



CFMS
Canadian Federation
of Medical Students

FEMC
Fédération des étudiants et des
étudiantes en médecine du Canada

Canadian Federation of Medical Students Position Statement on Recreational Cannabis Legalization

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Policy Areas

population health; medical education

Problem History

Bill C-45 (the Cannabis Act) was introduced to the House of Commons in April 2017. This act is scheduled for Royal Assent in July 2018 and shortly after this Canadians will be able to legally possess, grow and purchase recreational cannabis. The Task Force on Cannabis Legalization and Regulation has produced recommendations to protect public health and minimize harms; however there will be variations in provincial/territorial implementation policies and practices as implementation of cannabis legalization has been largely left to the provinces/territories.¹

Problem Definition

With the anticipation of cannabis legalization, the prospect of differing provincial/territorial implementations schemas and the intersection between cannabis use and health/social outcomes, it is important to ensure that Canadian medical students have a voice in developing cannabis legalization policy and practice.

Position Statement

It is the position of the Canadian Federation of Medical Students that all Canadians are able to experience the benefits of cannabis legalization while being protected from any detrimental health and/or social consequences.

Recommendations

We have identified five areas of concern regarding cannabis legislation: 1) medical education; 2) public consumption; 3) harm reduction; 4) public education, and; 5) minimum age. Each of the below topics includes a background, analysis and recommendation section. A summary of all recommendations is listed below.

Advocacy Plan

1. The VP Government Affairs, or their delegates, will make use of these recommendations when speaking publicly about, or doing advocacy work surrounding, this issue of recreational cannabis legalization.
2. The VP Medical Education, and their committee, will actively work to ensure the below pedagogical measures are put in place at all medical schools in Canada.

References

1. Health Canada. Introduction of the Cannabis Act: Questions and answers [Internet]. 2017 [cited 2018 Feb 26]. Available from: <https://www.canada.ca/en/services/health/campaigns/introduction-cannabis-act-questions-answers.html>

Summary of Recommendations

Medical education

1. Critically appraise the current research published on recreational cannabis. Expand and diversify the range of cannabis research.
 - 1.1. Focus on early epidemiological studies done in areas of recent legalization (such as Colorado).
 - 1.2. Include previously neglected topics such as efficacy, rather than focusing solely on safety.
 - 1.3. Take advantage of the newly legal status of recreational cannabis to recruit study participants.
2. Create a longitudinal evidence-based cannabis course that will be integrated into undergraduate medical education.
 - 2.1. This course should consist of evidence-based techniques such as didactic lectures and interactive small group sessions.
 - 2.2. Include the following subjects in the cannabis curriculum: history and legality, endocannabinoid system biology, pharmacology, use in disease states, safety, abuse, approach to patient questions, and public policy
3. Provide specialized cannabis training in continuing medical studies (residency and fellowships).
 - 3.1. This training should be preferably given to specialties that frequently interact with populations who may use cannabis including family medicine, oncology, psychiatry, addiction medicine, and ophthalmology.
 - 3.2. Resident and fellow training should consist primarily of practice-reinforced methods including patient case studies.
4. Educators should encourage their students to approach this curriculum in an evidence-based manner, trying to disregard any ill-founded preconceived idea and biases (that may have been the product of pre-legalization stigmas).
5. Expand funding for medical education and research on cannabis.
 - 5.1. Request government funding by presenting the issue from a public health perspective.
 - 5.2. Consider corporate funding while ensuring that any education and research remains unbiased and in-line with current CFMS industry funding guidelines.⁶

Public consumption

1. Align restrictions on cannabis smoking with existing restrictions on tobacco smoking.
2. Prohibit the consumption of cannabis in areas frequented by minors.
3. Package edible cannabis products in material that is plain, opaque, and contains warning labels to prevent accidental ingestion by children.
4. Prohibit the co-location of alcohol and cannabis sales.
5. Prohibit the consumption of cannabis in motor vehicles and promote research into roadside testing for cannabis impairment.

Harm reduction

1. Prevention and harm reduction strategies should be targeted at adolescents. There is high quality evidence that supports the effectiveness of school and non-school interventions in reducing/preventing cannabis use in this population.
2. High-risk groups who will be negatively affected by cannabis legalization should be identified and targeted for prevention/harm reduction.
3. Funding should be dedicated to create screening tools to identify high-risk populations in primary care.

4. The utility of mass media campaigns should be carefully considered. Any media campaign should be monitored to ensure no harm is caused.

Public education

1. The federal government should regulate the providers and content of educational campaigns, and provide coordination across all provinces and territories.
2. Government-approved information about cannabis harms should be provided to all customers at the point of sale, and this information should be interpretable by diverse communities across Canada.
3. Employ a multi-media (social media, television, informative websites) and competency-based approach to education, in order to appeal to young people, parents and teachers. Youth should play a role in designing these modalities to increase appeal and promote education.
4. Implement the national public education campaign prior to legalization in order to maximize the preventative impact of public health education efforts.
5. Key areas of focus for public education should include: impaired driving, safe consumption practices, and the risk of cannabis use on the developing brain.

