

TOWARD THE LEGALIZATION, REGULATION AND RESTRICTION OF ACCESS TO MARIJUANA

Response of Montréal's Director of public health to the
Government of Canada's public consultation

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A MESSAGE FROM THE DIRECTOR


As regional director of public health at CIUSSS du Centre-Sud-de-l'Île-de-Montréal, I am concerned about the effects that legalizing marijuana may have on the health of Montrealers. Our team of professionals and doctors have been working with our partners for many years to promote healthy and safe lifestyle habits and good mental health, and prevent addiction. We are involved in the implementation of preventive services for youth and adults with high-risk substance use. We are actively engaged in tobacco control, and have participated in parliamentary committees during the recent review of Québec's *Tobacco Act*.

This brief responds to the questions put forward for the "Toward the legalization, regulation and restriction of access to marijuana" consultation process. It considers the main issues from a public health standpoint, taking into account the distinctive characteristics of Québec's metropolis. In my role as director of public health, it is my responsibility to identify situations where intersectoral actions or public health notices are needed to protect or improve population health. The information and data cited in this document reflect the current state of knowledge and consider the grey areas research has yet to elucidate. Since this field is rapidly evolving, the positions we are defending are likely to change as knowledge is gained.

In accordance with Québec's public health plan and in collaboration with public health, the Ministère de la Santé et des Services sociaux will develop, by 2021, a provincial strategy on psychoactive substances, including cannabis. We will work with our partners to implement initiatives designed to prevent or reduce cannabis use and associated harms. With this document, we can begin to think about this issue and actively participate in the ongoing debate. The legalization of cannabis will provide valuable support to public health actions, insofar as a comprehensive regulatory framework is in place before legislation is passed.

Various tobacco control measures have reduced tobacco use in the province and in Montréal. However, the decline is not as marked among socioeconomically disadvantaged groups, which only perpetuates significant social inequalities in health. The marijuana bill should contain protection measures particularly for populations at higher risk and aim at reducing social inequalities in health.

Regional director of public health,



Richard Massé, M.D.

SUMMARY

According to the federal government, the new cannabis legalization regime must achieve the following objectives: protect public health, that is, establish conditions conducive to maintaining and improving the health and well-being of the population at large; protect children and youth by keeping cannabis out of their hands; decriminalize cannabis possession; and eliminate the cannabis black market.

This brief responds to the questions put forward for the “Toward the legalization, regulation and restriction of access to marijuana” consultation process. It considers the main issues from a public health standpoint, taking into account Montréal's distinctive characteristics. Our participation in the federal consultation process led by the Task Force on Marijuana Legalization and Regulation is based on this approach.

We have examined various aspects of the issue, identified relevant studies, and proposed 52 recommendations in response to the questions around legalization. Our recommendations focus on five points:

Minimizing harms of marijuana use by proposing measures concerning advertising, taxation, limitations on quantities permitted and concentrations of THC (tetrahydrocannabinol), restrictions on edible products, minimal age for purchase, and tools to monitor and measure the effects of the legislation.

Establishing a safe and responsible production system by introducing regulations to govern home cultivation and licensed commercial production in a strictly-regulated system. Several issues are raised, such as product quality and safety, child-proof packaging and restrictions on products allowed (herbal material and oil).

Designing an appropriate distribution system by limiting sales outlets and spreading them out over a territory, taking into consideration populations at risk and prohibiting vertical integration (production, distribution and sales by one company). We recommend that an agency under provincial jurisdiction be created; its role would be to oversee distribution and sales licenses.

Enforcing public safety and protection by setting THC blood level thresholds in workplaces and for tasks requiring sustained vigilance, and for operating motor vehicles while under the influence of cannabis. We are calling for more research on the many questions that have yet to be answered (blood THC levels, links with psychoses, effects on the brain if used early in life, etc.).

Facilitating access to marijuana for medical purposes by ensuring that taxation does not create an obstacle and implementing measures to deter recreational users from purchasing medical cannabis.

SUMMARY OF RECOMMENDATIONS

Although there are many benefits to legalizing cannabis, there is also a risk that many more individuals might use the drug and be affected by its harmful effects. The apprehended health impacts of cannabis are numerous and cause for concern:

- Higher risks of poisoning and accidents.
- For youth who start using at an early age, higher risk of developing dependence, jeopardizing development and educational success, and provoking or aggravating mental health disorders.
- Cannabis use during pregnancy, increased risks for the foetus and eventually for the child's cognitive functions, academic achievement and behaviour (attention disorder, hyperactivity and impulsivity), as well as a higher risk of tobacco use, substance misuse and delinquency at adolescence.
- Impaired cognitive and motor abilities necessary to drive a motor vehicle or work in a job requiring sustained vigilance.

