

## What We Heard Report

# EVIDENCE-TO-POLICY SYMPOSIUM

Helping to develop cannabis policy in NL:  
Prioritizing public health and safety



This document was published by the Cannabis Health Evaluation and Research Partnership (CHERP)

Suggested citation:

Cannabis Health Evaluation Research Partnership. (2023). *Helping to develop cannabis policy in NL: Prioritizing Public Health and Safety*. Evidence to Policy Symposium, March 22, 2023 Summary Report. Memorial University of Newfoundland and Labrador. St. John's, NL. Canada.

© Cannabis Health Evaluation and Research Partnership, 2023.

Memorial University of Newfoundland  
230 Elizabeth Ave.  
St. John's, NL  
A1B 1T5

This event was made possible through financial contributions from the Canadian Centre on Substance Use and Addiction (CCSA), the Canadian Institutes of Health Research (CIHR), and the Memorial University of Newfoundland, Office of Public Engagement. As well as in-kind contributions from the Government of Newfoundland and Labrador offices of Public Engagement and Planning and the Department of Health and Community Services.

## Table of Contents

<b>Executive Summary .....</b>	<b>5</b>
Graphic Recording of Symposium Proceedings.....	7
<b>Introduction.....</b>	<b>8</b>
Background .....	8
Research Focus Areas .....	8
<b>Our Research Team.....</b>	<b>9</b>
<b>Evidence-to-Policy Symposium.....</b>	<b>10</b>
Approach .....	10
Report Structure.....	11
<b>1. The 4-tiered Cannabis Retail Model in Newfoundland and Labrador.....</b>	<b>12</b>
Key Considerations .....	12
Background .....	12
What we found.....	14
What we heard .....	17
<b>2. Places of Cannabis Consumption.....</b>	<b>19</b>
Key Considerations .....	19
Key Recommendations.....	19
Background .....	20
What we found.....	21
What we heard .....	22
<b>3. Impact of Non-Medical Legalization on Medical Cannabis Use in NL.....</b>	<b>23</b>
Key Recommendations.....	23
Background .....	23
What we found.....	24
What we heard .....	26
<b>4. Public Knowledge and Stigma .....</b>	<b>28</b>
Key Consideration .....	28
Background .....	28
What we found.....	30
What we heard .....	31
<b>5. Youth Substance Use Education .....</b>	<b>32</b>

<b>Key Recommendations.....</b>	<b>32</b>
<b>Background .....</b>	<b>32</b>
<b>What we found.....</b>	<b>34</b>
<b>What we heard .....</b>	<b>37</b>
<b><i>References .....</i></b>	<b><i>40</i></b>

## Executive Summary

Five years post legalization, it is time to come together to discuss the impact of cannabis policies on the health and public safety of individuals living in Newfoundland and Labrador (NL). The Cannabis Health Evaluation and Research Partnership (CHERP) team hosted an Evidence-to-Policy symposium with key stakeholders and community members. This symposium addressed five key cannabis-related topics, sharing findings from CHERP research initiatives and hosting round table discussions to formulate considerations and recommendations moving forward. Altogether, the research and engagement of the CHERP team over the past three years has allowed them to present an inclusive and expansive picture of current cannabis-related issues and recommend policy action that would serve to benefit the needs of the province as well as to support public health and safety in NL.

### *1. The Cannabis Retail Market*

When cannabis was legalized in 2018, the Government of NL adopted a unique approach for the province's cannabis retail market, establishing a 4-tier private business model, in addition to the publicly operated online store. While this model holds many benefits for consumers and retailers alike, round table discussions highlighted many challenges presented by the model as well as avenues to better support both populations within this model. Key considerations include:

- Allow for greater access to cannabis information within retail spaces, across all tiers
- There is a need for increased communication and collaboration with business owners, especially small/independent business owners, to identify mechanisms to simplify the licensing process
- There is a gap in how people can access reliable information pertaining to medical uses of cannabis

### *2. Places of Cannabis Consumption*

Regulations on where individuals can consume cannabis are determined at the provincial level. The Government of NL established regulations that prohibit the consumption of cannabis in any public space, and allow for landlords to set restrictions on smoking and cultivating cannabis within a rental property. Discussions revealed that such restrictions create barriers for renters, as they may leave them with no place to legally consume cannabis. Further, there is significant confusion about details of such regulations (e.g., smoking cannabis vs. consuming cannabis edibles in public spaces; THC vs CBD), and barriers for the enforcement of regulations. Considering such issues, key recommendations include:

- Provide more detailed context about existing regulations on places of consumption
- Engage in additional public communication efforts to increase knowledge of cannabis consumption regulations (e.g. easy access online, public signage, public education campaigns)
- Conduct public consultations to identify ways to introduce safe public consumption spaces, for those who have no legal places to consume.

### *3. Impact of Non-Medical Legalization on Medical Cannabis Use in NL*

While cannabis was legalized for medical use in 2001, the legalization of non-medical cannabis drastically changed the landscape of medical cannabis care in Canada. While access to cannabis through the non-medical market has been introduced, access through a regulated medical producer is still limited as it requires authorization from a primary care provider, and insurance coverage is often limited for medical cannabis. Further, while legalization has started to positively change public perceptions about cannabis, there still exists stigma within healthcare settings. This may be perpetuated by the current lack of education provided for healthcare professionals and members of the public. Roundtable discussions addressed such issues, and key recommendations moving forward are as follows:

- Invest in medical cannabis education across health professional groups allowing for interdisciplinary professional education across healthcare fields.
- Address the gap in access to healthcare professional support for current and prospective medical cannabis patients.
- Improve access to medical cannabis in care facilities.

#### 4. Public Knowledge and Awareness

Despite efforts to educate the public, there remains a significant gap in public knowledge about various aspects of cannabis consumption. Consequently, misconceptions and stigma related to cannabis are quite prevalent within the province. Round table discussions as well as past research have informed a key consideration to improve public knowledge and awareness about cannabis:

- A need to invest in additional public cannabis education campaigns to address knowledge gaps and stigma that exists within the community.

#### 5. Youth Substance Use Education

When cannabis was legalized in 2018, there was intention to develop and implement cannabis education for youth. However, there have been significant gaps in these educational efforts: there is very limited cannabis education in the school curricula across Canada and in NL. Much of the current substance use education emphasizes the dangers of substances rather than taking a harm reduction approach. There is a clear need for evidence-informed, harm reduction substance use education in NL that supports youths' health and wellbeing. The CHERP team is currently developing resources to support substance use education, including cannabis, that encourages youth to make safe and informed choices regarding substance use. Round table discussions as well as past research and public engagement have helped to develop key recommendations:

- Invest in and support the Drug Education Centred on Youth Decision Empowerment (DECYDE) substance use education strategy that is inclusive for all students in grades 4-12 across NL.
- Support professional development for all teachers in harm-reduction, skills-based, substance use health education for students.



March 22, 2023

# EVIDENCE-TO-POLICY SYMPOSIUM

## Coming Together to Foster Safe Cannabis Use

**WE ACKNOWLEDGE THE LAND & THE ORIGINAL PEOPLES OF NEWFOUNDLAND & LABRADOR**  
Brothuk Mi Konyak Innu & Inuit... WE RECOGNIZE THEIR CONTINUED TIES TO THESE LANDS + WATERS

**LET'S KEEP KEY OBJECTIVES IN MIND**  
PRODUCT NEEDS TO BE REGULATED & SAFE

**MINISTER TOM OSBORNE & GM CANNABIS SALES**  
WE TO MAKE SURE THESE ARE SAFE & LEGAL PURCHASES  
EDIBLES PRE-ROLLED VAPES WHOLE FLOWER

**79.6% OF CONSUMERS BOUGHT AT LEAST SOME NON-MEDICAL CANNABIS FROM A RETAIL STORE**

**CANNABIS RETAIL OVERVIEW**  
TIER ONE: CANNABIS STORE  
TIER TWO: "STORE WITHIN A STORE"  
TIER THREE: DEDICATED COUNTER  
TIER FOUR: PRIMARY COUNTER

**TIER ONE: CANNABIS STORE**  
• STAND ALONE  
• MUST BE LEGAL AGE  
• DEDICATED

**TIER TWO: "STORE WITHIN A STORE"**  
• MUST BE 19 OR OLDER  
• SELF-CLOSING DOOR

**TIER THREE: DEDICATED COUNTER**  
• PRODUCTS OUT OF SIGHT  
• NO AGE RESTRICTION

**TIER FOUR: PRIMARY COUNTER**  
• CONVENIENCE MODEL  
• OUT OF SIGHT  
• NO AGE RESTRICTION

**PHARMACIES SHOULD BE ABLE TO SELL MEDICAL CANNABIS!**  
• MORE ACCESSIBLE  
• BREAKS DOWN STIGMA  
• QUALITY MATTERS

**HOWEVER... THERE ARE MANY CHALLENGES**  
• GEOGRAPHY AS A BARRIER  
• PRICE IS AN ISSUE

**PERMITTED PLACES OF CONSUMPTION**  
RESTRICT SOME POPULATIONS FROM CANNABIS USE  
• DON'T EXPOSE CHILDREN  
• DON'T EXPOSE DRIVERS  
• DON'T EXPOSE PEDESTRIANS

**ASK CANNABIS USERS WHAT CONSUMPTION SITES WORK FOR THEM?**  
DESIGNATE IMPROVED SPACES?

**RETAILERS REPORT**  
QUALITY IS BETTER  
BUT DISTRIBUTION NEEDS FLEXIBILITY  
SUPPLY IS RELIABLE

**UNLICENSED RETAILERS**  
BARRIERS  
• ACCESS TO CAPITAL  
• LACK OF ACCESS TO ONLINE  
• COMPETITIVITY

**LET'S COMPARE**  
LICENSED RETAILERS  
• CUSTOMER EXPERIENCE  
• FINANCIAL ASSISTANCE  
• ONLINE DELIVERY  
• HIGH QUALITY

**EXPLORING CONSUMER PREFERENCES**  
THE CONTENTS  
• PRICE MATTERS  
• PACKAGING MATTERS  
• ACCESS TO INFORMATION! IS MAKING IT EASIER

**QUALITY MATTERS**  
LET'S ASK THE CONSUMER...  
• LET'S ASK THE CONSUMER...  
• LET'S ASK THE CONSUMER...  
• LET'S ASK THE CONSUMER...

**HEALTH LITERACY IS IMPORTANT**  
• KNOW BASICS  
• UNDERSTAND HARM  
• MAKE GOOD DECISIONS

**REASONING FOR MEDICAL USE**  
THERE ARE BARRIERS TO ACCESS ON BOTH SIDES...  
• ONLY 5% ACCESS TO MEDICAL CANNABIS  
• MEDICAL CANNABIS IS NOT AVAILABLE IN ALL AREAS

**EMPOWERING YOUTH TO DECIDE**  
GOAL OF HARM REDUCTION IS TO REDUCE NEGATIVE CONSEQUENCES FROM DRUG USE  
• FOR YOUTH  
• MORE THAN THIS INFORMATION...  
• EMPowerMENT FOR EDUCATORS

**REDUCE STIGMA**  
FOUR RESEARCH FINDINGS FROM STIGMA RESEARCH  
• DO NOT SHAME STUDENTS  
• YOUTH  
• INDEPENDENT

**KEEP GREATER AWARENESS AND UNDERSTANDING**  
OFFER JUDGEMENT-FREE & SAFE SPACES  
FOR EDUCATION AND INSTRUCTION

**RETAILER CHARACTERISTICS VARY AT EACH TIER...**  
MOST PEOPLE DON'T BASE PREFERENCES ON CHOOSING A REGULATED PRODUCT

**LEGALIZATION MAY BE EASIER FOR PEOPLE TO GO OUTSIDE OF THE MEDICAL FIELD**  
• ACCESS TO INFORMATION!  
• LET'S ASK THE CONSUMER...  
• LET'S ASK THE CONSUMER...  
• LET'S ASK THE CONSUMER...

**HEALTH LITERACY IS IMPORTANT**  
• KNOW BASICS  
• UNDERSTAND HARM  
• MAKE GOOD DECISIONS

**REASONING FOR MEDICAL USE**  
THERE ARE BARRIERS TO ACCESS ON BOTH SIDES...  
• ONLY 5% ACCESS TO MEDICAL CANNABIS  
• MEDICAL CANNABIS IS NOT AVAILABLE IN ALL AREAS

**EMPOWERING YOUTH TO DECIDE**  
GOAL OF HARM REDUCTION IS TO REDUCE NEGATIVE CONSEQUENCES FROM DRUG USE  
• FOR YOUTH  
• MORE THAN THIS INFORMATION...  
• EMPowerMENT FOR EDUCATORS

**REDUCE STIGMA**  
FOUR RESEARCH FINDINGS FROM STIGMA RESEARCH  
• DO NOT SHAME STUDENTS  
• YOUTH  
• INDEPENDENT

**KEEP GREATER AWARENESS AND UNDERSTANDING**  
OFFER JUDGEMENT-FREE & SAFE SPACES  
FOR EDUCATION AND INSTRUCTION

**RETAILER CHARACTERISTICS VARY AT EACH TIER...**  
MOST PEOPLE DON'T BASE PREFERENCES ON CHOOSING A REGULATED PRODUCT

**LEGALIZATION MAY BE EASIER FOR PEOPLE TO GO OUTSIDE OF THE MEDICAL FIELD**  
• ACCESS TO INFORMATION!  
• LET'S ASK THE CONSUMER...  
• LET'S ASK THE CONSUMER...  
• LET'S ASK THE CONSUMER...

**HEALTH LITERACY IS IMPORTANT**  
• KNOW BASICS  
• UNDERSTAND HARM  
• MAKE GOOD DECISIONS

**REASONING FOR MEDICAL USE**  
THERE ARE BARRIERS TO ACCESS ON BOTH SIDES...  
• ONLY 5% ACCESS TO MEDICAL CANNABIS  
• MEDICAL CANNABIS IS NOT AVAILABLE IN ALL AREAS

**EMPOWERING YOUTH TO DECIDE**  
GOAL OF HARM REDUCTION IS TO REDUCE NEGATIVE CONSEQUENCES FROM DRUG USE  
• FOR YOUTH  
• MORE THAN THIS INFORMATION...  
• EMPowerMENT FOR EDUCATORS

**REDUCE STIGMA**  
FOUR RESEARCH FINDINGS FROM STIGMA RESEARCH  
• DO NOT SHAME STUDENTS  
• YOUTH  
• INDEPENDENT

**KEEP GREATER AWARENESS AND UNDERSTANDING**  
OFFER JUDGEMENT-FREE & SAFE SPACES  
FOR EDUCATION AND INSTRUCTION



## Introduction

### Background

The Cannabis Health Evaluation and Research Partnership (CHERP) team was awarded two grants under the Health Canada *Substance Use and Addiction Program* (SUAP) Cannabis Research Initiative. One as part of the *Partnerships for Cannabis Policy Evaluation* called for proposals which focused on exploring the impacts of cannabis legalization at the provincial level. And another grant as part of the *Closing the Gaps in Cannabis Research* called for proposals, which allowed us to expand a portion of our provincial work to a nationwide scope.