Minimum age

The CFMS has not adopted a firm stance in regards to an absolute minimum age for cannabis legalization, but urges policymakers to consider and balance the following principles:

1. Recognize the need to balance concerns related to neurodevelopment effects of cannabis on young adults, the harms of youth criminalization—particularly for marginalized groups—and the need to ensure safe cannabis access (e.g., known potency, curbing black market activity).
2. Combine legalization with robust and targeted health promotion and education strategies.
3. Develop data systems to monitor the impact legalization will have on cannabis usage rates. In particular, criminalization rates need to be monitored to ensure Indigenous, black, and low-income youth are not continuing to disproportionately bear the brunt of cannabis-related charges.

Medical Education

Background

The impending legalization of cannabis for recreational use in Canada highlights a lacuna in medical curriculums across the country. Currently, medical syllabi lack a comprehensive education on the history, biology, pharmacology, safety, efficacy, and patient approach regarding cannabis products.¹ This lack of education translates to poor clinical practice and negative patient outcomes.² Physician-reported knowledge gaps in cannabis education include dosing and creating treatment plans. In addition, the highest reported desired knowledge is regarding cannabis risks and safety.³ Given that the legalization of recreational cannabis will likely result in more cannabis-related consults from patients, it is vital to consider expanding curriculums using evidence-based scholastic methods. A multi-faceted cannabis education will create healthcare professionals equipped to address patient concerns regarding medicinal and recreational cannabis.

Analysis

In order to create and implement an evidence-based cannabis curriculum, it is important to evaluate the underlying barriers facing the project. The first obstacle is the scarcity and lack of diversity of experimental and observational studies on cannabis use. Many of the pre-existing studies on the subject focus on safety, with minimal emphasis on efficacy.¹ On a social level, barriers to education include the current social stigma surrounding cannabis use. Legalization will not guarantee the erosion of said stigma. Concerning the practical aspects of the project, the scarce funding for cannabis education programs as well as the lack of curricular time and interdepartmental coordination also pose challenges.^{1,4}

As with all medical educational initiatives, the cannabis curriculum should be modelled using scholastic methods that have been shown to translate to good clinical practice. Such strategies in undergraduate medical education include interactive small group teaching, online modules, and didactic lectures. Optimal outcomes are observed when these teaching tools are combined into a multi-modal approach.⁴ Modalities used in continuing medical education that have been shown to improve physician performance are almost entirely practice-reinforced. They consist of patient-centered teaching, outreach visits, and lectures from prominent opinion leaders. In contrast, conference teaching and audit with feedback methods show minimal impact on clinical translation.⁵

Recommendations

Given the impending national legalization and the aforementioned evidence-based analysis, we call upon CFMS members to support the following recommendations:

1. Critically appraise the current research published on recreational cannabis. Expand and diversify the range of cannabis research.
 - 1.1. Focus on early epidemiological studies done in areas of recent legalization (such as Colorado).
 - 1.2. Include previously neglected topics such as efficacy, rather than focusing solely on safety.
 - 1.3. Take advantage of the newly legal status of recreational cannabis to recruit study participants.
2. Create a longitudinal evidence-based cannabis course that will be integrated into undergraduate medical education.
 - 2.1. This course should consist of evidence-based techniques such as didactic lectures and interactive small group sessions.

- 2.2. Include the following subjects in the cannabis curriculum: history and legality, endocannabinoid system biology, pharmacology, use in disease states, safety, abuse, approach to patient questions, and public policy
3. Provide specialized cannabis training in continuing medical studies (residency and fellowships).
 - 3.1. This training should be preferably given to specialties that frequently interact with populations who may use cannabis including family medicine, oncology, psychiatry, addiction medicine, and ophthalmology.
 - 3.2. Resident and fellow training should consist primarily of practice-reinforced methods including patient case studies.
4. Educators should encourage their students to approach this curriculum in an evidence-based manner, trying to disregard any ill-founded preconceived idea and biases (that may have been the product of pre-legalization stigmas).
5. Expand funding for medical education and research on cannabis.
 - 5.1. Request government funding by presenting the issue from a public health perspective.
 - 5.2. Consider corporate funding while ensuring that any education and research remains unbiased and in-line with current CFMS industry funding guidelines.⁶

References

1. Ware MA, Ziemianski D. Medical education on cannabis and cannabinoids: Perspectives, challenges, and opportunities. *Clin Pharmacol Ther.* 2015;97(6):548–550.
2. Evanoff AB, Quan T, Dufault C, Awad M, Bierut LJ. Physicians-in-training are not prepared to prescribe medical marijuana. *Drug Alcohol Depend.* 2017;180:151–155.
3. Ziemianski D, Capler R, Tekanoff R, Lacasse A, Luconi F, Ware MA. Cannabis in medicine: A national educational needs assessment among Canadian physicians. *BMC Med Educ.* 2015 Dec;15(1):52.
4. Polydorou S, Gunderson EW, Levin FR. Training physicians to treat substance use disorders. *Curr Psychiatry Rep.* 2008;10(5):399–404.
5. Davis DA, Thomson MA, Oxman AD, Haynes RB. Changing physician performance: A systematic review of the effect of continuing medical education strategies. *JAMA.* 1995;274(9):700–705.
6. Holland A, Breton J, Mithoowani S, Merr D, Tenenbaum M. Defining the relationship: An evidence based review and recommendations on the role of industry funding in medical schools [Internet]. Calgary: Canadian Federal of Medical Students; 2011 Sep [cited 2018 Feb 25]. Available from: https://www.cfms.org/files/position-papers/cfms_industry_funding_working_group_paper.pdf