Here are our recommendations:

A – Minimizing harmful use

Restrictions on advertising and communications

1. Strictly limit advertising and marketing.
2. Limit advertising to information about the availability of legal cannabis and access to resources to get help.
3. Prohibit the promotion of cannabis products and brands.
4. Adopt all sections in the *Tobacco Act* on advertising that are applicable to cannabis.
5. Require plain packaging with warnings about the health harms of cannabis and the risks linked to heavy use, as well as information about access to treatment for problematic substance use.

Taxation and pricing

6. Keep taxes on cannabis low for the first three years after legalization to eliminate the black market, then increase taxes regularly to curb consumption.
7. Earmark revenue generated through cannabis taxation towards costs related to managing and enforcing the law, population surveillance of the health effects of cannabis use, substance abuse treatment services, prevention programs for youth, and information campaigns on the health harms of the drug.
8. Adjust taxes according to tetrahydrocannabinol (THC) concentrations.

9. Determine clear taxation powers and responsibilities for the federal and provincial governments. The federal government should regulate product quality and safety; provincial laws should focus on sales and distribution.

Limit THC levels in marijuana

10. Give cannabis producers clear directives to ensure they provide products with various levels of THC.
11. Make different levels of THC and CBD concentrations available on the market.

Restrictions on cannabis products

12. Prohibit commercial edible cannabis products until more data are available on the associated risks.
13. Regulate electronic cannabis vaporizers, which present fewer risks than smoked cannabis.
14. Sell cannabis products in child-resistant packaging that indicate the THC and CBD contents in each unit.
15. Impose penalties for mislabelling.
16. Limit the number of herbal and oil-based products on the market.

Limitations on quantities for personal use

17. Determine quantities authorized, with the help of expert advice and in consultation with various partners.
18. Adjust quantities based on THC and CBD concentrations in the products.
19. Set limits on THC and CBD levels in liquid cannabis products used in them once vaporizers and inhalers have been regulated.

Efficacy of measures in the cannabis legalization regime

20. Implement stringent rules and tools to evaluate the effects of various cannabis consumption control measures.
21. Collect survey data before the cannabis bill comes into force to ensure basic up-to-date and complete data are available; without this, it will be difficult to assess the effects of the legislation.
22. Conduct a monitoring survey on cannabis use and its health effects every two years for the first six years following implementation of the new system, then every four years.
23. Request an implementation report and a review of the cannabis Act every five years.
24. Ensure the cannabis bill aligns with the *Tobacco Acts*.

Age for cannabis use

25. The minimum age for cannabis use in Canada should be set at 18, the same as for purchasing alcohol or tobacco in the Canadian province where the legal age is the lowest.
26. Allow Canadian provinces to raise the age for cannabis use based on their circumstances.
27. Require vendors to systematically check the age of young buyers.

B – Establishing a safe and responsible production system

Home cultivation

28. Evaluate the home cultivation model in place for medical marijuana.
29. Establish rules for recreational use that take into consideration lessons learned from medical marijuana.

Licensed production

30. Adopt a strictly-regulated competitive production model.
31. Prohibit businesses in the cannabis industry from integrating vertically (production, preparation, sales).
32. Require that producers and distributors be licenced.
33. Set up a system to track marijuana from seed to sale.
34. Initially, authorize only the sale of dried herbal material (marijuana) and oil (hash oil).
35. Prohibit commercial food and beverages containing cannabis extracts until more is known about those products and their harms.
36. Authorize vaporized cannabis use in e-cigarette type vaporizers, which would be subject to the same rules as for smoked cannabis.

C – Designing an appropriate distribution system

37. Keep retail outlets small and operating costs reasonable to counter vertical integration of businesses, which would result in an excessive drop in prices.
38. Prohibit the sale of cannabis in places where alcohol or tobacco are sold.
39. Distribute marijuana retail outlets geographically, taking into account the location of groups at highest risk of developing substance use problems.
40. Limit the number of retail outlets according to population density.
41. Prohibit retail outlets near schools, colleges and training centres.
42. Create a registry of retail outlets.
43. Establish a network of specialized shops that sell cannabis products only, preferably under provincial jurisdiction.
44. Set up a provincial agency charged with administering the cannabis law and with awarding licenses to distributors and shop owners.

