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Parameters for a Standard THC Unit in Canada

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We recognize Indigenous Peoples as Traditional Knowledge keepers and acknowledge that our society benefits from the sharing of their knowledge.

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

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Executive Summary

This report presents the case for a standard THC unit for Canada, based on the primary psychoactive constituent in cannabis, delta-9-tetrahydrocannabinol (Δ-9-THC). In developing this unit, we considered the following parameters: the Canadian substance use landscape; alignment with the objectives of the *Cannabis Act;* diverse perspectives of people in Canada who use cannabis, including those with lived and living experience of cannabis use; and alignment with existing public education and lower-risk guidelines, experimental data and ecological data.

Taken together, we define a standard THC unit for Canada as **a set amount of the primary psychoactive constituent in cannabis (THC), measured in milligrams and applied across all cannabis products and methods of administration**. Based on these parameters, a standard THC unit in Canada is set at 2.5 mg of THC for all products and methods of administration.

Background

Cannabis has been consumed for millennia, but in recent decades there have been significant changes in the types of cannabis products used and their delta-9-tetrahydrocannabinol (Δ-9-THC) content. Products now include a wide range of processed forms, such as dried flower pre-rolls, infused pre-rolls, concentrated extracts, vapes, edibles and beverages, in addition to unprocessed whole cannabis flower (Hammond et al., 2022). This broader range of products is also associated with a wider range of methods of use, including inhalation (smoking or vaping) and oral ingestion (edibles and beverages). The increasing variety of cannabis products and methods of use, along with rising THC concentrations over time (Freeman et al., 2020), make it more difficult for consumers to understand how much cannabis they are using and how it may affect their health.

Possible solutions to these challenges can be drawn from alcohol regulation. In Canada and many other countries, the concept of a standard drink or standard unit of alcohol is central to guidance on alcohol and health risks. A Canadian standard drink is defined as 13.45 grams of pure alcohol for all alcohol products (Paradis et al., 2023).

A standard drink or unit can support public health in several ways. It provides a universal, standardized way to communicate alcohol content to consumers. It can therefore be used as a benchmark for health messaging, such as “Drink less alcohol to lower your health risks — your body and mind will thank you!” (Canadian Centre on Substance Use and Addiction, 2025), as well as guidance on specific levels of risk associated with different levels of consumption. For example, Canadian guidance indicates that limiting alcohol consumption to two standard drinks per week can be considered low risk and is likely to help people avoid alcohol-related consequences for themselves and others (Paradis et al., 2023).

In some countries, such as the United Kingdom and Australia, standard drinks or units are required on alcohol product labels. Experimental evidence shows that alcohol labels displaying standard drinks or units together with lower-risk guidelines can increase knowledge of those guidelines (Gold et al., 2021). A standard drink or unit can also support tools that help people track and reduce their consumption, such as calculators and apps (Canadian Institute for Substance Use Research, 2026; Oldham et al., 2024).

In addition to these “soft” policy levers focused on consumer understanding (such as education and labelling), a standard drink or unit can also support “hard” policy levers such as minimum unit pricing. In Scotland, this approach was associated with a 13.4% reduction in alcohol-attributable deaths (Wyper et al., 2023). Overall, regulatory approaches used for standard drinks or units can inform the development of a similar unit for cannabis.

Given the usefulness of a standard drink or unit for alcohol and other drugs, the U.S. National Institute on Drug Abuse Cannabis Policy Research Workgroup identified the development of a standardized measure for cannabis as its top research priority (National Institute on Drug Abuse, 2018). Freeman and Lorenzetti later proposed the concept of a standard THC unit (Freeman & Lorenzetti, 2019). Like a standard drink, this unit would

reflect the quantity of the primary psychoactive constituent in cannabis (THC), measured in milligrams (mg) and would apply across all product types and methods of administration.

They identified several parameters to inform the development of this unit. Experimental data suggested that doses between 2 and 8 mg of THC could produce intoxicating effects without severe adverse responses among infrequent consumers. Ecological data indicated that typical consumption levels are often higher than this range. From a public health perspective, setting a unit below typical levels of use, based on ecological data, may help reduce consumption. This approach was supported by experimental data from alcohol research (Kersbergen et al., 2018). Policy considerations also included maximum servings of THC in edible products, which were often set at 5 or 10 mg per serving in Canada and some U.S. states.