Public Consumption

Background

Cannabis is consumed in multiple forms. The most common form of recreational consumption is by combustion¹, which involves smoking the product in hand-rolled cigarettes, cigars, pipes or Hookah pipes (bongs)². Two alternative routes for cannabis use include inhalation through electric vaporizers and oral ingestion in the form of edibles and oils.²

At the time of writing, all provinces and territories - except Saskatchewan and Nunavut - unveiled their frameworks for cannabis legalization in their respective jurisdictions. Of these frameworks, only Alberta³, New Brunswick⁴, Newfoundland and Labrador⁵, Northwest Territories⁶, Ontario⁷, Prince Edward Island⁸, and Yukon⁹ discuss policy on the public consumption of cannabis. Of these jurisdictions, New Brunswick, Newfoundland and Labrador, Ontario, Prince Edward Island, and Yukon prohibited the consumption of cannabis in public spaces, effectively limiting use to private residences. On the other hand, Alberta, Northwest Territories, and Québec align restrictions on cannabis consumption with existing restrictions on tobacco smoking, which allows for limited use of cannabis in public spaces; however, these jurisdictions also propose additional restrictions on cannabis consumption beyond those of tobacco smoking, including a ban on smoking or vaping of cannabis in areas frequented by children in Alberta and Northwest Territories, and a ban on cannabis smoking on the grounds of universities, CEGEPs, hospitals, and social institutions in Québec. Alberta, New Brunswick, and Northwest Territories also prohibit the use of cannabis in vehicles.

Several medical and health agencies released position statements that include recommendations on the public consumption of cannabis. The Canadian Medical Association recommends that governments prohibit cannabis smoking in public places.¹⁰ The Canadian Pediatric Society¹¹, the Canadian Lung Association¹², and the Canadian Public Health Association¹³ recommend that governments align restrictions on public consumption of cannabis with existing restrictions on tobacco smoking. The Task Force on Cannabis Legalization and Regulation also recommends that “jurisdictions extend the current restrictions on public smoking of tobacco products to the smoking of cannabis products and to cannabis vaping products.”¹⁴

Analysis

There are several elements that must be considered as jurisdictions lay out their rules for the public consumption of cannabis. Firstly, different forms of cannabis consumption each pose different risks for non-users who are in close proximity to cannabis users. For smoking, the primary risk comes from the effects of exposure to second-hand smoke. Studies have shown that exposure to second-hand cannabis smoke can lead to cannabinoid metabolites in bodily fluids, and consequently, experiences of psychoactive effects after such exposure in non-users.¹⁵ Notably, exposure to second-hand cannabis smoke in poorly ventilated spaces results in significantly greater blood and urine cannabinoid levels than exposure in well ventilated spaces.¹⁶ There is a lack of evidence for the effects of long-term exposure to second-hand smoke and the effects of exposure to third-hand smoke (residual smoke pollution in the environment left after smoking).¹⁵ For consumption by oral ingestion, one of the major risks to non-users comes from accidental ingestion of cannabis products, especially by children. Research done in Colorado showed that the mean rate of cannabis-related visits to the regional poison center for children younger than 10 years of age increased by 34% from 2009 to 2015 (recreational cannabis use was legalized in the state in 2012).¹⁷ 74% of accidental exposure cases were due to oral ingestion and 52% of the accidental exposure cases from 2013 to 2015 were due to consumption of edible products.¹⁷

The second element that jurisdictions should consider in their public consumption policies is ensuring these policies are grounded in public health principles. Limiting consumption of cannabis in public spaces is crucial in this regard for two reasons: (1) governments can reduce second-hand exposure to smoked cannabis, and (2) governments can reduce the extent to which cannabis use is seen by youth as socially acceptable or normative.¹⁸ Other important aspects of utilizing a public health approach include limiting the concurrent use of cannabis and alcohol with driving after cannabis use.¹⁴ Studies have shown that the combined use of cannabis and alcohol can lead to greater impairment than when either drug is used alone and greater blood levels of THC than when cannabis is used alone.^{19,20} In addition, other studies have shown that cannabis use can increase the risk of motor vehicle accidents.²¹

Lastly, public consumption policies must ensure that the reforms brought about by cannabis legalization are universally accessible. Restricting consumption of cannabis to private residences makes the legal recreational consumption of cannabis inaccessible or difficult to access for several populations, including the homeless population and renters who do not own private property. These populations are at risk of alienation and may be unable to benefit from the harm reduction measures that are touted as a benefit to cannabis legalization.

Overall, several priorities must be kept in mind while drafting public consumption policies. These include minimizing exposure to second-hand cannabis smoke, especially in enclosed unventilated spaces; minimizing the possibility of accidental ingestion of cannabis products by children; limiting the concurrent use of cannabis and alcohol; and preventing impaired driving after cannabis use. These components must be integrated with a public health lens to cannabis legalization, recognizing that policies must be designed to prevent initiation of cannabis use while ensuring harm reduction approaches are available to heavy users. The following set of recommendations considers these principles along with the policies and position statements of different jurisdictions and organizations.

Recommendations

Given the impending national legalization and the aforementioned evidence-based analysis, we call upon CFMS members to support the following recommendations:

1. Align restrictions on cannabis smoking with existing restrictions on tobacco smoking.
2. Prohibit the consumption of cannabis in areas frequented by minors.
3. Package edible cannabis products in material that is plain, opaque, and contains warning labels to prevent accidental ingestion by children.
4. Prohibit the co-location of alcohol and cannabis sales.
5. Prohibit the consumption of cannabis in motor vehicles and promote research into roadside testing for cannabis impairment.