45. Train sales staff to educate consumers, and to identify users at risk and inform them of the help that is available.

D – Enforcing public safety and protection

46. Set THC blood level thresholds for workplaces and tasks requiring sustained vigilance, and for operating motor vehicles while under the influence of cannabis; the threshold should be adjusted based on evidence from evaluation data.
47. Inform the public of the dangers of driving while under the influence of cannabis or engaging in other activities that require sustained vigilance, and of the penalties that may ensue.
48. Increase research to develop a reliable test that police officers can use to detect cannabis-impaired drivers.
49. Ensure that regulations governing marijuana use in public places correspond to those for tobacco use.
50. Require child-proof packaging, similar to that used for medications.

E – Accessing marijuana for medical purposes

51. Implement measures to dissuade recreational users from purchasing medical cannabis.
52. Tax medical cannabis, but make provisions for reimbursement through a tax credit or other means.

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INTRODUCTION

Canada criminalized cannabis in 1923. Despite this, Canada has one of the highest prevalence rates of cannabis use among developed countries¹. In 2013, the prevalence of past-year cannabis use among the general population was 10.6 %; the rate was three times higher for young people aged 15 to 24 than for adults 25 years and older, that is, 24.4 % versus 8 %².

In Québec, a survey carried out in 2013 showed that 23 % of high school students^a and 43 % of youth in secondary 5^b had used cannabis in the past 12 months. It found high frequency of use^c in 15.8 % secondary 5 students. Because the survey only included young people in school, it is likely that real cannabis use rates are higher³. Frequent use among adolescents is associated with increased harms, such as dependence, dropping out of school and mental health disorders in adulthood⁴.

When considering high-risk groups of homeless people and street youth who use drugs, Montréal and Toronto have some of the highest rates of cannabis use among Canadian cities, with prevalences between 80 % and 97 % in the year preceding the survey⁵.

Criminalization of cannabis results in collateral damage linked to prosecution of small-scale users. Incarceration for the possession or sale of cannabis engenders significant societal costs related to law enforcement, judicial services and criminal prosecution.

Although it is difficult to estimate the size of the black market, CIBC economist Avery Shenfeld suggests it is worth about \$7 billion a year, based on consumer data reported in various studies. In a regulated, legal market, this sum could be used to fund curative and preventive interventions. A majority of Canadians (68 %) no longer believe that simple marijuana possession should be subject to harsh criminal sanctions, and support the Government's commitment to legalize, tax and regulate marijuana⁶.

Several objectives pertaining to legalization have been identified: protect public health, protect children and adolescents, decriminalize possession and eliminate incentives for organized crime. It must ensure product quality and safety, create a less stigmatizing environment and reduce criminal activity. In addition, it will be possible to better track changes in use and the impact of protection measures by providing more reliable monitoring data. Legalization would enhance research on the effects of cannabis and facilitate provision of services better adapted to users with cannabis-related problems.

^a Equivalent to grades 7 to 11 in the rest of Canada.

^b Equivalent to grade 11 in the rest of Canada.

^c High frequency of use: includes students who used (a) on weekends or once or twice a week, (b) three times a week or more, but not every day, or (c) every day in the past 12 months. Therefore this category is comprised of regular and daily users.

Four American states (Colorado, Washington, Oregon, Alaska) and Uruguay have recently commercialized and legalized medical cannabis. The effects of those legislative changes are beginning to be reported, especially in Colorado^{7, 8}. Colorado commercialized medical cannabis in 2009, voted to legalize recreational use for people aged 21 and over in November 2012, and authorized retail sales on 1 January 2014. The commercialization and distribution of medical marijuana in Colorado in 2009 resulted in the number of authorized users rising from 4,819 in 2008 to 115,467 in December 2014⁹. This situation points to a kind of “mission creep”, with medical use gravitating toward recreational use. Monitoring data from the United States show that prevalence of marijuana use appears to be increasing among young adults aged 18 to 25, but is stable among adolescents, including in Colorado and Washington State^{10, 11, 12}.

Colorado has implemented a number of measures to protect minors and educate the public: minimum age of 21; youth test shoppers (mystery shopping); messages on packaging; advertising restrictions; stronger sanctions for gifts and sales to minors; minors forbidden from possessing paraphernalia for cannabis use; and campaigns on storing cannabis, the consequences of selling/supplying to youth under 21, and how to talk to children and adolescents, etc.