Based on these parameters, Freeman and Lorenzetti proposed a standard THC unit of 5 mg for all cannabis products and methods of administration (Freeman & Lorenzetti, 2019). Following this, the U.S. National Institute on Drug Abuse issued a call for evidence from researchers, stakeholders and the public. While several options were considered, there was strongest support for a 5 mg unit. This standard THC unit is now a mandatory reporting requirement for applicable human research funded by the U.S. National Institutes of Health (National Institute on Drug Abuse, 2021).

The Canadian Centre on Substance Use and Addiction (CCSA) has taken steps to advance the development of a standard THC unit in Canada. In 2022, CCSA convened a virtual meeting with researchers and partners to explore the concept and its potential applications (Canadian Centre on Substance Use and Addiction, 2023). This discussion was followed by an in-person meeting to examine considerations for implementation in research, surveillance and public education (Wood & Gabrys, 2024).

In response to recommendations co-developed during that meeting, CCSA established a Standard THC Unit Working Group to provide expertise and guidance on the implementation of a standard THC unit in Canada. The group includes representatives from research, government, clinical health, public health, substance use health organizations and people with lived and living experience of cannabis use. A subgroup focused on identifying parameters for a standard THC unit in the Canadian context. This group reviewed key evidence and reached consensus on a definition for Canada. This report reflects that work and incorporates input from diverse perspectives, including people with lived and living experience of cannabis use and equity-deserving populations.

The Canadian Context

The 2024 legislative review of the *Cannabis Act* recommended that Health Canada develop a “standard dose” or “unit dose” for cannabis, its development should be prioritized, and that it should be accompanied by regulatory amendments to require it as an element on cannabis product labels (Rosenberg et al., 2024).

In considering this recommendation, the same parameters described in the previous section are relevant, along with additional considerations specific to the Canadian context (Wood et al., 2024). Of note, the terminology used in the 2024 legislative review ("standard dose" or "unit dose") may differ from that used in this report. Here, a standard THC unit is intended to be a unit of measurement rather than a dose.

As noted earlier, cannabis legalization in Canada has increased access to a wide range of products that vary considerably in how they are used and in their cannabinoid composition. An advantage of Canada's regulated cannabis market is the requirement for accurate product information on packaging and labels (Health Canada, 2025). This requirement provides consumers with reliable information about product content, which can support informed decisions about product selection and use. It also creates opportunities to strengthen public education and to develop and refine lower-risk cannabis use guidelines that consider both quantity and potency.

However, consumer knowledge of cannabis remains limited. Many people report difficulty interpreting product labels and understanding THC content (Hammond & Goodman, 2022; Renard et al., 2025). This challenge is compounded by inconsistencies in how information is presented across product types and retail settings (e.g., dried cannabis flower labelled as a percentage of THC and edibles labelled in milligrams of THC).

The development and implementation of a standard THC unit on cannabis product labels could help address these challenges. It could support clearer communication, promote informed and lower-risk use, and improve research on cannabis use and health outcomes (Freeman & Lorenzetti, 2019, 2021; Wood & Gabrys, 2024; Wood et al., 2024).

While support for implementing a standard THC unit in Canada is growing (Rosenberg et al., 2024), determining its value requires consideration of additional parameters specific to the Canadian context, beyond those described earlier. This section highlights three key parameters relevant to public health: alignment with the objectives of the *Cannabis Act,* consideration of Canada's diverse cannabis consumers, and consistency with existing public education and lower-risk guidance.

It is also important to recognize the complex and evolving role of First Nations, Métis and Inuit communities within the cannabis landscape. This recognition includes acknowledging Indigenous sovereignty and the inherent right to self-determination. Many Indigenous nations have established their own cannabis rules, regulatory systems and retail markets, often operating outside the federal framework set by the *Cannabis Act*. This report focuses on the federally regulated cannabis market and the factors that may influence the parameters for a standard THC unit in Canada. Extending a standard THC unit beyond this market requires meaningful engagement and collaboration with distinct Indigenous leadership to reflect community priorities, governance structures and economic interests.

This consideration is especially important given differences in oversight of production, labelling, distribution and sales across jurisdictions, which may affect whether and how a

standard THC unit is adopted in practice. While the parameters outlined in this report may be relevant to other countries with legal frameworks, they also point to the need to support Indigenous-led research, co-develop public education approaches, and align implementation with broader goals of self-determination, health equity and reconciliation.

