

TOBACCO, VAPING & CANNABIS INFORMATION SERIES



Concurrent use of Tobacco and Cannabis

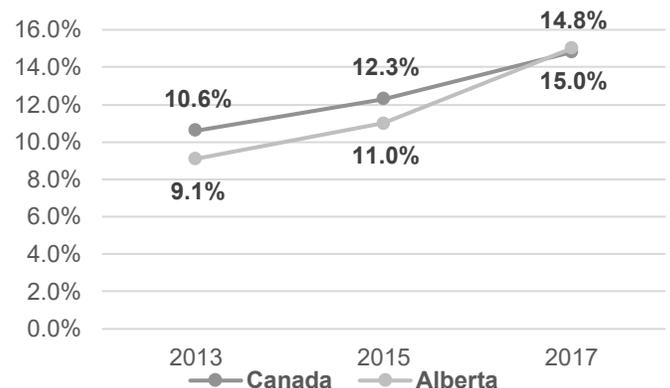
Cannabis for consumption is produced in several forms, such as leaves, hash, oils and other extracts. In addition to being smoked, it can be vaporized, ingested or applied topically. While commonly also referred to as marijuana, there are many different colloquial names used including weed, pot, dope, chronic, kush and ganja.

Prevalence

The Canadian Tobacco, Alcohol and Drugs Survey (CTADS), 2017, showed that 14.8% of Canadians had used cannabis in the past year; a rate that has steadily demonstrated increases since 2013.¹ Similarly, in Alberta, the 2017 rate is 15%, a 4% increase since 2015, and a 5.9% increase since 2013 (See Figure 1).

The prevalence of cannabis use demonstrates associations with current cigarette smoking status. For example, 21.4% of current

Figure 1. Past-year Cannabis Use Rates among Canadian and Albertan Populations, Aged 15 and Older.



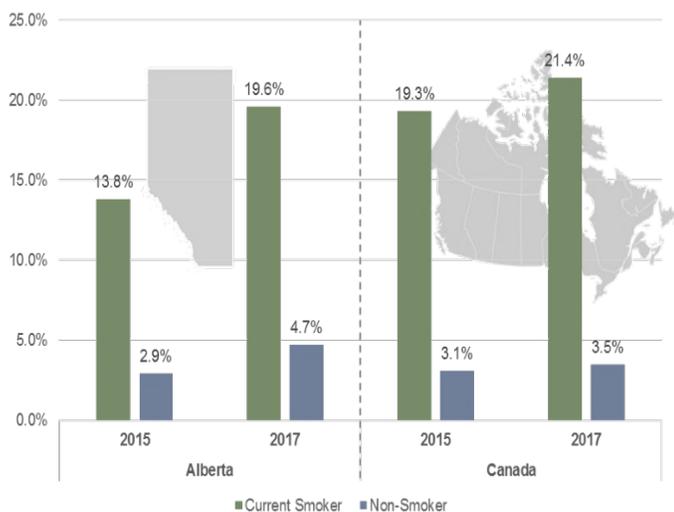
Data source: Canadian Tobacco, Alcohol and Drugs Survey

cigarette smokers (aged 15+) in Canada reported using cannabis at least weekly in 2017, compared with just 3.5% of those who do not smoke cigarettes.² In Alberta, those with a current smoking status were over four times more likely to report using cannabis at least weekly than those who do not smoke.³

While the at least weekly cannabis use rate among Albertan current smokers is lower than the national rates, the 2017 data showed

a steep rise of almost 6% from 2015, although nationally large increases were not noted (See Figure 2) ^{3,4}.

Figure 2. Prevalence of At Least Weekly Cannabis Use Among Current and Non-Smokers Aged 15+, 2015 and 2017.