CHERP is an interdisciplinary research group at Memorial University of Newfoundland and Labrador (MUN) that focuses on exploring how cannabis legalization impacts public health and safety at the regional and national levels. We work closely with citizens, stakeholders, policy makers and individuals with lived and living experience to conduct community-engaged research. Ultimately, we hope this research informs refinement to cannabis policies and regulations in a way that serves the needs of the public while protecting public health and safety.

### Research Focus Areas

Using a public and stakeholder-engaged approach, our team's core research objectives emerged from extensive consultation with policy makers, stakeholders and community members. This consultation process and our findings have been documented in our [Needs Assessment report](#)<sup>1</sup>. The main focus areas, relevant to this report, included:

- The cannabis retail market, with a focus on both consumers and retailers
- The impact of cannabis legalization on youth and young adults
- The impact of non-medical cannabis legalization on medical cannabis use
- Public education, awareness and behaviour change

---

<sup>1</sup> Donnan J., Bishop, L., Najafizada, M., and Blackmore, A (March 2021). Newfoundland and Labrador Cannabis Policy Evaluation: Needs Assessment Report. [https://www.mun.ca/pharmacy/media/production/memorial/academic/school-of-pharmacy/media-library/research/cannabiseval/CannabisPolicy\\_NeedsAssessmentReport.pdf](https://www.mun.ca/pharmacy/media/production/memorial/academic/school-of-pharmacy/media-library/research/cannabiseval/CannabisPolicy_NeedsAssessmentReport.pdf)



## Our Research Team

### Principal Investigators:

Dr. Jennifer Donnan, Assistant professor, MUN School of Pharmacy  
Dr. Lisa Bishop, Associate Professor, MUN School of Pharmacy  
Dr. Maisam Najafizada, Assistant Professor, MUN Faculty of Medicine

### Principal Knowledge Users:

Alison Tucker, Public Health Sr. Manager, Government of Newfoundland and Labrador's Department of Health and Community Services  
Debbie Curtis, Mental Health and Addictions Consultant, Government of Newfoundland and Labrador's Department of Health and Community Services

### Co-investigators:

Nick Harris, Associate Professor, MUN Department of Psychology  
Greg Harris, Professor, MUN Faculty of Education  
Tom Cooper, Professor, MUN Faculty of Business Administration  
Hai Nguyen, Associate Professor, MUN School of Pharmacy

### Collaborators:

Angela Janes, Citizen Advisory Panel Chair  
Grace Kelly- Youth Advisory Panel Chair  
Kelda Newport, Stakeholder Advisory Panel Chair  
Government of NL, Office of Public Engagement and Planning  
Trent Langdon - President of NLTA  
Jane Henderson - Harm Reduction Specialist, Eastern Health  
Emily Wadden- Social Worker, SWAP Program  
Wayne Bishop - Program Manager, Eastern Health  
Kayla Prosper - Addictions Prevention Consultant, Eastern Health  
Nicole Gill, Director of Evaluation and Performance Improvement, NLCHI

## Evidence-to-Policy Symposium

This event was intended to disseminate our research findings and collaborate with various stakeholders and members of the public to discuss policy implications moving forward.

The specific goal of the day was to gather a diverse representation of insights on topics related to cannabis in NL. Topics that were discussed include:

- The provincial cannabis retail model
- Places of cannabis consumption
- Impact of legalization on medical cannabis use
- Public education and awareness
- Youth substance use education



## Approach

The symposium was co-facilitated by the Government of NL Office of Public Engagement and Planning. This was a full day event held at the MUN Signal Hill Campus and included 60 in-person attendees and six virtual attendees who participated in round table discussions. Attendees represented a range of diverse perspectives, including: 1) stakeholders; 2) policy makers and knowledge users; and 3) members of the public.

The day's schedule was broken down into five segments according to the five key topics. Each segment commenced with high-level summaries of research findings pertaining to that topic. Presentations featured speakers from our CHERP team, as well as speakers from various backgrounds such as cannabis retailers, healthcare professionals, cannabis consumers, educators, cannabis regulators, and more. Presentations were followed by round table discussions to collect insights and perspectives. Attendees were organized into seven in-person round tables and one virtual round table. The table seating was arranged so that each table featured perspectives from diverse backgrounds, bringing together individuals that may not have normally got the chance to collaborate on such topics. Each of the five round table discussion sessions were facilitated by CHERP team members, who structured the conversation around two or three predetermined questions.

The symposium concluded with a panel discussion from five community stakeholders who reflected on the day's learnings and thoughts about future directions.

## Report Structure

Our research findings, evidence from the published literature, as well as the roundtable discussions have helped to inform key recommendations and considerations moving forward. Ultimately, we hope that such recommendations and considerations will help support public health and safety in NL, while meeting the needs of the community. These are listed at the beginning of each section, followed by background information on each topic, key findings from our research (“**What we found**”), and a report of “**What we heard**” from roundtable discussions at our Evidence-to-Policy Symposium.





## 1. The 4-tiered Cannabis Retail Model in Newfoundland and Labrador

### Key Considerations

Insights from our team's research and public engagement have helped to inform key considerations to better support retailers and customers within the 4-tier retail market.

- There is a desire by consumers for access to more information from cannabis retailers. While mechanisms to provide some information are in place, customers do not seem to be getting their needs met. Considerations should be given to make consumer friendly information more accessible in a non-judgemental and non-stigmatizing manner. In particular standardized information on product cultivation, safe methods of consumption, harm reduction techniques, and product effects.
- There is a need for increased communication and collaboration with business owners, especially small and independent business owners, to identify mechanisms to simplify the cannabis retail licensing process.
- There is a gap in how people can access reliable information pertaining to medical uses of cannabis. Many consumers purchase from the recreational cannabis supply for medical purposes without ever consulting a healthcare professional.

### Background

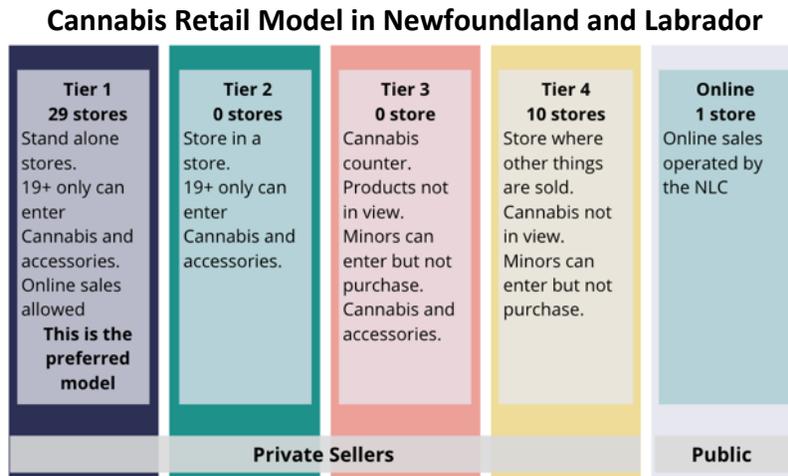
The legalization of cannabis in Canada not only allowed for legal consumption, but also provided provisions for the commercialization of cannabis products.<sup>2</sup> The goals were to provide safe access for consumers and protect public health and safety, all while allowing for the development of new business opportunities within Canada. The Cannabis Act provides clear guidance on what can be sold (e.g. product types, cannabinoid content), production regulations (e.g. cultivation practices, pesticide use), how cannabis is packaged (e.g. child-safe, warnings and labelling), and how cannabis can be marketed. Regulations regarding **how** cannabis is sold are managed at the provincial level, with options between fully publicly operated, fully privately operated, or a hybrid model.

The Government of NL took a unique approach to establishing a cannabis retail market. While several provinces opted for a hybrid approach, whereby both private and public stores were established, the government of NL created a four-tiered model for the private market with online sales offered through

---

<sup>2</sup> Bill C-45, *the Cannabis Act*, S.C. 2018, c. 16.

the public retailer.<sup>3</sup> This was done to overcome some of the challenges to providing access to cannabis in more remote areas of the province.



Tier-1 stores are considered the ideal retail scenario, where stores are stand-alone locations with tinted windows, are dedicated to cannabis sales only, and have restricted access to anyone under the age of 19.

As you move towards tier four, some restrictions are removed such as allowing the presence of those under 19 and the sale of non-cannabis products. However, other restrictions are in place such as not having any cannabis products or product information in sight. Currently there are only licensed stores operating under tiers 1 and 4.

All tiers of cannabis stores allow employees to share basic information on cannabinoid effects, harms associated with cannabis, and limited information on some methods of consumption. This information can be shared verbally (in tier 1 and 2 stores) or through printed or online information sheets approved by the Newfoundland and Labrador Liquor Corporation (NLC). Employees are also permitted to share links to health and safety information provided by the Government of Canada, Government of NL, or the NLC. Information on any medical application of cannabis is prohibited under the provincial Licensing and Operations Regulations.<sup>4</sup>

Policy makers were particularly interested in seeing how this model supports the goals of cannabis legalization in NL.

The CHERP team took on a series of studies that explored:

1. Consumer preferences for cannabis products, and how the legal market in Canada was meeting the needs of consumers, and;
2. Barriers and facilitators experienced by current and prospective private cannabis retailers in Newfoundland and Labrador

<sup>3</sup> Myles, W., Hann, A. M. 2018. *Newfoundland and Labrador regulation 94/18, Cannabis licensing and operations under the Cannabis Control Act (O.C., 2018-208)*. Queen's Printer. <https://www.assembly.nl.ca/legislation/sr/annualregs/2018/nr180094.htm>

## What we found

### Consumers Perspective

Consumers consider a number of different factors when making cannabis purchase decisions, including characteristics of the products like price, THC content, quality and regulated status, as well as characteristics of the retailer.<sup>5</sup>

**Price and THC Content:** With respect to product characteristics, price and THC content ranked as highly important for many consumers. This was particularly important for edible cannabis products, as the restrictions on the amount of THC permitted in a package (10 mg) of edibles made purchasing from the regulated market cost prohibitive (and calorically dense) for regular consumers and those requiring larger doses to achieve the desired effect. For the more regular consumers, access to promotional sales and bulk discounts at a particular retailer played a big role in where they purchased cannabis.

**Quality:** Also relevant were aspects of quality. These included: 1) the cultivation processes and how the cannabis was grown and cured; 2) consistency in products when purchasing the same brand and type; and 3) consistency between servings (specifically for edibles).

**Packaging:** Many consumers reflected on product packaging. While most were supportive of rules around labels and warnings, many were concerned with the amount and complexity of packaging that is required for regulated cannabis products. They thought it was wasteful, especially for the more environmentally conscious consumers.

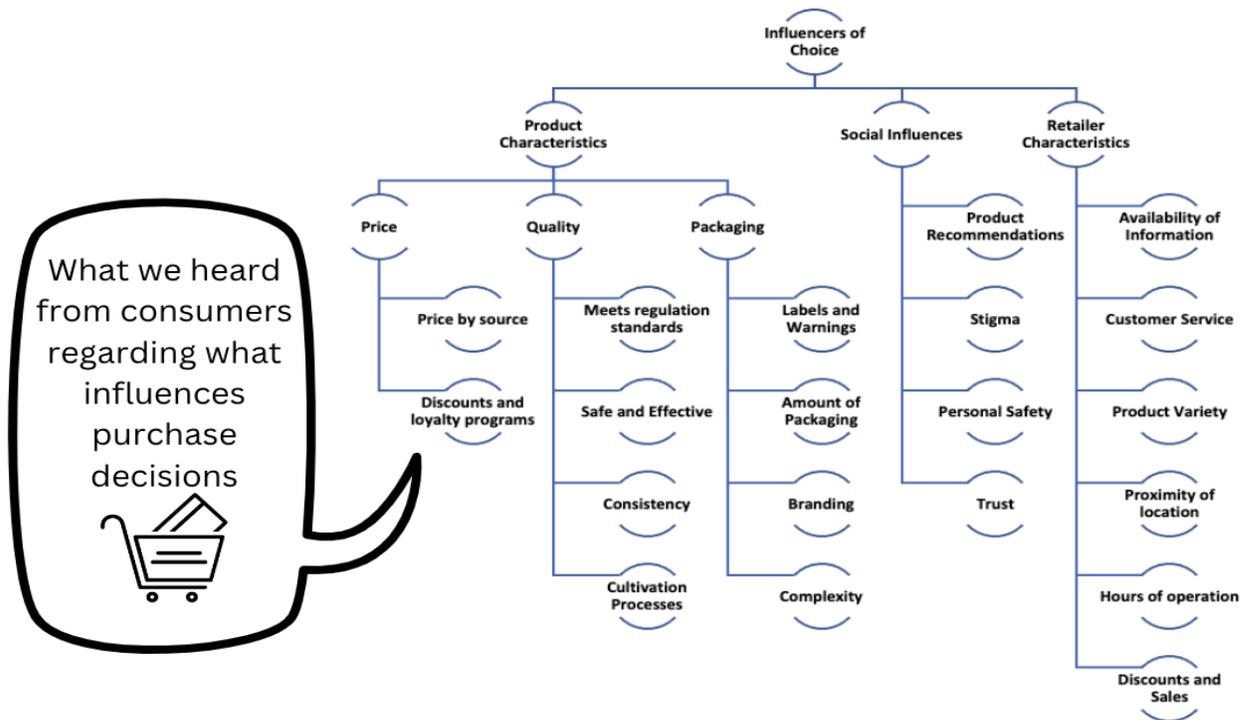
**Regulated Status:** While most customers preferred to purchase regulated products over non-regulated, especially for cannabis vapes, many of the more regular cannabis consumers were willing to trade off regulated status to purchase products that were cheaper, had higher amounts of THC or were of higher perceived quality.

**Access to Information:** When it comes to selecting a retailer, customers from novice to experienced, highly value access to information. This included product information available at the store and from the staff through good customer service. This is relevant to the four-tiered retail model, because tier 3 and 4 stores are not permitted to provide any information to customers outside of what is available on the package, or standardized information materials that many customers are not aware of.



<sup>5</sup> Donnan, J., Shogan, O., Bishop, L., & Najafizada, M. (2022). Drivers of purchase decisions for cannabis products among consumers in a legalized market: a qualitative study. *BMC public health*, 22(1), 368. <https://doi.org/10.1186/s12889-021-12399-9>

## Characteristics that influence consumer purchase decisions



### **Retailers Perspective**

We spoke to licensed and prospective cannabis retailers in NL to gather their insights on the retail model.<sup>6</sup> While most were optimistic about the opportunities made available by cannabis legalization, as pioneers in this new legal area of business they were also able to share their first-hand knowledge of the barriers and facilitators they faced in establishing themselves (or trying to establish themselves) and maintaining a presence in this new market. Retailers raised challenges regarding licensing, location, taxation, marketing and promotion, and banking and finance.

Both licensed and prospective retailers reported that the regulatory environment was complex and often difficult to navigate, which posed a significant barrier to enter the legal market and operate a cannabis store.