Alignment with the Objectives of the Cannabis Act

The *Cannabis Act* states that its purpose is to

a) Protect the health of young persons by restricting their access to cannabis;

b) Protect young persons and others from inducements to use cannabis;

c) Provide for the licit production of cannabis to reduce illicit activities in relation to cannabis;

d) Deter illicit activities in relation to cannabis, through appropriate sanctions and enforcement measures;

e) Reduce the burden on the criminal justice system in relation to cannabis;

f) Provide access to a quality-controlled supply of cannabis; and

g) Enhance public awareness of the health risks associated with cannabis use.

Canada has largely adopted a public health approach to cannabis legalization (Health Canada, 2018). This approach aims to minimize harms while promoting health across a continuum of use through a range of interventions, policies and programs (Canadian Public Health Association, 2017; Health Canada, 2016). Accordingly, the value of a standard THC unit should be grounded in and aligned with the public health objectives of the *Cannabis Act*.

There is growing evidence that harms associated with cannabis use (e.g., increased risk of cannabis use disorder and psychotic disorders) are linked to product potency (i.e., THC content), frequency of use and total THC consumption (Petrilli et al., 2022; Robinson et al., 2022; Lees et al., 2025). At the same time, consumers in Canada have increasing access to higher-potency products with greater total THC content (Giguère et al., 2025; Tassone et al., 2023). Efforts to prevent and reduce harms related to cannabis use are therefore a central focus of current public health work in Canada.

A key starting point for reducing harms related to cannabis use is improving consumers' understanding of the products they consume. While Canada's requirement for accurate product information on packages and labels is an advantage, current labelling practices are complex and inconsistent. This complexity creates significant barriers to effective public education.

As a result, guidance for various audiences, including people who use cannabis, often remains general (e.g., recommending less frequent use or choosing lower-potency products), without specifying what constitutes "lower" or "higher" potency in practical terms linked to

specific amounts of THC (Freeman et al., 2025). Evidence on health risks associated with specific levels of THC consumption also remains limited. This gap limits the development of more precise lower-risk use guidelines that could help people track their use and reduce potential harms.

As described earlier, a standard THC unit could help address these challenges by providing a consistent reference point for THC consumption across products and methods of use, similar to standard drinks in alcohol messaging. It could support consumers in more reliably measuring and monitoring their THC intake and may encourage behaviours associated with lower risk (i.e., consuming fewer THC units).

A standard THC unit could also strengthen public education by anchoring messaging in a standardized, quantifiable measure of consumption. This approach would support the development of clearer, evidence-informed lower-risk use guidelines, similar to *Canada's Guidance on Alcohol and Health* (Paradis et al., 2023). Integrating standard THC units into product labelling and messaging would align with a key objective of the *Cannabis Act*: to "enhance public awareness of the health risks associated with cannabis use" (Health Canada, 2018).

Considering the Diversity of Cannabis Consumers

Canada has a diverse population of cannabis consumers who vary in experience, frequency and quantity of use, reasons for use and product preferences. These differences can shape their experiences with cannabis, including potential benefits and harms. Decisions about implementing a standard THC unit in Canada, including the amount of THC it represents, should reflect this diversity. While a standard THC unit may provide value across consumer groups (e.g., by offering a common language across products and methods of use), its implementation may benefit some consumer groups more than others.

A large proportion of cannabis consumers in Canada (44%) report using cannabis infrequently (i.e., once per month or less) (Health Canada, 2024). Given their limited experience, they may be less familiar with the effects of cannabis, including products containing THC, and may require greater guidance when selecting and using products. As a result, they may benefit from clear, simple and consistent information about product characteristics, including the use of a standard THC unit on product labels.

Infrequent consumers also tend to have lower tolerance to THC and may be more sensitive to its intoxicating and impairing effects, even at relatively low amounts (e.g., a single standard THC unit). Given their limited experience and lower tolerance, they may be at greater risk of overconsumption and acute adverse events than more experienced consumers. From this perspective, selecting a lower value for a standard THC unit (i.e., toward the lower end of the 2–8 mg of THC range described earlier) may help reduce the risk of acute harm, particularly if a single THC unit is misinterpreted as a recommended starting amount.