References

1. Akhigbe J, Ebbadi V, Huynh K, Leckie J, Major M, Robinson C, et al. The public health implications of the legalizations of recreational cannabis [Internet]. Toronto: Ontario Public Health Association; 2017 [cited 2018 Feb 25]. Available from: <http://www.opha.on.ca/getmedia/6b05a6bc-bac2-4c92-af18-62b91a003b1b/The-Public-Health-Implications-of-the-Legalization-of-Recreational-Cannabis.pdf.aspx?ext=.pdf>
2. Alberta Health Services. Cannabis (marijuana): Information for health professionals [Internet]. 2015 [cited 2018 Feb 25]. Available from: <https://www.albertahealthservices.ca/assets/info/res/mhr/if-res-mhr-hp-cannabis-info.pdf>
3. Government of Alberta. Alberta cannabis framework and legislation [Internet]. 2017 [cited 2018 Feb 25]. Available from: <https://www.alberta.ca/cannabis-framework.aspx>
4. Government of New Brunswick. Cannabis control act [Internet]. Bill 16 2017. Available from: <http://www.gnb.ca/legis/bill/FILE/58/4/Bill-16-e.htm>
5. Government of Newfoundland and Labrador. Provincial government releases first details on cannabis legalization in Newfoundland and Labrador. 2017 Nov 23 [cited 2018 Feb 25]; Available from: <http://www.releases.gov.nl.ca/releases/2017/exec/1123n01.aspx>
6. Government of the Northwest Territories. Cannabis legalization in the Northwest Territories: The way forward. 2017.
7. Government of Ontario. Ontario releases safe and sensible framework to manage federal legalization of cannabis [Internet]. 2017 [cited 2018 Feb 26]. Available from: <https://news.ontario.ca/mag/en/2017/09/ontario-releases-safe-and-sensible-framework-to-manage-federal-legalization-of-cannabis.html>
8. Government of Prince Edward Island. Cannabis [Internet]. 2017 [cited 2018 Feb 26]. Available from: <https://www.princeedwardisland.ca/en/information/finance/cannabis>
9. Yukon Government. Yukon's proposed framework for legalized cannabis [Internet]. 2017 [cited 2018 Feb 25]. Available from: http://www.gov.yk.ca/pdf/Cannabis_Framework_Legal_web.pdf
10. Task Force on Marijuana Legalization and Regulation. CMA submission: legalization, regulation and restriction of access to marijuana [Internet]. Ottawa: Canadian Medical Association; 2016 Aug [cited 2018 Feb 25]. Available from: <https://www.documentcloud.org/documents/3100676-CMA-Submission-Legalization-and-Regulation-of.html>
11. Grant CN, Bélanger RE. Cannabis and Canada's children and youth. *Paediatr Child Health*. 2017 May 1;22(2):98–102.
12. Canadian Lung Association. Cannabis position statement [Internet]. 2017 [cited 2018 Feb 25]. Available from: <https://www.lung.ca/news/advocacy-tools/our-position-statements/cannabis-position-statement>

13. Canadian Public Health Association. A public health approach to the legalization, regulation and restriction of access to cannabis [Internet]. Ottawa: Canadian Public Health Association; 2017 [cited 2018 Feb 25]. Available from: <https://www.cpha.ca/public-health-approach-legalization-regulation-and-restriction-access-cannabis>
14. McLellan AA, Ware MA, Boyd S, Chow G, Jesso M, Kendall P, et al. A framework for the legalization and regulation of cannabis in Canada: the final report of the task force on cannabis legalization and regulation. Ottawa, ON: Health Canada; 2016.
15. Holitzki H, Dowsett LE, Spackman E, Noseworthy T, Clement F. Health effects of exposure to second- and third-hand marijuana smoke: A systematic review. *CMAJ Open*. 2017;5(4):E814.
16. Herrmann ES, Cone EJ, Mitchell JM, Bigelow GE, LoDico C, Flegel R, et al. Non-smoker exposure to secondhand cannabis smoke: Effect of room ventilation on the physiological, subjective, and behavioral/cognitive effects. *Drug Alcohol Depend*. 2015;151:194–202.
17. Wang GS, Le Lait M-C, Deakynne SJ, Bronstein AC, Bajaj L, Roosevelt G. Unintentional pediatric exposures to marijuana in Colorado, 2009–2015. *JAMA Pediatr*. 2016;170(9):e160971–e160971.
18. Pacula RL, Kilmer B, Wagenaar AC, Chaloupka FJ, Caulkins JP. Developing public health regulations for marijuana: Lessons from alcohol and tobacco. *Am J Public Health*. 2014;104(6):1021–1028.
19. Sewell RA, Poling J, Sofuoglu M. The effect of cannabis compared with alcohol on driving. *Am J Addict*. 2009;18(3):185–193.
20. Hartman RL, Brown TL, Milavetz G, Spurgin A, Gorelick DA, Gaffney G, et al. Controlled cannabis vaporizer administration: blood and plasma cannabinoids with and without alcohol. *Clin Chem*. 2011;clinchem–2015.
21. Beirness D, Porath A. Clearing the smoke on cannabis: cannabis use and driving: An update [Internet]. Canadian Centre on Substance Use and Addiction; 2017 [cited 2018 Feb 25]. Available from: <http://ccdus.ca/Resource%20Library/CCSA-Cannabis-Use-Driving-Report-2017-en.pdf>

