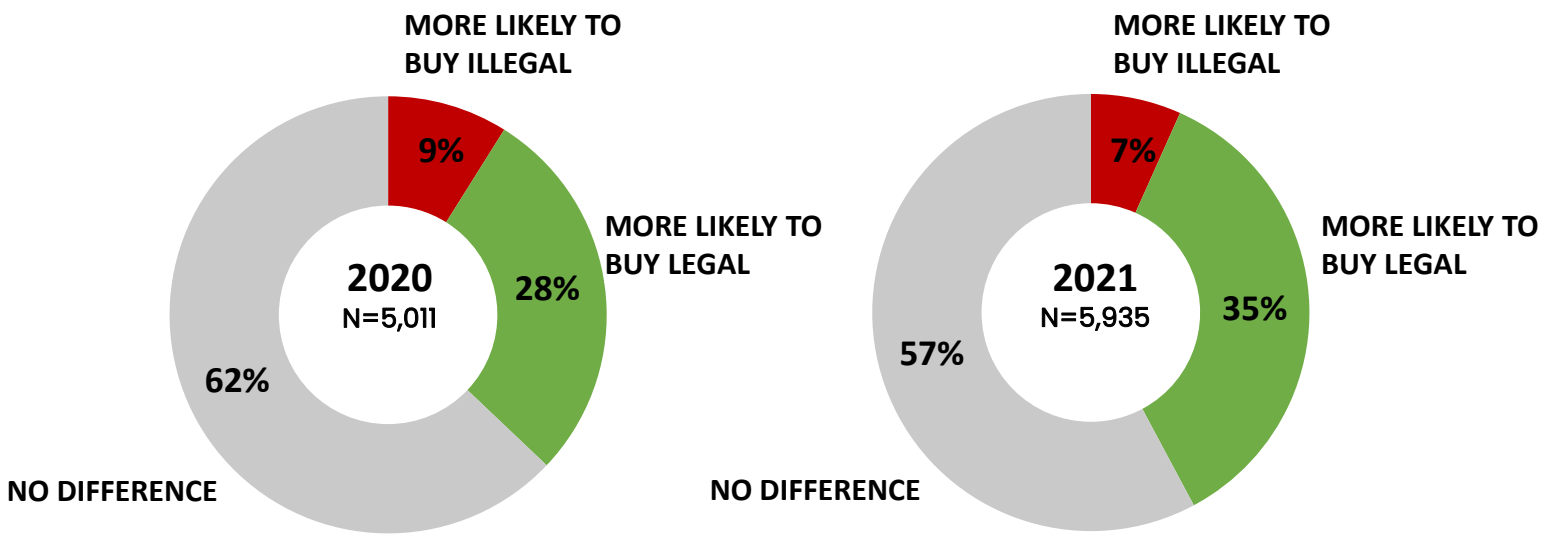


AMONG PAST 12-MONTH CONSUMERS.

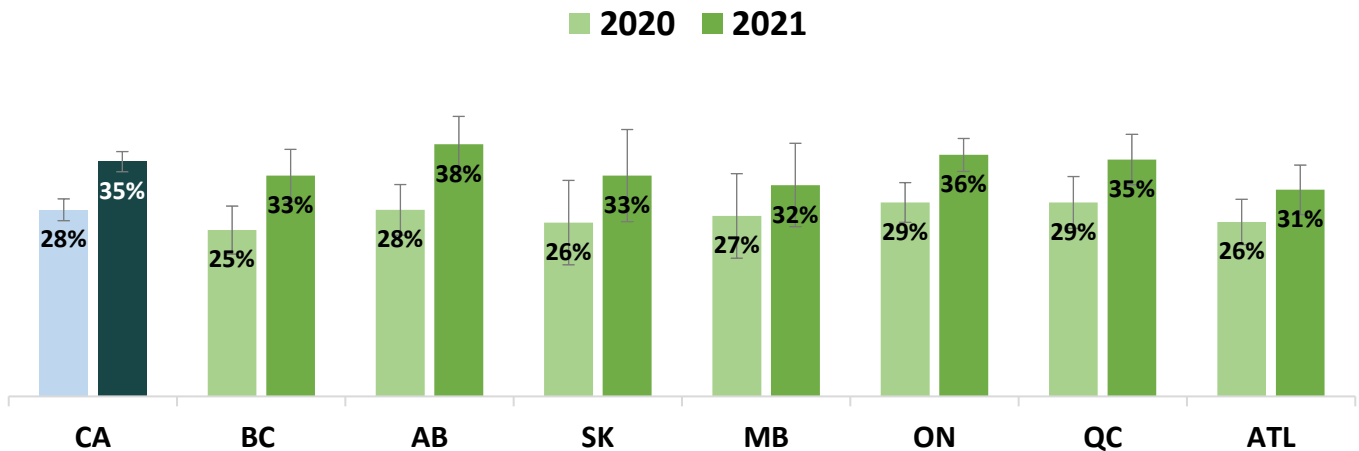
COVID-19 and purchasing

Approximately 4 in 10 consumers indicated that the pandemic affected where they purchased their cannabis, with one third more likely to purchase cannabis from legal retail sources due to the pandemic.

Impact of COVID-19 pandemic on where cannabis was purchased



Percent of consumers who were 'more likely' to get cannabis from legal sources during the pandemic



