

Cannabis in Canada: What the upcoming legalization of one of Canada's most popular drugs means for young people

Braedon R. Paul¹

Citation: UBCM]. 2018: 9.2 (40-41)

With the Canadian legalization and regulation of cannabis slated for a debut no later than July 2018,¹ many Canadians are eagerly awaiting the day when one of Canada's most popular drugs^{2,3} can be legally purchased and consumed for recreational purposes. Bill C-45 [the Cannabis Act], introduced to the House of Commons in early 2017,⁴ is set to legalize and regulate the production, distribution, and sale of recreational cannabis across Canada, fulfilling an election promise made by the Liberal Party of Canada [LPOC] in 2015.⁵ Although many are in favour of the incoming legislation, an equally vocal group has expressed concern over its pitfalls, particularly those regarding the potential impacts on Canadian youth. Given what is currently understood about the effects of cannabis usage on adolescent health, these concerns are not unwarranted. However, when it comes to setting legal boundaries, the LPOC has stressed the importance of balancing such health concerns with other real-world considerations in the social and economic realms in order to most effectively protect Canadian youth.

Of the several concerns brought forward by opponents of the proposed Cannabis Act, perhaps most noteworthy is the listed minimum age of 18 for the use and purchase of cannabis,⁴ despite the recommended age of 21 from the Canadian Medical Association [CMA]. To justify their sub-21 age limit, the LPOC underlined the importance of striking a balance between the harms and benefits of stricter limits.

According to current evidence,⁶⁻⁸ exposure at too young an age risks harming the brain during crucial periods in development, with a mounting body of research suggesting risks to brain development persist until age 25.^{2,9} This includes risks of psychobehavioural nature, such as psychiatric illness and substance abuse disorders,^{6,9-11} which are largely related to reduced grey matter volume in brain regions linked to emotional and motivational processing.⁷ Indeed, current evidence from a number of studies has shown associations between earlier onset psychiatric illness and cannabis use.⁶ A causal relationship, however, is not unanimously supported, with some researchers arguing that demographic variables such as socioeconomic status may help explain the relationship,¹² further stressing the need for continued research and larger-scale longitudinal studies. Nonetheless, medical experts agree that delayed exposure to cannabis reduces risk of developmental harms.¹³

Perhaps more well-understood are the short-term health effects of cannabis use, which include impaired concentration, problem solving skills, attention span, working memory, and verbal fluency, among others.^{9,14} Clearly, such symptoms are likely to interfere with classroom learning and are thus exceptionally important to consider in adolescent populations. While these impairments are largely short-

term, some have shown residual effects lasting well beyond abstinence of cannabis use,¹⁴ particularly if chronic and heavy use was initiated in earlier adolescence. Additionally, chronic use of smoked cannabis has been associated with symptoms of chronic bronchitis and large airway inflammation, while the links between smoking cannabis and lung cancer have been suggested by some but not conclusively determined.¹⁵

If the age limit is set too high, however, illicit sales from organized crime groups, which currently reap an estimated \$7 billion annually in Canada alone,¹⁶ will continue to supply the underage market—a substantial concern given that Canadian youth are understood to be the highest young users of cannabis in the world³ and are more than double that of the general Canadian population.² Inevitably, such high cannabis use by Canadian youth will continue into the future regardless of legality, leaving cannabis-using youth at risk of criminal offence charges and a criminal record.

Despite the risks of using cannabis at a young age, even the CMA acknowledges that, although ideal, an age limit of 25 is less than feasible. Instead, they officially recommended a minimum age limit of 21, a figure aligned with the federal US age limit on recreational cannabis use.² Interestingly, however, the CMA's position was markedly less firm than that supported by the American Academy of Pediatrics [AAP], which continues to voice opposition to the ongoing legalization of cannabis in the remaining US states where the substance is still illegal.⁹ However, regardless of the AAP's firm stance, epidemiological data from a number of US studies suggests that cannabis use by minors has either remained the same or decreased following state legalizations of medical cannabis,^{17,18} with one study even demonstrating an increase in perceived harmfulness of cannabis among US eighth graders following the passage of medical cannabis laws.¹⁹ Nevertheless, results should be approached cautiously and without the use of blanket statements, as trends vary between US states and are thus unlikely to be entirely generalizable to Canadian youth. Considering the current data, however, the CMA's notably softer stance than its American counterpart is reasonably supported, especially given the negligible impact that a firm anti-cannabis position would have on the future of Bill C-45.

Acknowledging the inevitability of cannabis legislation, the CMA is instead focusing attention more proactively, with public health measures designed to minimize negative impacts of cannabis use.²⁰ Their recommendations include banning cannabis marketing and advertising, expanding access to support services such as mental health and substance abuse services, and introducing educational resources directed at youth and families.² In addition, the CMA has recommended limits be placed on cannabis quantity and potency for those under 25² in an effort to minimize exposure until brain development is no longer a risk factor. However, given the absence of these restrictions in the Cannabis Act, the onus will lie with provincial and territorial governments, raising concern over future complications surrounding inter-jurisdictional enforcement.

¹MD Program, Faculty of Medicine, University of British Columbia, Vancouver, BC, Canada

Correspondence
Braedon Paul (braedon.paul@alumni.ubc.ca)

Ultimately, while the LPOC and the CMA have failed to come to terms on an age limit for cannabis legalization, both groups acknowledge the importance of ongoing public education for youth, families, and vulnerable populations. Clearly, the issue of cannabis legality and its potential impacts on Canadian youth is far from simple, requiring an interplay of prudent decision-making, dedicated research, and a myriad of real-world considerations to help maintain the delicate balance required to protect Canadian youth and clear the smoke on their continued use of cannabis.

