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National Research Priorities for Cannabis

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We acknowledge the Indigenous Peoples as Traditional Knowledge keepers, and that our greater society benefits from the sharing of Indigenous Peoples' knowledge.

We strive for respectful partnerships with all Indigenous Peoples, as we look to do better and search for collective healing and true reconciliation.

We also wish to acknowledge the significant contributions of our partners in developing and shaping the recommendations contained in this report. For a list of those who have played a key role through their participation in this meeting and providing additional support, refer to Appendix A.

Conflict of Interest

The authors have no conflict of interest to declare.

Executive Summary

Event Description

The National Research Priorities for Cannabis meeting held February 25–26, 2025, in Ottawa, Ont., brought together 55 researchers, clinicians, policymakers, public health and safety officials, First Nations and Métis representatives, and individuals who use cannabis to identify Canada's most pressing cannabis research priorities. Hosted by the Canadian Centre on Substance Use and Addiction (CCSA), in partnership with Health Canada, the Canadian Institutes of Health Research — Institute of Neurosciences, Mental Health and Addiction (CIHR-INMHA), and the Public Health Agency of Canada (PHAC), this meeting was a direct response to Recommendation 51 from the Legislative Review of the Cannabis Act: Final Report of the Expert Panel.

Structured panel presentations, breakout discussions and collaborative exercises led to the identification of eight priority research themes. These priorities are intended to guide future research investments and collaborations, improve evidence-informed policymaking, and reduce cannabis-related harms while supporting public health and safety goals.

Identified Research Priorities

Health Effects of Cannabis Use

Participants emphasized the need for a lifespan-based, multidisciplinary and longitudinal approach to cannabis research, with priority areas including:

- Mental health, cardiovascular and pulmonary conditions, reproductive health, and second-hand exposure.
- Medical and therapeutic uses of cannabis.
- Co-use of cannabis with other substances such as alcohol and prescription drugs.
- Clinical and experimental research on diverse cannabis products and methods of use.
- Integration of cannabis within broader chronic disease, mental health and pain research.

Dose-Related Health and Safety Effects

Understanding delta-9-tetrahydrocannabinol (THC) dosage and its relationship to health outcomes is essential. Priorities include:

- Establishing a standard THC unit.
- Improving consumer knowledge of product potency and dosage through better labelling and education and evaluating effective strategies.
- Developing evidence-based THC risk thresholds, similar to alcohol guidelines.
- Accounting for variability in tolerance, sex, age and comorbidities.

Monitoring and Surveillance

Robust surveillance is foundational to evaluating cannabis policy and its impact on health outcomes.

Key priorities discussed include:

- Improving data quality, standardization (to support comparability) and timeliness.
- Strengthening data on legal and illegal cannabis markets and how these markets influence one another.
- Commitment to high-quality data collection that allow for disaggregation by sex, gender, age, race, region and other sociodemographic variables.
- Enhancing data linkages between population surveys, administrative health records and other data sources.
- Addressing critical gaps in treatment-related data, particularly for cannabis use disorder.
- Supporting long-term investment in national surveillance infrastructure and a centralized cannabis knowledge hub.
- Breaking down data silos across jurisdiction and sectors to foster greater collaboration.

Public Safety and Illegal Cannabis Market Enforcement Approaches

There is a recognized need to address public safety data and research gaps, both as distinct priorities and as they intersect with health surveillance and research.

Key data and research gaps include:

- Standardized national-level data and analysis of the size, scope and characteristics
 of the illegal market.
- Detailed, comprehensive analysis of organized crime groups' (OCGs) methods of operation and the extent to which illegal cannabis routes are linked to more serious crimes, with a focus on how OCG activity has evolved post-legalization.
- System-level knowledge of the strengths and limitations of law enforcement and regulatory approaches to disrupt and dismantle illegal cannabis activity across Canada.
- In-depth research on the key public safety issues identified in the legislative review, (e.g., online illegal cannabis sales, diversion from the medical access regime, enforcement and prosecution issues in First Nations communities).
- Continued monitoring of the prevalence and patterns of cannabis-impaired driving to inform prevention strategies.

Cannabis Policy Evaluation

Participants called for ongoing evaluation of cannabis regulation across jurisdictions. Research priorities include:

- Evaluating the regulatory and law enforcement effectiveness in achieving the public health and safety objectives of the *Cannabis Act*, incorporating diverse perspectives.
- Leveraging Canada's "natural experiment" to assess the public health and safety impacts of different regulatory approaches across provinces and territories.

Prevention and Intervention

There is an urgent need for tailored, evidence-based prevention and intervention strategies, particularly for youth. Identified research priorities in this area primarily focused on evaluating the long-term effectiveness of prevention efforts — including how effective different types of prevention initiatives are and what strategies work best across different contexts and for different groups of people in reaching specific outcomes — and evaluating interventions for problematic use and co-occurring mental health issues.

Additional priorities related to prevention and intervention include:

- Scaling up and sustaining youth-focused prevention programs, including schoolbased models.
- Supporting youth-led research and co-developing public health messaging with people with lived experience.
- Developing targeted public health strategies for specific populations, including First Nations, Métis, and Inuit communities, older adults, individuals with mental health challenges, and parents.
- Building a national registry of evidence-based programs and initiatives.
- Mobilizing multidisciplinary teams and networks to develop and implement targeted strategies for high-risk populations.

Equity-Focused Research

Equity was both a cross-cutting and standalone research priority.

Key research needs include:

- Examining barriers to equitable access to medical and recreational cannabis.
- Investigating social and economic equity in the cannabis industry.
- Assessing how cannabis tax revenue can be reinvested to benefit communities historically impacted negatively by prohibition.
- Investigating how poverty, systemic racism, and other social determinants impact cannabis use and related outcomes.

Knowledge Mobilization and Translation

Ensuring research findings are accessible and actionable is critical.

Research priorities include:

- Understanding how diverse audiences engage with cannabis information.
- Identifying effective, trusted sources and formats for public education.
- Evaluating how cannabis-related knowledge mobilization strategies influence individual, clinical and policy-level decision-making.

