Cannabis and Canadian youth

Evidence, not ideology

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A recent United Nations Children's Fund study on the well-being of children[1] found that Canadian adolescents (aged 11 to 15 years) have the highest rate of cannabis use among the 29 advanced economies of the world; an estimated 28% had used cannabis at least once in the past year. The 2011 Canadian Alcohol and Drug Use Monitoring Survey, which surveyed older youth, found slightly lower rates of cannabis use; about 21% had used cannabis at least once in the past year.[2] Of concern, a considerable percentage of the Canadian youth who have used in the past year are daily or weekly users—approximately 22% of boys and 10% of girls.[3]

The high rate of cannabis use by youth in Canada is worrisome. Recent evidence shows that there are substantial risks to youth who are regular cannabis users. They appear to be at increased risk of having problematic cannabis use and developing cannabis addictions as compared with adult users.[4] They are also at risk of social dysfunction, including work and school impairment.[5] Also, the developing adolescent brain might be particularly vulnerable to regular exposure to cannabis.[6] One recent study found that adults who used cannabis regularly in their teen years experienced a 5- to 8-point drop in their IQ scores, which persisted into midlife, even if they stopped using cannabis when they reached adulthood.[7] Finally, heavy cannabis use in adolescence is a risk factor for psychosis and might contribute to the development of a persistent psychotic disorder.[8-10]

It is important to note that Canadian teens are not using all substances more often than their counterparts in other countries; their use of tobacco and alcohol falls in the low and average range, respectively.[1] The explanation for the international variation in usage rates for these licit and illicit substances is complex. Factors include social and cultural norms, drug availability, and national drug policy (prevention, treatment, and enforcement).

Enforcement policies

One thing is clear: strict cannabis enforcement policies are not a deterrent for adolescents. The United Nations Children's Fund study found that countries with more liberal cannabis laws had lower rates of cannabis use by teens (Netherlands 17%, Portugal 10%) than Canada did.[1] A 2010 study on teens in the United States, Canada, and the Netherlands also found no correlation between enforcement policy and rates of cannabis use among adolescents.[11] This is consistent with a large body of data on national drug policy and rates of substance use.[12,13]

In addition to being ineffective, strict drug policies have many devastating societal and public health consequences. The harms include HIV epidemics, human rights violations, an extensive criminal black market, a waste of scarce public resources, and the stigmatization and marginalization of drug users.[14,15] Evidence shows that vulnerable populations are disproportionately affected by strict drug policies.[16] In the Canadian north (Yukon, Northwest Territories, and Nunavut) in 2007, individuals were at least twice as likely to have police-reported cannabis offences compared with their southern counterparts.[17]

Recognizing the ineffectiveness and harms of strict drug policies, Portugal decriminalized all substances and channeled the savings from drug enforcement into prevention and treatment. A decade later, not only was there a decrease in Portugal's drug use rates, but there were also improvements in many of the country's health outcome measures.[18,19] Other countries have also acknowledged the failures of strict enforcement and are making policy changes.[20]

However, Canada lags behind; its drug policy continues to focus on enforcement.[21] A 2001 auditor general report found that 95% of the funds allocated for reducing illicit drug use (an estimated $450 million in 2001) went to enforcement.[22] More recently, the government reaffirmed its commitment to strict enforcement policies with the 2012 omnibus crime bill,[23,24] and with the attempt to dismantle many effective treatment programs that focus on harm reduction.[25]

Canada's leaders in addiction research and public health are opposed to the current government's approach.[26-30] They are asking for an urgent reexamination of drug policy and advocating for programs based on evidence instead of ideology. These leaders are presenting a strong and unified voice. However, family physicians, and the organizations that represent them, have been largely silent on this issue.

Health advocate role

Family physicians, as health advocates for this vulnerable

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young population, should be actively working to change drug policy. They can use their individual voices to persuade policy makers or encourage organizations, like the College of Family Physicians of Canada, to speak on their behalf. Family physicians can also join organizations like the Canadian Drug Policy Coalition, a coalition that advocates for drug policy based on "evidence, human rights, social inclusion and public health."[31]

Recommendations

Cannabis use among youth should be viewed within a public health framework. Strict enforcement policies do not work, have many untoward societal consequences, and are very expensive. Instead, funding should go toward evidence-based prevention and treatment programs for youth.