The risk of experiencing longer-term harms related to cannabis use increases with frequency of use, quantity and potency of products, and overall THC exposure over time (Petrilli et al., 2022; Robinson et al., 2022; Lees Thorne et al., 2026). For this reason, decisions about implementing a standard THC unit (e.g., in research and clinical settings, on product labelling, and in public education) should also consider people who use cannabis at higher levels. A low standard THC unit may have less immediate relevance for people who use cannabis frequently or who use high-potency products, particularly when making decisions about their product selection and use. These consumers are often more familiar with THC content and may rely on experience to manage effects. For example, guidance recommending a low starting amount (e.g., 2.5 mg of THC) may have limited practical relevance for people who consume much higher amounts (e.g., more than 100 mg of THC per day), who may instead rely on other product characteristics to guide their use.

However, this limitation does not reduce the broader value of a standard THC unit. Even for frequent consumers, a standard unit can provide a consistent reference point for understanding risk across products and levels of THC exposure. Emerging evidence suggests that cannabis consumers support including a standard THC unit on product labels, alongside measures such as THC concentration (%) and total THC content (Dawson et al., 2026). Establishing a common unit, even if relatively low for some consumers, can help standardize communication and strengthen public health messaging over time by creating a shared “cannabis language.” It is important that this unit be presented as a way to measure THC exposure, rather than as a recommended amount of use (Lorenzetti et al., 2025).

Beyond patterns of use, some populations may be more sensitive to the effects of THC than others. For example, older adults may be more vulnerable due to age-related changes in drug metabolism, existing health conditions, use of medications, and potential interactions with other health products (Health Canada, 2022). Older adults also represent a growing group of cannabis consumers in Canada (Wadsworth et al., 2025). Adolescents are similarly more vulnerable to the effects of THC, including a higher risk of cannabis use disorder. Consuming fewer standard THC units would reduce their health risks (Lees Thorne et al., 2026).

Many factors may influence a person’s sensitivity to THC, including sex, personal and family history of substance use and mental health disorders, co-occurring conditions, and the use of prescription medication and other substances. At the same time, limited evidence on how THC is processed and affects the body across different products and populations makes it difficult to define a standard THC unit that is universally relevant and effective in minimizing harms.

However, because a standard THC unit is intended as a unit of measurement rather than a recommended amount (Lorenzetti et al., 2025), this evidence may not be required for its primary purpose. In fact, adopting a standard THC unit could support research to address these gaps. In this context, selecting a lower standard THC unit may be preferable, as it could help reduce acute harms, particularly among groups who may be more vulnerable,

including inexperienced consumers, adolescents, older adults, people who are pregnant, and people experiencing mental health problems.

Alignment with Existing Public Education and Lower-Risk Guidance

Since cannabis legalization in Canada, government and non-government organizations have developed public education resources to inform people about the potential benefits and risks of cannabis use, as well as guidance to support lower-risk use. These efforts support a central objective of the *Cannabis Act*: enhancing public awareness of the health risks associated with cannabis use. In many cases, these initiatives have been coordinated to promote consistent messaging. They cover a wide range of topics and often emphasize using lower-potency products, lower amounts of THC and less frequent use, commonly summarized as "start low, go slow." Some, but not all, materials also reference specific thresholds based on available evidence from both medical and non-medical cannabis use.

The selection of a standard THC unit should align with existing information and guidance available in Canada. Notably, 2.5 mg of THC is already reflected in Health Canada guidance for edible products, which states: "Start low, go slow … Look for products that contain 2.5 mg of THC or less" (Health Canada, 2019; Health Canada, 2026). Health Canada also recommends that adults aged 55 and over choose products such as capsules, lozenges and edibles that contain 2.5 mg of THC or less per unit (Health Canada, 2022). A 2.5 mg standard THC unit also falls within the dose range (2–8 mg of THC) previously described as having intoxicating effects without producing severe adverse responses among infrequent consumers (Freeman & Lorenzetti, 2019).

People's reasons for cannabis use vary and include both medical and non-medical purposes. The distinction between these uses is increasingly blurred, as many people use cannabis for both purposes (Health Canada, 2024; Turna et al., 2020). Some people also use cannabis for medical purposes without medical authorization (Health Canada, 2024) and may obtain products from recreational retail outlets, unregulated sellers, or family and friends (Balneaves et al., 2024).

Given that both medical and non-medical cannabis use are legal and common in Canada, it is important to consider how implementing a standard THC unit in the legal recreational market may affect the medical cannabis sector. This includes its potential influence on interactions between consumers and healthcare providers, as well as its role in supporting consistent guidance across different reasons for use.