Additional priorities related to knowledge mobilization include:

- Integrating stigma reduction into public education and research communication.
- Embedding meaningful, implementation-focused knowledge mobilization requirements into funding structures to move beyond dissemination.
- Empowering community networks to deliver relevant, culturally grounded education.
- Developing integrated knowledge mobilization systems to support long-term, evidence-informed engagement.

Overarching Considerations and Enablers

Several overarching and cross-cutting themes emerged throughout the discussions, many of which also act as enablers in advancing identified priorities.

- 1. Collaboration and Partnerships: Increase collaboration among various interested and impacted partners (academic, public, private, community, Indigenous and international) and empowered, active participation of people with lived experience. Enable cross-jurisdictional data sharing and break down silos across sectors.
- **2. Standardization:** Standardize data collection and measurement across studies and surveys to improve comparability and public health and public safety messaging.
- 3. Equity: Prioritize equity as a cross-cutting consideration and a standalone focus; address and advance work related to the experiences of equity-deserving groups and inequity in systems and processes. Beyond specific research questions, prioritize the development of equitable policing and justice approaches, including amnesty for past cannabis-related offences, and support Indigenous sovereignty and community-led research efforts.
- **4. Sex and Gender Based Analysis + (SGBA+):** Apply SGBA+ frameworks in cannabis research, and tailor approaches to implementing evidence in relevant contexts.
- **5.** Ways of Knowing: Value different ways of knowing to achieve a holistic understanding of the cannabis landscape, including knowledge generated or reflected through Indigenous, community-based, and non-Western approaches alongside empirical research methods and practical knowledge.

Many identified priorities align with those previously outlined by the legislative review of the *Cannabis Act* through extensive partner engagement activities.

The meeting invited participants to advocate for the distinct priorities they viewed as essential within their own expertise, sectors and communities, while working together to establish a shared vision for which areas are most critical to pursue immediately to create the biggest impact on the health and safety of people living in Canada.

As one of the first countries to legalize non-medical cannabis at the national level, Canada is uniquely positioned to generate high-quality cannabis evidence and lead the development of effective cannabis policies and regulations that prioritize public health and safety.

Background

Canada legalized cannabis for non-medical purposes on October 17, 2018.

The objectives of the *Cannabis Act* are to prevent youth access to cannabis, protect public health and safety, and reduce criminal activity and the burden on the criminal justice system. In this respect, substantial investments have been made to monitor and evaluate the impacts of legalization and regulation, as well as to better understand the health effects of cannabis use.

Much of this research has been summarized in the <u>Legislative Review of the Cannabis Act:</u> <u>Final Report of the Expert Panel</u>. The final report also highlighted several knowledge gaps (refer to the table; Health Canada, 2024) and emphasized the importance of continued efforts to identify national research priorities. Recommendation 51 of the report states:

Health Canada, Public Safety Canada, Statistics Canada, the Canadian Institutes of Health Research, and other partners should work with stakeholders, including those with lived and living experience and from marginalized communities, to identify key research priorities. This prioritization effort should guide ongoing investment in cannabis-related research.

Accordingly, CCSA, in partnership with Health Canada, CIHR-INMHA and PHAC, hosted the National Research Priorities for Cannabis meeting on February 25–26, 2025, in Ottawa, Ont.

The meeting brought together 55 partners, including researchers, physicians, policymakers, public health and safety officials, First Nations and Métis representatives, and individuals with lived and living experience to define key cannabis research priorities.

Meeting Objectives

- Assess the current state of cannabis research, with a focus on identifying remaining evidence gaps.
- 2. Identify and prioritize cannabis research needs.
- 3. Explore barriers and facilitators to addressing these priorities.
- 4. Develop recommendations to guide next steps in addressing the identified priorities.

Meeting Summary

Keynote: Legislative Review of the Cannabis Act

Members of the expert panel — Morris Rosenberg, Dr. Oyedeji Ayonrinde, Dr. Patricia Conrod and Dr. Peter Selby — kicked off discussions around cannabis research priorities by

providing an overview of the legislative review of the *Cannabis Act* and progress made toward achieving its objectives. In doing so, the panel highlighted key knowledge gaps and public health and safety concerns that have emerged since cannabis legalization, including increases in pediatric cannabis poisonings, relatively high rates of cannabis use among youth and young adults, a shifting market toward higher potency products, and the lack of services and support for people with problematic cannabis use and cannabis use disorder (also refer to the table).

The panel emphasized the need for greater attention to the social determinants of cannabisrelated health outcomes, particularly among marginalized populations. They highlighted the importance of targeted interventions for at-risk consumers, including youth and underserved communities.

The panel also outlined several recommendations, with a focus on strengthening youth prevention efforts, assessing the impact of novel cannabis products and enhancing consumer education.

In addition, they stressed the importance of ongoing monitoring of the impacts of cannabis legalization and regulation, and the need for continued collaboration across sectors and among federal, provincial, and territorial agencies, researchers and communities most impacted by cannabis policies.

During the Q&A period, the need for increased engagement of youth and First Nations, Métis, and Inuit Elders in shaping cannabis policy and public education initiatives was highlighted.

Concerns were raised about the health impacts of cannabis vaping products, particularly their effects on youth and older adults.

The expert panel highlighted the importance of developing a proactive strategy to engage governments in maintaining a focus on evidence-based cannabis policy and advancing research priorities. There was strong support from meeting participants for reinvesting cannabis tax revenues into research, as well as public health and safety initiatives.