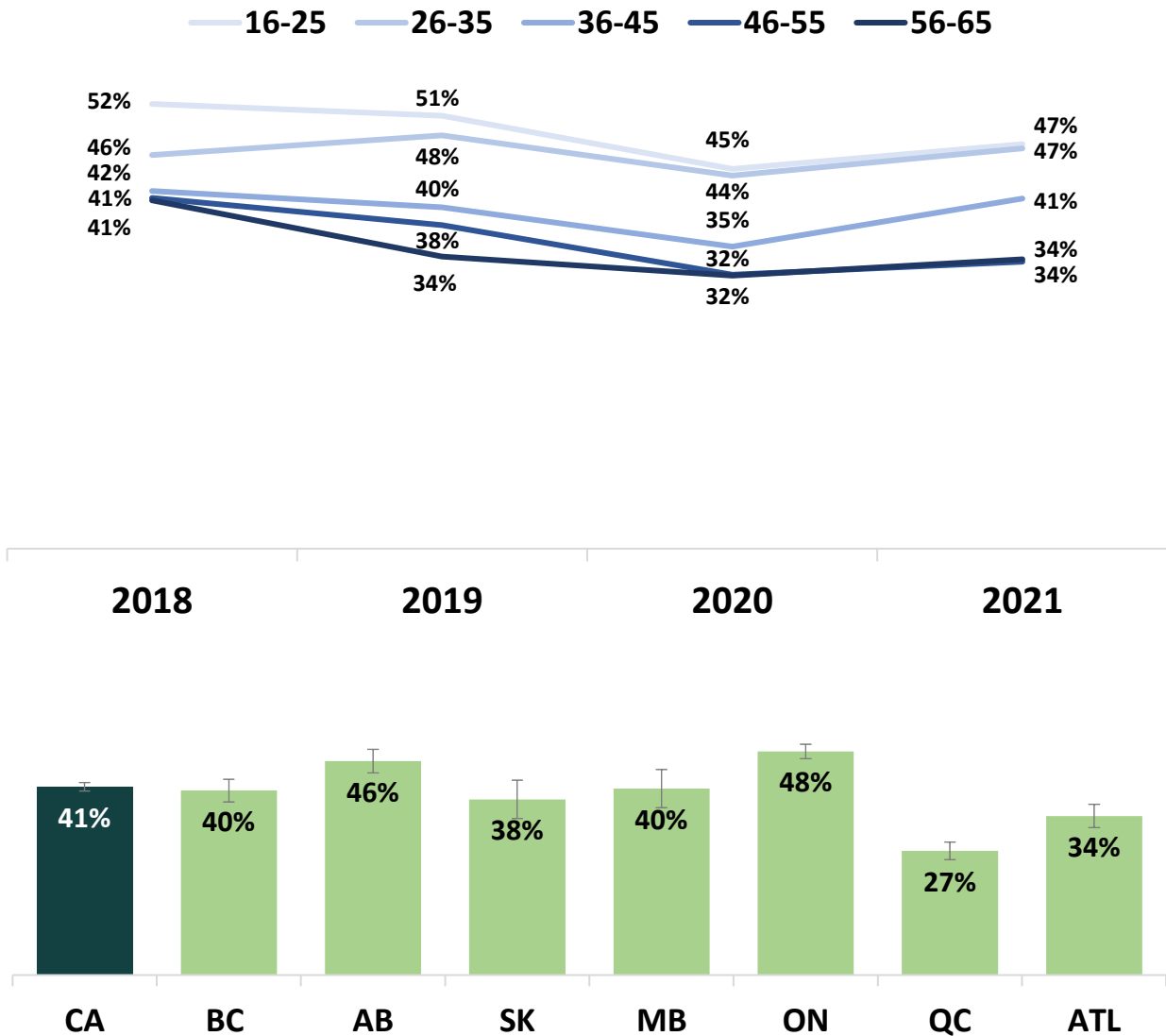


Cannabis advertising exposure

In 2021, approximately 4 in 10 respondents reported noticing at least one type of cannabis advertising or promotion in the past 12 months. Noticing cannabis advertising was most common among the youngest consumers. Noticing was also lowest in Québec—the only province to implement more comprehensive advertising beyond federal limits.

Noticing any cannabis ads or promotions

AT LEAST ONE LOCATION IN THE PAST 12 MONTHS



AMONG ALL RESPONDENTS. PERCENT REPORTING SEEING MARIJUANA BEING ADVERTISED OR PROMOTED IN AT LEAST 1 LOCATION IN PAST 12 MONTHS.

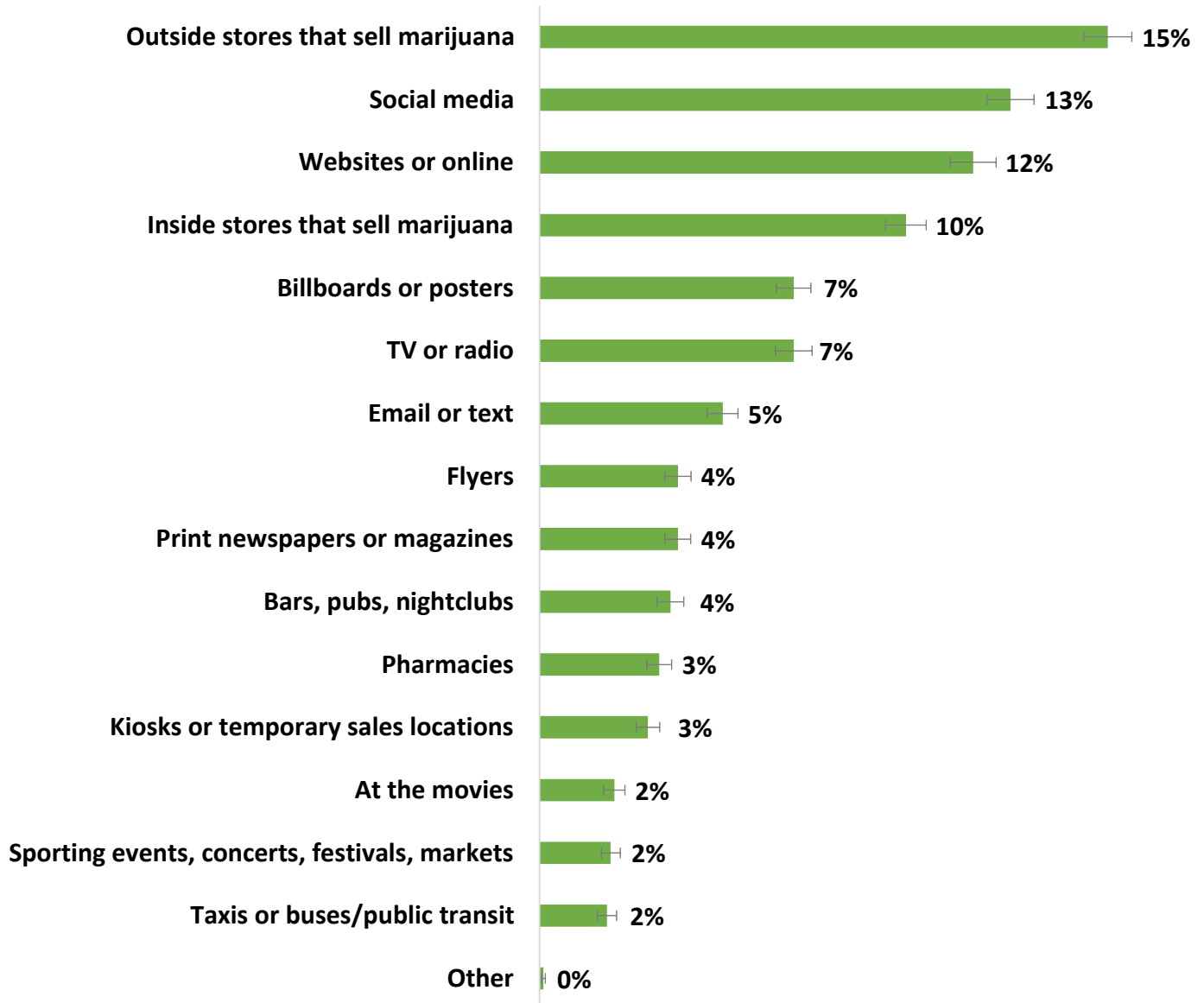


Cannabis advertising exposure 2021

In 2021, Canadians were most likely to notice cannabis advertising outside stores, following by digital sources in terms of social media and websites.