Edible cannabis raises concerns. The psychoactive effects of this form of cannabis can be delayed by up to four hours after ingestion, compared with a few seconds or minutes following inhalation. In addition, the effects of ingestion can last for more than eight hours, affecting judgement and coordination, thus increasing the risk of accident. In Colorado, the rise in cannabis use has resulted in more marijuana-related emergency room admissions, hospitalizations and traffic deaths. The sale of edible products also increases the risks of poisoning, especially among young children.

In Colorado, after retail sales of marijuana were authorized in 2014, the Rocky Mountain Poison and Drug Center saw a 70 % increase in calls linked to marijuana exposure compared to 2013. After recreational marijuana was legalized, edible products were blamed for two deaths in that state^{13, 14, 15}.

Health Risks

Cannabis is perceived as less dangerous than tobacco or alcohol. However, it is not harmless. Aside from higher risks of poisonings and accidents, we are also concerned with the following consequences of legalization:

- For minors, initiating use at an early age increases the risks of developing daily dependence, jeopardizing development and educational success, and aggravating or provoking mental health disorders^{16, 17}.

- Foetal risks are greater among pregnant women who use cannabis. Prenatal exposure to cannabis can have adverse effects on cognitive development and academic achievement, as well as on behaviour (including attention deficits, increased hyperactivity and impulsivity). There is also emerging evidence of an increased likelihood of tobacco use, substance misuse and delinquency among adolescents who were prenatally exposed to cannabis¹⁸.
- Cannabis affects cognitive and motor abilities necessary to drive a motor vehicle or work in a job requiring sustained vigilance.
- At this time, there is no reliable screening test to identify excessive use¹⁹.
- Legalization of cannabis could trivialize and normalize smoking, jeopardizing the gains made in tobacco control.

The questions raised in the federal consultation are considered from a public health perspective. Our contribution touches on seven of the eight objectives laid out in the government's discussion paper that affect public health:

- Protect young Canadians by keeping marijuana out of the hands of children and youth.
- Prevent Canadians from receiving criminal records for simple marijuana possession offences.
- Strengthen measures that deter individuals from operating motor vehicles while under the influence of marijuana and that reduce the risks of accidents in workplaces.
- Ensure Canadians are well-informed and, for youth in particular, ensure that risks of marijuana consumption are understood.
- Establish and enforce a system of strict production, distribution and sales, taking a public health approach, with regulation of quality and safety, restriction of access, application of taxes, and education and support programs for addiction treatment.
- Continue to provide access to marijuana for medical purposes.
- Conduct ongoing data collection to monitor the impact of the new framework, and ensure we have the latest baseline data before introducing the new legislation.

We recommend promoting effective methods to prevent inappropriate psychoactive substance use by establishing safe consumption limits and a harm reduction policy. This type of approach has been proven to reduce health harms worldwide.

We must take all the necessary means to ensure that legalization does not lead to increased consumption, especially by young people. We believe that the public health viewpoint included in the upcoming legalization will help influence our fellow-citizens' behaviours. We leave it up to legislators to define the penal sanctions to impose on individuals who do not respect the new cannabis legalization system.

1. Minimizing harmful use

Question 1.1 Do you believe that these measures are appropriate to achieve the overarching objectives to minimize harms, and in particular to protect children and youth? Are there other actions which the Government should consider enacting alongside these measures?

We uphold setting national standards to protect Canadians. However the provinces should be allowed to enact laws and regulations that are better adapted to their distinct realities, as is the case for tobacco legislation.

We wish to propose a few elements to consider in relation to harm reduction.

Restrictions on advertising and marketing

We support setting the tightest possible restrictions on advertising and marketing. Advertising should be limited to providing information about the legal status of cannabis and about organizations that can help users with substance use problems. Promotion of specific brands and products should not encourage consumption. We also recommend that lawmakers look at existing Tobacco Acts and adopt all sections that are applicable to cannabis.

We favour plain packaging with warnings about the health harms of marijuana and the risks linked to using while driving motor vehicles or engaging in tasks requiring sustained vigilance. Packaging should also include information about access to treatment for problematic substance use.

We recommend that cannabis legislation aligns with the *Tobacco Acts*. It is imperative to prohibit all marketing strategies, since they only serve to encourage and normalize use. It is especially important to remain cautious regarding development of products derived from cannabis (edibles, infusions, flavours, etc.), since new products fuel consumption and open the door to a competitive market. We recommend allowing only herbal and oil-based products.