Table. Knowledge Gaps in *Legislative Review of the Cannabis Act: Final Report of the Expert Panel*

- 1. Cannabis-related poisonings among children (including the source of the cannabis).
- 2. The amount of cannabis that constitutes a single serving (that is, a standard dose) to guide consumer decision-making.
- 3. The impacts and effects of cannabis and legalization, including high-potency and novel cannabis products, on mental health (such as psychosis) and substance use in diverse populations.
- 4. The health risks associated with the use of different types of cannabis products, including the emissions of smoked and vaped cannabis.
- 5. The impacts of cannabis use or exposure during different stages of life (including prenatal, perinatal and neonatal exposure; among individuals who are pregnant, breastfeeding or chest feeding; and among seniors).
- 6. Long-term or longitudinal studies examining consequences of cannabis and legalization (including a focus on youth).
- 7. The prevalence of people living with cannabis use disorders, and, for those wishing to seek help, their ability to access different types of interventions, including targeted prevention and treatment programs.
- 8. The impact of delivering different types of interventions, including targeted prevention and treatment programs and interventions for frequent consumers and those at risk.
- 9. The impact and effects of cannabis and legalization on First Nations, Inuit and Métis, as well as equity-deserving groups and different subpopulations (including disparities in enforcement).
- 10. The impacts of different policy approaches by provinces and territories on cannabis use and harms.
- 11. The impacts associated with possible changes to product regulations, including potential modification to the THC limit for edible cannabis products, including the effects on adult consumers, those who might be unintentionally exposed (especially children) and the displacement of the illicit market.
- 12. The use of cannabis for medical purposes, including the benefits and harms associated with using cannabis for different conditions.

Panel Presentations

The keynote presentation was followed by three panel presentations, each focused on a distinct overarching theme. Each session was accompanied by a 30-minute breakout discussion aimed at identifying research priorities and considerations within each priority.

The following section outlines the presentation topics and some key takeaways from the discussions, which include identified research priorities and topic-specific considerations regarding knowledge mobilization and implementation.

Trends and The Evolving Market

Dr. David Hammond provided an overview of cannabis product trends and consumption patterns in Canada since legalization, highlighting a shift toward high-potency products such as vapes and infused pre-rolls, and noted regional differences in retail models.

Dr. Daniel Sansfaçon and **Dr. Myles Maillet** provided an overview of public safety research priorities over the next five years, including key data and research gaps related to the illegal cannabis market and its enforcement, OCG involvement, and the impacts on community safety and drug-impaired driving.

Nazlee Maghsoudi addressed equity within the cannabis industry, outlining research priorities aimed at fostering a more inclusive and diverse legal market — particularly supporting the inclusion of individuals from communities who have been historically criminalized and disproportionately adversely affected by previous cannabis-related policies.

Group Discussion Highlights

In response to the increasing use of a diverse range of cannabis products, participants emphasized the need to better understand the risks and potential harms associated with emerging products.

Research focused on product-specific benefit and harm profiles, linking particular products to health and safety outcomes; evaluating the impact of using multiple types of products was considered a priority.

Given the relatively high prevalence of cannabis use among youth and young adults, further research is needed to better understand their reasons for use and how market trends influence their choice of products.

To strengthen monitoring and surveillance initiatives related to cannabis use and related behaviours, greater investment is needed in high-quality data collection that is disaggregated by sex, gender, age, race, region, and other key sociodemographic variables.

Long-term funding commitments were also seen as essential to support comparable, sufficiently powered, repeated national surveys, particularly to ensure consistent and standardized surveillance capable of monitoring and evaluating evolving cannabis policies and markets.

Improving the collection and integration of lifespan and death data within cannabis-related surveillance frameworks was also identified as a priority.

A multidisciplinary approach that bridges public health and public safety perspectives was seen as crucial to understanding the dynamics of the illegal cannabis market and related OCG activity, and the extent to which this inhibits governments from meeting the public health and safety objectives outlined in the *Cannabis Act*.

Youth, Prevention and Health Promotion

Dr. Patricia Conrod presented on evidence-based prevention and health promotion programs, highlighting interventions that reduce cannabis-related harms and support youth decision-making.

Daniel O'Brien spoke to the TRaCE Research Program: Track, Report, Connect, Exchange and shared insights from two decades of research on youth cannabis use, focusing on young people's lived experiences and long-term trends in consumption and risk factors.

Group Discussion Highlights

Group discussions underscored the importance of improved co-ordination in the implementation of primary, secondary, and tertiary prevention strategies for cannabis and substance use across Canada.

Enhancing the scalability and long-term sustainability of school-based prevention programs was identified as a priority, as well as the need to support long-term evaluation of prevention and intervention outcomes.

Engaging and supporting youth in prevention and health promotion activities and initiatives was seen as essential.

There was also strong support for youth-led research as well as co-developed research methodologies, messaging and youth driven prevention programs. Empowering youth in prevention science was viewed as fundamental to developing effective and sustainable interventions. Recognizing individuality among youth is important and, as a result, there is a need to tailor research and interventions to account for factors such as gender, age, ethnicity, and sex.

Furthermore, participants highlighted the significance of considering the context, such as the setting and environment, of cannabis use to better understand its potential benefits and harms, and to shape more effective cannabis education strategies.

Access to knowledge was identified as a key factor in improving cannabis-related outcomes. Participants emphasized the importance of knowledge mobilization, focusing on the appropriate mediums and content to disseminate information effectively to youth.

Additionally, the creation of a registry or hub of evidence-based programs was proposed as a way to sustain and ensure accessibility to effective interventions over time.

Health Effects of Cannabis

Dr. James MacKillop discussed observational cohort studies, providing unique insights into the long-term health effects of cannabis legalization and patterns of use.

Dr. Daniel Myran explored changes in healthcare visits related to cannabis post-legalization, analyzing trends in emergency department visits and hospitalizations.

Dr. Hance Clarke focused on cannabis for medical purposes, particularly its role in pain management, sleep disorders and potential applications for neurological conditions like dementia.

Group Discussion Highlights

Group discussions emphasized the role of healthcare professionals in supporting effective medical cannabis use, with a need for improved clinician knowledge and increased comfort discussing cannabis.

The importance of dosage literacy, both for medical and recreational use, was emphasized, as well as the feasibility of developing diverse dosing protocols tailored to individual needs.