**Licensing:** Both licensed and prospective retailers believed that licensing fees and costs incurred pre-licensing were too high, and the process was rigorous and lengthy. Some who already operated in the legacy market, found it so tedious and complex that it deterred them from persisting their efforts. It was easier for many of them to keep the status quo. A reevaluation of licensing procedures in consultation with local retailers would help to support accessible entry into the market and business longevity.

**Retail Location:** Many found that securing a suitable location to operate is a regulatory hurdle and can be difficult due to postal codes and zoning restrictions. It is not easy to find a suitable space that is in the designated postal code, available for purchase or lease, an appropriate size, and not near a liquor store, school or park.

<sup>6</sup> CHERP, Unpublished. Any unpublished work can be found in the future [here: https://www.mun.ca/pharmacy/research/cherp/sharing-our-knowledge/](https://www.mun.ca/pharmacy/research/cherp/sharing-our-knowledge/)

**Taxation:** While the price difference between regulated cannabis and what is available on the legacy market is narrowing, licensed retailers find they are still competing on price. They feel that the added taxes make it impossible to sell their products at comparable prices.

**Promotion, Marketing and Advertising:** For businesses to succeed they need to engage in some measure of marketing and promotion. Retailers felt that the restrictions placed on these activities really limited their success. Most recognize that they will not be permitted to advertise in a way that promotes or encourages cannabis use, however they are looking for ways to offer things like community events (19+), educational events, and even customer loyalty programs.

Marketing and promotion restrictions are a common concern inside and outside of NL, however very little research has been done to understand the public health and safety impacts that loosening restrictions may have. One study that compared cannabis marketing policies across Canada and the United States, found that Canada's framework to be more comprehensive and authors recommend more widespread federal guidance within the United States.<sup>7</sup> While, many look to the looser alcohol advertising laws as reasonable comparison, we are actually seeing many public health groups identifying alcohol marketing as a concern,<sup>8</sup> citing that such alcohol marketing can target vulnerable groups such as youth. Many experts are advocating for detailed policies and controls of alcohol through a regulatory framework.<sup>9, 10, 11</sup>

**Banking and Finance:** For prospective retailers, many found it difficult to obtain the money they needed to get started. You had to have a lot to invest before you even got a license. However, even those with the required capital experienced challenges in opening a business account and getting a loan from financial institutions, as many did not want to conduct any business with cannabis retailers. They felt discriminated against, because business in other industries would have easy access to financing once they had enough collateral.

Despite these barriers, participants also identified several positive changes over the past few years. In particular the ability to legally sell cannabis vapes in NL was a welcome change. One retailer estimated that about 18% of sales were for vapes. These new product offerings have a big impact on revenue. Another facilitator identified by retailers was their ability to offer quality products. It is often unknown that you are buying from a legacy market retailer, due to regulation more is known about the products sold on the legal market.

---

<sup>7</sup> Allard, N. C., Kruger, J. S., & Kruger, D. J. (2023). Cannabis Advertising Policies in the United States: State-Level Variation and Comparison with Canada. *Cannabis and cannabinoid research*, 8(3), 505–509. <https://doi.org/10.1089/can.2022.0068>

<sup>8</sup> Government of Ontario. (2016). *Focus On: Alcohol Marketing*. [https://www.publichealthontario.ca/-/media/Documents/F/2016/focus-on-alcohol-marketing.pdf?rev=d0f395d235d84069bf56a0685fb223d6&sc\\_lang=en](https://www.publichealthontario.ca/-/media/Documents/F/2016/focus-on-alcohol-marketing.pdf?rev=d0f395d235d84069bf56a0685fb223d6&sc_lang=en)

<sup>9</sup> Babor T, Caetano, R, Casswell S, Edwards G, Giesbrecht N, Grube J, et al. Alcohol: no ordinary commodity—research and public policy. 2 nd ed. Oxford: Oxford University Press; 2010.

<sup>10</sup> Heung CM, Rempel B, Krank M. Strengthening the Canadian alcohol advertising regulatory system. *Can J Public Health*. 2012;103(4):4.

<sup>11</sup> Giesbrecht N, Wettlaufer A, Simpson S, April N, Asbridge M, Cukier S, et al. Strategies to reduce alcohol-related harms and costs in Canada: a comparison of provincial policies. *Int J Alcohol Drug Res*. 2016;5(2):33-45. Available from: <http://www.ijadr.org/index.php/ijadr/article/view/221/396>

## What we heard

Facilitators guided each round table discussion around two central themes. Discussions first focussed on the retailer and consumer experience within the current 4-tiered retail model, outlining both barriers and facilitators within the market. Next, participants discussed potential steps to improve support for customers and retailers. The protection of public health and safety was upheld as a priority throughout this session and the topic was heavily incorporated into discussions.

### **Customer Experience**

Participants felt that while the current 4-tiered model has increased the availability of safe cannabis across the province, and can contribute to the breakdown of some cannabis-related stigma, it poses several challenges to consumers. Specifically, challenges related to trust and stigma, consumer knowledge and education, and accessibility for select populations.

**Trust and Stigma:** The issue of trust and stigma was raised in relation to stores in tier-4 of the model; however, these comments are relevant for tier-3 as well, despite that there are currently no stores operating under that tier. Stores under these tiers are part of larger corporations, and attendees expressed those employees often lacked lived experience or expertise with cannabis. Staff often come from within the larger organization and are not hired specifically to handle cannabis purchases. Some mentioned that this can make the shopping experience feel stigmatizing, especially if the staff person has negative views towards cannabis or those who consume cannabis. Overall, attendees agreed that the current 4-tiered model can contribute to stigma and sentiments of cannabis as a taboo.

**Knowledge and Education:** Attendees noted that the current retail model lacks mechanisms for consumer education and product knowledge. Although employees are permitted to provide basic information about products, consumers often wish for more detailed and accessible information, and often feel confused and uninformed while shopping, especially when they cannot see the product (i.e., in Tier 3 and 4 stores). It was suggested that the lack of trust with employees, and the inability to easily access information may be encouraging purchases from the unregulated market. Attendees noted that this barrier could be overcome with the implementation of written information throughout retail settings (e.g., through infographics, pamphlets, QR codes), placed in visible locations so that one does not have to ask for it.

The content of available information in retail settings is also a barrier for consumers. Although employees can provide information on products, and information sheets provide context on methods of consumption, cannabinoids, and potential harms of cannabis use, consumers wish for more detailed information and an expansion into topics such as how products are produced. Finally, it is prohibited to provide information on medicinal applications of cannabis in retail settings, but consumers wish for direction in how to find such information. Given the lack of medical training of cannabis store employees, current regulations are reasonable, however, there is a gap in places people can access this type of information from trustworthy sources.

**Accessibility:** Though cannabis has become far more accessible through legalization, some barriers still exist. Participants commented on how certain stores are very discreet in their signage, and have tinted windows, which not only creates a sense of taboo, but introduces difficulties in identifying the stores. Attendees also noted that price and limited product variety in certain stores are significant barriers within the current model, potentially driving customers away from the legal market. Participants stated that the licensed market struggles to compete with the unregulated market in terms of product

selection. This is particularly relevant when addressing the availability of products with high THC content. Geographical accessibility was also an issue for some. Despite the 4-tiered model designed to make it easier to establish stores in more remote areas of the province, some regions still lack easy access to brick-and-mortar store locations. Often, stigma may be prevalent in small rural communities, yet there is a lack of access to stores that allow for more discreet purchases. Finally, some attendees expressed frustration that minors are not allowed inside tier 1 and 2 stores, making it difficult for caregivers of children to make safe purchases. In some areas this is mitigated through the availability of drive-thru windows, to provide access without compromising on public safety.

### ***Retailer Experience***

From the retailer perspective, it was felt that the current 4-tiered retail model helps with sustainability of product supply, and provides good support to large and thriving business centres. However, business challenges identified include licensing difficulties, the lack of support for small and rural centers, and limitations placed on marketing.

Retailers feel that the current licensing process can act as a barrier for retailers in the province. Obtaining licenses can be a lengthy and complicated process that requires a great amount of work, and may deter some business owners from applying for such licensing. This may create a barrier for entrance into the regulated market, and subsequently may drive unregulated store owners to continue operating illegally. Even once all the hurdles of obtaining a licence are overcome, annual re-licensing fees act as a barrier. Overall, this process is not seen as sustainable for small retailers, and retailer consultation on how to simplify such a process should be considered.

Participants noted that for larger stores (i.e. tier 1) and those in populated areas, the ability to sell a larger variety of products is an advantage. Further, existing regulations pose challenges for local retailers in sustaining Tier 4 stores, as profit margins are much lower for these stores. Additionally, the government's lack of incentives for small business owners across tiers exacerbates the situation. While margins are higher for Tier 1 stores, retailers often struggle to provide product options due to high supply costs. Finally, participants noted that the province currently has no Tier-2 and Tier-3 stores. While the reason for this gap was not explored in detail, attendees noted it as another example of a lack of support for small businesses within the current model.

Notably, attendees described marketing restrictions as a barrier for retailers. Such regulations are governed by the NLC, yet rules are not the same for the liquor and cannabis market. Retailers expressed that the inability to market products or engage in promotion hinders business, especially considering that cannabis stores in the province may be competing with liquor stores.

A sense of disconnect between the current retail model and the needs of both retailers and customers was an overarching theme across discussions. Both populations are being left to feel unsupported and lack a clear way to communicate their needs to the regulatory body. Implementing a mechanism to collaborate with interested parties in the further development of the 4-tier model is important to increase support and satisfaction.



## 2. Places of Cannabis Consumption

### Key Considerations

The CHERP team's research and public engagement efforts have addressed how current regulations on legal spaces of cannabis consumption have impacted public health and safety. This work has informed a key area of consideration within policy development.

- 1) There is a need to address social inequities and barriers introduced by current regulations
  - a) Current regulations create barriers in finding a safe, legal space to consume cannabis for those who rent properties. This may add to social inequities, especially among low-income populations with no home ownership, which must be considered in order to reduce harm.

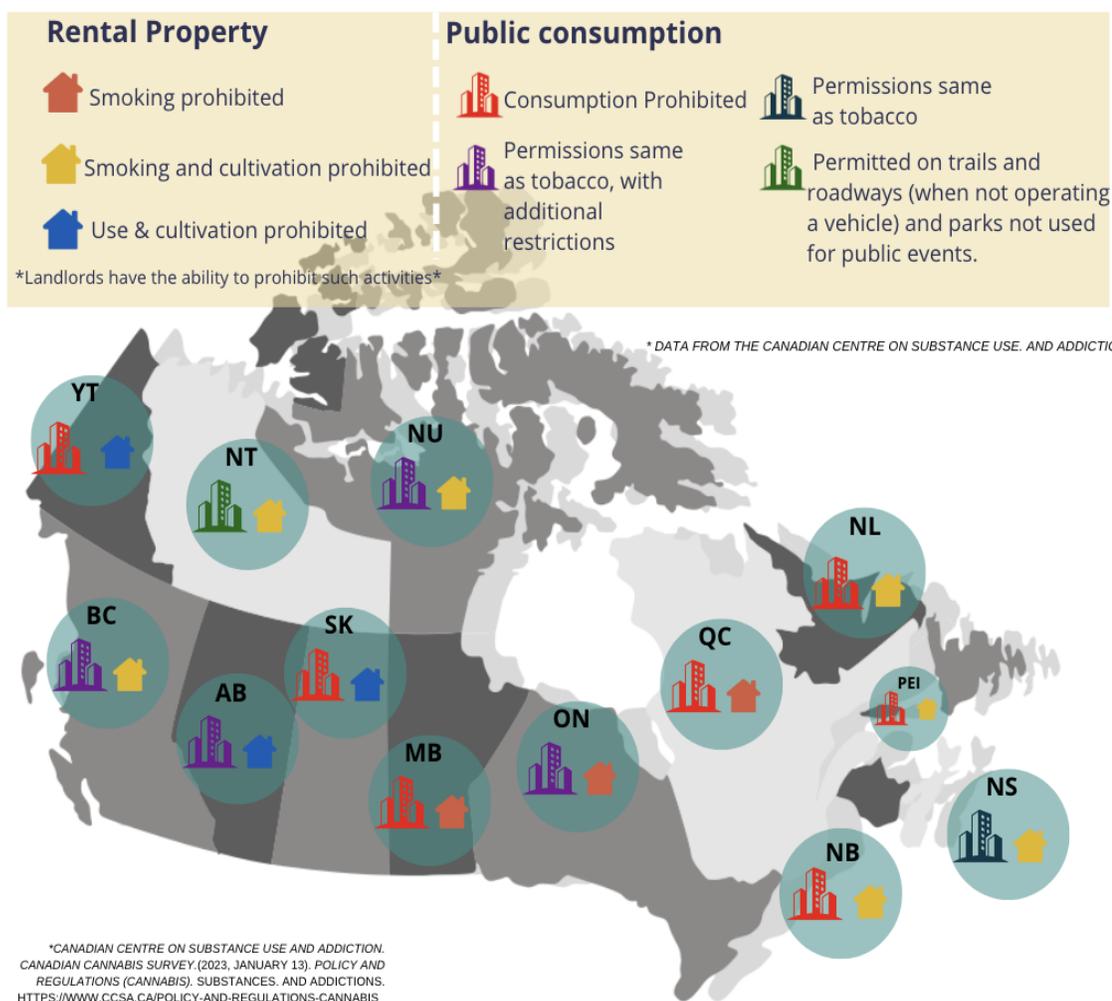
### Key Recommendations

The following recommendations are intended for a provincial and municipal regulatory audience, including, but limited to The Government of NL, and municipal town councils.

- 1) Provide more detailed context about existing regulations on places of consumption:
  - a) Currently, provincial regulations state that cannabis can be consumed: "In private residences; In hotel rooms or in apartments of multi-unit residential buildings, at the discretion of the hotel or the building's landlord." However, there is no distinction in cannabinoid content (i.e., THC and CBD content) or mode of consumption (e.g. inhaled, edible, oil, topical). More context needs to be provided around these regulations to avoid consumers from making assumptions.
- 2) Additional public communication efforts are needed to increase public understanding of cannabis consumption regulations. This includes easy access to information online, public signage and public education campaigns.
- 3) Conduct public consultations to identify ways to introduce safe public consumption spaces, for those who have no legal places to consume.
  - a) Focused effort to reach populations such as: seniors in care facilities and those who rent properties

## Background

Regulations on legal spaces where people can consume cannabis are determined on a provincial level, and each province has taken a slightly different approach. In NL, it is prohibited to consume cannabis in any public space, and landlords have the ability to ban the smoking and cultivation of cannabis in rental properties<sup>12</sup>



While our team did not have a specific research study or objective to explore places of consumption, challenges faced by consumers and members of the public alike were identified in two of our research studies. These included:

1. Provincial cannabis survey to explore attitudes, experiences and behaviours in NL, and
2. Focus groups to explore the impact of cannabis legalization on youth and young adult cannabis access and behaviours

<sup>12</sup> Hann, A. M. 2018. *Newfoundland and Labrador Regulation 90/18*. Authority. <https://www.gov.nl.ca/dgsnl/files/printer-gazette-extraordinary-issues-2018-nlg181016-extra.pdf>

## What we found

Our province-wide cannabis survey, fielded in the Fall of 2022 captured information on cannabis-related issues from adults in NL ( $N = 1026$ ), including where individuals tend to consume cannabis as well as exposure to second-hand smoke. We found that while almost all (99%) who consumed cannabis in the past year consumed in the home at least some of the time. Almost a quarter (24%) of this sample also consumed cannabis in public spaces. Further, over half (55%) of the overall sample (including cannabis consumers and non-consumers) reported exposure to unwanted second-hand smoke in public spaces. Notably, those who did not consume cannabis in the past year were more likely to be exposed to unwanted second-hand smoke in any setting.