Noticing cannabis ads in the past 12-months

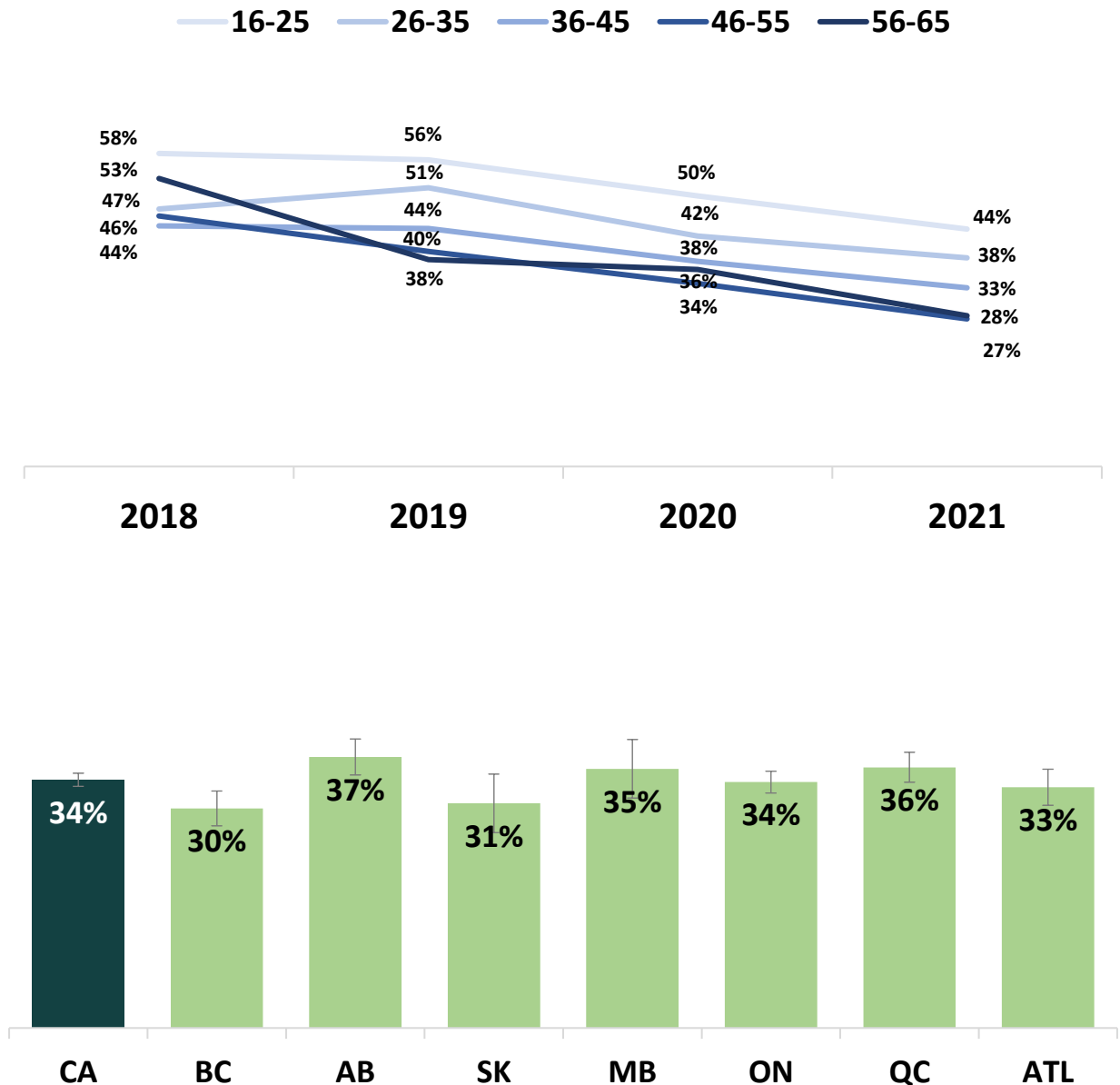
BY MARKETING CHANNEL, 2021, N=16,952



Education campaign exposure

More than a third of respondents recalled seeing an education campaign or public health message about cannabis in the past 12 months. Recall of an education campaign has decreased over time.

Recall of cannabis education campaigns
IN THE PAST 12 MONTHS



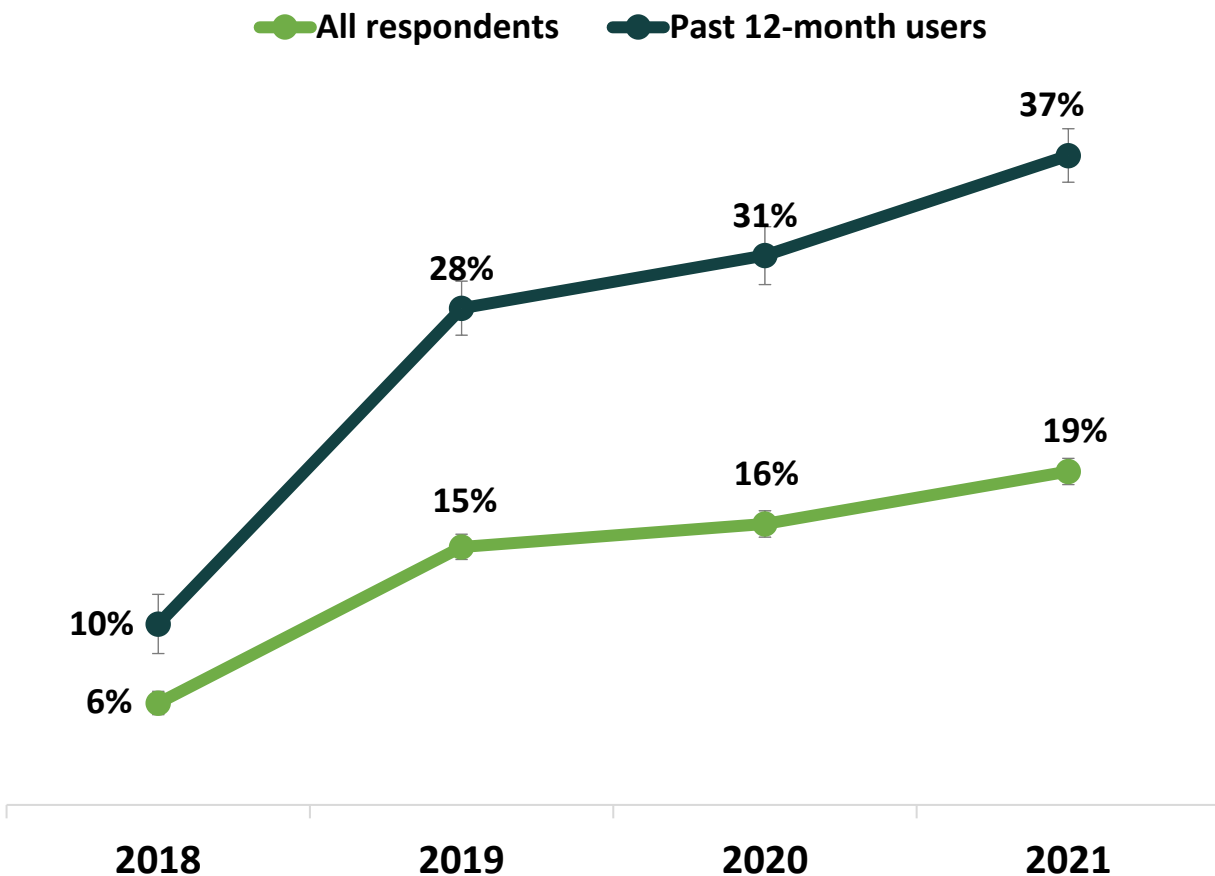
AMONG ALL RESPONDENTS. PERCENT REPORTING SEEING AN EDUCATIONAL CAMPAIGN OR PUBLIC HEALTH MESSAGE ABOUT CANNABIS IN AT LEAST 1 LOCATION IN PAST 12 MONTHS.



Health warnings on products

Approximately 1 in 5 respondents in Canada—and more than 1 in 3 past 12-month consumers—reported seeing health warnings on cannabis products in the past year. Noticing health warnings has increased since legalization, particularly among consumers.