Dosing emerged as a key area of focus during the discussions. Enhancing clinicians' understanding of appropriate dosing for various medical conditions was identified as a priority, as was the generation of robust data linking specific product types and doses to both intended therapeutic effects and unintended adverse outcomes.

Participants also recognized the need to develop diverse dosing protocols that account for varying use contexts, individual characteristics and health objectives.

The feasibility of establishing a standard unit dose for cannabis, applicable to both medical and non-medical (e.g., recreational) use, was also discussed.

The group identified cannabis hyperemesis syndrome as an emerging concern and emphasized the need to increase awareness of its symptoms and potential treatments among healthcare providers and the public.

A multidisciplinary approach was encouraged, integrating research on pain, mental health, substance use, and other areas of health and well-being.

Strengthening data infrastructure through the integration of administrative health records databases and cohort data was identified as a priority.

The potential need for new ICD-10 codes specific to cannabis outcomes was also discussed.

Further research into the potential benefits of cannabis, particularly for older adults, was seen as critical.

Participants also called for increased funding to improve access to and affordability of medical cannabis.

Longitudinal research was identified as essential to understanding evolving patterns of cannabis use and its long-term health impacts.

Cannabis and the Métis Nation: Impacts, Perspectives and Recommendations for Action

Stephanie Thevarajah and **Carolyn Lacka** presented on behalf of the Métis National Council. They discussed the impacts of cannabis legalization on Métis communities, addressing historical, social and policy considerations while highlighting key recommendations for action.

Stephanie provided an overview of cannabis use within Métis communities, discussing unique cultural and health perspectives, accessibility challenges and policy implications.

Carolyn emphasized the importance of Indigenous-led research and policy development, advocating for inclusion, culturally relevant education, and harm reduction strategies tailored to Métis communities. For more details, refer to the report: <u>Cannabis and the Métis Nation: Impacts, Perspectives and Recommendations for Action</u>.

Stephanie and Carolyn emphasized the need for greater consultation with Métis communities to ensure that cannabis policies reflect their specific needs and perspectives. The discussions also highlighted the importance of developing educational materials and harm reduction strategies that align with Métis cultural values and traditions.

National Research Priorities for Cannabis

Panel presentations were followed by a series of facilitated discussions and exercises aimed at identifying cannabis research priorities. Through these discussions, eight key research priority themes emerged.

In addition to identifying priorities, participants explored potential barriers and facilitators to advancing specific research areas, as well as opportunities for capacity building and collaboration.

Considerations around timelines and feasibility were also discussed.

1. Health Effects of Cannabis Use

While progress has been made, there remains a clear need for further research on the health effects of cannabis use, particularly given the increasing diversity of cannabis products available to consumers.

Participants emphasized the importance of framing cannabis research in terms of both potential risks and benefits, and of adopting a lifespan approach that considers developmental stages, trajectories of use, and reasons for consumption.

Key research priorities identified include:

- Enhancing our understanding of the impacts of cannabis use on mental health outcomes and chronic diseases, particularly cardiovascular and pulmonary conditions.
- Further investigation into the medical and therapeutic uses of cannabis.

- Examining the health effects of co-use of cannabis with other substances, such as alcohol and prescription medications.
- Assessing the reproductive health impacts, including potential effects on fertility and parenting, of cannabis use.
- Understanding the health, social and contextual consequences of second-hand cannabis smoke exposure.
- Expanding research on the pharmacokinetics and pharmacodynamics of an increasingly diverse range of cannabis products and routes of administration.

Greater investment in clinical, experimental, and longitudinal research was seen as essential to improving understanding of the health and safety impacts of acute, frequent, and long-term use of diverse cannabis products. To this end, participants emphasized the importance of embedding cannabis research within broader chronic disease and mental health frameworks.

A multidisciplinary approach was also viewed as central to advancing knowledge of cannabis use across various contexts, including pain management, mental health and substance use disorders.

Participants acknowledged that clinical and experimental research, particularly on the medical and therapeutic uses of cannabis, continues to face several barriers. These include regulatory constraints within the current clinical trial framework, insufficient funding, limited clarity around relevant regulations, and restricted access to a diverse range of cannabis products for research purposes, including in basic science and preclinical research.

Participants offered several recommendations to strengthen cannabis research in Canada. These included expanding partnerships between government and academic institutions, enhancing public-private collaboration, and increasing engagement with the cannabis industry.

Existing clinical trial networks should be leveraged and supported, and the <u>non-therapeutic</u> cannabis research framework can help facilitate research beyond medical applications.

A centralized knowledge hub focused on cannabis and health outcomes could further support knowledge exchange, data sharing, and interdisciplinary collaboration.

2. Dose-Related Health and Safety Effects

The concepts of "dose" and "dosing" emerged as central themes in discussions on the health effects of cannabis use. These terms were generally used in reference to the amount of THC required to produce a specific effect or health outcome.

While the cannabis plant contains numerous other cannabinoids — most notably cannabidiol (CBD) — which may influence both the acute and long-term effects of THC, this report uses "dose" specifically to refer to the quantity of THC consumed by an individual.

Discussion on dosing included both the feasibility of identifying THC doses that consistently produce intoxication, over-intoxication, or impairment (e.g., in the context of driving), and the

potential for establishing evidence-based risk thresholds for non-medical cannabis use, similar to those developed for alcohol. Developing such thresholds would require consideration of individual variability, including tolerance, sex, age, and comorbidities, as well as the impacts of dosing in the context of co-use with other substances (e.g., alcohol).

The complexity of the cannabis plant and significant variability in pharmacokinetics and pharmacodynamics across routes of administration were identified as major challenges to establishing standardized dosing guidelines.

Consumer knowledge of THC and cannabinoid content remains limited, creating challenges for accurate, self-reported data in surveys.

Questions were raised about consumers' comprehension of cannabis product labels and the consistency and reliability of the information provided on these labels.