References

1. Service Canada. Introduction of the Cannabis Act: questions and answers [Internet]. 2017 [cited 2017 Sep 29]. Available from: <https://www.canada.ca/en/services/health/campaigns/introduction-cannabis-act-questions-answers.html>
2. 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 [Internet]. Task Force on Cannabis Legalization and Regulation. 2016 [cited 2017 Sep 29]. Available from: <http://www.parl.ca/DocumentViewer/en/42-1/bill/C-45/first-reading>
3. Adamson P. Child well-being in rich countries. 2013 [cited 2017 Sep 29]; Available from: http://www.unicef.ca/sites/default/files/legacy/imce_uploads/DISCOVER/OUR_WORK/ADVOCACY/DOMESTIC/POLICY_ADVOCACY/DOCS/unicef_report_card_11.pdf
4. Bill C-45: An Act respecting cannabis and to amend the Controlled Drugs and Substances Act, the Criminal Code and other Acts [Internet]. 2016. Available from: <http://www.parl.ca/DocumentViewer/en/42-1/bill/C-45/first-reading>
5. Liberal Party of Canada. A new plan for a strong middle class [Internet]. 2015 [cited 2017 Oct 1]. Available from: <https://www.liberal.ca/wp-content/uploads/2015/10/New-plan-for-a-strong-middle-class.pdf>
6. Large M, Sharma S, Compton MT, Slade T, Nielsen O. Cannabis use and earlier onset of psychosis. *Arch Gen Psychiatry*. 2011 Jun 6;68(6):555.
7. Battistella G, Fornari E, Annoni J-M, Chioui H, Dao K, Fabritius M, et al. Long-term effects of cannabis on brain structure. *Neuropsychopharmacology*. 2014 Aug;39(9):2041–8.
8. James A, James C, Thwaites T. The brain effects of cannabis in healthy adolescents and in adolescents with schizophrenia: a systematic review. *Psychiatry Res Neuroimaging*. 2013 Dec 30;214(3):181–9.
9. Ammerman S, Ryan S, Adelman WP. The impact of marijuana policies on youth: clinical, research, and legal update. *Pediatrics*. 2015;135(3):e769–85.
10. Mayes LC, Suchman NE. Developmental pathways to substance abuse, in *Developmental Psychopathology* [Internet]. 2nd ed. Cicchetti D, Cohen DJ, editors. Hoboken, NJ, USA: John Wiley & Sons, Inc.; 2015 [cited 2017 Sep 29]. 599-619 p. Available from: <http://doi.wiley.com/10.1002/9780470939406.ch16>
11. Ellickson PL, Martino SC, Collins RL. Marijuana use from adolescence to young adulthood: multiple developmental trajectories and their associated outcomes. *Heal Psychol*. 2004;23(3):299–307.
12. Sevy S, Robinson DG, Napolitano B, Patel RC, Gunduz-Bruce H, Miller R, et al. Are cannabis use disorders associated with an earlier age at onset of psychosis? A study in first episode schizophrenia. *Schizophr Res* [Internet]. 2010 Jul [cited 2017 Nov 29];120(1–3):101–7. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/20471224>
13. Government of Canada. Task force on marijuana legalization and regulation [Internet]. 2016 [cited 2017 Oct 1]. Available from: <https://www.cma.ca/Assets/assets-library/document/en/advocacy/submissions/2016-aug-29-cma-submission-legalization-and-regulation-of-marijuana-e.pdf>
14. Crean RD, Crane NA, Mason BJ. An evidence based review of acute and long-term effects of cannabis use on executive cognitive functions. *J Addict Med* [Internet]. 2011 Mar [cited 2017 Nov 29];5(1):1–8. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/21321675>
15. Joshi M, Joshi A, Bartter T. Marijuana and lung diseases. *Curr Opin Pulm Med* [Internet]. 2014 Mar [cited 2017 Nov 29];20(2):173–9. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/24384575>
16. Government of Canada. Toward the legalization, regulation and restriction of access to marijuana: discussion paper [Internet]. 2016 [cited 2017 Oct 1]. Available from: <http://www.healthycanadians.gc.ca/health-system-systeme-sante/consultations/legalization-marijuana-legalisation/alt/legalization-marijuana-legalisation-eng.pdf>
17. Lynne-Landsman SD, Livingston MD, Wagenaar AC. Effects of state medical marijuana laws on adolescent marijuana use. *Am J Public Health*. 2013;103(8):1500–6.
18. Cerdá M, Wall M, Feng T, Keyes KM, Sarvet A, Schulenberg J, et al. Association of state recreational marijuana laws with adolescent marijuana use. *JAMA Pediatr* [Internet]. 2017;171(2):142. Available from: <http://archpedi.jamanetwork.com/article.aspx?doi=10.1001/jamapediatrics.2016.3624>
19. Keyes KM, Wall M, Cerdá M, Schulenberg J, O'Malley PM, Galea S, et al. How does state marijuana policy affect US youth? Medical marijuana laws, marijuana use and perceived harmfulness: 1991-2014. *Addiction* [Internet]. 2016 Dec [cited 2017 Nov 24];111(12):2187–95. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/27393902>
20. Canadian Medical Association. CMA statement – legalization of marijuana [Internet]. 2016 [cited 2017 Oct 1]. Available from: <https://www.cma.ca/En/Lists/Medias/cma-statement-legalization-of-marijuana.pdf>