Findings from the Canadian Cannabis Survey<sup>13</sup> highlighted that second-hand smoke exposure was highest in public spaces (44% reported exposure), yet rates of public exposure were lower than those reported in our work. This research outlines that exposure to second-hand smoke poses a threat to public health and safety on a national level. Although we cannot infer direct comparisons to our own research findings, it appears that second-hand smoke exposure may be elevated in NL, but this requires further research.

We also identified challenges with spaces of consumption for several segments of the population. Qualitative interviews revealed that young adults may not have access to a space to legally consume cannabis, particularly if they are living in rented accommodations. They may not be permitted to consume cannabis or avoid consuming cannabis due to fear of eviction. These same concerns could be valid for other people who rent accommodations or live in condo complexes. Seniors in particular are another demographic of individuals who often live in condos, care facilities or other congregate living arrangements without designated cannabis consumption spaces. A lack of legal space had led consumers to consume in other places such as in vehicles or public spaces. Overall, it is clear that regulations on spaces for the safe consumption of cannabis is an issue for many population groups and can create social inequities.

No research has been done to evaluate the impacts of creating specific consumption spaces for cannabis in the community. The Government of BC recently released a public consultation report on this issue,<sup>14</sup> however it focused on businesses such as a “cannabis lounge, a special event or other establishment that has cannabis for sale and use on-site”. It did not address public spaces for consumption. In this report, opinions were mixed, with those in favour being from within the industry. Those opposed were concerned about public health impacts such as the mixing of cannabis and alcohol and potentially increasing the rate of driving under the influence of cannabis.

---

<sup>13</sup> Government of Canada . *Canadian Cannabis Survey 2022: Summary*. Health Canada; 2022. Available: <https://www.canada.ca/en/health-canada/services/drugs-medication/cannabis/research-data/canadian-cannabis-survey-2022-summary.html#s2>. Accessed 6 January 2023.

<sup>14</sup> British Columbia Ministry of Public Safety and Solicitor General (January 2023). *What we heard report: Cannabis consumption spaces public engagement*. [https://engage.gov.bc.ca/app/uploads/sites/121/2023/01/What-We-Heard-Report\\_Cannabis-Consumption-Space\\_FINAL.pdf](https://engage.gov.bc.ca/app/uploads/sites/121/2023/01/What-We-Heard-Report_Cannabis-Consumption-Space_FINAL.pdf)



## What we heard

Roundtable discussions reflected on current regulations on spaces of cannabis consumption in NL, carefully considering how such rules impact different populations and facets of community. Facilitators then directed discussions towards possible regulatory shifts to improve current regulations, while maintaining a focus on public health and safety.

It was agreed upon that concerns with cannabis consumption in public spaces are most relevant to smoking and vaping, due to concerns over second-hand smoke. However, consumption of other forms of cannabis (e.g. edibles, oils) in public can still be also problematic with respect to increasing the risk of driving under the influence or accidental consumption. Attendees identified some concerns including confusion regarding current regulations, regulation enforcement, encouraging less safe consumption practices, and social inequities. However, they also acknowledge the potential public health concerns that come with opening up places of consumption.

**Regulation Confusion:** Attendees highlighted the confusion surrounding current policies, particularly, regarding the rules around where cannabis can be consumed and what forms of cannabis those rules are applied to. While regulations state a ban on any cannabis consumption in public spaces, there appeared to be confusion over whether this prohibition includes all modes of consumption, such as edibles, capsules or topicals, and if it applies to both THC and CBD.

**Regulation Enforcement:** Attendees felt that the regulations in place are not being properly enforced, particularly in relation to consuming cannabis in parks and vehicles. They felt that police may be ignoring issues of public consumption because it is difficult to enforce.

**Harm Reduction:** Attendees noted that the current regulations may not be effective in reducing harm associated with cannabis use. Those who rent a property may be left with no space to safely consume cannabis. Consumers may have to drive to a place to consume legally, or consume in public spaces or vehicles illegally.

**Social Inequities:** It was noted that the current regulations may exacerbate social inequities between socioeconomic groups, particularly for those who rent properties. For example, individuals who rent and are limited in their transportation options may have no place to safely consume. Further, those with a disability may struggle to move to an outdoor space to consume cannabis outside of their property. Most attendees noted that they can understand why landlords may choose not to allow cannabis consumption in their property to prevent property damage or out of consideration for other tenants. However, these regulations leave renters with a choice between breaking the law or changing their consumption behaviours.



### 3. Impact of Non-Medical Legalization on Medical Cannabis Use in NL

#### Key Recommendations

The following recommendations are intended for a federal and provincial regulatory audience, including, but not limited to Health Canada and the Government of NL; as well as health professional schools.

1. Invest in medical cannabis education among health professionals allowing for interdisciplinary education across healthcare fields.
  - Education should cover medical cannabis indications, cannabinoids, dosing and monitoring, harm reduction, and healthcare provider stigma.
2. Address the gap in access to healthcare provider (HCP) support for current and prospective medical cannabis patients.
  - Allow for some cannabis products (e.g. CBD dominant products) to be sold from community pharmacies.
  - Acknowledge the role of the pharmacist in providing evidence-based cannabis information and assessing individual patient health risks, by providing coverage for pharmacist consultations.
3. Improve access to medical cannabis in care facilities by:
  - Reviewing the NL Health Service's medical cannabis consumption policy for acute and long-term care facilities to ensure it meets the needs of patients and prescribers.
  - Develop guidance for the creation of cannabis consumption policies in private care facilities and homes.

#### Background

Cannabis was legalized for medical use in Canada in 2001.<sup>15</sup> In the years following, Canadians experienced increased access to cannabis for medical indications through authorizations from a medical provider and obtaining cannabis products through a licensed medical producer or growing their own supply.

While the channels for medical access have long been available, many patients struggle with obtaining an authorization<sup>16</sup> There is still limited evidence to support cannabis for many indications, therefore medical providers are often not equipped with the knowledge and skills to feel comfortable dosing and

---

<sup>15</sup> Bill C-45, *the Cannabis Act*, S.C. 2018, c. 16.

<sup>16</sup> University of Manitoba. (2023). *Medical cannabis access and experiences in Canada*. <https://www.medicalcannabissurvey.ca/report>

monitoring cannabis. For those whose patients were able to get authorization, the lack of insurance coverage means that cost can act as a barrier.

The legalization of non-medical cannabis in 2018 has started to change public perceptions about cannabis.<sup>17</sup> Those who may have been previously skeptical about cannabis for medical indications are now more open minded. Additionally, patients are not faced with the barriers of needing medical authorization, and can access safe cannabis supplies to experiment on their own.

Through our research, the CHERP team has collected information on:

1. Patterns of medical cannabis use in NL through a provincial cannabis survey
2. Patient challenges with accessing support for medical cannabis use through qualitative interviews
3. Perspectives of HCPs regarding supporting patients with their decisions to consume cannabis through qualitative interviews.

## What we found

Medical cannabis use patterns in NL were captured through a provincial survey, launched in the Fall of 2022 ( $N = 1028$ ). Two thirds (68%) of those who consumed cannabis in the past year reported consuming at least partly for medical purposes.

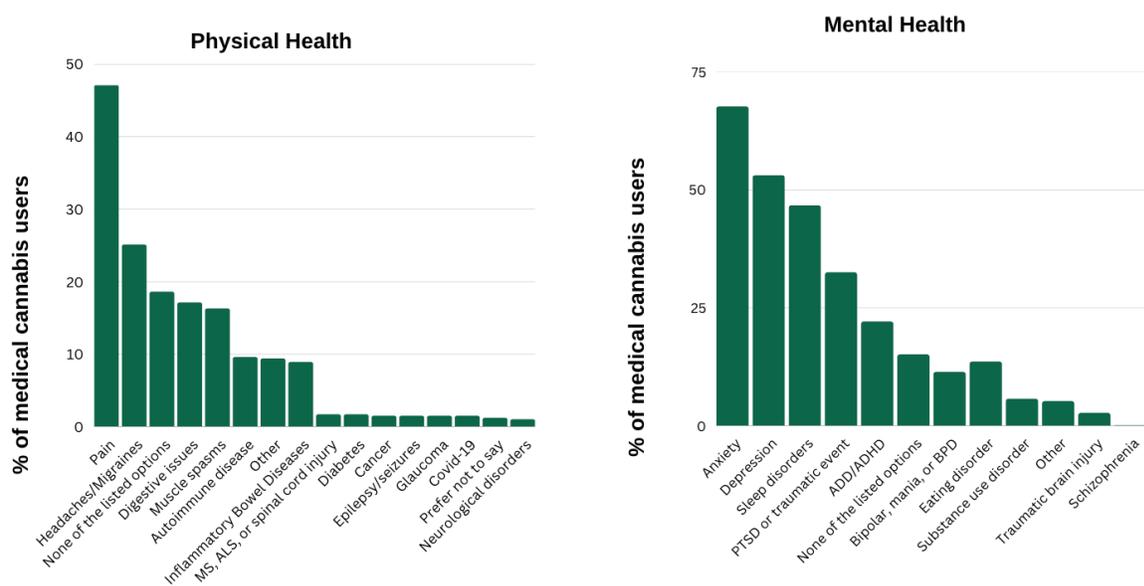
Participants were utilizing medical cannabis to address both mental and physical health indications, and common indications among these participants included anxiety (68%), depression (53%), pain (47%), sleep disorders (47%), and headaches or migraines (25%). While there is some evidence for the efficacy of medical cannabis in addressing chronic pain and depressive symptoms.<sup>18-19</sup> The current literature lacks conclusive evidence regarding other indications commonly mentioned in our survey.

---

17 Wadsworth, E., Fataar, F., Goodman, S. *et al.* Consumer perceptions of legal cannabis products in Canada, 2019–2021: a repeat cross-sectional study. *BMC Public Health* 22, 2048 (2022). <https://doi.org/10.1186/s12889-022-14492-z>

18 Bridgeman, M. B., & Abazia, D. T. (2017). Medicinal Cannabis: History, Pharmacology, And Implications for the Acute Care Setting. *P & T : a peer-reviewed journal for formulary management*, 42(3), 180–188.

19 Webb, C. W., & Webb, S. M. (2014). Therapeutic benefits of cannabis: a patient survey. *Hawai'i journal of medicine & public health : a journal of Asia Pacific Medicine & Public Health*, 73(4), 109–111.



Only 15% of medical cannabis consumers had an active medical cannabis authorization from a healthcare professional (HCP), therefore much of the medical use is being done without medical support or monitoring. Results also highlighted that only 5% of medical consumers report accessing through a regulated medical producer, with many people accessing through the legal non-medical and illegal markets. Finally, medical cannabis consumers tended to purchase dried flower products (80%) and products with high THC and low CBD content (30%). This is against the general medical advice of using non-inhaled product formulations and starting with higher CBD and low THC content.

Through qualitative interviews and focus groups with consumers, it was noted that many patients struggle with getting the support they need from their primary health care provider.<sup>20</sup> This was for a number of reasons, including: minimal clinical evidence to guide recommendations and dosing; lack of a family physician; and perceived stigma. Other patients struggled with cost, and getting an authorization was not helpful if they could not afford to purchase their supply from an authorized medical producer.

Our team also explored barriers and facilitators for primary and acute HCPs in NL.<sup>21</sup> This research revealed that there are significant knowledge gaps for primary care providers regarding the authorization of medical cannabis. That is, they were concerned about availability of evidence on medical cannabis, and felt that they lacked educational resources and support for continuing education on medical cannabis. Many HCPs were open to authorizing cannabis and were optimistic about its potential benefits, yet they did not feel that their current education prepared them to do so. These barriers ultimately limited their practice competence and confidence in this area. Acute care providers, who treat patients in hospital settings, expressed challenges with a lack of medical cannabis education, but also many were not aware of the policy and process that would allow them to provide continued access to cannabis in hospital. These barriers impacted their patients, as they contributed to interrupted access to medical cannabis during hospital stays.

<sup>20</sup> CHERP, Unpublished. Any unpublished work can be found in the future [here: https://www.mun.ca/pharmacy/research/cherp/sharing-our-knowledge/](https://www.mun.ca/pharmacy/research/cherp/sharing-our-knowledge/)

<sup>21</sup> CHERP, Unpublished. Any unpublished work can be found in the future [here: https://www.mun.ca/pharmacy/research/cherp/sharing-our-knowledge/](https://www.mun.ca/pharmacy/research/cherp/sharing-our-knowledge/)

Overall, our research findings highlight that those who use medical cannabis are facing barriers in access to information, authorization, and supportive care from HCPs. Further, HCPs across settings are facing a lack of support to further their education on medical cannabis, resulting in a lack of confidence and competence in providing medical cannabis care to patients. This tells us that medical cannabis care is complex, and increasing support for such care requires holistic solutions that involve both patients and HCPs.

## What we heard

Facilitators guided roundtable discussions through various topics and perspectives related to medical cannabis care in NL including. Discussions also focussed on cannabis-related stigma within healthcare settings. Participants posed ways to combat such stigma, while considering the issue holistically and providing solutions that were focussed on healthcare providers as well as patients.

**Access:** Participants discussed some of the challenges with access to information to inform medical cannabis decisions, as well as challenges to finding supportive and knowledgeable HCPs to obtain authorization for medical cannabis use.

Often, individuals in NL are turning to the licensed non-medical cannabis market to access cannabis for medical use. This poses risks for patients, as they may not be accessing the most appropriate doses, modes of consumption, and cannabinoid compositions. While public education can help address this issue, patients need to feel comfortable to consult with their HCP about medical cannabis. However, patients often feel stigmatized in healthcare settings. Those seeking out HCP support may seek professionals who specialize in medical cannabis, yet there is a shortage of such specialists in the province.

Specific challenges were raised for patients who live in care facilities, such as personal care homes or long-term care. These patients may have been stabilized on cannabis in the community and then face facility barriers to continuing treatment with cannabis in their new homes. Other patients may develop new indications for cannabis while in care, but are limited in the HCPs they can see and the facilities rules regarding use. Some health care facilities, specifically those run by the provincial health authority, have policies in place for patient cannabis use, however there is limited widespread knowledge of these policies.