Improved measurement of cannabis consumption, particularly in terms of quantity and potency, was seen as key to supporting more precise assessments of health impacts and to informing the development of risk thresholds. Achieving this will depend on improved consumer understanding and the ability to accurately report consumption. Enhancing the clarity, accessibility and consistency of cannabis product labels was considered a critical next step.

Implementation of a standard THC unit was identified as an important tool to support consumer education and promote consistency across research studies. Advancing research in this area will require strengthened collaboration among Canadian and international cannabis experts. Engagement with existing networks (e.g., standards organizations) and cannabis governance tables (e.g., Federal-Provincial-Territorial Cannabis Data Working Group, led by Health Canada) can support this work.

Enhancing and standardizing data collection and reporting on cannabis consumption was identified as an immediate priority in moving toward the development of evidence-based risk thresholds for non-medical use.

3. Monitoring and Surveillance

Canada's current cannabis monitoring and surveillance systems have a number of strengths, but there remain several important areas for improvement.

An overarching priority identified by participants was the need to ensure that data are relevant, accurate, timely and accessible across diverse areas of cannabis research. With this in mind, key research priorities include:

- Enhancing data collection on legal and illegal cannabis markets and the dynamics between them.
- Committing to high-quality data collection that allows for disaggregation by sex, gender, age, race, region and other sociodemographic variables.
- Enhancing data linkages between population surveys, administrative health records and other data sources.
- Addressing critical gaps in treatment-related data, particularly for cannabis use

disorder.

• Establishing a centralized knowledge hub and support greater efforts to synthesize data across multiple sources and datasets.

Several challenges were identified with current cannabis monitoring and surveillance efforts. These include declining response rates in population surveys, persistent stigma surrounding cannabis use, data artifacts, and issues with data comparability across datasets and jurisdictions. Limited and unstable funding was also recognized as a significant barrier to the consistent measurement of cannabis-related outcomes over time.

Breaking down data silos across researchers, research agencies and organizations, and jurisdictions emerged as a key priority.

Aligning goals and objectives, along with fostering collaboration among partners, was seen as essential to facilitating co-ordinated data collection and reporting.

Securing long-term funding for repeated, sufficiently powered, and nationally comparable surveys was viewed as critical to ensuring robust public health and safety surveillance.

Public retail models were also identified as having the potential to support and enhance data collection and monitoring efforts.

4. Public Safety and Illegal Cannabis Enforcement Approaches

While there has been significant progress in establishing a legal domestic cannabis market, the illegal market persists and OCGs continue to exploit weaknesses in the regulatory approach by seeking new markets for their products — both domestic and for export — and using revenues to fund more harmful illegal activities, such as the trafficking of firearms and more serious drugs.

Criminal groups continue to sell products domestically at lower prices than legal cannabis retailers, including online, without having to pay taxes, regulatory fees, or adhere to labelling or marketing restrictions. This enables them to maintain a competitive advantage over licensed retailers and puts additional pressures on legal vendors who are struggling to remain viable.

Understanding the illegal market and how it is changing over time in relation to enforcement actions across jurisdictions is critical to informing future policy and program decisions.

However, there has been an improvement since legalization, in our collective capacity to measure and monitor the legal cannabis market via national- and regional-level population surveys based on self-reported behaviour.

There remains a limited capacity to estimate the size, scope and characteristics of the illegal cannabis market. Data related to the production, distribution, purchase and exportation of illegal cannabis are not collected systematically and consistently across jurisdictions, posing challenges to advancing evidence-based policy.

Furthermore, existing self-reported data related to illegal markets are limited both in terms of its accuracy due to unwillingness to report (social desirability bias) and memory recall.

Police-reported enforcement efforts to address illegal cannabis activity, whether by federal, regional, local police or by border service agents, are not collected and collated consistently across jurisdictions and over time.

Lastly, there is limited data integration between the public health and safety sectors as the data pertain to the illegal cannabis market and its enforcement.

Some of the most significant gaps include the lack of systematic and national-level aggregate data on seizures, and the number and type of criminal cases brought to trial involving illegal cannabis, including the extent to which cannabis seizures relate to other criminal activity. These gaps also include the effectiveness of various enforcement practices (law enforcement and regulators) to disrupt and dismantle related illegal activity.

There are also many public safety research gaps¹ related to individual, social and community level harms.

At the individual level, there is insufficient evidence on whether early-onset and excessive cannabis use, especially of more potent products, may act as a criminogenic risk factor, particularly for youth.

Additionally, illegal storefronts and websites continue to expose youth and adults to unregulated cannabis products, often marketed in ways that appeal to children, such as packaging that mimics candy.

Furthermore, there are limited data available on the impacts of both the legal and illegal cannabis markets on Indigenous communities, particularly related to cannabis activities occurring outside of the *Cannabis Act* framework.

Several challenges continue to impact progress in addressing these issues. Interdisciplinary collaboration remains insufficient, and national-level data collection requires significant coordination efforts both within and across jurisdictions. Research on cannabis, particularly on illegal markets, continues to face persistent funding shortages and is considered low priority within the justice sector.

There are several promising opportunities to advance cannabis research in this sector. A strong network of academic, governmental and non-governmental organization researchers provides a solid foundation for enhanced collaboration.

The time elapsed since legalization has resulted in greater data availability, creating opportunities for deeper analysis.

Additionally, regional differences in retail and distribution models and their enforcement approaches present "quasi-natural experiments" that can be leveraged to better understand the impacts of various regulatory approaches.

¹ For the purpose of this report, "public safety" refers to the broader approach to understanding the ways that cannabis can affect the safety of the public, including at the social and community level. As such, this term does not refer to the role or mandate of Public Safety Canada.

Systematically collecting intelligence data and better integrating these data alongside public safety and public health sector data was seen as crucial in advancing public safety research priorities.

5. Cannabis Policy Evaluation

Cannabis regulation in Canada is shared between federal, provincial and territorial governments.

Briefly, the federal government's responsibilities include setting national standards for production (such as THC limits), packaging and labelling requirements, and restrictions on promotion.