Noticing cannabis health warnings on packages



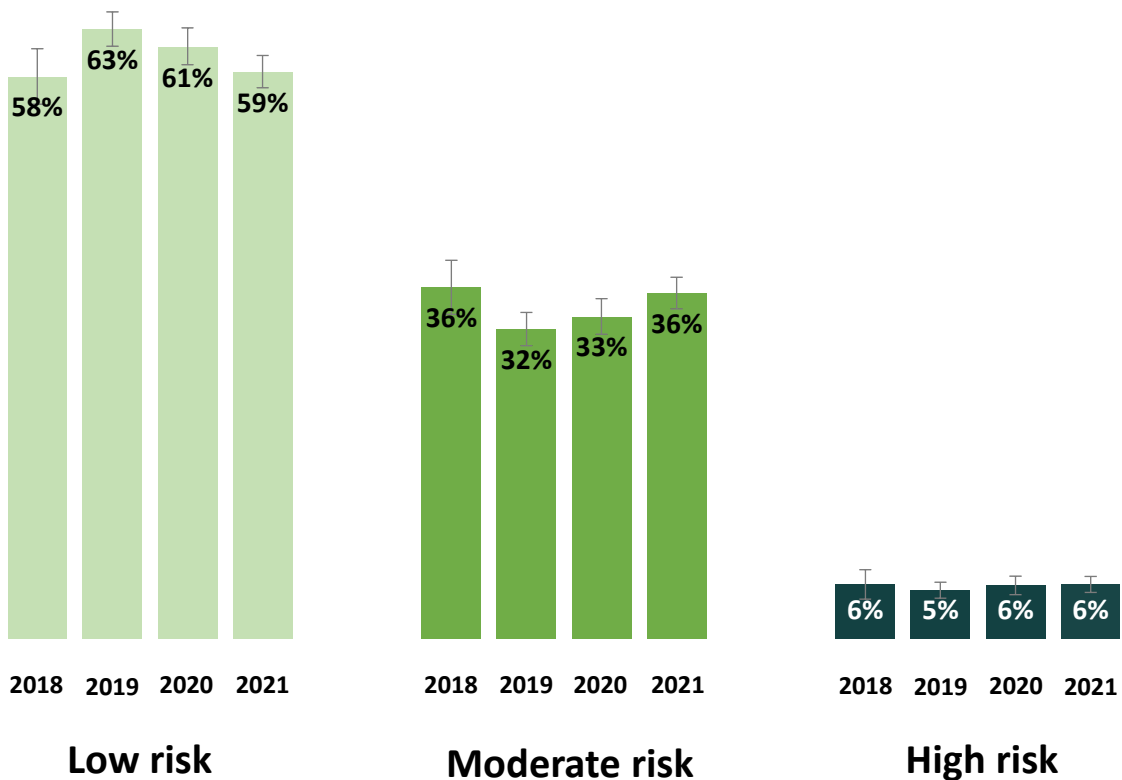


Problematic cannabis use

The World Health Organization’s ASSIST tool assesses low, moderate or high risk of problematic cannabis use. Few changes were observed between 2018 and 2021, particular with respect to ‘high risk’ cannabis use.

Risk of problematic cannabis use

WHO ASSIST SCORES, , AMONG PAST 12-MONTH CONSUMERS
N=16,526



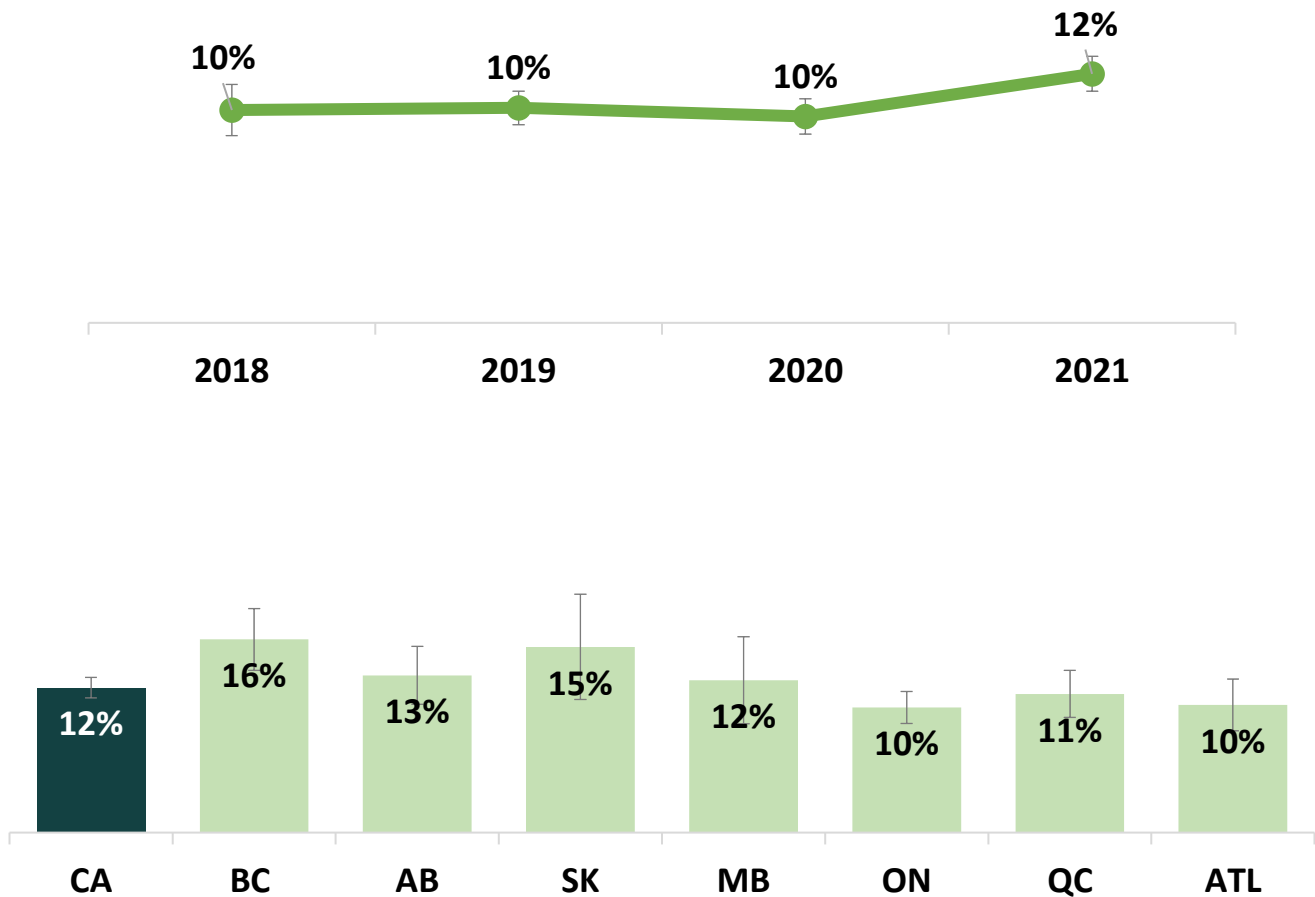


Driving after cannabis use

In 2021, 12% of ever-cannabis consumers with a driver's licence reported driving within 2 hours of cannabis use in the past year. The self-reported prevalence of driving within 2 hours of cannabis use remained stable between 2018 and 2020, with a modest increase in 2021. Prevalence was highest in BC and Saskatchewan compared to Québec, Ontario, and Atlantic provinces.