The prevention component should be approached carefully, as public health interventions directed at adolescents have had mixed results[32,33] and some campaigns have had no effect on adolescent substance use.[34] Analysis of Project DARE (Drug Abuse Resistance Education)—a widely implemented (in more than 80% of US school districts) abstinence-based program for school-aged youth—showed no improvement in outcomes.[34] Recent evidence indicates that interventions focused on healthy youth development are more effective in reducing substance use (and other risky behaviour) than those focused on warning teens about threats or dangers. The most effective interventions combine support, resources, and educational and employment opportunities.[35,36]

Primary care is an important intervention point for youth. In this issue of *Canadian Family Physician* (**page 801**), we, along with Turner, discuss the approach to screening, case finding, and intervening in cannabis use disorders in primary care.[37] Experts recommend primary care providers use the SBIRT (Screening, Brief Intervention and Referral to Treatment) approach to substance use.[38] Adolescents are open to screening questions and to advice on substance use from their primary health care providers.[39] Most studies have found that brief interventions are effective in reducing substance use,[40,41] including cannabis use,[42] in youth. (However, one recent randomized study of 65 cannabis-using youth found no improvement in outcomes after a brief intervention.[43]) Therefore, health care providers in primary care should regularly ask all youth patients about cannabis use and share information on the heightened risk of harms from cannabis for adolescent users. Health care providers should be prepared to provide brief interventions,[37] as well as to offer referrals to addiction services to all regular cannabis users who are unable to cut back or quit. They should also provide harm-reduction information on cannabis use to all youth patients.[44]

All addiction treatment programs should also be based on the most recent body of evidence. The most effective programs are patient-centred and strongly linked to primary health care.[45,46] They also have a harm-reduction approach[47] and incorporate an understanding of societal and structural factors that contribute to substance use and relapse.[48] Additionally, effective programs have multiple access points that are simple to navigate.[49]

Conclusion

Cannabis use is pervasive among Canadian youth and is more common than in the other 28 advanced economies of the world. Because the consequences of regular cannabis use in adolescence can be considerable and lifelong, policy makers should employ a pragmatic rather than an ideologic approach. Evidence shows that strict drug enforcement policies are not effective in reducing cannabis use among adolescents (or among adults), and they have many negative public health consequences. Instead, cannabis use among adolescents should be viewed within a public health framework. Family physicians, and the organizations that represent them, should be calling for policies that work to reduce cannabis use: effective, evidence-based prevention and treatment programs.

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Competing interests
Dr Kahan has received payment from Reckitt Benckiser for presentations on suboxone.

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References

1. United Nations Children's Fund. *Child well-being in rich countries. A comparative overview. Innocenti Report Card 11*. Florence, Ital: United Nations Children's Fund; 2013. Available from: **www.unicef-irc.org/publications/pdf/rc11_eng.pdf**. Accessed 2014 Jul 16.
2. Health Canada [website]. *Canadian Alcohol and Drug Use Monitoring Survey*. Ottawa, ON: Health Canada; 2012. Available from: **www.hc-sc.gc.ca/hc-ps/drugs-drogues/stat/_2011/tables-tableaux-eng.php#t1**. Accessed 2014 Jul 16.
3. Centre for Addictions Research of BC. *Cannabis use in British Columbia: patterns of use, perceptions, and public opinion as assessed in the 2004 Canadian addiction survey*. Victoria, BC: Centre for Addictions Research of BC; 2006. Available from: **http://carbc.ca/portals/0/propertyagent/558/files/19/carbcbulletin2.pdf**. Accessed 2014 Jul 16.
4. Hall WD. Cannabis use and the mental health of young people. *Aust N Z J Psychiatry* 2006;40(2):105-13.
5. Fergusson DM, Horwood LJ, Swain-Campbell N. Cannabis use and psychosocial adjustment in adolescence and young adulthood. *Addiction* 2002;97(9):1123-35.
6. 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* 2011;5(1):1-8.
7. Meier MH, Caspi A, Ambler A, Harrington H, Houts R, Keefe RS, et al. Persistent cannabis users show neuropsychological decline from childhood to midlife. *Proc Natl Acad Sci USA* 2012;109(40):E2657-64. Epub 2012 Aug 27.
8. Dragt S, Nieman DH, Becker HE, van de Fliert R, Dingemans PM, de Haan L, et al. Age of onset of cannabis use is associated with age of onset of high-risk symptoms for psychosis. *Can J Psychiatry* 2010;55(3):165-71.
9. Ben Amar M, Potvin S. Cannabis and psychosis: what is the link? *J Psychoactive Drugs* 2007;39(2):131-42.
10. Kuepper R, van Os J, Lieb R, Wittchen HU, Hofler M, Henquet C. Continued cannabis use and risk of incidence and persistence of psychotic symptoms: 10 year follow-up cohort study. *BMJ* 2011;342:d738.