Taxation and pricing

From public health and social policy perspectives, taxation and price can effectively curb consumption. Given the low production costs of cannabis, we can expect a greater potential for economic benefits for growers and distributors who could be tempted to continually increase production. Taxation and the chosen distribution model must play moderating roles in limiting the potential for profits, and strike a balance between health and commercial objectives. The appeal of tax-generated income should not bring the government to facilitate cannabis production or increase consumption.

In its 13 February 2016 edition, *The Economist*²⁰ suggests looking at what was done when Prohibition was repealed in the United States. Alcohol taxes were set low for the first few years following the end of Prohibition to keep prices down and drive out organized crime. Taxes were then ramped up after three years to moderate consumption. We recommend proceeding in this manner.

We also recommend that a significant part of revenue generated through cannabis taxation be earmarked for the costs of managing and enforcing the law, population surveillance of the health effects of cannabis use, substance abuse treatment services, prevention programs for youth, and information campaigns on the harms of cannabis. Moreover, taxes should be adjusted according to THC concentrations, just as beer and liquor are taxed differently. Finally, since provinces are to play important roles, the provincial and federal governments should share taxation powers and responsibilities. Prescription medications are a good example: federal framework legislation assures product quality and safety, and provincial laws cover distribution.

Sharing legislation governing medical marijuana and the recreational market poses a substantial challenge. The market may be distorted by the need to clearly set dosages and THC/CBD ratios, as well as by the issue of taxing prescription products differently than recreational ones. Measures must be taken so that recreational users are not tempted to feign health problems to obtain medical marijuana, since the latter is not taxed and can be stronger. Medical cannabis could be taxable, but a tax credit could be authorized upon presentation of required documentation.

Tax revenue does not relieve governments of their main responsibility—to provide comprehensive substance abuse, information and prevention services.

While acknowledging provincial autonomy in matters related to health, we firmly believe it would be preferable for prices among neighbouring provinces to be the same to discourage interprovincial sales and illegal trade.

Limit THC levels in marijuana

The most significant health risks associated with cannabis use (impaired memory, dependence and psychosis) increase with higher levels of delta-9-tetrahydrocannabinol (THC), the main psychoactive component, and lower levels of cannabidiol (CBD), which moderates the effects of THC and is associated with therapeutic use of marijuana. Yet, cannabis sold on the black market tends to be high in THC and low in CBD. Those products target heavy users.

As is done in Uruguay, the only country to totally legalize cannabis, we recommend that clear directives be given to cannabis producers so they can grow strains with varying THC levels. For instance, there could be three levels of THC—5 %, 10 % and 15 %—each of which would have a minimum CBD content of 4 %.

Experts have indicated it is important that lower THC cannabis be available, since it is absent from the black market; they have also noted that many users would like access to lower potency, less-risky products²¹. Legalization would also make cannabis less dangerous, and raise the quality of marketed products by placing controls on contaminants and pesticide use.

Restrictions on marijuana products

The precautionary principle should be invoked regarding availability of cannabis products. In Colorado, where the market has been free to develop cannabis products (edibles, infusions, etc.), edible products are reportedly growing rapidly and already represent 30 % of sales. The number of children admitted to hospital due to marijuana-related poisoning has increased more dramatically in this state than in the rest of the country. This has been attributed to the presence of cannabis products, particularly edibles, in homes^{22, 23}.

We believe it would be prudent to initially limit legal cannabis to dried forms (marijuana) and oil (hashish). Since there are likely fewer risks associated with vaporizing oil in an electronic cannabis vaporizer than with smoking marijuana, regulating these devices should be a priority^{24, 25, 26, 27}. Edible products could be authorized once the market has stabilized and more scientific data on the risks associated with those products is available.

However, to minimize the risks of accidental or unintentional ingestion, particularly by children, dried marijuana and oil (and eventually edibles) should be sold in child-proof packaging, with an indication of THC and CBD levels and concentrations contained in each unit. Limits on THC content per product should be set. Colorado legislators are currently considering new regulations whereby edible products would be packaged in single servings containing no more than 10 mg of THC. False or misleading advertising would constitute a licensing offence.

Limitations on quantities for personal use

Quantities to authorize need to be determined. A few examples from around the world are available, and recommendations vary greatly.