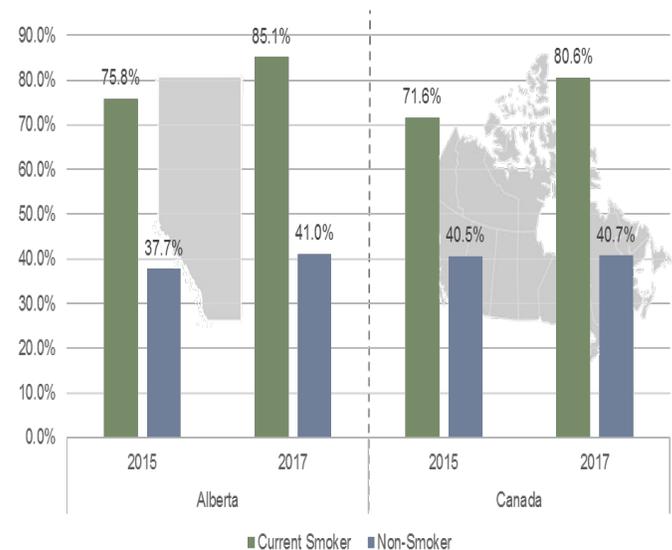


Another rising and concerning trend notable in Alberta is the rate of ever use of cannabis among current smokers, which showed an increase of almost 10% between 2015 and 2017, although comparable national rates remain largely unchanged (see Figure 3) ^{3,4}.

Previous research indicates that among tobacco users, cannabis is in fact the most frequently co-used drug, with rates up to three times higher than co-use with other substances such as alcohol, cocaine, stimulants or hallucinogens.⁵ It is, therefore, generally suggested that tobacco and cannabis may have properties that increase their likelihood of being used together.⁶ The concurrent use of tobacco and cannabis refers to tobacco that is added to cannabis

joints (“mulling”) or smoked directly after cannabis (“chasing”).⁵

Figure 3. Prevalence of Ever Used/Tried Cannabis Use Among Current and Non-Smokers Aged 15+, 2015 and 2017.

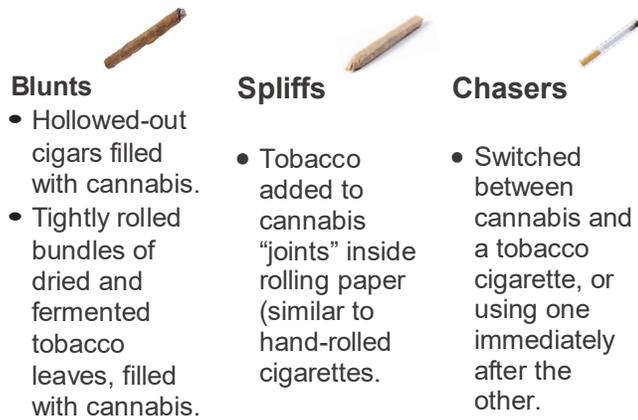


Methods of Consumption

There are several ways in which people combine cannabis use with tobacco such as blunts, spliffs or chasers (see Figure 4). Newer methods are also emerging with the rise in the popularity of vapour products, such as combining cannabis oils with the e-juice for use in electronic cigarettes. Such methods are concerning and should be strongly discouraged due to their experimental nature and potential for combination with nicotine.

Among the reasons for dual use of tobacco and cannabis are perceptions of economic advantage, as tobacco has been shown to boost the high that comes with using cannabis, by increasing the rate of

Figure 4. Methods of Combining Cannabis with Tobacco.



vaporization efficiency when THC is inhaled, by as much as 45%.⁷ Dual use is also said to not only foster a physical dependence to nicotine, but also involves a sensory component (i.e. inhalation, holding a cigarette or joint, or associated tastes).⁸

Health Effects

While the adverse effects of smoking tobacco products is well established, the specific combined effect of smoking tobacco and cannabis is less clear. Studies have previously demonstrated that smoking both tobacco and cannabis increases the risk for chronic obstructive pulmonary disease (COPD) and potentially increases the risk for emphysema, compared with smoking cannabis alone.^{9,10}