Participants raised the involvement of pharmacists within medical cannabis care as a means to improve access. They emphasized that speaking to a pharmacist is often more accessible than speaking to a doctor, and they possess the necessary skills to provide information, patient assessment, and support medical cannabis decision making and even harm reduction advice.



**Healthcare Professional Education:** Throughout the presentations and roundtable discussions, it was apparent that there is a gap in education about medical cannabis for HCPs. Participants felt that a lack of standardized professional education across healthcare disciplines can create barriers for patients seeking care through medical cannabis. Presently, there is inconsistency in HCPs' approach to medical

cannabis care. While some HCPs are open to having conversations and providing information about medical cannabis, others hold biases which may contribute to stigma within the healthcare setting, which can contribute to apprehension about discussing medical cannabis with one's HCP. Despite the stance of a HCP on medical cannabis, patients should have the opportunity to receive unbiased information about medical cannabis and feel comfortable to engage in such conversations. Increased professional education may improve the patient experience as it may help HCPs to feel confident in making objective decisions about medical cannabis, and potentially address personal biases or moral conflicts.



Participants noted that increased research efforts could help to alleviate barriers to education. The literature on the efficacy of cannabis for treating various medical indications is somewhat inconclusive, and further clinical research can help patients and HCPs alike to make informed decisions about medical cannabis. Particularly, attendees noted a need for more clinical trials, as well as qualitative research that captures the lived experiences of medical cannabis patients.

**Patient Education:** Participants also noted a lack of educational opportunities for patients who are interested in learning about medical cannabis. Right now, there are gaps in where to find information on medical cannabis, and how to interpret and apply such information. In particular, attendees noted the importance of having access to information on the potential harms and benefits of medical cannabis, and information on costs and insurance coverage. While speaking to an unbiased primary care provider is a suitable route to receive information for some, many individuals do not have a family doctor, or may not feel comfortable approaching their HCP. As a solution, primary education campaigns are important to provide initial information about medical cannabis, and may act as the first step in making a decision to speak to one's HCP.

**Stigma:** Stigma was also an identified barrier for medical cannabis care in the province, particularly cannabis-related stigma within healthcare settings. Participants noted that experiencing such stigma from a HCP can be damaging to a patient's overall care experience. To improve stigma within healthcare settings, attendees noted the importance of honouring lived experiences. They suggested that patients may feel more supported if there was representation from HCPs with lived medical cannabis experiences, and if HCPs were to honour and respect the lived experience of the patient. That is, a patient-centered and harm reduction care approach is crucial to reducing stigma. This would also help to address mental health stigma that often contributes to medical cannabis-related stigma in healthcare settings, attendees noted. Importantly, attendees also highlighted the role of education in reducing stigma as well. Such education could help HCPs to overcome personal biases and engage in discussions about medical cannabis without perpetuating stigma, despite their stance on its efficacy in treating medical indications. On a higher level, attendees also pointed out a lack of acceptance for medical cannabis on an organizational level (e.g., Canadian medical associations), which could also contribute to stigma.



## 4. Public Knowledge and Stigma

### Key Consideration

The following consideration is intended for a provincial government audience. While public education efforts have been brought forth since legalization, we have identified several knowledge gaps that can contribute to misconceptions and stigma related to cannabis. We have provided a key consideration to improve public knowledge and awareness, and subsequently target cannabis-related stigma in NL:

- 1) A need to invest in additional public cannabis education campaigns to address knowledge gaps and stigma that exists within the community. Specific knowledge areas that were identified included:
  - a) Cannabis, impaired driving, and road safety
  - b) Risks of consuming unlicensed cannabis products
  - c) How to identify unlicensed sources
  - d) Practices for the safe storage of cannabis products and protocols for accidental exposures
  - e) Harm reduction strategies for cannabis consumption among target populations (e.g., older adults, pregnant and breastfeeding individuals, youth, and those with a family history of psychosis and other mental health diagnoses)

### Background

Five years post legalization, cannabis-related stigma and cannabis risk perception are key issues that impact the public health and safety of our province. Despite efforts from the provincial government to increase the public's knowledge about cannabis, there still appears to be gaps in such knowledge. This includes the public's perceptions of risk associated with use. Further, since legalization, cannabis-related stigma is still a prevalent issue in the province. Such stigma often imposes negative consequences for cannabis consumers as well as on efforts to reduce harm associated with use.

Cannabis use has both short-term and long-term health risks. Short-term adverse effects include impaired short-term memory, impaired motor coordination or it may precipitate an episode of psychosis such as paranoia and hallucinations.<sup>22</sup> While long-term risks include an increased chance of addiction, harm to one's concentration or memory, and development of bronchitis or lung infections if inhaled. Certain cannabis-use behaviours can put individuals at increased risk of experiencing harmful effects<sup>23</sup>.

---

22 Volkow, N. D., Baler, R. D., Compton, W. M., & Weiss, S. R. (2014). Adverse health effects of marijuana use. *The New England Journal of Medicine*, 370(23), 2219–2227. <https://doi.org/10.1056/NEJMra1402309>

23 Lee, C.-R., Lee, A., Goodman, S., Hammond, D., & Fischer, B. (2020). The Lower-Risk Cannabis Use Guidelines' (LRCUG) recommendations: How are Canadian cannabis users complying? *Preventive Medicine Reports*, 20, 101187.

Such risky behaviours include almost-daily use of cannabis, using cannabis products with high THC content, polysubstance use, or driving while impaired from cannabis.<sup>24</sup> One study reported that cannabis impaired driving was associated with 4 – 12% of all injuries and mortalities from motor vehicle accidents in Canada.<sup>25</sup> In a recent survey, 40% of participants reported riding with a cannabis impaired driver within the past year.<sup>26</sup> In Canada, approximately 10-20% of consumers displayed some of these risky behaviours, putting them into a category of high-risk users.<sup>27</sup>

Recent studies demonstrated that those who consume cannabis may have misconceptions with the risks and benefits of cannabis use.<sup>28-29</sup> Kruger and colleagues (2020)<sup>30</sup> reported that cannabis consumers were overly optimistic in their beliefs that cannabis effectively treated various medical conditions and at the same time underestimated the risks that cannabis use may pose.

Accurate perceptions of cannabis are important, as those who have low perceived risks tend to have greater cannabis consumption.<sup>31</sup> Access to accurate evidence-based information is needed for individuals to make informed decisions about cannabis consumption.<sup>32</sup> Many people turn to the internet for cannabis related information,<sup>33</sup> however, sometimes the accuracy of information from internet sources is questionable<sup>34-35</sup>.

Several research studies conducted by the CHERP team have addressed issues of stigma and cannabis risk perception since legalization. Notably, we have collected information on:

1. Cannabis risk perception in Atlantic Canada compared to the rest of Canada (unpublished work).
2. Young adults' perceptions of risks associated with cannabis use; and
3. Factors contributing to stigma towards cannabis consumption.

---

24 . Fischer, B., Russell, C., Sabioni, P., van den Brink, W., Le Foll, B., Hall, W., Rehm, J., & Room, R. (2017). Lower-Risk Cannabis Use Guidelines: A Comprehensive Update of Evidence and Recommendations. *American Journal of Public Health*, 107(8), e1–e12. <https://doi.org/10.2105/AJPH.2017.303818>

25 Wettlaufer, A., Florica, R. O., Asbridge, M., Beirness, D., Brubacher, J., Callaghan, R., Fischer, B., Gmel, G., Intiaz, S., Mann, R. E., McKiernan, A., & Rehm, J. (2017). Estimating the harms and costs of cannabis-attributable collisions in the Canadian provinces. *Drug and Alcohol Dependence*, 173, 185–190. <https://doi.org/10.1016/j.drugalcdep.2016.12.024>

26 Goodman, S., Leos-Toro, C., & Hammond, D. (2020). Risk perceptions of cannabis- vs. Alcohol-impaired driving among Canadian young people. *Drugs: Education, Prevention and Policy*, 27(3), 205–212. <https://doi.org/10.1080/09687637.2019.1611738>

27 Lee, C.-R., Lee, A., Goodman, S., Hammond, D., & Fischer, B. (2020). The Lower-Risk Cannabis Use Guidelines' (LRCUG) recommendations: How are Canadian cannabis users complying? *Preventive Medicine Reports*, 20, 101187. <https://doi.org/10.1016/j.pmedr.2020.101187>

28 Choi, N. G., DiNitto, D. M., & Marti, C. N. (2018). Older marijuana users' marijuana risk perceptions: Associations with marijuana use patterns and marijuana and other substance use disorders. *International Psychogeriatrics*, 30(9), 1311–1322. APA PsycInfo. <https://doi.org/10.1017/S1041610217002794>

29 . Kruger, D. J., Kruger, J. S., & Collins, R. L. (2020). Cannabis enthusiasts' knowledge of medical treatment effectiveness and increased risks from cannabis use. *American Journal of Health Promotion*, 34(4), 436–439. APA PsycInfo. <https://doi.org/10.1177/0890117119899218>

30 Choi, N. G., DiNitto, D. M., & Marti, C. N. (2018). Older marijuana users' marijuana risk perceptions: Associations with marijuana use patterns and marijuana and other substance use disorders. *International Psychogeriatrics*, 30(9), 1311–1322. APA PsycInfo. <https://doi.org/10.1017/S1041610217002794>

31 . Turna, J., Patterson, B., & Van Ameringen, M. (2017). Is cannabis treatment for anxiety, mood, and related disorders ready for prime time? *Depression and Anxiety*, 34(11), 1006–1017. <https://doi.org/10.1002/da.22664>

32 Swift, W., Lenton, S., & Copeland, J. (2000). Cannabis and harm reduction. *Drug and Alcohol Review*, 19(1), 101–112. <https://doi.org/10.1080/09595230096200>

33 Humphrey-Ackumey, S. A. Y., Adams, M., & Ahenkorah-Marfo, M. (2019). *Health Information Behaviour of Graduate Students on the Internet: Sources, Trust and Reliability of Information*. 20.

34 Merten, J. W., Gordon, B. T., King, J. L., & Pappas, C. (2020). Cannabidiol (CBD): Perspectives from Pinterest. *Substance Use & Misuse*, 55(13), 2213–2220. CINAHL Plus with Full Text. <https://doi.org/10.1080/10826084.2020.1797808>

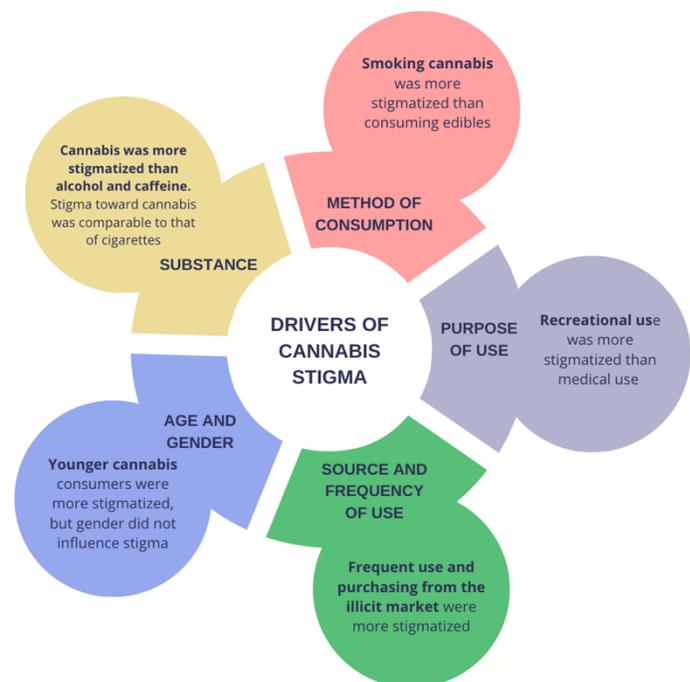
35 . Ouellette, L., Cearley, M., Judge, B., Riley, B., & Jones, J. (2018). Cooking with cannabis: The rapid spread of (mis)information on YouTube. *The American Journal of Emergency Medicine*, 36(7), 1300–1301. <https://doi.org/10.1016/j.ajem.2017.10.060>

## What we found

Cannabis risk perception is the degree to which one views cannabis consumption as a risk to one's health and wellbeing. Using data collected as part of the International Cannabis Policy Study (ICPS) survey between 2018-2022, we found that respondents in Atlantic Canada were significantly less likely to consider smoking, vaping or consuming cannabis edibles to be a high-risk activity compared to respondents in other Canadian provinces. These findings are not surprising considering that Atlantic Canada has some of the highest rates of Cannabis consumption.<sup>36</sup>

Young adults who consume cannabis before the age of 25 are at an increased risk of negative health effects, and members of the CHERP team sought to explore risk perceptions of frequent cannabis consumption among this age group. While participants acknowledged that a young teenager may experience greater harm than someone in their late twenties, they did not view frequent cannabis use in one's early twenties as more harmful than in one's late twenties. This perception remained consistent before and after legalization, highlighting a need for increased efforts to educate this population on risks associated with cannabis use, particularly for young adults.

Our team also investigated cannabis-related stigma among adults who are living in Canada.<sup>37</sup> Cannabis-related stigma is the disapproval of or discrimination of an individual or group based on their use of cannabis. Our team sought to identify what aspects of cannabis use drives stigma. We found that cannabis was more stigmatized than other substances, such as alcohol and caffeine. Factors that were associated with greater stigma were 1) method of consumption (i.e., smoking was more stigmatized than consuming edibles); 2) purpose of use (i.e., recreational use was more stigmatized than medical use); 3) source and frequency of use (i.e., frequent use and purchasing from the illegal market warranted greater stigma); and 4) age (i.e., younger cannabis consumers were more stigmatized than older consumers). Notably, the gender of the cannabis consumer did not appear to impact stigma.



36 University of Waterloo (2021). *Canada 2021 cannabis report*. <http://cannabisproject.ca/wp-content/uploads/2022/10/2021-ICPS-National-Canada-Report-Sept-27.pdf>

37 . CHERP, Unpublished. Any unpublished work can be found in the future [here: https://www.mun.ca/pharmacy/research/cherp/sharing-our-knowledge/](https://www.mun.ca/pharmacy/research/cherp/sharing-our-knowledge/)

## What we heard

Round table discussions explored the public's knowledge and awareness of cannabis-related information. This session spanned subtopics such as common misconceptions about cannabis use and cannabis-related stigma, and while discussions individually addressed these topics, it became clear that misconceptions and stigma are heavily related in regards to cannabis.

Attendees noted that cannabis stigma is still prevalent in NL, particularly in rural areas, within healthcare settings, among older populations, and among communities and groups with strong religious affiliations. Stigma is seen and experienced uniquely in different parts of the province, but some groups were highlighted to be most impacted by stigma. These include:

1. Youth and adolescents are highly impacted by stigma, particularly within school settings. This was a concern, as this may lead to many youths may not feel comfortable seeking support regarding cannabis use.
2. Individuals living in rural populations are also highly impacted by stigma, as it seems to be more prevalent in these areas. This may affect one's choice to purchase cannabis, and consequently impacts cannabis retailers in these communities.
3. Individuals belonging to marginalized groups such as BIPOC, 2SLGBTQ+, low-income groups, and homeless populations, were noted to be heavily impacted by stigma.
4. While medical consumers were not necessarily more stigmatized, it was noted that stigma for medical cannabis users directly impacts their health and healthcare journey.
5. Other groups that were noted to be impacted by stigma were women, older individuals, and professionals who use cannabis.