Harm Reduction

Background

In light of the impending legalization of recreational cannabis, the Task Force on Cannabis Legalization and Regulation has identified the need for prevention and harm reduction in specific groups who may be negatively impacted by cannabis legalization.¹ Provincial governments have also highlighted the importance of prevention and harm reduction strategies for vulnerable populations.² Populations that may be disproportionately affected by cannabis legalization include youth, those living with mental illnesses, and those who are homeless. Federal and provincial governments have also indicated the need for high quality evidence to design effective prevention and harm reduction programs.^{1,2} The below analysis aims to gather some of this evidence and recommend key focus areas for the design of such programs.

Analysis

Approximately 40% of Canadians have used cannabis in their lifetime, with a median age of first use of 17 years old.^{3,4} This use can lead to adverse consequences as frequent cannabis users are at a higher risk for challenges in cognitive, psychomotor, respiratory function, and mental health domains.⁵ We have identified three major areas of evidence in the literature with regards to prevention and harm reduction programs which may alleviate some of the negative consequences of cannabis use: (1) adolescent prevention and harm reduction programs, (2) identifying and treating cannabis misuse in the general population, and (3) nonspecific prevention and harm reduction strategies.

Adolescent prevention/harm reduction:

A medium quality review found that universal school based drug prevention curricula is effective in reducing cannabis use.⁶ Another high quality review found that universal school prevention programs specifically based on social competence and social influence theory have shown to reduce or prevent marijuana use in adolescents.⁷ In general it appears that school-based programs that are multi-modal, target adolescents early and have frequent sessions are the most effective in reducing cannabis use (as compared to targeted, brief interventions).⁸⁻¹⁰

Interventions that are delivered in a non-school setting have also been shown to reduce cannabis use. A high quality review found that motivational interviewing and family based interventions are effective in lowering cannabis use.¹¹ Additionally, peer-led interventions in adolescents have been shown to be effective in reducing cannabis use.¹²

Identifying and treating cannabis misuse:

There is little evidence to support screening in primary care settings to identify drug misuse among asymptomatic individuals.¹³ There is also limited evidence to support the effectiveness of behavioural primary care interventions for non-treatment seeking populations to reduce cannabis use.¹⁴ In terms of the screening tools, there are a variety of screening instruments to assess cannabis use disorders. Some show good reliability (e.g., Cannabis Use Disorder Identification Test), though their clinical practicality is questionable as they are cumbersome and time consuming to complete.¹⁵ However, there is moderate quality evidence that shows a variety of cannabis misuse treatment programs are effective in treatment seeking populations.^{13,16,17}

Nonspecific prevention/harm reduction strategies:

Mass media campaigns targeting a general population base tend to have no effect on reducing drug use and the intention to use drugs. In fact, some media campaigns have led to increased drug use.¹⁸

Recommendations

Given the impending national legalization and the aforementioned evidence-based analysis, we call upon CFMS members to support the following recommendations:

1. Prevention and harm reduction strategies should be targeted at adolescents. There is high quality evidence that supports the effectiveness of school and non-school interventions in reducing/preventing cannabis use in this population.
2. High-risk groups who will be negatively affected by cannabis legalization should be identified and targeted for prevention/harm reduction.
3. Funding should be dedicated to create screening tools to identify high-risk populations in primary care.
4. The utility of mass media campaigns should be carefully considered. Any media campaign should be monitored to ensure no harm is caused.

References

1. Task Force on Cannabis Legalization and Regulation. A framework for the legalization and regulation of cannabis in Canada [Internet]. Ottawa: Queen's Printer for Canada; 2016 Nov [cited 2017 Oct 24]. Available from: <http://healthycanadians.gc.ca/task-force-marijuana-groupe-etude/framework-cadre/index-eng.php#es>
2. Government of Ontario. Ontario's plan to regulate legalized cannabis [Internet]. Newsroom. 2017 [cited 2017 Oct 23]. Available from: <https://news.ontario.ca/mag/en/2017/09/ontarios-plan-to-regulate-legalized-cannabis.html>
3. Health Canada. Canadian alcohol and drug use monitoring survey [Internet]. 2014 [cited 2017 Nov 8]. Available from: <https://www.canada.ca/en/health-canada/services/health-concerns/drug-prevention-treatment/drug-alcohol-use-statistics/canadian-alcohol-drug-use-monitoring-survey-summary-results-2012.html>
4. Spackman E, Haines-Saah R, Danthurebandara VM, Dowsett LE, Noseworthy T, Clement FM. Marijuana use and perceptions of risk and harm: A survey among Canadians in 2016. *Healthc Policy*. 2017;13(1):17.
5. Fischer B, Jeffries V, Hall W, Room R, Goldner E, Rehm J. Lower risk cannabis use guidelines for Canada: A narrative review of evidence and recommendations. *Can J Public Health Rev Can Sante Publique*. 2011 Oct;102(5):324–7.
6. Flynn A, Falco M, Hocini S. Independent evaluation of middle school-based drug prevention curricula a systematic review. *JAMA Pediatr*. 2015 Jan 1;169(11):1046–52.
7. Faggiano F, Minozzi S, Versino E, Buscemi D. Universal school-based prevention for illicit drug use. *Cochrane Database Syst Rev*. 2014 Dec 1;2014(12):Art. No.: CD003020.