However, a challenge that remains with research delineating health outcomes of 'cannabis-only' smoking and concurrent smoking of cannabis and tobacco, is that large samples are needed to identify a cohort of people who use cannabis but have never smoked cigarettes. Epidemiological research has demonstrated rates as high as 90% of

cannabis users having been current cigarettes smokers at some point in their lives.^{5,9} In Alberta, 51.6% of those who report using cannabis at least weekly, are also current cigarette smokers.³ In comparison, only 14.5% of Albertans who report no cannabis use in the past year are current cigarette smokers.³

Broadly however, examinations of general health measures and respiratory symptoms have shown a pattern whereby those who smoke tobacco and cannabis (whether by mulling or chasing) demonstrate decreased overall health and increased respiratory symptoms compared with controls or cannabis-only groups.¹⁰ Reports also suggest that the combined use of cannabis and tobacco has greater compromising effects on psychosocial health, cannabis use disorders and continued cannabis use.⁹

For youth and young adults, using both cannabis and tobacco is associated with a greater risk of becoming addicted to nicotine, while regular cannabis use has also been associated with reduced motivation to quit tobacco.^{11,12,13} Among those who develop nicotine dependence, cannabis cessation may also become more difficult as this dependence may drive cannabis consumption, particularly among those who do not smoke tobacco alone.⁹ Those who use cannabis and tobacco together are also at greater risk of developing other risky behaviour, such as alcohol and other drug use, mental-health difficulties and other neurocognitive

Intervention/Treatment

Tobacco/tobacco-like product interventions of all levels are an opportunity to assess a person's cannabis use. It is important that health-care practitioners make all of their

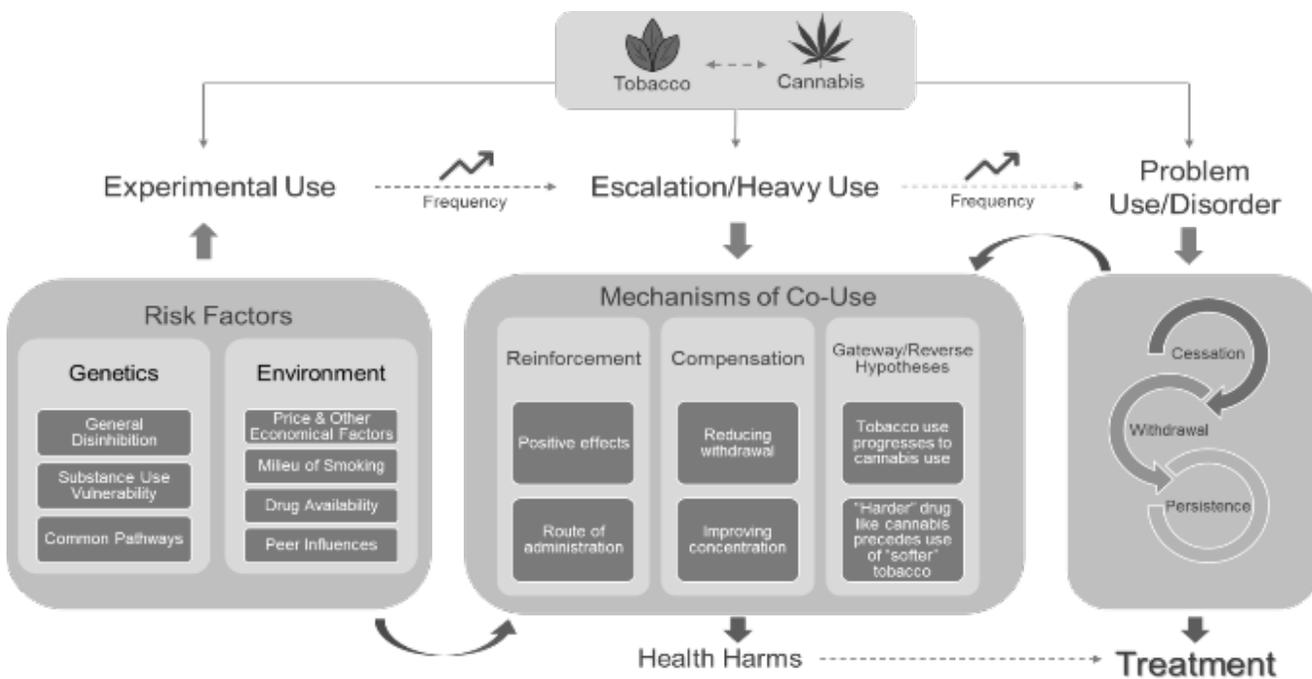
clients aware of the health risks that accompany combining tobacco and cannabis.¹⁴