Provinces and territories are responsible for distribution and sales and have authority to introduce additional policies, such as increasing the minimum legal age above 18 years or restricting the sale of certain types of products.

Provincial differences in regulatory approaches create a "natural experiment" for evaluating cannabis policies and their enforcement approaches. Leveraging this natural experiment to assess different law enforcement and regulatory approaches across jurisdictions was identified as a key research opportunity, particularly as policies continue to evolve.

Evaluations should examine the effectiveness of regulators and law enforcement in achieving the public health and safety objectives outlined in the *Cannabis Act*, taking into account a range of partner perspectives.

Establishing clear policy targets, benchmarks, and identifying factors that may influence the implementation and outcomes of law enforcement and regulators' approaches was considered critical to creating evidence-based research and policy.

Enhanced multi-sectoral and interjurisdictional collaboration, along with the development of a dedicated policy research network or hub, were identified as critical enablers to support this work.

6. Prevention and Intervention

With the increasing availability and accessibility of cannabis, including high-potency products, there is a clear need for greater investment in research on interventions for problematic cannabis use and cannabis use disorder. Within this priority area, the development of interventions that address co-occurring cannabis use disorder and mental health disorders, such as depression, anxiety, and post-traumatic stress disorder, was identified as a particular need. Advancing this research will require mobilizing multidisciplinary research teams and leveraging existing clinical trials networks and infrastructure both within Canada and internationally.

Most discussions in this area focused on the prevention of cannabis use (primary and secondary), particularly among youth, young adults and at-risk populations. Tailored, personand community-specific substance use interventions, along with long-term evaluation of

prevention and intervention programs, were seen as essential. Youth-led and co-developed research, as well as meaningful engagement of people with lived and living experience, were viewed as fundamental to advancing this work.

Participants also identified a need to evaluate the empirical effectiveness of existing public health messaging, particularly aimed at preventing cannabis use among youth and promoting lower-risk use among people of legal age.

The continued existence of the illegal cannabis market provides people in Canada with access to unregulated products. There is a need to monitor and evaluate public education efforts across jurisdictions to help consumers distinguish between legal and illegal products and to strengthen their understanding of the risks and harms of consuming illegal cannabis products.

Beyond specific priorities for research, greater investment in the implementation of evidence-based prevention strategies was also emphasized, with a particular need to foster the scalability and sustainability of school-based initiatives and to improve co-ordination across primary, secondary, and tertiary prevention initiatives.

Developing targeted public health strategies for specific populations, including First Nations, Métis, and Inuit (FNMI) communities, older adults, individuals with mental health challenges, and parents, was identified as an important priority.

Leveraging existing networks, such as CCSA, the Canadian Research Initiative in Substance Matters, the Mental Health Commission of Canada and academic institutions, was seen as critical to supporting intervention research and implementation. Mobilizing provincial health authorities around cannabis prevention and public health messaging was also identified as a key opportunity.

7. Equity: Minimizing Harm and Maximizing Benefits

Equity emerged as a central theme across all research priorities. It was recognized both as a cross-cutting consideration and as a distinct research priority in itself.

An equity lens must be applied across all research themes, including the health effects of cannabis, prevention and intervention initiatives, monitoring and surveillance, public safety, and illegal cannabis enforcement approaches.

Overall, more research is needed on the impact of social and structural determinants, on cannabis-related health and public safety outcomes.

Within this area, moving work forward depends not only on identifying research priorities and questions, but also in acknowledging and creating change within the systems that research is embedded within and the barriers and facilitators to research and implementation of the findings. A significant portion of the discussions and the summary here will address these considerations.

Assessing equitable access to both medical and non-medical cannabis, addressing economic and social inequities within the cannabis industry, and overcoming barriers faced by individuals from marginalized groups were identified as key priorities.

Greater equity in policing, providing amnesty for past cannabis-related offences, and developing policies that respect FNMI sovereignty and data ownership were also seen as critical. Equitable education initiatives across all life stages, grounded in stigma reduction and framed through cultural safety and humility, should support both cannabis users and non-users.

Equitable consultation approaches and true co-development processes are essential for advancing cannabis research and policy.

Communities must be supported to lead research activities, with fair compensation practices for those acting as stewards of data, in alignment with ownership, control, access and possession (OCAP) principles.

A distinction-based, life course approach that incorporates multidisciplinary perspectives and applies an SGBA+ lens is fundamental.

Community-based methods must prioritize leadership and lived expertise, following the principle of "nothing about us without us."

Several barriers to advancing equity in research were identified, including insufficient funding, limited time and capacity, the unsustainable nature of short-term initiatives, and a lack of understanding and care about equity in research.

The persistence of meritocracy narratives, the burden of the "minority tax," where individuals are burdened with representing entire populations, siloed community engagement efforts, and the lack of meaningful allies were also seen as major challenges.

Skills gaps in participatory research methods often result in "safari" research and tokenism.

Building trust requires meeting people where they are, treating stories with care, valuing non-Western knowledge forms, and ensuring participants feel important and respected. Inadequate disaggregation of populations (e.g., treating all Indigenous or all Black communities as homogenous) further limits meaningful understanding.

Several facilitators were identified to support greater equity in cannabis research, policy, and industry.

Key frameworks, such as the Truth and Reconciliation Commission's (TRC's) Calls to Action and the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), were seen as providing accountability measures and pathways for Nation-to-Nation relationship building.

Grassroots organizations were highlighted as critical, with an emphasis on empowering communities to lead.

The legislative review report recommendation to embed social equity considerations in future reviews was highlighted.

Participants pointed to the collective will within communities, the importance of facilitating community input, and the value of community-to-community sharing and coalition building to strengthen efforts.

Opportunities for collaboration included building on work such as the Métis National Council's report on cannabis use and mental health, engaging with the Institute of Indigenous Peoples' Health at CIHR, and collaborating with organizations such as the Black Health Alliance.

Participants also noted the potential of virtual engagement, securing funding for in-house capacity building, collaborating with federal and provincial governments, and regularly and systematically monitoring demographics within the cannabis industry.