11. Simons-Morton B, Pickett W, Boyce W, ter Bogt TF, Vollebergh W. Cross-national comparison of adolescent drinking and cannabis use in the United States, Canada, and the Netherlands. *Int J Drug Policy* 2010;21(1):64-9.
12. Degenhardt L, Chiu W, Sampson N, Kessler RC, Anthony JC, Angermeyer M, et al. Toward a global view of alcohol, tobacco, cannabis, and cocaine use: findings from the WHO World Mental Health Surveys. *PLoS Med* 2008;5(7):e141.
13. Reuter P. Ten years after the United Nations General Assembly Special Session (UNGASS): assessing drug problems, policies and reform proposals. *Addiction* 2009;104(4):510-7.
14. Global Commission on Drug Policy. *War on drugs. Report of the global commission on drug policy June 2011*. Rio de Janeiro, Braz: Global Commission on Drug Policy; 2011. Available from: **www.globalcommissionondrugs.org/wp-content/themes/gcdp_v1/pdf/Global_Commission_Report_English.pdf**. Accessed 2014 Jul 16.
15. *The Vienna Declaration. Leading the way to illicit drug policies based on evidence, not ideology.* San Francisco, CA: Automattic, Inc; 2010. Available from: **www.viennadeclaration.com/wordpress/wp-content/uploads/2010/11/The-Vienna-Declaration-Progress-thus-far.pdf.** Accessed 2014 Jul 16.
16. Moore LD, Elkavich A. Who's using and who's doing time: incarceration, the war on drugs, and public health. *Am J Public Health* 2008;98(5):782-6.
17. Statistics Canada. *Police-reported drug offences, by type of drug, by province and territory, 2007*. Ottawa, ON: Statistics Canada; 2007. Available from: **www.statcan.gc.ca/pub/85-002-x/2009002/article/10847/tbl/tbl6-eng.htm**. Accessed 2014 Jul 16.
18. Szalavitz M. Portugal's drug experience: new study confirms decriminalization was a success. *Time* 2010 Nov 23. Available from: **http://healthland.time.com/2010/11/23/portugals-drug-experience-new-study-confirms-decriminalization-was-a-success/**. Accessed 2013 Aug 14.
19. Hughes CE, Stevens A. What can we learn from the Portuguese decriminalization of illicit drugs? *Br J Criminol* 2010;50(6):999-1022.
20. Mayer A. *Uruguay's pot legalization could be 'tipping point' in war on drugs.* Toronto, ON: CBC News; 2013. Available from: **www.cbc.ca/1.1354247.** Accessed 2014 Apr 1.
21. Hyshka E, Butler-McPhee J, Elliott R, Wood E, Kerr T. Canada moving backwards on illegal drugs. *Can J Public Health* 2012;103(2):125-7.
22. Office of the Auditor General of Canada. *Illicit drugs: the federal government's role*. Ottawa, ON: Office of the Auditor General of Canada; 2002. Available from: **www.oag-bvg.gc.ca/internet/docs/0111ce.pdf**. Accessed 2014 Jul 16.
23. CBC News [website]. *What worries critics about omnibus crime bill.* Toronto, ON: CBC News; 2012. Available from: **www.cbc.ca/news/canada/story/2012/03/06/f-bill-c10-objections.html**. Accessed 2013 Aug 27.
24. Debeck K, Wood E, Montaner J, Kerr T. Canada's new federal 'national anti-drug strategy': an informal audit of reported funding allocation. *Int J Drug Policy* 2009;20(2):188-91. Epub 2008 Jun 20.
25. Bayoumi A. Opinion: new federal rules for supervised injection sites—evidence or ideology? Toronto, ON: Healthy Debate; 2013. Available from: **http://healthydebate.ca/opinions/supervised-injection-sites**. Accessed 2013 Sep 4.
26. Canadian Public Health Association. *Canadian Pubic Health Association 2007 resolutions*. Ottawa, ON: Canadian Public Health Association; 2007. Available from: **www.cpha.ca/uploads/resolutions/2007_e.pdf.** Accessed 2014 Jul 16.
27. Health Officers Council of British Columbia. *A public health approach to drug control in Canada. Discussion paper. October 2005*. Victoria, BC: Health Officers Council of British Columbia; 2005. Available from: **www.cfdp.ca/bchoc.pdf**. Accessed 2014 Jul 16.
28. Government of Canada. *National framework for action to reduce the harms associated with alcohol and other drugs and substances in Canada*. Ottawa, ON: Government of Canada; 2005.
29. Canadian Drug Policy Coalition. *Getting to tomorrow: a report on Canadian drug policy*. Vancouver, BC: Canadian Drug Policy Coalition; 2013.