8. Norberg MM, Kezelman S, Lim-Howe N. Primary prevention of cannabis use: A systematic review of randomized controlled trials. *PLoS ONE*. 2013 Jan 1;8:e53187.
9. Lemstra M, Bennett N, Nannapaneni U, Neudorf C, Warren L, Kershaw T, et al. A systematic review of school-based marijuana and alcohol prevention programs targeting adolescents aged 10-15. *Addict Res Theory*. 2010 Jan 1;18(1):84–96.
10. Porath-Waller AJ, Beasley E, Beirness DJ. A meta-analytic review of school-based prevention for cannabis use. *Health Educ Behav*. 2010 Jan 1;37(5):709–23.
11. Bender K, Tripodi S, Sarteschi C, Vaughn M. A meta-analysis of interventions to reduce adolescent cannabis use. *Res Soc Work Pract*. 2011 Mar 1;21(2):153–64.
12. MacArthur GJ, Harrison S, Caldwell DM, Hickman M, Campbell R. Peer-led interventions to prevent tobacco, alcohol and/or drug use among young people aged 11-21 years: A systematic review and meta-analysis. *Addiction*. 2016 Mar 1;111(3):391–407.
13. Polen MR, Whitlock EP, Wisdom JP, Nygren P. Screening in primary care settings for illicit drug use: Staged systematic review for the united states preventive services task force [Internet]. Rockville (MD): Agency for Healthcare Research and Quality (US); 2008 Jan. Available from: <http://www.uspreventiveservicestaskforce.org/uspstf08/druguse/drugsys.pdf>
14. Patnode CD, O'Connor E, Rowland M, Burda BU, Perdue LA, Whitlock EP. Primary care behavioral interventions to prevent or reduce illicit drug use and nonmedical pharmaceutical use in children and adolescents: A systematic evidence review for the U.S preventive services task force. *Ann Intern Med*. 2014 May 6;160(9):612–20.
15. Lopez-Pelayo H, Batalla A, Balcells MM, Colom J, Gual A. Assessment of cannabis use disorders: A systematic review of screening and diagnostic instruments. *Psychol Med*. 2015 Apr;45(6):1121–33.
16. Cooper K, Chatters R, Kaltenthaler E, Wong R. Psychological and psychosocial interventions for cannabis cessation in adults: A systematic review short report. *Health Technol Assess*. 2015 Jan 1;19(56):1–30.
17. Gates P, Sabioni P, Copeland J, Le Foll B, Gowing L. Psychosocial interventions for cannabis use disorder. *Cochrane Database Syst Rev*. 2016 Jan 1;2016(5):CD005336.
18. Allara E, Ferri M, Bo A, Gasparrini A, Faggiano F. Are mass-media campaigns effective in preventing drug use? *BMJ Open*. 2015 Jan 1;5(9):e007449.

Public Education

Background

Canadians' awareness of the harms of cannabis is generally low.¹ The lack of awareness and misconceptions is particularly prevalent among youth.^{2,3} Specifically, it was reported that 14% of people believe cannabis does not pose physical health risks, and 21% of people believe cannabis is more helpful than harmful.⁴ Moreover, youth tend to emphasize cannabis' beneficial effect on their focus, sleep, aggressive behaviours, and its ability to improve creativity.² Common misconceptions about cannabis include that it can counter the harmful effects of smoking tobacco, or that cannabis is not a dangerous or addictive substance since it is derived from a natural product.²

Traditional public health campaigns and educational programs for youth have not been particularly effective, thus giving rise to the need for more comprehensive programs that incorporate skills-based training for youth. High quality public education also needs to emphasize harm reduction, as there is emerging evidence that chronic cannabis users under age 25 may experience abnormal brain development.^{2,5}

There appears to be strong federal support for comprehensive cannabis public education, as the Canadian government has allocated approximately \$9.6 million for this purpose.⁶ The federal government has identified priority areas for public education, with a focus on impaired driving and consumption patterns among youth. The proposed public education model will likely be akin to alcohol and tobacco education campaigns, the idea being to demonstrate the harms of cannabis, aiming to deter potentially dangerous consumption practices.

High quality studies of specific public education interventions at the national and state levels are lacking. In the United States, Washington State and Colorado have legalized recreational cannabis use, but public education efforts had significant limitations, primarily because funding for public education was derived from state cannabis revenues, which only accrued to significant values two years following legalization.⁷ That delay in implementation has been identified as a major limiting factor in public education efforts.

Analysis

There is a lack of wide-scale, high quality studies of the efficacy of cannabis public education strategies. However, there is information from other jurisdictions regarding best practices in public education. Given Colorado and Washington's experience, consultations have concluded that public education must be implemented as soon as possible, preferably before legalization, and that revenues generated from cannabis sales should only be used as a supplement to federal and provincial funding, particularly in the early stages of legalization when cannabis revenues may not be adequate to achieve public education goals.

Additionally, cannabis advertisements from industry and small businesses would likely aim to minimize the harmful effects of cannabis, and therefore advertising should be restricted and regulated solely by the federal government. There is also some low to moderate quality evidence that skills-based training in schools may be effective in increasing knowledge of harms and competence in decision-making regarding cannabis use among youth.⁸ Lastly, consultations with community members concluded that it would be helpful to have culturally appropriate education, since different cultures hold different beliefs regarding cannabis use.