Upholding principles such as OCAP and engaging in structures like Engagement, Governance, Access, and Protection were identified as further opportunities to support community-driven, ethical participation.

Recognizing Indigenous sovereignty in cannabis policy and research was seen as essential for fostering respectful and inclusive participation. Expanding Indigenous-led research and ensuring sovereignty over data collection, analysis and dissemination were also identified as important priorities

8. Knowledge Mobilization and Translation

Key research questions in this area explore how consumers currently engage with cannabisrelated information, including which sources, messengers, and formats are trusted and easily understood by various types of consumers.

There is a need to identify knowledge-sharing strategies that are targeted, sustainable, and impactful, ensuring that evidence reaches diverse audiences in accessible and meaningful ways.

Evaluating the knowledge mobilization strategies that are effective in allowing for the implementation of evidence into individual decision-making and shaping policies, and practices (research, health care, etc.) will generate findings that can be used across sectors.

In addition, the influence of stigma on shaping both public perceptions of cannabis use and policy decisions should be further investigated and addressed.

Beyond research priorities within the topic area of knowledge mobilization, a dedicated investment in moving evidence into action is needed.

Enablers and resources for effective cannabis knowledge-sharing include leveraging trusted community networks to deliver education and information in culturally relevant and accessible ways.

Additionally, integrating meaningful and implementation-focused knowledge mobilization efforts into policy and research funding structures can ensure that knowledge mobilization is prioritized and sustained throughout the research and policy development process.

In terms of timeline and feasibility, immediate efforts should prioritize expanding public outreach and educational campaigns based on established and emerging evidence to improve cannabis literacy and reduce stigma.

Over the long term, evaluating the most effective knowledge mobilization strategies for specific audiences and groups of consumers who need information about cannabis will be essential. This can inform the creation of an integrated knowledge mobilization system that will be key to sustaining evidence-informed communication and ensuring ongoing engagement across sectors and communities.

Overarching Themes and Enablers

Several overarching and cross-cutting themes emerged throughout the discussions. Many of these areas will act as significant enablers in advancing identified priorities.

Collaboration and Partnerships

There is an immediate need for increased collaboration among various interested and impacted partners (academic, public, private, community, Indigenous and international) and empowered, active participation of people with lived and living experience.

Efforts are needed to enable cross-jurisdictional data sharing and break down silos.

Specific recommendations in this area include:

- Establishing partnerships to build multidisciplinary, long-term research capacity.
- Strengthening national and international collaborations to support consistent, standardized research and data collection, addressing data fragmentation across sectors.
- Further leveraging variations in provincial and territorial regulations as a natural experiment for policy analysis.
- Establishing an interjurisdictional policy research hub to co-ordinate efforts.
- Building collaborations between government and equity-focused organizations to foster more inclusive cannabis policies.

Equity, Inclusion and Indigenous Leadership

Equity needs to be prioritized as a cross-cutting consideration and a standalone focus, including addressing and advancing work related to the experiences of equity-deserving groups and inequity in systems and processes.

Structural changes are required to support Indigenous-led and equity-informed research.

Priorities include:

- Expanding Indigenous-led data collection, analysis and dissemination.
- Recognizing Indigenous sovereignty in cannabis research and policy development.

- Supporting community-driven leadership in shaping cannabis research and education.
- Embedding the TRC's and UNDRIP's principles into research and policy frameworks.

Standardization: To advance research priorities and generate quality findings across topic areas, standardizing data collection and measurement across studies and surveys is essential. This will lead to improved comparability and public health messaging.

Sex and Gender Based Analysis +: Applying SGBA+ frameworks in cannabis research and tailored approaches to implementing evidence in relevant contexts can illuminate research findings that are relevant to distinct groups of cannabis consumers and contexts.

Ways of Knowing: To increase the quality and relevance of research, various ways of knowing need to be considered. Including knowledge generated or reflected through Indigenous, community-based, and non-Western approaches alongside empirical research methods and practical knowledge will achieve a holistic understanding of the cannabis landscape in Canada.

Limitations and Conclusion

This meeting invited a diverse group of partners to advocate for the distinct priorities they viewed as essential within their own expertise, sectors and communities, while working together to establish a shared vision for which areas are most critical to pursue immediately to create the biggest impact on the health and safety of people living in Canada.

Commonly cited barriers to advancing research priorities included limited funding and capacity, hierarchies in sources of knowledge, a lack of attention to relationship building and reciprocal value in partnerships, and the persistence of silos across disciplines and sectors.

Proposed solutions to address these challenges included allocating cannabis tax revenue to support research — including community- and Indigenous-led participatory methodologies, leveraging existing data sources and networks, and facilitating greater data and information sharing among partners.

While the meeting convened a broad range of voices, not all perspectives were fully represented. As such, the research priorities identified here do not capture the full spectrum of cannabis research needs.

Given the meeting's focus on legalization and public health and safety, preclinical cannabis research and topics related to production, distribution and retail, were beyond the scope of discussion. Medical cannabis research priorities were also not thoroughly explored.

While individuals with lived and living experiences of cannabis use from various age groups were invited, barriers prevented the full representation of these voices.

Although there was notable Indigenous participation, distinct FNMI communities were not fully represented. More work is needed to better understand and reflect the diverse experiences and needs of people who use cannabis for various purposes and patterns, including those from FNMI communities and other marginalized groups.

This gathering represents just one initiative in what should be an ongoing effort to identify emerging priorities in cannabis research.

Sustained, targeted, equitable consultations will be critical to assessing research progress and adapting to emerging priorities.

As one of the first countries to legalize non-medical cannabis at the national level, Canada is uniquely positioned to lead in generating high-quality evidence and developing effective cannabis policies and regulations that prioritize public health and safety.