Canada's Lower-Risk Cannabis Use Guidelines (Fischer et al., 2022; Fischer et al., 2017) do not currently include specific THC risk thresholds or quantity-based guidance comparable to *Canada's Guidance on Alcohol and Health* (Paradis et al., 2023). However, proof-of-concept evidence suggests that a standard THC unit can help distinguish levels of risk (e.g., for cannabis use disorder) and can be used to develop weekly thresholds for lower-risk use (Lees Thorne et al., 2026).

The implementation of a standard THC unit should therefore consider how it can complement and inform updates to *Canada's Lower-Risk Cannabis Use Guidelines* (Fischer et al., 2022; Fischer et al., 2017). For example, a 2.5 mg standard THC unit could reinforce lower-risk messaging (e.g., avoiding high-THC products) while providing a consistent, quantitative reference point to support these recommendations, which have already been promoted nationally (Public Health Agency of Canada, 2019).

Lived and Living Experience Perspective: Shari Margolese

Community Representative, Standard THC Unit Parameters Group, CCSA

I started using cannabis as medicine shortly after my diagnosis with HIV in 1993. At that time, there were no effective treatments available, and many of us were dealing with significant pain, wasting syndrome and anxiety. Like others, I was looking for anything that might offer some relief. Cannabis did. It helped me manage symptoms when there were few other options.

Access, however, was difficult. It wasn't legal, it wasn't regulated, and there was no reliable information about strength or dosage. While there was a pathway through a Section 56 exemption under the *Controlled Drugs and Substances Act*, it was not easy to navigate. In practice, it could be very difficult to find a physician willing to support or authorize access, which meant many people were left without a consistent or safe supply. Even when you could access cannabis, there was no shared understanding of potency or dose. Much of what we learned came through trial and error and from each other. Looking back, I realize how much uncertainty we were navigating — not just about safety, but about something as basic as how much we were using.

When I first heard about the idea of a standard THC unit, I thought, finally, this is something that could make sense for people who use cannabis. As someone who continues to use cannabis medically, I still see how confusing the marketplace can be. I have stood in situations trying to compare one product to another, for example, an oil versus an edible, and realizing there is no clear way to translate between them. Even with experience, I sometimes have to stop and think: how much is this actually equivalent to, and how will it affect me? That uncertainty should not be the norm.

A standard unit (2.5 mg of THC) offers a common language. It gives people a way to understand and track use in practical terms. It also supports harm reduction by helping people make more informed decisions, particularly when trying a new product or entering the legal market for the first time. Someone should be able to look at a label and have a reasonable sense of what they are taking and what to expect.

For me, this is not about setting limits or telling people how much they should use. It is about clarity. Like a standard drink for alcohol, a standard THC unit is a tool, not a rule. People have different tolerances, different reasons for use and different responses. What matters is that the information is clear, accessible and meaningful. Clear information is something I value deeply. I should not need to do mental math or have specialized knowledge to understand what is in a product. If a package clearly indicated how many standard THC units it contained, it would immediately make that information more usable. It

would allow me to compare products more confidently and make decisions that feel appropriate for my needs.

Stigma remains part of this conversation. Even now, people who use cannabis, especially for medical purposes, can face judgment. I have seen how that affects whether people feel comfortable asking questions, seeking guidance or being open about their use. Including lived and living experience in this work helps ensure that policies and tools reflect the realities of the people they are meant to serve.

From my perspective, a standard THC unit could also help bridge the gap between medical and non-medical systems. It would make it easier for patients and healthcare providers to have meaningful conversations about use, dose and effects. It could also support research by creating a more consistent way to measure and compare cannabis use across studies and populations.

Equity and accessibility are essential. Information must be understandable, culturally relevant and available to a wide range of communities. This includes people with different levels of health literacy, people from diverse cultural backgrounds and people who may already face barriers in accessing care or information. Communities should be involved in shaping how this information is developed and shared.

The standard THC unit is more than a technical measure. To me, it represents a move toward greater transparency, understanding and respect. It reflects a shift toward giving people the tools they need to make informed decisions, while recognizing that lived and living experience is a critical part of that process.

Lived and Living Experience Perspective: Chidera Onyegbule

Community Representative, Standard THC Unit Parameters Group, CCSA

Youth Perspectives on the Standard THC Unit

When conversations about cannabis focus only on legal adult use, youth are often positioned as outside the scope of harm reduction. Yet youth remain a highly relevant population when it comes to cannabis-related harms — not because all youth consume, but because some do, and when they do, they still need access to clear, practical and autonomy-centred information.