The development of effective treatment strategies for the dual use of tobacco and cannabis is said to be dependent on determining and understanding the interdependence of the use and cessation of each substance. There are a number of mechanisms that underlie dual use including vulnerabilities to addiction (e.g. genetics, environmental and economic factors), reinforcement of positive effects, compensation for adverse effects (e.g. reducing withdrawal, improving concentration) and the common route of administration (i.e. inhalation) and its associated health related-harms.^{5,16} Although there is inconclusive evidence surrounding a

“gateway hypothesis” between cannabis and other drugs, a relationship between tobacco and cannabis has been widely documented. Much of the evidence suggests that tobacco use contributes to an increased likelihood of becoming cannabis dependent and similarly cannabis use promotes transition to more intensive tobacco use.^{5,17,18}

Figure 5 illustrates the interdependencies of the aforementioned mechanisms and the unique importance of accounting for the use of both tobacco and cannabis, when planning treatment for chronic or problematic use of one substance or the other. Interventions that address the use of tobacco exclusively, are said to be less effective for those who also consume cannabis due to the balancing effects of reinforcement and compensation; whereby cessation of one substance may result in the increased use of the other.¹⁹

Figure 5. Interdependence of the Mechanisms of the Concurrent Use of Tobacco and Cannabis



Longitudinal observational studies have also demonstrated that those who smoked tobacco products, as well as consuming cannabis, made fewer quit attempts.¹⁹ Despite such evidence, combined treatment approaches are limited and research stresses the need to develop and evaluate combined interventions for concurrent users of tobacco and cannabis, in order to improve cessation outcomes.¹⁶

Integrated cessation approaches are already incorporated, with successful outcomes, in other co-occurring use disorders such as tobacco and alcohol.²⁰ Possible explanations offered for the gap in available integrated treatment approaches for tobacco and cannabis include the long-standing differences in legal statuses or perhaps the divergence in treatment pathway whereby cannabis dependence is treated through psychiatric systems and tobacco dependence treatment takes place through general public health systems.¹⁹ Given the recent legalization of cannabis in Canada, the movement of its status away from an illicit substance may reduce any perceived stigma that is attached to its use, and support healthcare providers to prompt open discussions with patients and clients on low-risk use.

Canada's Lower-Risk Cannabis Use Guidelines

The Centre for Addictions and Mental Health (CAMH) have produced a standard set of evidence-based guidelines to reduce risk when using cannabis for non-medical purposes. Among these guidelines are recommendations not to smoke cannabis as this was found to be the most harmful way to

consume cannabis; in particular, for an individual's respiratory health.^{9,21,22}

Specific practices such as breath-holding and deep inhalation increases the intake of hazardous byproducts, and this effect is said to be amplified by simultaneously smoking cannabis and tobacco.²²

If smoked, the lower-risk guidelines outline that avoiding breath-holding and deep inhalation practices may mitigate some of the detrimental effects to lung health.^{21,22}

Although not risk free, non-smoking options, such as vaping or edibles are said to be safer for adults.²²

Communication of these recommendations are important in patient/client care, especially in the care of young people. Among Albertan students in Grades 6-12, almost 80% of those who use cannabis, report smoking it.²³ The difference in students' perceived harm of smoking cannabis compared with consumption using another method was noted to be minimal; with 21.6% reporting 'no – slight risk' in smoking cannabis regularly, and 20.7% reporting 'no – slight risk' in using other methods to consume cannabis regularly.²³

The full set of lower-risk cannabis use guidelines can be found [here](#).