Colorado residents can buy up to 28.4 grams of cannabis and grow up to six plants privately. In Washington State, residents can purchase up to 28.4 grams of dried product or 7 grams of concentrates (oil, resin or other) per transaction, and grow cannabis plants for medical purposes only²⁸.

In Uruguay, there are three ways to obtain cannabis: residents can grow it themselves; join a cannabis club; or buy it from a pharmacy. In all cases, individuals must register with the Institute for the Regulation and Control of Cannabis (IRCCA). They can purchase a maximum of 40 grams a month, or 10 grams a week.

This amount has been adapted to the various options: individuals can grow up to 6 plants at home (per household); cannabis clubs, which must have 15 to 45 members, can grow a maximum of 99 plants; and users can purchase up to 10 grams a week from pharmacies²⁹.

Such decisions can be perceived as being somewhat arbitrary and often stemming from local dynamics and considerations other than health. We recommend keeping this question open for the moment because, from a public health perspective, we do not have enough data yet to make a decision. Overall, we believe the amount that can be purchased should be adjusted according to the quantity and concentration of THC and CBD in the product: the higher the THC concentration, the lower the limit on the permitted amount. Limits would also apply to liquid cannabis products for use in electronic inhalers or vaporizers, once inhalers are regulated.

The same questions can be asked for home cultivation. How do we determine the number of plants allowed in a household or neighbourhood? What are the risks for children? How can concentrations in home-grown products be determined? As regards home cultivation, we can learn from medical marijuana production since the Supreme Court has again authorized patients to grow their own plants.

Effectiveness of measures in the cannabis legalization regime

The legislation must also include funding to put in place tools and indicators to evaluate the effects of the measures described above.

Experiences with legalization cover a broad spectrum ranging from a restrictive state monopoly in Uruguay that includes a user registry and distribution through pharmacies, to a fairly unregulated market, such as in Colorado. In the United States, prevalence of cannabis use among young adults aged 18 to 25 is rising. We do not yet know if this is temporary or permanent. More progressive implementation may prevent such an increase. In any case, legalization cannot go ahead without solid health indicators and a review every five years, as is the case with the Québec's *Tobacco Act*.

We recommend that before the bill becomes law, survey data be collected to establish a baseline level without which it will be difficult to assess the effects of legalization. In the initial years following introduction of the new system, surveys should be more frequent, that is, one every two years for six years (three surveys), after which we recommend holding one every four years.

The cannabis act should plan for an implementation report as well as a review every five years, as is outlined in Québec's *Tobacco Act*. Modifications could be made based on prevalence data and results presented in the implementation report.

Question 1.2 What are your views on the minimum age for purchasing and possessing marijuana? Should the minimum age be consistent across Canada, or is it acceptable that there be variations amongst provinces and territories?

The minimum age for purchasing marijuana should initially match that for buying alcohol or tobacco in the Canadian province where the age is lowest, 18. This should be the minimum. Provinces could decide to raise the age based on surveillance data.

Research on various drugs shows that older youth, whose brain development is more complete, are less likely to start using different drugs and transition to dependence³⁰. In Colorado and Washington State, the minimum age for cannabis use is 21; in Uruguay, it is 18. In Canada, however, an age limit of 21 would be inconsistent with current tobacco and alcohol legislation in some provinces. In our opinion, it is more important to harmonize regulations regarding minimum age with those for tobacco and alcohol use within each province rather than aim for Canada-wide harmonization.

Age must be systematically checked and controlled as it is for alcohol and tobacco sales. Enough resources should be allocated from the onset to prevent sales to individuals under 18 by retailers, who should be asking buyers for ID who do not look 18; appropriate sanctions should also apply.

2. Establishing a safe and responsible production system

What are your views on the most appropriate production model? Which production model would best meet consumer demand while ensuring that public health and safety objectives are achievable? What level and type of regulation is needed for producers?

To what extent, if any, should home cultivation be allowed in a legalized system? What, if any, government oversight should be put in place?

Should a system of licensing or other fees be introduced?

What role, if any, should existing licensed producers under the MMPR have in the new system (either in the interim or the long-term)?

Production model

The way marijuana is produced has direct impacts on health. Product quality and safety depend on how production is controlled; the varieties cultivated and THC/CBD concentrations will affect consumers' behaviours.