While cannabis has become more normalized since legalization, misconceptions are still prevalent in the province and cannabis consumers are often characterized based on harmful stereotypes (e.g., unmotivated, "stoners", lazy). Participants shared some common misconceptions that they have encountered, which include:

- Cannabis is only used to get "high"
- There is no safe way to consume cannabis
- Misunderstandings about methods of consumption
- Underestimations of long-term harm from cannabis consumption
- Underestimation of risk of cannabis use while driving

Overall, stigma and misconceptions related to cannabis are both prevalent issues in the province, and both commonly stem from a lack of access to cannabis knowledge. Therefore, improved public education efforts are imperative to develop. Such a strategy must increase the reach, accessibility, and uptake of educational efforts.



## 5. Youth Substance Use Education

### Key Recommendations

The following recommendations are intended for a provincial government audience.

1. Invest in and support the Drug Education Centred on Youth Decision Empowerment (DECYDE) substance use education strategy that is inclusive for all students in grades 4-12 across NL.
2. Support professional development for all teachers in harm-reduction, skills-based, substance use health education for students.

### Background

Cannabis legalization is intended to protect young people by preventing them from experiencing the harmful effects of cannabis.<sup>38,39</sup> Although the intent was for legalization to be accompanied by public awareness and education, there have been gaps in the development and implementation of cannabis education, especially for youth<sup>40</sup>. Currently, there is limited cannabis education in the school curriculum across Canada, and public education often emphasizes the dangers of cannabis rather than using a harm-reduction approach.<sup>40,41</sup> Many educators also feel underprepared or time-constrained to include new material.<sup>42,43</sup> This is a significant gap, as students do not have the skills to make informed decisions about this newly legalized substance. Access to quality education can affect youths' long-term health and will equip them to handle life's challenges.<sup>44</sup>

---

38. Consolidated federal laws of Canada, Cannabis Act [Internet]. 2020 [cited 2023 June 29]. Available from: <https://laws-lois.justice.gc.ca/eng/acts/c-24.5/page-1.html>.

39. Health Canada. A Framework for the Legalization and Regulation of Cannabis in Canada [Internet]. 2016 Dec [cited 2023 June 29]. Available from: <https://www.canada.ca/en/health-canada/services/drugs-medication/cannabis/laws-regulations/task-force-cannabis-legalization-regulation/framework-legalization-regulation-cannabis-in-canada.html#a2>.

40. Health Canada. A Framework for the Legalization and Regulation of Cannabis in Canada [Internet]. 2016 Dec [cited 2023 June 29]. Available from: <https://www.canada.ca/en/health-canada/services/drugs-medication/cannabis/laws-regulations/task-force-cannabis-legalization-regulation/framework-legalization-regulation-cannabis-in-canada.html#a2>.

41. Education | D.A.R.E. America [Internet]. [cited 2023 June 29]. Available from: <https://dare.org/education/>.

42. Johnson, J. L., Moffat, B., Bottorff, J., Shoveller, J., Fischer, B., & Haines, R. J. (2008). Beyond the barriers: Marking the place for marijuana use at a Canadian high school. *Journal of Youth Studies*, 11(1), 47-64.

43. Van Hout, M. C., Foley, M., McCormack, A., & Tardif, E. (2012). Teachers' perspectives on their role in school-based alcohol and cannabis prevention. *International Journal of Health Promotion and Education*, 50(6), 328-341.

44. Heritage C. Canada's Youth Policy [Internet]. 2020 [cited 2022 Jul 18]. Available from: <https://www.canada.ca/en/youth/programs/policy.html>.

Thirty-seven percent of Canadian youth aged 16-19 reported using cannabis in the past 12 months, with 21% consuming cannabis daily or near-daily.<sup>45</sup> Among Canadian students in grades 7-12, 18% reported using cannabis in 2021, with the average age of initiation at 14 years old.<sup>46</sup> This is alarming, as the initiation of cannabis before age 17 can affect the developing brain and can lead to long-term health and social consequences.<sup>47</sup> Regular use in adolescence almost doubles the risk of cognitive impairment and leaving school early, and can increase the risk of mental health (MH) concerns (e.g., psychosis, later cannabis dependence, suicide).<sup>48,49,50</sup> Strategies focused on protecting youth health and safety are critical.

An approach that focuses on students' social and emotional learning and health literacy will foster their deeper learning, developing the skills required to make informed decisions, thereby increasing control over their health. This approach to integrating wellbeing, deep learning, and comprehensive school health is supported by the Pan-Canadian Joint Consortium for School Health.<sup>51</sup>

The youth-developed guiding principles from the Canadian Students for Sensible Drug Policy's (CSSDP) evidence-based cannabis toolkit supports using a non-judgemental, evidence-informed, harm-reduction approach for cannabis education.<sup>52</sup>

Enhancing youths' health literacy will lay the foundations for health in later life.<sup>53</sup> Low levels of health literacy have been found to be associated with a greater chance of engaging in substances<sup>54</sup>, while higher health and media literacy was associated with reduced substance use behaviours.<sup>55</sup> Kirchhoff and colleagues noted that education can play a factor in determining one's level of health literacy.<sup>56</sup> The social-ecological model of adolescent health literacy in health education acknowledges the interactions between intrapersonal, interpersonal, and

**Table 1. CSSDP's Guiding Principles for Cannabis Education**

1. Education grounded in evidence
2. Non-judgmental, open dialogue that uses interactive approaches
3. Meaningful inclusion
4. Delivery by a trained facilitator/peer
5. Starting education earlier, with age-appropriate content
6. Open parent-child communication
7. Inclusion of harm reduction
8. Tailored to the specific context
9. Ongoing education available to youth
10. Attention to overlapping issues of racism, social justice, and stigma

45. *Canadian Cannabis Survey 2022: Summary*. (2022, December 16). [Surveys]. <https://www.canada.ca/en/health-canada/services/drugs-medication/cannabis/research-data/canadian-cannabis-survey-2022-summary.html>.

46. *Summary of results for the Canadian Student Tobacco, Alcohol and Drugs Survey 2021*. (2023, June 1). [Surveys]. <https://www.canada.ca/en/health-canada/services/canadian-student-tobacco-alcohol-drugs-survey/2021-2022-summary.html>

47. Jacobus, J., & F Tapert, S. (2014). Effects of cannabis on the adolescent brain. *Current Pharmaceutical Design*, 20(13), 2186-2193.

48. Silins, E., Horwood, L. J., Patton, G. C., Fergusson, D. M., Olsson, C. A., Hutchinson, D. M., ... & Mattick, R. P. (2014). Young adult sequelae of adolescent cannabis use: An integrative analysis. *The Lancet Psychiatry*, 1(4), 286-293.

49. Fergusson, D. M., Horwood, L. J., & Beautrais, A. L. (2003). Cannabis and educational achievement. *Addiction*, 98(12), 1681-1692.

50. Horwood, L. J., Fergusson, D. M., Hayatbakhsh, M. R., Najman, J. M., Coffey, C., Patton, G. C., ... & Hutchinson, D. M. (2010). Cannabis use and educational achievement: findings from three Australasian cohort studies. *Drug and Alcohol Dependence*, 110(3), 247-253.

51. *Joint Consortium for School Health – Promotion Healthy Schools Across Canada*. (n.d.). Retrieved June 29, 2023, from <https://www.jcsh-cces.ca/>.

52. Valleriani, J., Maghsoudi, N., Nguyen-Dang, M., Lake, S., Thiessen, M., Robinson, J., & Pavlova, D. (2018). *Sensible Cannabis Education: A Toolkit for Educating Youth*. Canadian Students for Sensible Drug Policy. <https://cssdp.org/uploads/2018/04/Sensible-Cannabis-Education-A-Toolkit-for-Educating-Youth.pdf>

53. Bröder, J., Okan, O., Bauer, U., Schlupp, S., & Pinheiro, P. (2020). Advancing perspectives on health literacy in childhood and youth. *Health Promotion International*, 35(3), 575–585. <https://doi.org/10.1093/heapro/daz041>.

54. Chisolm, D. J., Manganello, J. A., Kelleher, K. J., & Marshal, M. P. (2014). Health literacy, alcohol expectancies, and alcohol use behaviors in teens. *Patient Education and Counseling*, 97(2), 291–296. <https://doi.org/10.1016/j.pec.2014.07.019>

55. Page, R. M., Huong, N. T., Chi, H. K., & Tien, T. Q. (2011). Smoking Media Literacy in Vietnamese Adolescents. *Journal of School Health*, 81(1), 34–41. <https://doi.org/10.1111/j.1746-1561.2010.00555.x>

56. Kirchhoff, S., Dadaczynski, K., Pelikan, J. M., Zelinka-Roitner, I., Dietscher, C., Bittlingmayer, U. H., & Okan, O. (2022). Organizational Health Literacy in Schools: Concept Development for Health-Literate Schools. *International Journal of Environmental Research and Public Health*, 19(14), 8795. <https://doi.org/10.3390/ijerph19148795>.

social and community factors to support youth health literacy.<sup>57</sup> These factors can influence youths' health literacy and should be considered in drug education strategies for youth.

## What we found

### ***Engagement and Environmental Scan***

Our CHERP team completed a needs assessment with stakeholders and citizens in NL where improving youths' cannabis health literacy was identified as a priority.<sup>58</sup> Our extensive collaboration with various stakeholders in education and health has been essential in identifying a need for equitable and consistent substance use education for youth in NL. Additionally, engagement with youth, parent/guardians, and educators, it was evident that substance use education needed to go beyond cannabis, to cover a wider breadth of common substances that youth might encounter.

Our team recently conducted a scoping review and environmental scan of Canadian cannabis education programs, and we found limited education on cannabis targeted at school-aged children within most Canadian jurisdictions.<sup>59</sup> We did not identify any province-wide school-integrated programming and very few programs were evaluated. While many resources were identified, issues exist with the accessibility, quality and multicultural considerations of such resources, warranting the development of comprehensive, evidence-based, and harm-reduction-focused cannabis education for youth.

### **Youth and Young Adult Perspectives**

Qualitative interviews with 91 youth and young adults in NL were conducted in 2021 by our team, addressing a span of cannabis-related perceptions post-legalization.<sup>60</sup> Current gaps in youths' cannabis literacy, and educational priorities to help improve such knowledge were highlighted. It was suggested that while youth may appreciate the impact of cannabis use on youth's brain development, there were significant gaps in their knowledge. They desired factual and evidence-informed content, with specific cannabis-related topics that would help improve their cannabis health literacy.

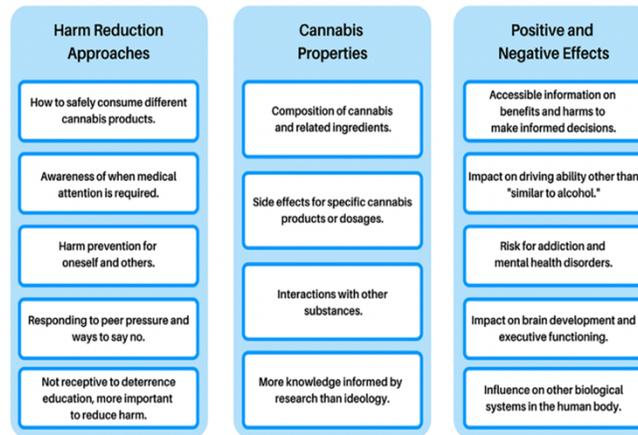
---

57. Wharf Higgins, J., Begoray, D., & MacDonald, M. (2009). A social ecological conceptual framework for understanding adolescent health literacy in the health education classroom. *American Journal of Community Psychology*, 44(3–4), 350–362. <https://doi.org/10.1007/s10464-009-9270-8>.

58. Donnan J., Bishop, L., Najafizada, M., and Blackmore, A (March 2021). Newfoundland and Labrador Cannabis Policy Evaluation: Needs Assessment Report. [https://www.mun.ca/pharmacy/media/production/memorial/academic/school-of-pharmacy/media-library/research/cannabiseval/CannabisPolicy\\_NeedsAssessmentReport.pdf](https://www.mun.ca/pharmacy/media/production/memorial/academic/school-of-pharmacy/media-library/research/cannabiseval/CannabisPolicy_NeedsAssessmentReport.pdf).

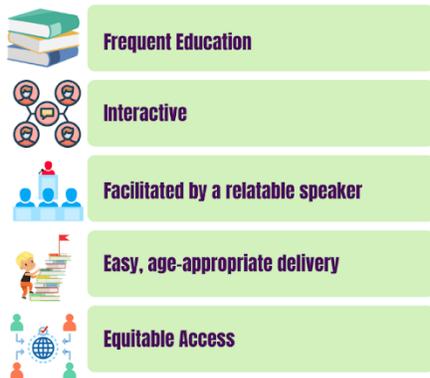
59. CHERP, Unpublished. Any unpublished work can be found in the future [here: https://www.mun.ca/pharmacy/research/cherp/sharing-our-knowledge/](https://www.mun.ca/pharmacy/research/cherp/sharing-our-knowledge/).

60. Bishop, L. D., Drakes, D. H., Donnan, J. R., Rowe, E. C., & Najafizada, M. (2022). Exploring youths' cannabis health literacy post legalization: A qualitative study. *Journal of Adolescent Research*, 07435584221118380. <https://doi.org/10.1177/07435584221118380>



Youth also shared their perspective about driving under the influence of cannabis (DUIC).<sup>61</sup> Youth perceived DUIC as more socially acceptable and less dangerous than driving under the influence of alcohol, and thought that cannabis-impaired driving was more socially acceptable for woman than for men. The participants also noted that cannabis-impaired driving is more common when operating off-road vehicles, including ATV's, boats and snowmobiles, and perceived a lower level of perceived risk for DUIC when using these off-road vehicles. These findings highlight the need for youth cannabis education related to driving under the influence, with diversity in the content to suit the needs of driving various modes of transportation.

Youth also shared their perspectives on effective ways to deliver cannabis-education. They felt that there was a need for a more skills-based approach to substance use education that focused on informed decision making, critical thinking, and contextually based responses. There appeared to be clear gaps in current substance use education in school, and a desire for an evidence-informed, harm reduction approach that is implemented early in their schooling and incorporates interactive learning approaches.



These findings suggested an approach for a youth-centric drug education strategy:

- 1) need for equitable cannabis education;
- 2) desire for broader cannabis education and harm reduction strategies;
- 3) delivery of interactive, empirically grounded education.