Vaping and Cannabis

Cannabis combustion is eliminated by the use of vaping devices, therefore, reducing the intake of toxic compounds and their related health harms. Studies have even described improvements in respiratory health among adults who switched to using vaporizing products although, in contrast, were also said to lead to increased dosing of

cannabis due to a lag in psychoactive effects.²² Health care providers should also note the significant gap in the availability of rigorous studies of the long-term effects of vapour products, when recommending the use of vaping devices over smoking. Therefore, as indicated among the lower-risk cannabis use guidelines, not consuming cannabis at all remains the most effective way to avoid the associated risks.

References

- 1 Statistics Canada. (2013-2017). Canadian Tobacco Alcohol and Drugs Survey, 2013-2017. Government of Canada.
- 2 Burkhalter, R., Douglas, O. (2019). In Brief: Cannabis use and cigarette smoking in Canada- 2017 Canadian Tobacco, Alcohol and Drugs Survey. Waterloo, Ontario: Propel Centre, University of Waterloo. (Unpublished).
- 3 Burkhalter, R., Douglas, O. (2019). In Brief: Cannabis use and cigarette smoking in Alberta- 2017 Canadian Tobacco, Alcohol and Drugs Survey. Waterloo, Ontario: Propel Centre, University of Waterloo. (Unpublished).
- 4 Burkhalter, R., Douglas, O. (2019). In Brief: Cannabis use and cigarette smoking in Alberta- 2015 Canadian Tobacco, Alcohol and Drugs Survey. Waterloo, Ontario: Propel Centre, University of Waterloo. (Unpublished)
- 5 Rabin, R.A., George, T.P., (2015). A review of co-morbid tobacco and cannabis disorders: possible mechanisms to explain high rates of co-use. *American Journal of Addiction*. 24:105-116. DOI: 10.1111/ajad.12186.
- 6 Rynard, V., Holtby, L., Cumming, T., & Boyko, J. (2017). Cannabis use and cigarette smoking in Canada (Brief). Retrieved from: https://uwaterloo.ca/propel/sites/ca.propel/files/uploads/-files/ctads15_cannabis_smoking_20170926.pdf
- 7 Van der Kooy, F., Pomahacova, B., & Verpoorte R. (2009). Cannabis smoke condensate II: Influence of tobacco on tetrahydrocannabinol levels. *Inhal Toxicol*. 21:87-90.
- 8 Okoli, C.T.C., Richardson, C. G., Ratner, P.A., & Johnson, J.L. (2008). Adolescents' self-defined tobacco use status, marijuana use, and tobacco dependence. *Addictive Behaviors*. 33(11):1491–1499.
- 9 Rooke, S., Norberg, M., Copeland, J., Swift, W., (2013). Health outcomes associated with long-term regular cannabis and tobacco smoking. *Addictive Behaviors*. 38: 2207-2213.
- 10 Tan, W.C., Lo, C., Jong, A., Xing, L., Fitzgerald, M.J., Vollmer, W.M, Buist, S.A., & Sin, D.D. (2009). Marijuana and chronic obstructive lung disease: A population-based study. *Canadian Medical Association Journal*. 180:814-820.
- 11 Becker, J., Schaub, M. P., Gmel, G., & Haug, S. (2015). Cannabis use and other predictors of the onset of daily cigarette use in young men: what matters most? Results from a longitudinal study. *BMC Public Health*. 15(843).
- 12 Twyman, L., Bonevski, B., Paul, C., Kay-Lambkin, F.J., Bryant, J., Oldmeadow, C., Palazzi, K., & Guillaumier, A. (2016). The association between cannabis use and motivation and intentions to quit tobacco within a sample of Australian socioeconomically disadvantaged smokers. *Health Educ Res*. 31(6): 771-781.
- 13 Aurélie, M., Stéphane, L., Nearkasen, C., & Bruno, F. (2011). Transitions between tobacco and cannabis use among adolescents: A multi-state modeling of progression from onset to daily use. *Addictive Behaviors*. 36:1101–05.
- 14 Peters, E. N., Budney, A. J., & Carroll, K. M. (2012). Clinical correlates of co-occurring cannabis and tobacco use: A systematic review. *Addiction*. 107(8):1404–17.
- 15 Ramo, D., Liua, H., & Prochaska, J. (2011). Tobacco and marijuana use among adolescents and young adults: A systematic review of their co-use. *Clinical Psychology Review*. 32(2):105–21.
- 16 Agrawal, A., Budney, A.J., & Lynskey, M.T. (2012). The co-occurring use and misuse of cannabis and tobacco: a review. *Addiction*. 107:1221-33. DOI:10.1111/j.1360-0443.2012.03837.x.
- 17 Hindocha, C., Shaban, N.D.C., Freeman, T.P., Das, R.K., Gale, G., Schafer, G., Falconer, C.J., Morgan, C.J.A., & Curran, H.V. (2015). Associations between cigarette smoking and cannabis dependence: A longitudinal study of young cannabis users in the United Kingdom. *Drug Alcohol Depend*. 148: 165-171.
- 18 Kristman-Valente, A.N., Hill, K.G., Epstein, M., Kosterman, R., Bailey, J.A., Steeger, C.M., Jones, T.M., Abbott, R.D., Johnson, R.M., Walker, D., & Hawkins, J.D. (2017) The Relationship Between Marijuana and Conventional Cigarette Smoking Behavior From Early Adolescence to Adulthood. *Prev Sci*. 18(4):428-438.