Before exploring production models, a distinction should be made between production, that is, the farming or agricultural process, product preparation, which involves transformation, packaging and distribution to vendors, and retail sales. We make these distinctions to stress that a significant protective factor against abuse resides in keeping these steps separate. In other words, vertical integration should be precluded, because not doing so would allow businesses to control the entire process—from seed to sale. This safeguard is meant to limit excessive marketing, based on the reasoning that increasing demand leads to business growth. This is where federal legislation to legalize cannabis plays a key role. We recommend that, similar to its role in the area of prescription drugs, the federal government set quality and safety standards, determine THC and cannabidiol (CBD) levels, and oversee producers.

The experiences of countries such as Spain, the Netherlands, Uruguay and of some American states show there are three main types of production: home cultivation, small-scale licensed production for non-profit cannabis clubs, and larger-scale licensed commercial growers.

Home cultivation for recreational use

In looking at international experiences, we observe that home cultivation of a few plants for recreational use seems inevitable. Prohibition would be very difficult to enforce, and home cultivation would concern only a minority of consumers without unduly increasing risks to health and social order. Moreover, the availability of cannabis in stores would limit the need to grow it at home. We recommend that home cultivation for recreational use be authorized; however, it is premature to determine the number of plants allowed and the rules that will govern home cultivation. To set the rules for home cultivation for recreational use, we propose using the model defined for home cultivation for medical purposes recently authorized by the Supreme Court of Canada.

Restricted licensed production for cannabis clubs

This approach was initially devised by Spanish activists, who saw the possibility of exploiting a legal loophole around the notion of growing a few cannabis plants at home. Non-profit groups pool their individual rights to grow a few plants and so organize production; the cannabis is then redistributed to members in good standing. This has led to some abuses, such as black market sales. We do not subscribe to this model, which has been scantily evaluated and risks creating cracks in the regulated legalization process we recommend.

Licensed commercial production

If marijuana is legalized, we will no longer need the *Marihuana for Medical Purposes Regulations*. The regulated competitive model is the one we recommend. Defined by legislation, it avoids the pitfalls of state monopolies, as evidenced in Health Canada's medical cannabis initiative, sets a legal age, and provides products of varying strengths while conforming to

quality and health standards as well as to the concentration thresholds described above. Those application criteria satisfy public health concerns, but should be supplemented with traceability measures for seed-to-sale tracking to prevent products from reaching the black market. We recommend a production model where licenses are granted to producers, under the control of a government or public sector agency.

Distribution system

Initially, only the sale of dried herbal material (marijuana) and oil (hash oil) should be authorized. Little is known about the other products (infusions and edibles), and their influence on consumption behaviours has not been thoroughly evaluated. The harms observed in Colorado call for caution.

Smoking cannabis is harmful to respiratory health. This is why it would be prudent to also legalize vaporized cannabis use in electronic cannabis vaporizers, which may be less harmful to health; this form would be subject to the same rules as smoked cannabis.

As noted earlier, the product should be sold in plain packaging, with no brand name. Dosage, THC/CBD ratio, and a short description of the product's characteristics, as well as information and warnings about the risks and how to minimize them should be included on the packaging. Packaging must be child-proof, as is the case for medications.

3. Designing an appropriate distribution system

Which distribution model makes the most sense and why?

To what extent is variation across provinces and territories in terms of distribution models acceptable?

Are there other models worthy of consideration?

Restrictions on marijuana points of sale

A study conducted in the Netherlands, where cannabis use is quasi-legal, shows that individuals who grow up within 20 km of a cannabis shop have a lower age onset³¹. It has also been demonstrated that limiting retail outlets can be a useful tool to reduce excessive alcohol use and related harms³². A geospatial analysis looking at the relationship between product accessibility and population vulnerability has been carried out in Québec, but on another issue: video lottery terminals.

Using a similar methodology, we recommend that marijuana retail outlets be spatially distributed, taking into account where the groups most at risk developing substance use problems are located, and that the number of retail outlets be determined according to population density. Cannabis retail outlets should not be located near high schools, cegeps, colleges or vocational training centres. A registry of data on their geographical location as well as on the size and extent of the cannabis distribution network could provide an effective overview.

Cannabis Control Board

All hypotheses for cannabis distribution are based on strict application of the law and of the cannabis distribution and sales licensing process, and on controlling preparation and distribution methods. We recommend that a parapublic body be in charge of their application, and that it be under provincial jurisdiction because of the need to harmonize the rules with each province's practices and customs.