Recommendations

Given the impending national legalization and the aforementioned evidence-based analysis, we call upon CFMS members to support the following recommendations:

1. The federal government should regulate the providers and content of educational campaigns, and provide coordination across all provinces and territories.
2. Government-approved information about cannabis harms should be provided to all customers at the point of sale, and this information should be interpretable by diverse communities across Canada.
3. Employ a multi-media (social media, television, informative websites) and competency-based approach to education, in order to appeal to young people, parents and teachers. Youth should play a role in designing these modalities to increase appeal and promote education.
4. Implement the national public education campaign prior to legalization in order to maximize the preventative impact of public health education efforts.
5. Key areas of focus for public education should include: impaired driving, safe consumption practices, and the risk of cannabis use on the developing brain.

References

1. Cunningham JA, Blomqvist J, Koski-Jännes A, Raitasalo K. Societal images of cannabis use: Comparing three countries. *Harm Reduct J*. 2012 Jun 18;9:21.
2. McKiernan A, Fleming K. Canadian youth perceptions on cannabis [Internet]. Ottawa: Canadian Centre on Substance Use; 217AD Jan [cited 2018 Feb 25]. Available from: <http://www.ccsa.ca/Resource%20Library/CCSA-Canadian-Youth-Perceptions-on-Cannabis-Report-2017-en.pdf>
3. Johnston LD, O'Malley PM, Miech RA, Bachman JG, Schulenberg JE. Monitoring the future national survey results on drug use, 1975-2015: Overview, key findings on adolescent drug use [Internet]. Ann Arbor: Institute for Social Research, The University of Michigan; 2016. Available from: <https://deepblue.lib.umich.edu/bitstream/handle/2027.42/137909/mtf-overview2015.pdf?sequence=1&isAllowed=y>
4. Spackman E, Haines-Saah R, Danthurebandara VM, Dowsett LE, Noseworthy T, Clement FM. Marijuana use and perceptions of risk and harm: A survey among Canadians in 2016. *Healthc Policy Polit Sante*. 2017 Aug;13(1):17–27.
5. Canadian Medical Association. The health risks and harms associated with the use of marijuana [Internet]. Ottawa: Canadian Medical Association; 2014 May [cited 2018 Feb 25]. (Submission to the House of Commons Standing Committee on Health). Available from: https://www.cma.ca/Assets/assets-library/document/en/advocacy/Brief-Marijuana-Health_Committee_May27-2014-FINAL.pdf
6. Department of Finance Government of Canada. Budget 2017: Chapter 3 [Internet]. 2017 [cited 2018 Feb 26]. Available from: <https://www.budget.gc.ca/2017/docs/plan/toc-tdm-en.html>

7. McLellan AA, Ware MA, Boyd S, Chow G, Jesso M, Kendall P, et al. A framework for the legalization and regulation of cannabis in Canada: The final report of the task force on cannabis legalization and regulation. Ottawa, ON: Health Canada; 2016.
8. Teesson M, Newton NC, Barrett EL. Australian school-based prevention programs for alcohol and other drugs: A systematic review. *Drug Alcohol Rev.* 2012 Sep;31(6):731–6.

Minimum Age

Background

In November 2016, the Canadian Federal Task Force on Cannabis Legalization and Regulation released a set of recommendations, one of which was to establish a minimum age of 18 for cannabis purchase and possession. However, provinces and territories are free to set an older minimum age at their own discretion, such as to align with the legal age to purchase alcohol and tobacco in their jurisdiction.

Neuroimaging studies have indicated that the human brain continues to develop until approximately 25 years of age.¹ The Canadian Medical Association (CMA) has stated that establishing a minimum age of 18 years is too young, as there is evidence to indicate that cannabis can alter the developing brain.^{2,3} However, the CMA also recognizes that legalization and regulation of cannabis can help curb the black market, and can improve safety for individuals who use recreational cannabis.² The CMA has thus proposed the age of 21 as a minimum age to purchase cannabis, as a compromise between 18 and 25.²

The Canadian Pediatric Society (CPS) recommends setting the legal age for cannabis use to be equal to the legal age for tobacco use (which is either 18 or 19, depending on the province/territory), recognizing the extremely high rates of recreational cannabis use among Canadians aged 18-24.⁴ They also state that legalization will allow young adults to access product that is safe, regulated and of known potency, and will reduce the amount of youth engaging in criminal activity to access cannabis. Canada had the highest rates of recreational cannabis use in the developed world among youth (22%) and young adults (25%) in 2013.⁵

Adopting a public health approach to drug legislation should not solely involve examining the biomedical aspects associated with drug use, but also the harms criminalization and criminal records have on young people, especially those from Indigenous, black, and low-income backgrounds.⁶

Analysis

The risks and benefits of different options for setting the minimum age to purchase and possess cannabis are explored below.

Minimum Age of 18/19

Benefits:

- Allowing a greater amount of young adults to access cannabis legally may reduce the demand for products from the black market.
- Providing a greater amount of young adults with access to a regulated product may reduce exposure to drugs that may be laced into illegal cannabis.
- Setting legalization at age 18 may reduce cannabis-related criminal charges for young adults, and aligns with the legal age for other controlled substances.