Driving a vehicle within 2 hours of cannabis use

IN THE PAST 12 MONTHS AMONG 'EVER' CANNABIS CONSUMERS

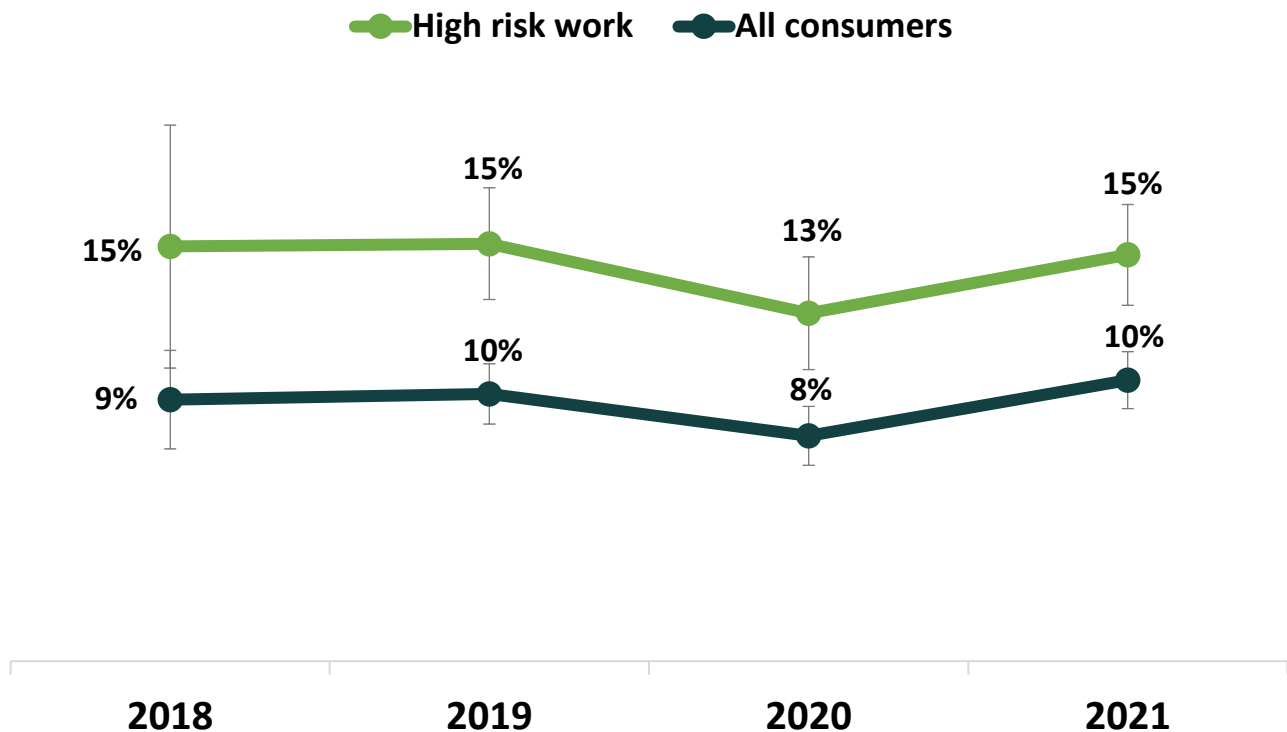


Cannabis use at work

In 2021, 10% of past 12-month cannabis consumers reported using cannabis within 2 hours of starting work. Prevalence of using cannabis at work was higher among consumers who reported working in hazardous jobs. Few changes were observed across years.

Cannabis use at work or within 2 hours of starting work in past 30 days

% 'YES', AMONG PAST 12-MONTH CANNABIS CONSUMERS

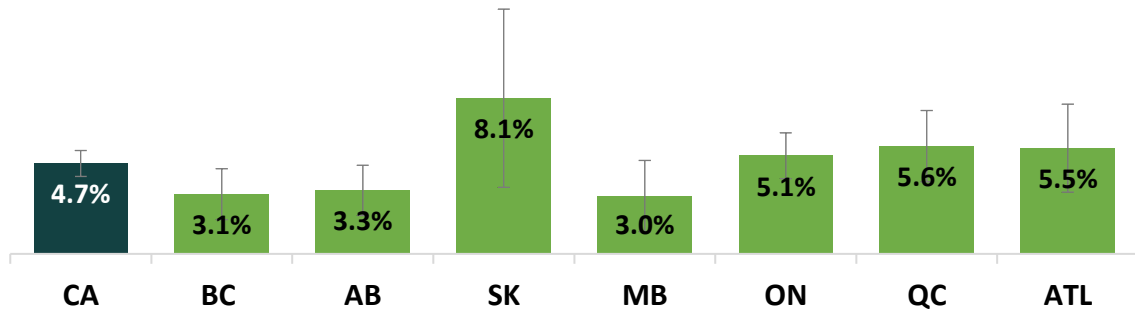


Adverse events from cannabis use

In 2021, approximately 5% of all past 12-month cannabis consumers reported seeking medical help for an adverse event from cannabis. Among those who sought medical help, emergency rooms and doctors/health professionals were the most common sources of help.

Percentage of consumers who sought medical help for adverse effects caused by cannabis use

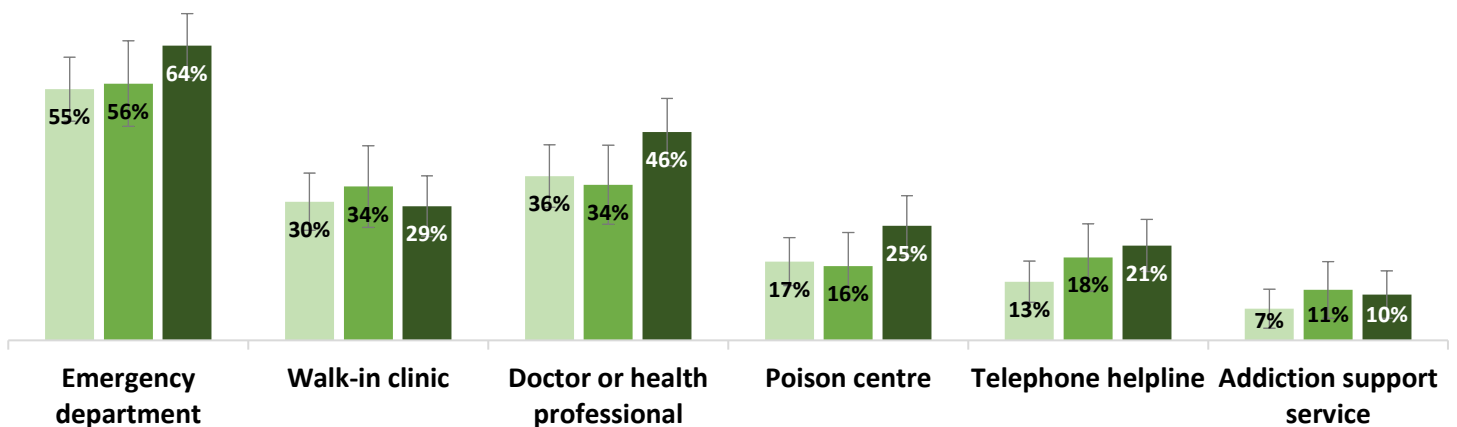
AMONG PAST 12-MONTH CONSUMERS, 2021 N=5,864



Sources of assistance among Ontario consumers who sought medical help for adverse effects

AMONG THOSE WHO SOUGHT MEDICAL HELP

■ 2019 ■ 2020 ■ 2021



Storage of cannabis in home

Approximately two third of past 12-month consumers stored cannabis in the home in a variety of locations.