My first experience with cannabis happened as a teenager, socially, as it does for many young people. At the time, "starting low and going slow" was advice I heard often, but rarely understood in practice. What counted as "low" depended entirely on who I was with, and that was typically someone with far more experience and a much higher tolerance than my own. In those moments, guidance came from peers, not from information I could independently assess or trust.

Later, when I tried cannabis on my own for the first time, I used a grey-market edible. The product was a single, small gummy with limited and unclear information on the packaging. I told myself, "It's just one piece." What I did not know — and had no practical way of knowing at the time — was that I had consumed close to 30 standard THC units (1 unit = 2.5 mg) while largely cannabis naïve.

That experience was not the result of recklessness, but of missing information at the exact moment it mattered most. Many youth want to know what they are consuming and want to make informed decisions when they choose to use cannabis. For me, the challenge was never a lack of interest in safety, but a lack of usable guidance when consumption was actually happening.

Harm reduction messages like "start low and go slow" are well-intentioned, but without a clear reference point, they require youth to either guess or defer to someone else's judgment. Neither option supports autonomy. There are growing efforts to provide cannabis education through websites, public health campaigns and social media, and these resources are valuable. However, youth may not know to seek them out ahead of time, may not remember to return to them while consuming, or may struggle to translate abstract guidance into real-world decisions.

In my experience, packaging is often the main source of information present at the point of use. For me, the most meaningful harm reduction has always come from being able to make my own choice based on the information in front of me. Yet even with a background in neuroscience, pharmacology and undergraduate cannabis research, I have found THC

percentages and milligram values on packaging confusing and difficult to apply. If this information is challenging for someone with specialized training, it is unreasonable to expect youth consumers to interpret it accurately either.

The standard THC unit removes much of this guesswork. By providing a consistent, easy-to-understand measure across products, it offers youth consumers (and any consumer) guidance that is present at the exact moment and place where decisions are made. It does not tell people how much to use, but it gives them the tools to understand what they are choosing.

True harm reduction meets people where they are, even when legal frameworks do not fully reflect lived realities. Including youth perspectives like mine in the implementation of the standard THC unit acknowledges that safety, clarity and informed choice should not depend on experience, age or access to specialized knowledge. It ensures that when young people encounter cannabis, they are not left guessing and that the information they need is built directly into the experience.

Racialized Perspectives on the Standard THC Unit

For racialized communities, conversations about cannabis are shaped not only by health and legality, but by history. Across North America, cannabis has long been entangled with the criminalization and surveillance of Black and brown communities. Decades of disproportionate policing, incarceration and stigma associated with cannabis use have left deep and lasting wounds (Owusu-Bempah & Luscombe, 2021).

This continues to influence how cannabis is discussed (or avoided) within families, communities and institutions. From this perspective, public health messaging and medical guidance around cannabis may not be received as neutral or trustworthy by everyone. For some racialized individuals, skepticism toward institutions is not a matter of disinterest, but a rational response to lived and inherited experiences of harm.

This makes access to clear, self-directed information especially important. Autonomy in harm reduction is critical here. While some people may simply miss public education resources, others may consciously avoid them due to mistrust, fear of judgment or concern about surveillance. The standard THC unit offers a way to access reliable, evidence-based information without requiring interaction with institutions or authority figures. It supports safer consumption while preserving privacy and self-determination.

Neurodivergent Perspectives on the Standard THC Unit

Neurodivergent consumers are another important and often overlooked population in conversations about cannabis use and harm reduction. In my experience, and in the experience of many other neurodivergent people I know, cannabis can be supportive in easing difficult internal states including anxiety, sensory overload, sleep disruption and chronic discomfort.

Some neurodivergent individuals access cannabis through medical systems, while others use it recreationally or informally to manage everyday challenges that may still significantly affect quality of life (Walsh et al., 2017). Canadian clinical practice guidelines reinforce that while cannabinoid-based medicines may provide benefit for symptoms like sleep disturbance and anxiety, individualized dosing and decision-making are paramount (Bell et al., 2024).

What is often missing, however, is accessible guidance on how to translate such cautions into practical decisions when consuming cannabis. For neurodivergent consumers like me, information is more than a preference; it is an accessibility need. Differences in information processing, working memory and sensory sensitivity can make it difficult to interpret the multiple milligram values, percentages and product-specific formats currently used on cannabis packaging.