Reference

Health Canada (2024). Legislative review of the cannabis act: Final report of the expert panel. Ottawa, Ont.: Government of Canada.

https://www.canada.ca/en/healthcanada/services/publications/drugs-medication/legislative-review-cannabis-act-final-reportexpert-panel.html



Appendices

Appendix A: List of Participants

Name	Affiliation				
Hanan Abramovici	Health Canada				
Oyedeji Ayonrinde	Queen's University				
Daniel Bear	Humber College				
Adam Briand	Public Health Agency of Canada				
Jordyn Cates	University of British Columbia				
Claire Checkland	Canadian Coalition for Seniors' Mental Health				
Hance Clarke	University of Toronto				
Nina Cluny	Institute of Neurosciences, Mental Health and Addiction at Canadian Institutes of Health Research				
Patricia Conrod	Université de Montréal				
Jean Costello	Homewood Research Institute				
Rosamund Dunkley	Public Health Agency of Canada				
Yaron Finkelstein	University of Toronto				
Robert Gabrys	Canadian Centre on Substance Use and Addiction				
Lorraine Greaves	Centre of Excellence for Women's Health & University of British Columbia				
David Hammond	University of Waterloo				
François-Olivier Hébert	Centre hospitalier de l'Université de Montréal				
David Hodgins	University of Calgary				
Didier Jutras-Aswad	Centre hospitalier de l'Université de Montréal				
Lauren Kelly	University of Manitoba				

Pamela Lachance	Centre hospitalier de l'Université de Montréal				
Carolyn Lacka	Métis National Council				
Sophie-Anne Lamour	Health Canada				
Wisdom Keeper, Grandma Karen MacInnis	Elder				
James MacKillop	McMaster University				
Nazlee Maghsoudi	Centre on Drug Policy Evaluation				
Myles Maillet	B.C. Cannabis Secretariat				
Emma Moore	Public Safety Canada				
Daniel Myran	University of Ottawa				
Daniel O'Brien	University of Calgary				
Holly Ockenden	Canadian Institutes of Health Research				
Justine Renard	Canadian Centre on Substance Use and Addiction				
Stephanie Robertson	Canadian Institutes of Health Research				
Morris Rosenberg	Expert panel: Cannabis Act legislative review				
Michelle Rotermann	Statistics Canada				
Sergio Rueda	Centre for Addiction and Mental Health				
Daniel Sansfaçon	Public Safety Canada				
Peter Selby	Centre for Addiction and Mental Health				
Tim Sheffield	Let's Make Music Kingston				
Stephanie Thevarajah	Métis National Council				
Lise Thiffault	Retired				
Andrew Waye	Health Canada				
Shea Wood	Canadian Centre on Substance Use and Addiction				

Appendix B: National Research Priorities for Cannabis

Collaborations & Partnership Increased multi-sector collaboration participation of people with lived ar experience, breaking down sil	living Sta	Standardization andardize data collection and ement across studies and surveys	Advance work relate	uity d to equity-deserving ity in systems and icross topics	SGBA+ Apply SGBA+ frameworks and tailor implementation		Ways of Knowing Value and use different ways of knowing to achieve a holistic understanding			
	National Research Priorities and Considerations									
I Health Effects of Cannabis I	elated Health and Ifety Effects	Monitoring and Surveillance	Public Safety & Illegal Cannabis Market Inforcement Approaches	Cannabis Policy Evaluation	Prevention and Intervention		Equity	Knowledge Mobilization		
cardiovascular and pulmonary conditions, reproductive health, and second-hand exposure. • Medical and therapeutic uses of cannabis. • Co-use of cannabis with other substances such as alcohol and prescription drugs. • Clinical and	lishing a ardized THC unit. ving consumer edge of product cy and dosage valuating ive strategies. oping evidence-ITHC risk holds, similar to ol guidelines. Inting for bility in tolerance, ge and rbidities.	collection on legal and illegal cannabis markets and the dynamics between them. • Improving data quality,	Developing standardized national surveillance to assess the size, scope and characteristics of the illegal cannabis market. Conducting detailed analyses of organized crime operations and their links to serious criminal activity, with a focus on postlegalization trends.	Evaluating the regulatory and law enforcement effectiveness in achieving the public health and safety objectives of the Cannabis Act, incorporating divers perspectives. Leveraging Canada "natural experiment assess the public health and safety impacts of different regulatory approach across provinces ar territories.	health issues. • Evaluating the long-term effectiveness of prevention and intervention efforts. • Scaling up and sustaining youth-focused prevention programs, including school-based models.	equitable medical recreat value of the medical recreat value of the medical recreat value of the medical value of	gating social and nic equity in the bis industry. ing how bis tax revenue reinvested to communities cally impacted rely by	 Understanding how diverse audiences engage with cannabis information. Identifying effective, trusted sources and formats for public education. Evaluating how cannabis-related knowledge mobilization strategies influence individual, clinical and policy-level decisionmaking. 		

Overarching and Cross-Cutting Considerations

National Research Priorities and Considerations								
Health Effects of Cannabis	Dose-Related Health and Safety Effects	Monitoring and Surveillance	Public Safety & Illegal Cannabis Market Enforcement Approaches	Cannabis Policy Evaluation	Prevention and Intervention	Equity	Knowledge Mobilization	
Integration of cannabis within broader chronic disease, mental health, and pain research.		Supporting long-term investment in national surveillance infrastructure and a centralized knowledge hub and. Breaking down data silos across jurisdictions and sectors.	 Evaluating and strengthening law enforcement and regulatory strategies to disrupt and dismantle illegal cannabis operations across Canada. Prioritizing in-depth research on key public safety concerns raised in the legislative review. Continued monitoring and analysis of trends in cannabis-impaired driving to inform prevention and enforcement efforts. 		 Supporting youth-led research and codeveloping public health messaging with people with lived experience. Developing targeted public health strategies for priority groups, including Indigenous communities, older adults, those with mental health challenges and parents. Building a national registry of evidence-based programs and initiatives. Mobilizing multidisciplinary teams and networks to develop and implement targeted strategies for high-risk populations. 	 Developing equitable policing and justice approaches, including amnesty for past cannabis-related offences. Supporting Indigenous sovereignty and community-led research efforts. 		