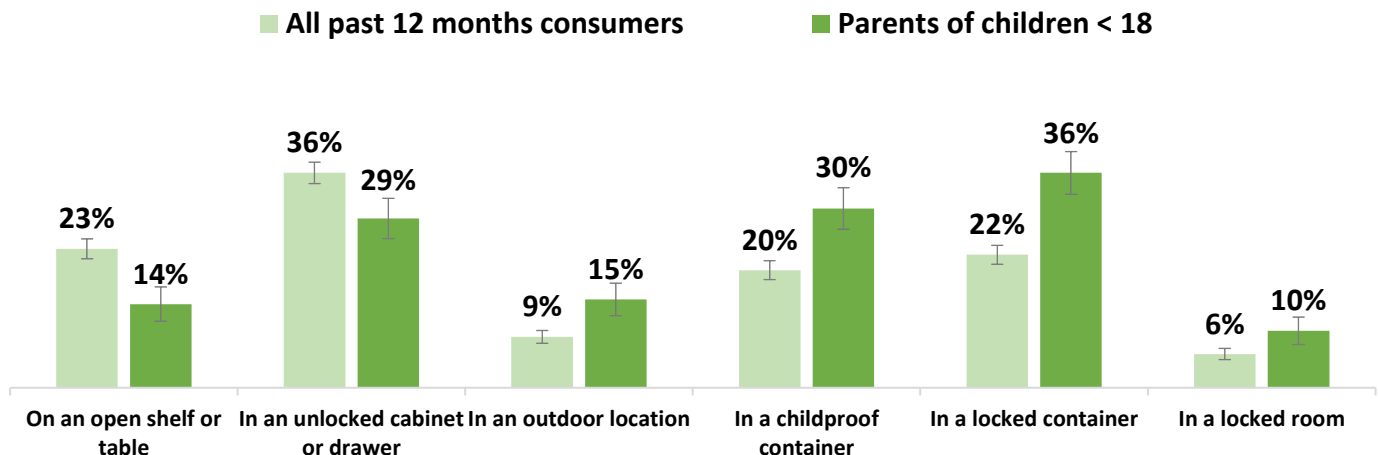
Do you currently keep any marijuana in or around your home?

% 'YES' PAST 12-MONTH CONSUMERS, 2021, N=5,845



Where is the marijuana in your home stored?

PAST 12-MONTH CONSUMERS WHO STORED CANNABIS IN HOME, 2021, N=4,030



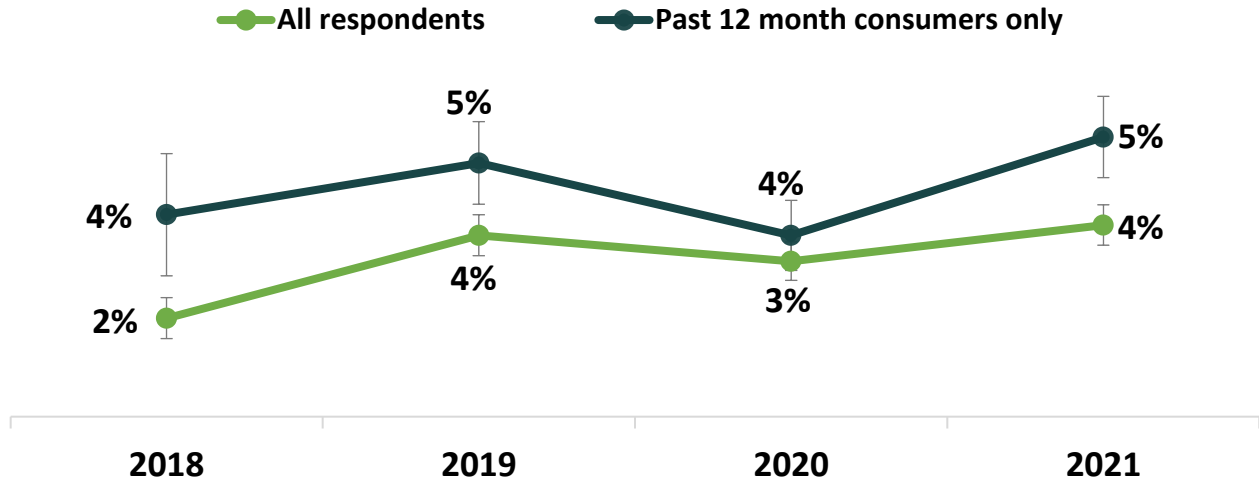


Accidental ingestion

In 2021, 5% of past 12-month consumers reported at least once case of accidental cannabis consumption in the home. Accidental consumption was most commonly reported for an adult, but included youth, children, and pets.

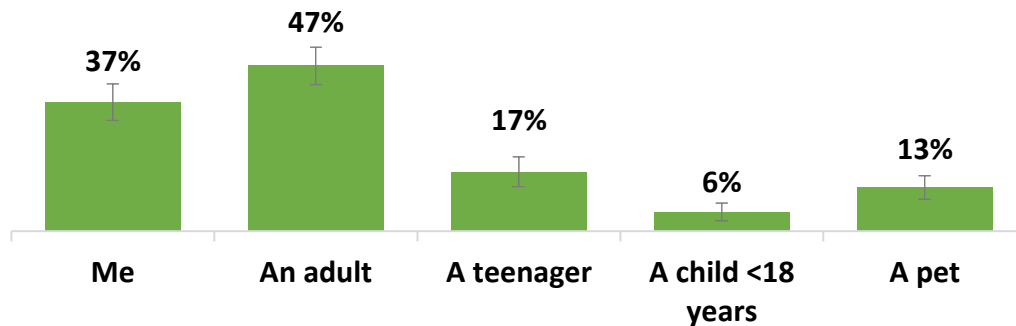
In the past 12 months, has anyone in your household accidentally consumed marijuana?

% 'YES', AMONG PAST 12-MONTH CONSUMERS



Who was it that accidentally consumed marijuana?

% AMONG RESPONDENTS REPORTING ACCIDENTAL INGESTION IN HOME, 2021

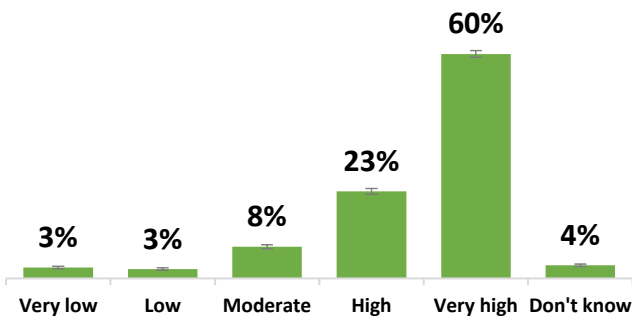


Risk perceptions

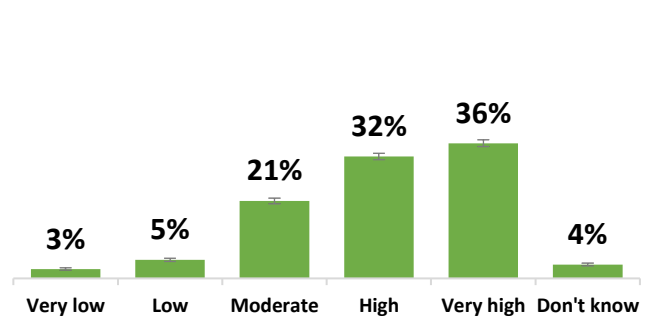
Risk perceptions of smoking tobacco cigarettes were highest, followed by alcohol, with slightly higher risk perceptions for vaping versus smoking cannabis.

In your opinion, what is the level of health risk from...