30. Wood E, McKinnon M, Strang R, Kendall PR. Improving community health and safety in Canada through evidence-based policies on illegal drugs. *Open Med* 2012;6(1):e35-e40. Available from: **www.openmedicine.ca/article/view/501/455**. Accessed 2014 Jul 16.
31. Canadian Drug Policy Coalition [website]. *About*. Vancouver, BC: Canadian Drug Policy Coalition; 2011. Available from: **http://drugpolicy.ca/about/.** Accessed 2014 Apr 4.
32. Jackson CA, Henderson M, Frank JW, Haw SJ. An overview of prevention of multiple risk behaviour in adolescence and young adulthood. *J Public Health* (Oxf) 2012;34(Suppl 1):i31-40.
33. Hornik R, Jacobsohn L. The best laid plans: disappointments of the National Youth Anti-Drug Media Campaign. *LDI Issue Brief* 2008;14(2):1-4.
34. Lynam DR, Milich R, Zimmerman R, Novak SP, Logan TK, Martin C, et al. Project DARE: no effects at 10-year follow-up. *J Consult Clin Psychol* 1999;67(4):590-3.
35. Bernat D. Healthy youth development: science and strategies. *J Public Health Manag Pract* 2006:S10-6. Available from: **http://journals.lww.com/jphmp/Fulltext/2006/11001/Healthy_Youth_Development__Science_and_Strategies.4.aspx**. Accessed 2013 Aug 17.
36. Faggiano F, Vigna-Taglianti F, Burkhart G, Bohrn K, Cuomo L, Gregori D, et al. The effectiveness of a school-based substance abuse prevention program: 18-month follow-up of the EU-Dap cluster randomized controlled trial. *Drug Alcohol Depend* 2010;108(1-2):56-64.
37. Turner SD, Spithoff S, Kahan M. Approach to cannabis use disorders in primary care. Focus on youth and other high-risk users. *Can Fam Physician* 2014;60:801-8 (Eng), e423-32 (Fr).
38. Levy SJ, Kokotailo PK. Substance use Screening, Brief Intervention, and Referral to Treatment for pediatricians. *Pediatrics* 2011;128(5):e1330-40.
39. Ackard DM, Neumark-Sztainer D. Health care information sources for adolescents: age and gender differences on use, concerns, and needs. *J Adolesc Health* 2001;29(3):170-6.
40. Winters KC, Fahnhorst T, Botzet A, Lee S, Lalone B. Brief intervention for drug-abusing adolescents in a school setting: outcomes and mediating factors. *J Subst Abuse Treat* 2012;42(3):279-88.
41. Patton R, Deluca P, Kaner E, Newbury-Birch D, Phillips T, Drummond C. Alcohol screening and brief intervention for adolescents: the how, what and where of reducing alcohol consumption and related harm among young people. *Alcohol Alcohol* 2014;49(2):207-12.
42. D'Amico EJ, Miles JN, Stern SA, Meredith LS. Brief motivational interviewing for teens at risk of substance use consequences: a randomized pilot study in a primary care clinic. *J Subst Abuse Treat* 2008;35(1):53-61.
43. Haller DM, Meynard A, Lefebvre D, Ukoumunne OC, Narring F, Broers B. Effectiveness of training family physicians to deliver a brief intervention to address excessive substance use among young patients: a cluster randomized controlled trial. *CMAJ* 2014;186(8):e263-72.
44. Vancouver Coastal Health. *Take care with cannabis*. Vancouver, BC: Vancouver Coastal Health. Available from: **www.vch.ca/media/TakeCarewithCannabis.pdf?xprOpenPopup=1.** Accessed 2014 Jul 16.
45. Kahan M, Wilson L, Midmer D, Ordean A, Lim H. Short-term outcomes in patients attending a primary care-based addiction shared care program. *Can Fam Physician* 2009;55:1108-9.e1-5. Available from: **www.cfp.ca/content/55/11/1108.full.pdf+html**. Accessed 2014 Jul 16.
46. Weisner C, Mertens J, Parthasarathy S, Moore C, Lu Y. Integrating primary medical care with addiction treatment: a randomized controlled trial. *JAMA* 2001;286(14):1715-23.
47. CASA Columbia. *Addiction medicine: closing the gap between science and practice*. New York, NY: Columbia University; 2012. Available from: **www.casacolumbia.org/upload/2012/20120626addictionmed.pdf.** Accessed 2014 Jul 16.
48. Buchanan J. *Tackling problem drug use: a new conceptual framework*. Berkeley, CA: Bepress; 2004. Available from: **http://epubs.glyndwr.ac.uk/siru/3**. Accessed 2014 Jul 16.
49. Moos RH, Moos BS. Long-term influence of duration and intensity of treatment on previously untreated individuals with alcohol use disorders. *Addiction* 2003;98(3):325-37.