### Teacher Perspectives

We conducted a survey in 2022 of NL educators who worked with students in grades four to 12. The survey explored educators' attitudes toward harm reduction approaches to drug education, their needs in order to teach this subject to students, and their preferences for receiving educator training and curriculum materials.<sup>62</sup>

61. Donnan, J. R., Drakes, D. H., Rowe, E. C., Najafizada, M., & Bishop, L. D. (2022). Driving under the influence of cannabis: Perceptions from Canadian youth. *BMC Public Health*, 22(1), 2384.

62. CHERP, Unpublished. Any unpublished work can be found in the future [here: https://www.mun.ca/pharmacy/research/cherp/sharing-our-knowledge/](https://www.mun.ca/pharmacy/research/cherp/sharing-our-knowledge/).

A total of 170 educators completed the survey, with over three quarters (77%) identifying as women, and more than half (59%) working as classroom teachers. Almost all educators (92%) believed that harm reduction was an effective approach. However, 16% felt that teaching students about safer substance use would encourage drug use, and almost half (46%) felt that youth should be expected to pursue abstinence. While 68% of educators believed that they would be able to recognize if a student was under the influence of cannabis, only 39% felt confident about how to respond in such an event. Fortunately, 98% of educators acknowledged that teachers need harm reduction training, and 89% expressed a personal interest in receiving this type of education. These findings suggested that NL educators are supportive of harm reduction approaches to drug education, but unprepared to teach this to students without appropriate teacher training, resources, and supports.

### Parent/Guardian Perspectives

Our CHERP team also solicited feedback from parents (n=295) about their need for cannabis education.<sup>63</sup> Many parents indicated that they were not comfortable speaking with their children about cannabis (51%), but were willing to speak with them (82%). They expressed a desire to learn more, particularly through SM and websites/blogs, and wanted their children to learn about how cannabis can affect mental and physical health and using harm reduction approaches. This supports the need for educational resources to support parent/guardians in having informed conversations with youth.

### Drug Education Strategy

#### The 3 Pillars of DECYPDE

We aim to ensure our strategy is **youth-focused** and **youth-informed** while also supporting **educators** and **parents** who play influential roles in drug education.



#### DECYPDE Materials & Resources



In response to the need for evidence-based cannabis education, we are developing and evaluating a substance use education strategy called Drug Education Centred on Youth Decision Empowerment (DECYPDE). Based on feedback from our research and extensive stakeholder and youth engagement, we are including education on all common substances. DECYPDE will include lesson plans, teacher resources and training, education through social media, and parent/guardian education targeted at youth in grades 4-12. A website will be created to house all the DECYPDE materials and resources to ensure easy access

([www.decypde.ca](http://www.decypde.ca)). We will follow the social-ecological model of adolescent health literacy to frame our drug education strategy which will consider the interactions between intrapersonal, interpersonal, and social and community factors that support youth health literacy.<sup>64</sup>

63. CHERP, Unpublished. Any unpublished work can be found in the future [here: https://www.mun.ca/pharmacy/research/cherp/sharing-our-knowledge/](https://www.mun.ca/pharmacy/research/cherp/sharing-our-knowledge/).

64. Wharf Higgins, J., Begoray, D., & MacDonald, M. (2009). A social ecological conceptual framework for understanding adolescent health literacy in the health education classroom. *American Journal of Community Psychology*, 44(3-4), 350-362. <https://doi.org/10.1007/s10464-009-9270-8>.

DECYDE will take a skills-based health education approach, be evidence-based, and use harm reduction principles with the aim to empower youth to make safe and informed choices. We also acknowledge the importance of considering potential Adverse Childhood Experiences (ACEs) of students which may influence their attitudes and behaviours surrounding substance use<sup>65</sup>. To best accommodate and support students who have experienced ACEs we promote the use of trauma-informed practices (TIPs) within our resources for educators<sup>66</sup>.

The Department of Education is currently updating the health curriculum, beginning with grades 4-6 and will follow with the upper grades. Our consultations with the curriculum specialists at the Department of Education will help enable the integration of our materials into the revised health curriculum. Additionally, frequent consultations with Mental Health and Addictions Consultants from each region of the province have also provided valuable insights on the youth substance use issues that are occurring in their communities and designated schools.

### Youth Advisory Panel

Involving youth in the design of youth educational materials is crucial, to ensure that it is grounded in their social contexts and lived/living experiences. DECYDE uses the engaged partnership approach: bringing together youth with lived experience, asking strategic questions, listening deeply to their answers, valuing the input from all members, and using that to inform our work going forward. Our CHERP team values such engagement, and has compiled a youth advisory panel to inform the DECYDE strategy. The panel, which represents diverse perspectives from across NL, is directly involved in the planning and development of this curriculum, and will remain engaged during implementation and evaluation stages. By being youth-informed, it will help make the content relatable and realistic, which will provide the foundation to improve youths' health literacy, thereby improving the likelihood that they will engage in their health decisions.<sup>67, 68, 69</sup>

### What we heard

Attendees engaged in discussions surrounding the key goals for youth substance use education, the gaps in substance use education, and how to consider equity diversity and inclusion in the development of the DECYDE strategy.

**Harm Reduction Approach:** The current substance use education curriculum in NL was felt to be limited, and often takes on a "just say no" or abstinence-based approach. Attendees discussed major gaps that come about with such education. Many attendees did not support this abstinence-based approach, expressing that it is outdated and does not prepare students to make informed decisions. Attendees suggested that a harm reduction, evidence-based approach would be more effective as it would more

---

65. Samhsa's Centre For The Application Of Prevention Technologies. The Role of Adverse Childhood Experiences in Substance Misuse and Related Behavioral Health Problems [Internet]. Substance Abuse and Mental Health Services Administration's Center for the Application of Prevention Technologies task order; 2018 [cited 2023 June 29]. Available from: <https://mnprc.org/wp-content/uploads/2019/01/aces-behavioral-health-problems.pdf>.

66. O'Neill, L., George, S., Wagg, J. Trauma Informed Classroom Strategies [Internet]. British Columbia (CA): University of Northern British Columbia; Date unknown [cited 2023 June 29]. Available from: <https://web.unbc.ca/~loneill/classroomstrategiesmanual.pdf>.

67. Pan-Canadian Joint Consortium for School Health - Youth Engagement Toolkit [Internet]. [cited 2023 June 29]. Available from: <http://www.jcsh-cces.ca/ye-book/html5/index.html?page=1>.

68. Inspiring Healthy Futures [Internet]. Inspiring Healthy Futures: A Vision for Canada's Children, Youth and Families. [cited 2023 June 29]. Available from: <https://www.inspiringhealthyfutures.ca>.

69. Guidelines for Partnering with People with Lived and Living Experience of Substance Use and Their Families and Friends | Canadian Centre on Substance Use and Addiction [Internet]. [cited 2023 June 29]. Available from: <https://ccsa.ca/guidelines-partnering-people-lived-and-living-experience-substance-use-and-their-families-and->

explicitly focus on promoting health. That is, it should not encourage substance use, but rather equip students with the information they need to make informed decisions about substances, while working to reduce shame and stigma, and providing students with tools to make real-life applications.

**Education for Teachers:** A gap in teacher knowledge and skills about substance use and harm reduction was identified as a major gap. Attendees noted that teachers are often not equipped with enough knowledge about substances to have informed conversations, and they lack support in gaining such knowledge. Attendees brainstormed ways to support and empower educators. They noted that firstly, educator attitudes and biases towards substances could potentially negatively impact the educational experience of students and contribute to stigma. Therefore, it should be a priority to implement professional development and educational opportunities for educators across the province on topics related to harm reduction and substance use. Attendees also suggested consulting with teachers about what gaps they see in current substance use education curriculums and what support they require.

**Support for Parents/Guardians:** Attendees expressed a lack of parent/guardian involvement in drug education, which was identified as a vital component for supporting youth. Having an accessible website for parents/guardians to access about substances was suggested as a way to help support guardians. Providing education and resources for parents before providing the education to the students was suggested as a way to help improve education, so that there is consistent messaging coming from home and school. A need for increased community support and resources to complement such education was suggested.

**Educational Approaches/ Targets:** A judgement free, transparent, and inclusive environment where educators are able to build trust with students was also felt to be key in the success of a substance use education curriculum. Attendees outlined key priorities for content within the health curriculum. These included risks associated with substance use, information on social aspects of substances (e.g., driving under the influence and consent), how to manage peer pressure, understanding addiction, understanding mechanisms in the body associated with substance use, and approaches to help delay the initiation of substance use among youth.

In order for such education to resonate with students, attendees stated that the language used in the classroom must be relatable for all students. This means using language that does not stigmatize substance use and does not create divides between those who use substances and the rest of the population. Using age-appropriate language that is conscious of the current social climate (e.g., avoiding using outdated colloquial terms for various substances) was also emphasized as a priority.

The current substance use education that is presented by law enforcement officers in the Grade 6 school system was discussed. Some found it troubling, as these representatives are may not be relatable to students and their presence could be triggering or harmful for some students.

More broadly, attendees noted that the current education is inconsistent across schools, and it is not presented frequently enough. Most drug education is presented to students in Grade 6, but attendees thought that this might be too late, and that education needs to continue throughout older grade levels as the students mature.

**Equity, Diversity and Inclusion:** Creating a curriculum that is inclusive to youth of all backgrounds is of utmost importance. Open communication, the use of destigmatizing language, and creating safe spaces

was felt to be ways to encourage inclusion. Several strategies were suggested as ways to promote equity, diversity, and inclusion within substance use education programs.

It was emphasized that efforts must begin in the planning phases of curriculums in order to achieve equity-focussed education. For example, youth from various backgrounds should be consulted on what content they wish to see and how it should be presented. Attendees suggested that the content must be culturally informed, addressing the history of substance use among different cultures and honouring diverse cultural attitudes surrounding substance use. For example, teaching about Indigenous ways of interacting with cannabis, and how cannabis plays a role within Indigenous culture was suggested. The importance of incorporating instruction from individuals of diverse cultural and gender backgrounds and those with lived/living experience would help to increase relatability and representation for students.

Another consideration brought forth was that content must be adaptable for different populations. For example, students in rural communities might have different educational needs than students in urban populations so the content should be able to be adapted accordingly. It was also emphasized to meet youth where they are in order to give them equal opportunity to get the information, this may include closed captioning for those who may be hard of hearing, or different color options for someone who may be color blind. As well, the implementation of online resources to support learning would aid in reaching at-risk youth who may not attend school frequently. Community supports also need to be developed to help support uptake of information, particularly among these at-risk populations.

**Media Launch:** The DECYDE strategy was officially announced at a media launch during the symposium. This was an opportunity to explain our DECYDE strategy and bring awareness to the need for more equitable and updated substance use education in the school system in NL. The funding received DECYDE was recognized, including Health Canada's Substance Use and Addiction Program, the Janeway Foundation, the Canadian Institutes of Health Research and the Government of NL. Representatives from the Department of Health, the NL Teachers Association, and Eastern Health all shared their support of DECYDE. Several written media articles and broadcast interviews arose from the launch.<sup>70,71,72,73,74,75</sup>

---

70. Canada, H. (2023, April 11). *Government of Canada announces nearly \$4 million to address harms related to substance use in the Atlantic region* [Backgrounders]. <https://www.canada.ca/en/health-canada/news/2023/04/government-of-canada-announces-nearly-4-million-to-address-harms-related-to-substance-use-in-the-atlantic-region.html>.

71. News, C. B. C. (2023, March 25). *New drug education program aims to highlight critical gaps in N.L. school curriculum* | CBC News. CBC. <https://www.cbc.ca/news/canada/newfoundland-labrador/drug-education-nl-1.6789074>.

72. *School of Pharmacy launches youth drug education strategy in N.L.* (n.d.). Retrieved June 29, 2023, from <https://us8.campaign-archive.com/?u=8d5aba2dfa38a076c746599f4&id=4828cfc01e>.

71. Strickland, S. (2023, March 23). *Do you agree with expanding drug education in the curriculum for students grades 4-12?* *VOCM*. Retrieved June 29, 2023, from <https://vocm.com/2023/03/23/march-23-2023-do-you-agree-with-expanding-drug-education-in-the-curriculum-for-students-grades-4-12/>.

74. *The School of Pharmacy at Memorial University is about to launch a youth drug education program, designed to fill a critical gap in education for school-aged youth in Newfoundland and Labrador. We found out how young people can learn from it* | CBC Newfoundland Morning with Bernice Hillier, Martin Jones | Live Radio. (2023, March 23). CBC Listen. <https://www.cbc.ca/listen/live-radio/1-210-cbc-newfoundland-morning/clip/15973990-the-school-pharmacy-memorial-university-launch-youth-drug>.

75. First Edition. (2023, March 23). *NTV*. Retrieved June 29, 2023, from <https://ntv.ca/first-edition/>.

## References

- Allard, N. C., Kruger, J. S., & Kruger, D. J. (2023). Cannabis Advertising Policies in the United States: State-Level Variation and Comparison with Canada. *Cannabis and cannabinoid research*, 8(3), 505–509. <https://doi.org/10.1089/can.2022.0068>
- Babor, T. F., Casswell, S., Graham, K., Huckle, T., Livingston, M., Rehm, J., Room, R., Rossow, I., & Sornpaisarn, B. (2022). Alcohol: No Ordinary Commodity—a summary of the third edition. *Addiction (Abingdon, England)*, 117(12), 3024–3036. <https://doi.org/10.1111/add.16003>
- Bill C-45, *the Cannabis Act*, S.C. 2018, c. 16.
- Bishop, L. D., Drakes, D. H., Donnan, J. R., Rowe, E. C., & Najafizada, M. (2022). Exploring youths' cannabis health literacy post legalization: A qualitative study. *Journal of Adolescent Research*, 07435584221118380. <https://doi.org/10.1177/07435584221118380>.
- British Columbia Ministry of Public Safety and Solicitor General (January 2023). What we heard report: Cannabis consumption spaces public engagement. [https://engage.gov.bc.ca/app/uploads/sites/121/2023/01/What-We-Heard-Report\\_Cannabis-Consumption-Space\\_FINAL.pdf](https://engage.gov.bc.ca/app/uploads/sites/121/2023/01/What-We-Heard-Report_Cannabis-Consumption-Space_FINAL.pdf).
- Bröder, J., Okan, O., Bauer, U., Schlupp, S., & Pinheiro, P. (2020). Advancing perspectives on health literacy in childhood and youth. *Health Promotion International*, 35(3), 575–585. <https://doi.org/10.1093/heapro/daz041>.
- Canadian Cannabis Survey 2022: Summary*. (2022, December 16). [Surveys]. <https://www.canada.ca/en/health-canada/services/drugs-medication/cannabis/research-data/canadian-cannabis-survey-2022-summary.html>.
- CBC Listen (2023, March 23). *The School of Pharmacy at Memorial University is about to launch a youth drug education program, designed to fill a critical gap in education for school-aged youth in Newfoundland and Labrador. We found out how young people can learn from it | CBC Newfoundland Morning with Bernice Hillier, Martin Jones | Live Radio*. <https://www.cbc.ca/listen/live-radio/1-210-cbc-newfoundland-morning/clip/15973990-the-school-pharmacy-memorial-university-launch-youth-drug>.
- CBC News (2023, March 25). *New drug education program aims to highlight critical gaps in N.L. school curriculum | CBC News*. CBC. <https://www.cbc.ca/news/canada/newfoundland-labrador/drug-education-nl-1.6789074>.
- CHERP, Unpublished. Any unpublished work can be found in the future [here](https://www.mun.ca/pharmacy/research/cherp/sharing-our-knowledge/): <https://www.mun.ca/pharmacy/research/cherp/sharing-our-knowledge/>
- Chisolm, D. J., Manganello, J. A., Kelleher, K. J., & Marshal, M. P. (2014). Health literacy, alcohol expectancies, and alcohol use behaviors in teens. *Patient Education and Counseling*, 97(2), 291–296. <https://doi.org/10.1016/j.pec.2014.07.019>.
- Choi, N. G., DiNitto, D. M., & Marti, C. N. (2018). Older marijuana users' marijuana risk perceptions: Associations with marijuana use patterns and marijuana and other substance use disorders. *International Psychogeriatrics*, 30(9), 1311–1322. APA PsycInfo. <https://doi.org/10.1017/S1041610217002794>.
- Consolidated federal laws of Canada, Cannabis Act [Internet]. 2020 [cited 2023 June 29]. Available from: <https://laws-lois.justice.gc.ca/eng/acts/c-24.5/page-1.html>.
- Donnan J., Bishop, L., Najafizada, M., and Blackmore, A (March 2021). Newfoundland and Labrador Cannabis Policy Evaluation: Needs Assessment Report. [https://www.mun.ca/pharmacy/media/production/memorial/academic/school-of-pharmacy/media-library/research/cannabiseval/CannabisPolicy\\_NeedsAssessmentReport.pdf](https://www.mun.ca/pharmacy/media/production/memorial/academic/school-of-pharmacy/media-library/research/cannabiseval/CannabisPolicy_NeedsAssessmentReport.pdf)