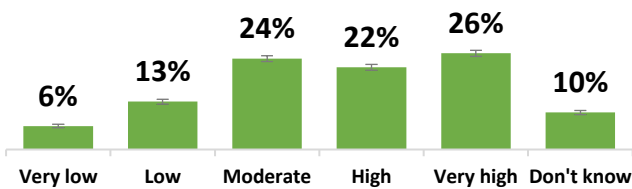
Smoking cigarettes daily



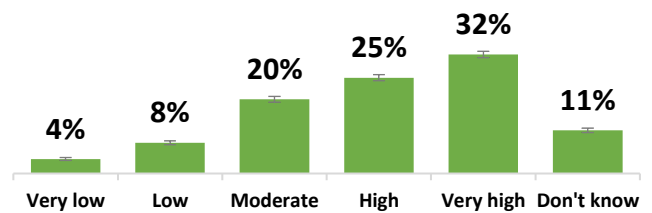
Drinking alcohol daily



Smoking marijuana daily



Vaping marijuana daily

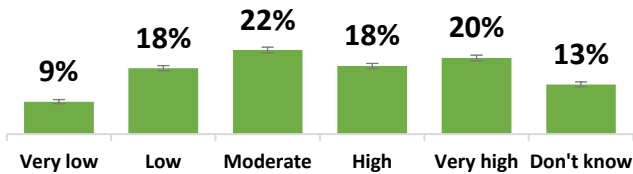


Risk perceptions

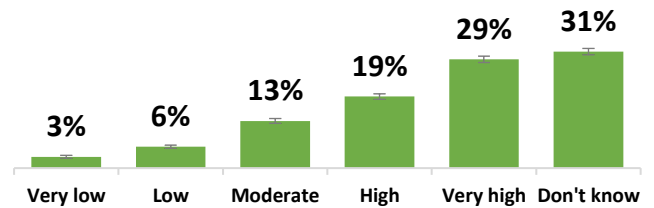
Among cannabis products, use of high potency concentrates was perceived as highest risk, similar to synthetic products. Lower risk perceptions were reported for using edibles and exposure to second-hand cannabis smoke.

In your opinion, what is the level of health risk from...

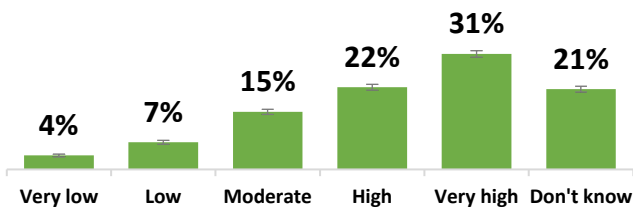
Consuming edibles daily



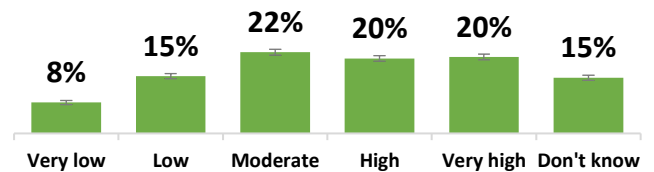
Using synthetic marijuana daily



Using high-potency concentrates daily



Exposure to second-hand marijuana smoke daily



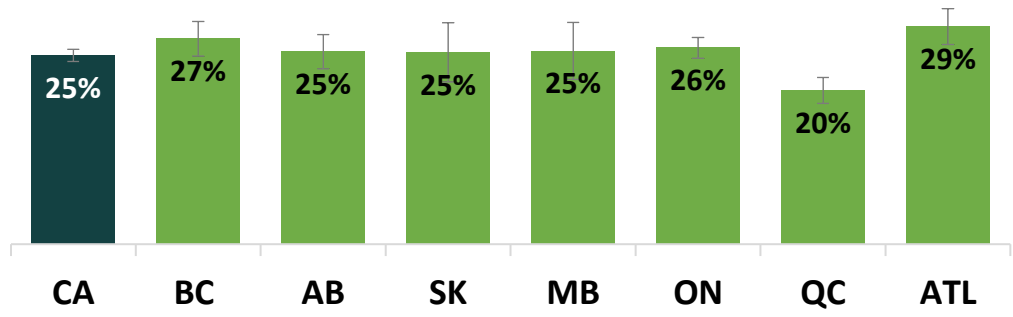
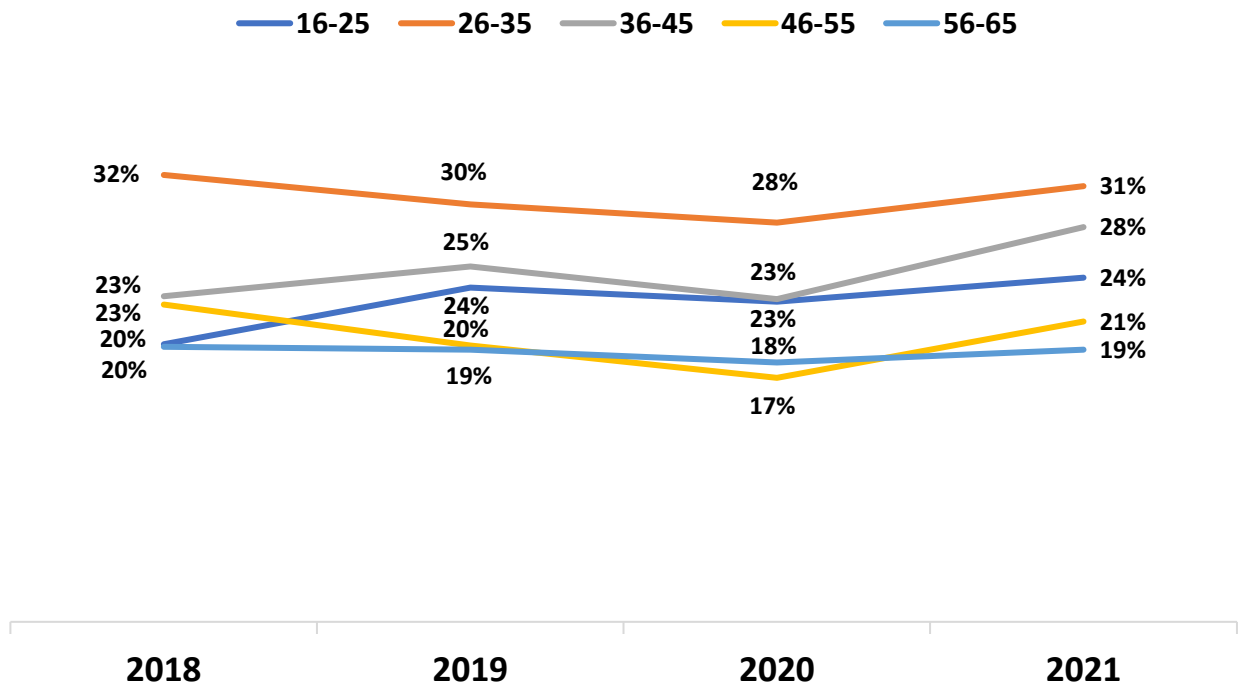


Social acceptability of cannabis

Between one fifth and one quarter of respondents perceived general 'approval' for cannabis in 2021, with few changes since 2018.

In your opinion, do people generally approve or disapprove of marijuana?

% 'APPROVE' OR 'STRONGLY APPROVE'



AMONG ALL RESPONDENTS.