When information is overly complex or inconsistent, it can increase anxiety rather than reduce harm, particularly for individuals who already experience heightened sensitivity to uncertainty or bodily sensations. The standard THC unit directly addresses this gap for me in a way that it might also for other neurodivergent individuals. By simplifying complex and sometimes convoluted potency information into a single, standardized measure that applies across products, it removes unnecessary guesswork.

This consistency makes it easier to anticipate effects, monitor intake over time and make adjustments in a way that feels predictable and controlled. For me, predictability is central to feeling safe when using cannabis. Knowing what one unit represents, regardless of whether the product is an edible, oil or dried flower, supports more intentional use. Rather than reacting to unexpected intensity or sensory overwhelm, I can make decisions that align with my brain, my tolerance and my needs in that moment.

From an accessibility perspective, the standard THC unit functions as a form of accommodation. It recognizes that consumers do not all process information in the same way and that harm reduction must account for cognitive and sensory diversity. The clear, standardized information of the standard THC unit supports neurodivergent autonomy and reduces reliance on external interpretation, trial and error or institutional mediation.

Intersectional Perspectives on the Standard THC Unit: Racialized, Neurodivergent, Youth

Youth may carry layered fears related to age-based legality and race-based discrimination that make it difficult to ask questions or seek guidance. These fears can be further intensified for neurodivergent youth who experience heightened anxiety, sensory sensitivity or difficulty processing ambiguous information. Conversations with teachers, health professionals or other authority figures may feel risky. Even within families, barriers can exist. Many parents in racialized communities lived through periods when cannabis possession carried severe legal consequences, and their understanding of cannabis is often shaped by experiences of criminalization. In these contexts, abstinence may be framed as the only way to ensure safety, leaving youth with few trusted spaces to ask questions or

learn how to reduce harm if they do choose to use cannabis. This can create the impression that there is nowhere safe to turn for practical, nonjudgmental information — particularly for individuals who rely on clarity, predictability and accessible information to feel safe making decisions.

The standard THC unit helps address such gaps. By embedding clear, standardized information directly on packaging, it allows individuals to make informed decisions independently, without having to disclose use, justify curiosity, interpret complex or inconsistent data, or navigate stigma. It shifts harm reduction from something that must be sought out to something that is built in.

As part of racialized and neurodivergent communities, I believe the standard THC unit represents more than a technical measure. It is a tool or accommodation that acknowledges historical context, respects autonomy and supports informed choice in a way that does not rely on trust in systems that have not always been trustworthy or accessible. In doing so, it creates space for safer engagement with cannabis that honours individual agency, cognitive and sensory diversity, and collective histories. It's an important step for racialized, neurodivergent youth like me, and for many other equity-deserving people across Canada.

New Experimental Data

Previous work identified a dose range of 2–8 mg of THC as suitable for a standard THC unit, as doses within this range can have intoxicating effects without producing severe adverse responses among infrequent consumers (Freeman & Lorenzetti, 2019). Quantitative evidence on the subjective effects of THC consumption can provide clearer information to infrequent cannabis consumers about what to expect at different levels of exposure.

Recently, Goodwin et al. (2026) conducted a systematic review, meta-analysis and meta-regression examining experimental evidence on the subjective effects of THC. The study provides a quantitative benchmark for subjective effects at different THC doses. For example, following 2.5 mg of inhaled THC, meta-regression analyses found percentage-point increases in peak ratings of feeling high (31.6), anxiety (14.5), tiredness (25.4) and calmness (6.9), and decreases in alertness (40.4) and contentedness (73.7).

These findings provide quantitative evidence of the expected subjective effects of cannabis at the proposed 2.5 mg standard THC unit for Canada (Wood & Gabrys, 2024). This experimental data could complement existing lower-risk cannabis use guidelines by supporting clearer communication about expected effects and promoting lower-risk or more mindful consumption.

Challenges and Limitations

A standard drink or alcohol unit has been implemented in Canada and internationally. This metric has demonstrated its value in research, such as measuring alcohol intake and identifying health and safety risks associated with different levels of use. It has also supported communication of risk across populations through public education, the development of lower-risk guidelines, and pricing and taxation strategies to reduce harm. Alcohol research and knowledge mobilization strategies provide a strong precedent for implementing a standard THC unit in Canada. However, cannabis has distinct features that present additional challenges.

Parameter: A standard unit for cannabis should reflect the quantity of the primary psychoactive constituent (i.e., milligrams of THC).