- Donnan, J., Shogan, O., Bishop, L., & Najafizada, M. (2022). Drivers of purchase decisions for cannabis products among consumers in a legalized market: a qualitative study. *BMC public health*, 22(1), 368. <https://doi.org/10.1186/s12889-021-12399-9>.
- Donnan, J. R., Drakes, D. H., Rowe, E. C., Najafizada, M., & Bishop, L. D. (2022). Driving under the influence of cannabis: Perceptions from Canadian youth. *BMC Public Health*, 22(1), 2384. Education | D.A.R.E. America [Internet]. [cited 2023 June 29]. Available from: <https://dare.org/education/>.
- Fergusson, D. M., Horwood, L. J., & Beautrais, A. L. (2003). Cannabis and educational achievement. *Addiction*, 98(12), 1681-1692.
- First Edition. (2023, March 23). NTV. Retrieved June 29, 2023, from <https://ntv.ca/first-edition/>.
- Fischer, B., Russell, C., Sabioni, P., van den Brink, W., Le Foll, B., Hall, W., Rehm, J., & Room, R. (2017). Lower-Risk Cannabis Use Guidelines: A Comprehensive Update of Evidence and Recommendations. *American Journal of Public Health*, 107(8), e1–e12. <https://doi.org/10.2105/AJPH.2017.303818>
- Giesbrecht N, Wettlaufer A, Simpson S, April N, Asbridge M, Cukier S, et al. Strategies to reduce alcohol-related harms and costs in Canada: a comparison of provincial policies. *Int J Alcohol Drug Res.*2016;5(2):33-45. Available from: <http://www.ijadr.org/index.php/ijadr/article/view/221/396>
- Goodman, S., Leos-Toro, C., & Hammond, D. (2020). Risk perceptions of cannabis- vs. Alcohol-impaired driving among Canadian young people. *Drugs: Education, Prevention and Policy*, 27(3), 205–212. <https://doi.org/10.1080/09687637.2019.1611738>
- Government of Canada . *Canadian Cannabis Survey 2022: Summary*. Health Canada; 2022. Available: <https://www.canada.ca/en/health-canada/services/drugs-medication/cannabis/research-data/canadian-cannabis-survey-2022-summary.html#s2>. Accessed 6 January 2023.
- Government of Ontario. (2016). *Focus on: Alcohol marketing*. [https://www.publichealthontario.ca/-/media/Documents/F/2016/focus-on-alcohol-marketing.pdf?rev=d0f395d235d84069bf56a0685fb223d6&sc\\_lang=en](https://www.publichealthontario.ca/-/media/Documents/F/2016/focus-on-alcohol-marketing.pdf?rev=d0f395d235d84069bf56a0685fb223d6&sc_lang=en)
- Guidelines for Partnering with People with Lived and Living Experience of Substance Use and Their Families and Friends | Canadian Centre on Substance Use and Addiction [Internet]. [cited 2023 June 29]. Available from: <https://ccsa.ca/guidelines-partnering-people-lived-and-living-experience-substance-use-and-their-families-and>.
- Hann, A. M. 2018. *Newfoundland and Labrador Regulation 90/18*. Authority. <https://www.gov.nl.ca/dgsnl/files/printer-gazette-extraordinary-issues-2018-nlg181016-extra.pdf>.
- Health Canada. A Framework for the Legalization and Regulation of Cannabis in Canada [Internet]. 2016 Dec [cited 2023 June 29]. Available from: <https://www.canada.ca/en/health-canada/services/drugs-medication/cannabis/laws-regulations/task-force-cannabis-legalization-regulation/framework-legalization-regulation-cannabis-in-canada.html#a2>.
- Heritage C. Canada’s Youth Policy [Internet]. 2020 [cited 2022 Jul 18]. Available from: <https://www.canada.ca/en/youth/programs/policy.html>.
- Inspiring Healthy Futures [Internet]. Inspiring Healthy Futures: A Vision for Canada’s Children, Youth and Families. [cited 2023 June 29]. Available from: <https://www.inspiringhealthyfutures.ca>.
- Myles, W., Hann, A. M. 2018. *Newfoundland and Labrador regulation 94/18, Cannabis licensing and operations under the Cannabis Control Act (O.C., 2018-208)*. Queen’s Printer. <https://www.assembly.nl.ca/legislation/sr/annualregs/2018/nr180094.htm>.
- Health Canada (2023, April 11). *Government of Canada announces nearly \$4 million to address harms related to substance use in the Atlantic region* [Backgrounders].

<https://www.canada.ca/en/health-canada/news/2023/04/government-of-canada-announces-nearly-4-million-to-address-harms-related-to-substance-use-in-the-atlantic-region.html>.

- Heung CM, Rempel B, Krank M. Strengthening the Canadian alcohol advertising regulatory system. *Can J Public Health*. 2012;103(4):4.
- Horwood, L. J., Fergusson, D. M., Hayatbakhsh, M. R., Najman, J. M., Coffey, C., Patton, G. C., ... & Hutchinson, D. M. (2010). Cannabis use and educational achievement: findings from three Australasian cohort studies. *Drug and Alcohol Dependence*, 110(3), 247-253.
- Humphrey-Ackumey, S. A. Y., Adams, M., & Ahenkorah-Marfo, M. (2019). *Health Information Behaviour of Graduate Students on the Internet: Sources, Trust and Reliability of Information*. 20.
- Jacobus, J., & F Tapert, S. (2014). Effects of cannabis on the adolescent brain. *Current Pharmaceutical Design*, 20(13), 2186-2193.
- Johnson, J. L., Moffat, B., Bottorff, J., Shoveller, J., Fischer, B., & Haines, R. J. (2008). Beyond the barriers: Marking the place for marijuana use at a Canadian high school. *Journal of Youth Studies*, 11(1), 47-64.
- Joint Consortium for School Health – Promotion Healthy Schools Across Canada. (n.d.). Retrieved June 29, 2023, from <https://www.jcsh-cces.ca/>.
- Kirchhoff, S., Dadaczynski, K., Pelikan, J. M., Zelinka-Roitner, I., Dietscher, C., Bittlingmayer, U. H., & Okan, O. (2022). Organizational Health Literacy in Schools: Concept Development for Health-Literate Schools. *International Journal of Environmental Research and Public Health*, 19(14), 8795. <https://doi.org/10.3390/ijerph19148795>.
- Kruger, D. J., Kruger, J. S., & Collins, R. L. (2020). Cannabis enthusiasts' knowledge of medical treatment effectiveness and increased risks from cannabis use. *American Journal of Health Promotion*, 34(4), 436–439. APA PsycInfo. <https://doi.org/10.1177/0890117119899218>
- Lamy, F. R., Daniulaityte, R., Zatreh, M., Nahhas, R. W., Sheth, A., Martins, S. S., Boyer, E. W., & Carlson, R. G. (2018). “You got to love rosin: Solventless dabs, pure, clean, natural medicine” Exploring Twitter data on emerging trends in Rosin Tech marijuana concentrates. *Drug and Alcohol Dependence*, 183, 248–252. APA PsycInfo. <https://doi.org/10.1016/j.drugalcdep.2017.10.039>
- Lee, C.-R., Lee, A., Goodman, S., Hammond, D., & Fischer, B. (2020). The Lower-Risk Cannabis Use Guidelines' (LRCUG) recommendations: How are Canadian cannabis users complying? *Preventive Medicine Reports*, 20, 101187. <https://doi.org/10.1016/j.pmedr.2020.101187>
- Merten, J. W., Gordon, B. T., King, J. L., & Pappas, C. (2020). Cannabidiol (CBD): Perspectives from Pinterest. *Substance Use & Misuse*, 55(13), 2213–2220. CINAH Plus with Full Text. <https://doi.org/10.1080/10826084.2020.1797808>.
- O'Neill, L., George, S., Wagg, J. Trauma Informed Classroom Strategies [Internet]. British Columbia (CA): University of Northern British Columbia; Date unknown [cited 2023 June 29]. Available from: <https://web.unbc.ca/~loneill/classroomstrategiesmanual.pdf>.
- Ouellette, L., Cearley, M., Judge, B., Riley, B., & Jones, J. (2018). Cooking with cannabis: The rapid spread of (mis)information on YouTube. *The American Journal of Emergency Medicine*, 36(7), 1300–1301. <https://doi.org/10.1016/j.ajem.2017.10.060>.
- Page, R. M., Huong, N. T., Chi, H. K., & Tien, T. Q. (2011). Smoking Media Literacy in Vietnamese Adolescents. *Journal of School Health*, 81(1), 34–41. <https://doi.org/10.1111/j.1746-1561.2010.00555.x>
- Pan-Canadian Joint Consortium for School Health - Youth Engagement Toolkit [Internet]. [cited 2023 June 29]. Available from: <http://www.jcsh-cces.ca/ye-book/html5/index.html?page=1>.
- Ramo, D. E., Popova, L., Grana, R., Zhao, S., & Chavez, K. (2015). Cannabis Mobile Apps: A Content Analysis. *JMIR MHealth and UHealth*, 3(3), e81. <https://doi.org/10.2196/mhealth.4405>.
- Samhsa's Centre For The Application Of Prevention Technologies. The Role of Adverse Childhood Experiences in Substance Misuse and Related Behavioral Health Problems [Internet]. Substance

- Abuse and Mental Health Services Administration's Center for the Application of Prevention Technologies task order; 2018 [cited 2023 June 29]. Available from: <https://mnprc.org/wp-content/uploads/2019/01/aces-behavioral-health-problems.pdf>.
- School of Pharmacy launches youth drug education strategy in N.L. (n.d.). Retrieved June 29, 2023, from <https://us8.campaign-archive.com/?u=8d5aba2dfa38a076c746599f4&id=4828cfc01e>.
- Silins, E., Horwood, L. J., Patton, G. C., Fergusson, D. M., Olsson, C. A., Hutchinson, D. M., ... & Mattick, R. P. (2014). Young adult sequelae of adolescent cannabis use: An integrative analysis. *The Lancet Psychiatry*, 1(4), 286-293.
- Strickland, S. (2023, March 23). Do you agree with expanding drug education in the curriculum for students grades 4-12? *VOCM*. Retrieved June 29, 2023, from <https://vocm.com/2023/03/23/march-23-2023-do-you-agree-with-expanding-drug-education-in-the-curriculum-for-students-grades-4-12/>.
- Swift, W., Lenton, S., & Copeland, J. (2000). Cannabis and harm reduction. *Drug and Alcohol Review*, 19(1), 101–112. <https://doi.org/10.1080/09595230096200>.
- Summary of results for the Canadian Student Tobacco, Alcohol and Drugs Survey 2021. (2023, June 1). [Surveys]. <https://www.canada.ca/en/health-canada/services/canadian-student-tobacco-alcohol-drugs-survey/2021-2022-summary.html>
- Turna, J., Patterson, B., & Van Ameringen, M. (2017). Is cannabis treatment for anxiety, mood, and related disorders ready for prime time? *Depression and Anxiety*, 34(11), 1006–1017. <https://doi.org/10.1002/da.22664>
- University of Manitoba. (2023). *Medical cannabis access and experiences in Canada*. <https://www.medicalcannabissurvey.ca/report>
- University of Waterloo (2021). *Canada 2021 cannabis report*. <http://cannabisproject.ca/wp-content/uploads/2022/10/2021-ICPS-National-Canada>.
- Valleriani, J., Maghsoudi, N., Nguyen-Dang, M., Lake, S., Thiessen, M., Robinson, J., & Pavlova, D. (2018). *Sensible Cannabis Education: A Toolkit for Educating Youth*. Canadian Students for Sensible Drug Policy. <https://cssdp.org/uploads/2018/04/Sensible-Cannabis-Education-A-Toolkit-for-Educating-Youth.pdf>.
- Van Hout, M. C., Foley, M., McCormack, A., & Tardif, E. (2012). Teachers' perspectives on their role in school-based alcohol and cannabis prevention. *International Journal of Health Promotion and Education*, 50(6), 328-341.
- Volkow, N. D., Baler, R. D., Compton, W. M., & Weiss, S. R. (2014). Adverse health effects of marijuana use. *The New England journal of medicine*, 370(23), 2219–2227. <https://doi.org/10.1056/NEJMra1402309>
- Wadsworth, E., Fataar, F., Goodman, S. *et al.* Consumer perceptions of legal cannabis products in Canada, 2019–2021: a repeat cross-sectional study. *BMC Public Health* 22, 2048 (2022). <https://doi.org/10.1186/s12889-022-14492-z>.
- Wharf Higgins, J., Begoray, D., & MacDonald, M. (2009). A social ecological conceptual framework for understanding adolescent health literacy in the health education classroom. *American Journal of Community Psychology*, 44(3–4), 350–362. <https://doi.org/10.1007/s10464-009-9270-8>.
- Wettlaufer, A., Florica, R. O., Asbridge, M., Beirness, D., Brubacher, J., Callaghan, R., Fischer, B., Gmel, G., Imtiaz, S., Mann, R. E., McKiernan, A., & Rehm, J. (2017). Estimating the harms and costs of cannabis-attributable collisions in the Canadian provinces. *Drug and Alcohol Dependence*, 173, 185–190. <https://doi.org/10.1016/j.drugalcdep.2016.12.024>