Risks:

- As the human brain is not fully developed until 25 years of age, cannabis use during young adulthood could have detrimental long-term neurological effects, such as an increase in psychiatric conditions.⁷ This is only a risk assuming legalization will significantly increase cannabis use in young adults, of which there is no strong evidence to support.⁸
- Legalization may be perceived as normalization of cannabis use, and may suggest to the public that it is safe to use cannabis recreationally at ages 18/19.

- Recent decriminalization and legalization efforts have already changed the perception amongst youth that cannabis is harmful, with greater numbers of youth reporting perceptions of less risk associated with regular cannabis use than in previous years.⁹

Minimum Age of 21

Benefits:

- Young adults aged 21 and older will be able to access cannabis legally, reducing the demand for products from the black market.
- This option is in line with the CMA’s stance that 21 is a middle-ground between neurodevelopmental concerns, public health, and social justice.

Risks:

- Youth aged 18-20 will continue to have a high demand for cannabis, and will continue to purchase cannabis illegally off the black market.
- As the human brain is not fully developed until 25 years of age, cannabis use during young adulthood could have detrimental long-term neurological effects, such as an increase in psychiatric conditions.⁷ This is only a risk assuming legalization will significantly increase cannabis use in young adults, of which there is no strong evidence to support.⁸

Minimum Age of 25

Benefits:

- Minimizes detrimental effects to the developing brain, assuming that criminalization of cannabis at younger ages will reduce the amount of young adults who use cannabis recreationally.
- Provides a strong signal to the public that the government views cannabis use during young adulthood (before age 25) as dangerous.

Risks:

- The demand for illicit cannabis will remain in young adults aged 18-24, who have the highest rates of recreational cannabis use in the developed world.⁵
- Does not address the social inequities created by drug criminalization in young people, as criminal records can be a significant barrier to opportunities in later life. This is especially true for young adults from Indigenous, black and low-income communities, who disproportionately bear the brunt of drug possession charges.^{6,10,11}

Recommendations

The CFMS has not adopted a firm stance in regards to an absolute minimum age for cannabis legalization, but urges policymakers to consider and balance the following principles:

1. Recognize the need to balance concerns related to neurodevelopment effects of cannabis on young adults, the harms of youth criminalization—particularly for marginalized groups—and the need to ensure safe cannabis access (e.g., known potency, curbing black market activity).
2. Combine legalization with robust and targeted health promotion and education strategies.
3. Develop data systems to monitor the impact legalization will have on cannabis usage rates. In particular, criminalization rates need to be monitored to ensure Indigenous, black, and low-income youth are not continuing to disproportionately bear the brunt of cannabis-related charges.

References

1. Arain M, Haque M, Johal L, Mathur P, Nel W, Rais A, et al. Maturation of the adolescent brain. *Neuropsychiatr Dis Treat*. 2013;9:449–61.
2. Batalla A, Bhattacharyya S, Yücel M, Fusar-Poli P, Crippa JA, Nogué S, et al. Structural and functional imaging studies in chronic cannabis users: A systematic review of adolescent and adult findings. *PLoS One*. 2013;8(2):e55821.
3. Task Force on Marijuana Legalization and Regulation. CMA submission: legalization, regulation and restriction of access to marijuana [Internet]. Ottawa: Canadian Medical Association; 2016 Aug [cited 2018 Feb 25]. Available from: <https://www.documentcloud.org/documents/3100676-CMA-Submission-Legalization-and-Regulation-of.html>
4. Grant CN, Bélanger RE. Cannabis and Canada's children and youth. *Paediatr Child Health*. 2017 May 1;22(2):98–102.
5. Canadian Centre on Substance Use and Addiction. Marijuana and youth [Internet]. 2017 [cited 2018 Feb 26]. Available from: <http://www.ccdus.ca/Eng/topics/Marijuana/Marijuana-and-Youth/Pages/default.aspx>
6. Valleriani J, Haines-Saah R. Pot legislation does not fail Canada's youth. A criminal record does. *The Global and Mail* [Internet]. 2017 Jun 10 [cited 2018 Feb 25]; Available from: <https://www.theglobeandmail.com/opinion/pot-legislation-does-not-fail-canadas-youth-a-criminal-record-does/article35268868/>
7. Hall W, Degenhardt L. Cannabis use and the risk of developing a psychotic disorder. *World Psychiatry*. 2008 Jun;7(2):68–71.
8. Estoup AC, Moise-Campbell C, Varma M, Stewart DG. The impact of marijuana legalization on adolescent use, consequences, and perceived risk. *Subst Use Misuse*. 2016;51(14):1881–1887.
9. Canadian Centre on Substance Abuse. Canadian youth perceptions cannabis [Internet]. 2017 [cited 2018 Feb 26]. Available from: <http://www.ccsa.ca/Resourcew%20Library/CCSA-Canadian-Youth-Perceptions-on-Cannabis-Report-2017-en.pdf>
10. Marshall SG. Canadian drug policy and the reproduction of indigenous inequities. *Int Indig Policy J*. 2015;6(1):7.
11. Rose C. It's black and white: the social justice case for legalizing marijuana [Internet]. *wbur*. 2016 [cited 2018 Feb 26]. Available from: <http://www.wbur.org/cognoscenti/2016/11/02/yes-on-question-4-legalize-marijuana-carol-rose>