- ¹⁹ Becker, J., Hungerbeuhler, I., Berg, O., Szamrovicz, M., Haubensack, A., Kormann, A., & Schaub, M.P. (2013). Development of an Integrative Cessation Program for Co-Smokers of Cigarettes and Cannabis: demand analysis, program description, and acceptability. *Substance Abuse Treatment, Prevention, and Policy*. 8:33. DOI: 10.1186/1747-597X-8-33.
- ²⁰ Nieva G, Ortega LL, Mondon S, et al. Simultaneous versus delayed treatment of tobacco dependence in alcohol-dependent outpatients. *Eur Addict Res* 2011; 17:1–9.
- ²¹ The Centre for Addiction and Mental Health (2018) Canada’s Lower-Risk Cannabis Use Guidelines (LRCUG). Retrieved from: <https://www.canada.ca/en/public-health/services/publications/drugs-health-products/cannabis-10-ways-reduce-risks.html>
- ²² Fischer, B., Russell, C., Sabioni, P., van den Brink, W., Le Foll, B., Hall, W., Rehm, J., & Room, R. (2017). Lower-Risk Cannabis Use Guidelines (LRCUG): An evidence-based update. *American Journal of Public Health*. 107(8). DOI: 10.2105/AJPH.2017.303818.
- ²³ Thompson-Haile, A., Madill, C., Burkhalter, R., MacKenzie, A., Wild, C., & Cooke, M. (2018). Provincial Patterns and Trends in Cannabis Use from the Canadian Student Tobacco, Alcohol and Drugs Survey (CSTADS): Alberta. Retrieved from: <https://uwaterloo.ca/canadian-student-tobacco-alcohol-drugs-survey/reports-and-results/reports-and-tables/2018>