One challenge is that the cannabis plant contains over 100 different phytocannabinoids, which may contribute to different effects. Despite strong interest in the role of other cannabinoids, such as cannabidiol, experimental evidence suggests that cannabidiol does not influence the effects of THC across a range of ratios (Englund et al., 2023). While these other phytocannabinoids may have effects, their magnitude and public health significance may be limited compared with THC. In an increasingly diverse and complex product market, a standard THC unit on product labels could help consumers better understand THC content as the primary cannabinoid and support more informed decisions that promote health.

The increasing availability of semi-synthetic cannabinoids presents additional challenges. These substances may produce psychoactive effects that are more similar to THC than those of other phytocannabinoids. A key concern is limited understanding of what these products contain and how they differ from more typical THC-containing cannabis products.

A universal standard THC unit labelling system could help address this issue. It could help people identify which products contain THC as the primary psychoactive constituent, compared with those that contain higher levels of other cannabinoids, including semi-synthetic cannabinoids. This approach would support more informed decisions about use.

Parameter: A standard THC unit should be applicable across all product types and methods of administration.

While the utility of a standard THC unit requires its application across product types and methods of administration, this requirement also presents challenges and requires careful consideration.

Different methods of cannabis use are associated with distinct pharmacokinetic and pharmacodynamic effects, including differences between inhaled and oral administration (Grotenhermen, 2003). A potential challenge is that consumers may assume a standard

THC unit will produce similar effects across different methods of use. However, it is important to emphasize that a standard THC unit is a unit of measurement, and that its effects depend on several factors, including the method of administration and personal characteristics such as age, sex, body mass index and tolerance to THC. One strength of a standard THC unit is that it provides a standardized metric that can support the investigation of these differences, including between inhaled and oral administration (Volkow, & Weiss, 2020). It can also support communication of these differences, helping people better understand the time course and effects of THC across methods of use.

The diversity of products available in the legal cannabis market introduces additional complexities. To assess the feasibility of applying a standard THC unit to product labelling, we used ecological data based on wholesale data from the Liquor and Cannabis Regulation Branch in British Columbia. This branch regulates and licenses cannabis products in the province. Using this data, we assessed the number of standard THC units across common product categories and packaging formats.

A 2.5 mg THC unit is low relative to many products on the market. The number of 2.5 mg THC units per product varied considerably across products and packaging formats. For example, 3.5 g of dried flower contained a mean of 370 units per package, while cannabis edibles (excluding multipacks) and beverages contained fewer units, just under four per package, consistent with the current regulatory limit of 10 mg of THC per immediate container (Health Canada, 2025). While edible cannabis products are limited to 10 mg of THC per immediate container, outermost packages (e.g., multipacks) may contain more than 10 mg of THC in total, provided each immediate container complies with this limit (Health Canada, 2025).

Integrating standard THC units into product labelling may be complex, but it could also support consumer decisions by facilitating comparisons across product formats and packaging with different levels of THC content. It could complement existing labelling information, such as THC concentration (%) and total THC (mg or mg/g) per serving and per package.

A standard THC unit could also support monitoring of sales based on THC content, either as an alternative to, or in combination with, dried cannabis equivalents. This approach would allow for assessment of demand for THC, including high-potency products, relative to cannabis products more broadly. While the number of units increases with package size, a reference point (e.g., units per gram) on product labels could help communicate the risks associated with higher-potency products.

Using a standard THC unit to compare product types indicated significant variation in price per unit. This finding suggests that a standard THC unit could enable comparisons across

products. These comparisons could inform regulatory strategies to reduce harm, including unit-based pricing or taxation, which have been effective in reducing harms related to alcohol use (Wyper et al., 2023).

Conclusion

While jurisdictions may draw on other considerations or weigh parameters differently, this report outlines key parameters to consider when identifying the amount of THC in a standard THC unit in the Canadian context. A standard THC unit is a unit of measurement, similar to a standard drink for alcohol.

Establishing a 2.5 mg THC unit aligns with the objectives of the *Cannabis Act* and reflects the diversity of people who use cannabis in Canada. It also has the potential to better operationalize existing Health Canada guidance to "start low and go slow" by supporting the identification of products containing 2.5 mg of THC or less for edibles and extending a standardized unit across all products.

A standard THC unit could support a consistent labelling approach for THC content across products and improve consumer understanding of THC levels and their potential health effects. It aligns with the objectives of the *Cannabis Act* by promoting clear communication and coherence with existing regulatory approaches and messaging to reduce harm. This approach may also support future public health strategies, such as unit-based risk thresholds and unit-based pricing or taxation.

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