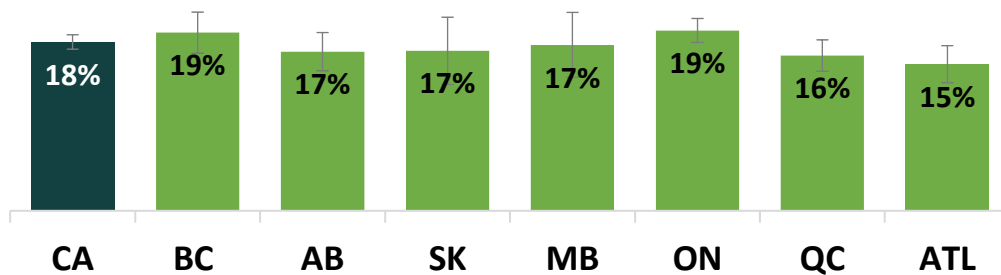
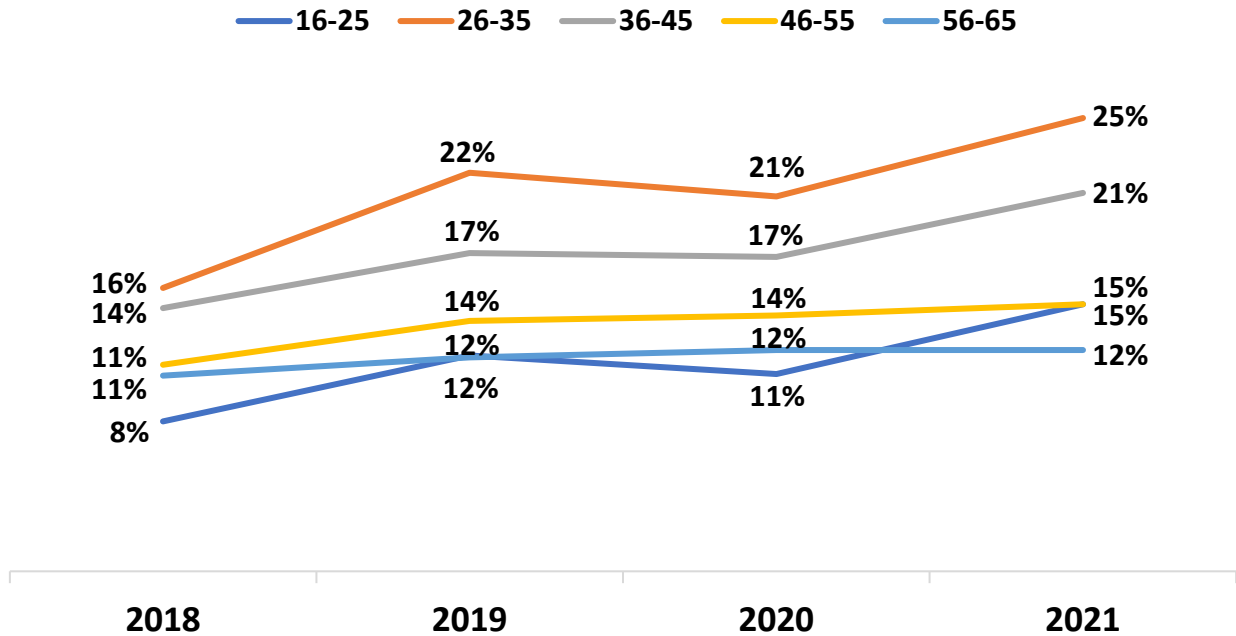


Social acceptability of cannabis

Approximately one in six respondents would feel comfortable using cannabis in public, with only modest increases since 2018.

How comfortable or uncomfortable would you feel openly using marijuana in public?

% 'COMFORTABLE' OR 'VERY COMFORTABLE'

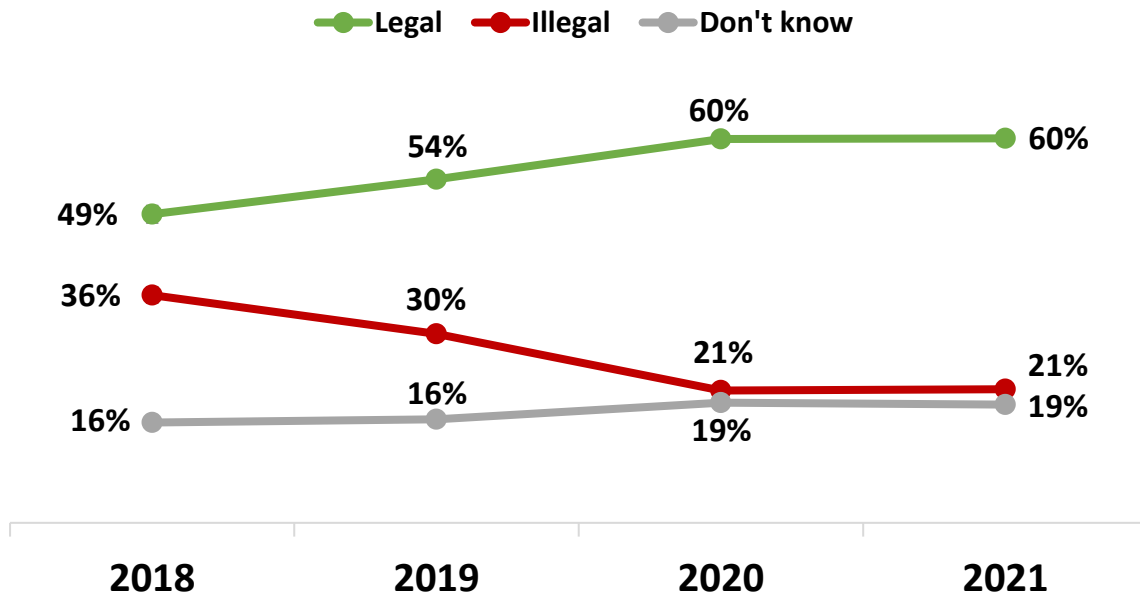




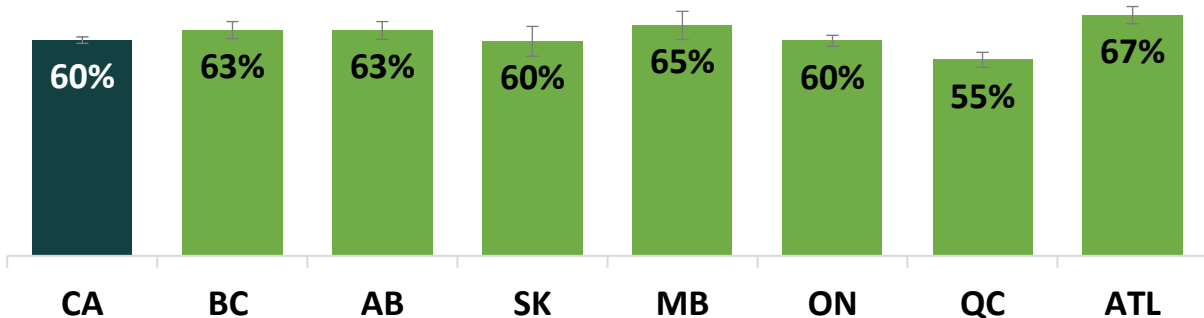
Support for cannabis legalization

In 2021, approximately two third of Canadians supported legalization of non-medical cannabis. Support has increased since 2018.

Recreational (non-medical) marijuana should be... AMONG ALL RESPONDENTS



Recreational (non-medical) marijuana be legal % 'YES', AMONG ALL RESPONDENTS, 2021



Acknowledgements

ICPS INVESTIGATORS

David Hammond Canada
Samantha Goodman Canada
Elle Wadsworth Canada
Pete Driezen Canada

Julia Dilley United States
Tom Freeman United Kingdom
Wayne Hall Australia
Gary Chan Australia
Beau Kilmer United States
Rosalie Pacula United States
Gillian Schauer United States
Chris Wilkins New Zealand
Marta Rychert New Zealand

PROJECT STAFF

Danielle Corsetti Project Manager
Maryam Iraniparast Data Analyst
Robin Burkhalter Data Analyst
Daniel Danh Hong Research Assistant





Visit the study website for more information: www.cannabisproject.ca.

CONTACT

DAVID HAMMOND PhD

PROFESSOR

SCHOOL OF PUBLIC HEALTH SCIENCES

UNIVERSITY OF WATERLOO

DHAMMOND@UWATERLOO.CA



UNIVERSITY OF
WATERLOO

School of Public
Health Sciences