We favour a specialized shop format that would sell only cannabis products, and not tobacco or alcohol. The shops should be under the jurisdiction of provincial parapublic agencies that would exercise their authority according to one of the following models:

1. A network of small private shops, in competition with each other and subject to the branding and advertising restrictions discussed above. Shops could eventually sell their products online, as is done for cannabis sold for medical purposes.

OR

2. A network of shops belonging to the Agency and dispersed around the territory according to the principles listed above. However, it is important to keep in mind that such a monopoly should not be deemed a major source of income for the State. The Société des alcools du Québec, which is expected to turn profits for the state, is not a model to follow.

Each province should adapt one of these distribution models, adhering to the following principles:

- Cannabis should not be sold alongside alcohol or tobacco.
- Vertical integration of businesses (production, preparation, sales) should be forbidden.
- There should be no advertising of products and brands, or inducement to use.
- Retail outlet locations should be carefully determined.
- Staff in retail outlets should be trained to educate consumers and, if the need arises, to identify users at risk and offer suggestions for where they can get help.
- Retail outlets should remain small and have reasonable operating costs to prevent consolidation of businesses, which would result in an excessive drop in prices.

4. Enforcing public safety and protection

How should governments approach designing laws that will reduce, eliminate and punish those who operate outside the boundaries of the new legal system for marijuana?

What specific tools, training and guidelines will be most effective in supporting enforcement measures to protect public health and safety, particularly for impaired driving?

Should consumption of marijuana be allowed in any publicly-accessible spaces outside the home? Under what conditions and circumstances?

We leave it up to the authorities to determine the best ways to apply legislation to curb activities outside the boundaries of the new system. However, we believe that some of the principles expressed above (see production, preparation and sales) provide answers. We also consider that the grey areas of the law could lead to fraudulent practices. For instance, products with very high levels of THC could be targeted.

Systems to monitor the legislation and behaviours (public health would oversee the latter) will bring to light those grey zones and help make changes to the legislation. As stated earlier, we recommend enacting more restrictive legislation initially, providing leeway to make changes in the future to adapt to practices and to the knowledge acquired. The legislation should also be reviewed on a regular basis, as is done for federal and provincial tobacco laws.

Cannabis is second only to ethanol as the substance most often detected in road accidents worldwide. Acute cannabis consumption significantly increases the risk of road accidents and doubles the risk of collisions resulting in serious injury or death³³. However, there is an ongoing controversy regarding the significance of the risk related to blood TCH levels^{34, 35, 36}. The higher THC concentrations are, the greater the probability that a cannabis user be found guilty. Yet, for some chronic users, high concentrations do not necessarily entail acute intoxication and therefore, do not have the same impact on their driving skills³⁷. These data highlight the complexity of determining consumption thresholds, as is the case of drinking and driving. While the United Kingdom has set the THC threshold for a marijuana-related driving offence at 2 nanograms (ng) per millilitre of blood³⁸, Colorado has set the limit at 5 ng per millilitre³⁹.

No reliable roadside test is available at this time, and the tools used by law enforcement officers are limited and likely to be challenged before the courts. Consequently, it is imperative to step up research in this area and regularly review the policy that will be implemented regarding this issue. Nonetheless, we are of the opinion that the threshold should be set fairly high to avoid too many false-positive results.

The threshold could be adjusted in light of emerging knowledge and monitoring data. Some stakeholders favour a threshold of 5 ng per millilitre. We do not think that current knowledge allows us to propose a threshold based on solid data. For this reason, we recommend that this discussion take place as soon as possible and that it include the best experts.

In terms of consumption in public places, it would be unrealistic to prohibit it completely. We recommend that the rules correspond with those governing tobacco use, ensuring that the knowledge and experience gained in this area can be used as a base to create a building blocks and a powerful synergy. We know that for tobacco use, the trend is toward increasingly more restrictions. A progressive approach also has the advantage of increasing public acceptance.

5. Accessing marijuana for medical purposes

What factors should the government consider in determining if appropriate access to medically authorized persons is provided once a system for legal access to marijuana is in place?

We do not believe that it is still necessary to distinguish medical from recreational marijuana. In the context of the coming legislation, issues of quality, contaminants, dosage and THC/CBD ratios will likely be resolved, leaving the matter of taxation raised earlier. Prescribed drugs are not usually taxed; therefore, an annual tax credit or reimbursement could be considered.

To conclude, we support legislation that regulates and restricts access to cannabis. By tracking health indicators, the impacts of legalization on the health of Montrealers could be assessed and provisions of the law rapidly amended.

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