



VAPE FLAVOURS THAT CAN APPEAL TO YOUTH

Protecting youth from the vaping crisis

What needs to be done?

To protect youth from the escalating vaping crisis, Heart & Stroke urges that the federal government adopt immediate measures such as an Interim Order under the *Department of Health Act* until more permanent and comprehensive regulations are developed. Four immediate actions are required to curb this crisis among youth in Canada:

- Restrict marketing and promotion of vape products similar to those on tobacco products
- Adopt comprehensive ban on vape flavours and additives with few exceptions (for instance tobacco flavour)
- Limit on nicotine content of a maximum of 20 mg/ml
- Place large rotating health warnings on vape products.

Why we need to do this?

Canada is currently facing a youth vaping crisis. Use and addiction of vape products among youth is skyrocketing¹⁻³ and vaping related health risks are becoming more established.⁴⁻⁷ Product advertising is rampant,⁸⁻¹⁰ young people are being enticed¹⁰⁻¹² with over 7,700 attractive flavours,¹³ and quickly hooked with high nicotine levels.^{14,15} A lack of health warnings leave consumers uninformed and naïve to health risks.

Why Now?

Although e-cigarettes or vape products are less harmful than conventional cigarettes, they are not without harm. Vaping is linked to respiratory injury¹⁶ and an increase in blood pressure.⁵ Recently there have been several thousand cases of severe vaping related lung illnesses across North America and many deaths in the US.^{7,17}

Evidence on the effectiveness of e-cigarettes for smoking cessation remains inconclusive. E-cigarettes are not recognized or medically approved as cessation devices, nor have they proven to be successful on their own in larger population studies. Heart & Stroke recommends that people use medically approved cessation therapies and speak with their healthcare provider if they have tried quitting without success.¹⁸⁻²¹ The most common pattern of use in Canada is dual use of both vape and combustible tobacco products,^{22,23} putting users at increased risk for stroke²⁴ and heart attack.⁴ There is also a growing concern that youth vapers are now part of a new generation of people addicted to nicotine who would have never been smokers.

Emerging evidence indicates that there is potential for e-cigarettes to be a gateway to tobacco,^{24,25} cannabis²⁶ and nicotine addiction.^{15,27} Nicotine can damage the developing brain.^{28,29} E-cigarettes are appealing to youth with 34% of grade 7 - 12 students in Canada reporting having ever tried an e-cigarette and 20% reporting current use.¹ Another recent

study found a 74% increase of current vape use among 16 - 18 year olds in Canada from 2017 to 2018.² Teens see e-cigarettes as “cool” or “fun” and can be naïve to health risks.³⁰

Advertising and promotion of e-cigarettes, especially of attractive fruit or candy flavoured e-liquids, is common despite prohibitions on the promotion of vaping products that are deemed appealing to young persons by the *Tobacco and Vaping Products Act* (TVPA).^{31,32} Flavoured vapes play a huge role in enticing youth to vape, habitual use,³³ and possibly the initiation of tobacco.³⁴ In one study over 90% of youth and young adults reported their first e-cigarette was flavoured.³⁵ The availability of flavours (especially fruit, sweet and dessert flavours) remains a key reason for and aspect of e-cigarette use.^{33,36-38} Numerous jurisdictions around the world including many Canadian provinces have proposed restrictions on flavoured vape products as a means of combatting escalating use among youth.

Flavours attract youth to vape products but high nicotine content hooks them.^{15,39} The current nicotine content thresholds for vape products in Canada are excessive and dangerous. Some of the most popular vape products among youth can be paired with nicotine-enhanced e-liquids which can deliver the same amount of nicotine as a package of cigarettes.^{40,41} The European Union and other countries have recognized the need to limit nicotine levels with an upper threshold of 20 mg/ml in an effort to control the addictiveness while still facilitating the potential cessation benefits of these products.⁴²

Heart & Stroke's recommended policy measures could protect youth from the harms of vaping, while still allowing adult smokers unable to quit the ability to access vape products. During the 2019 Canadian federal election all major political parties surveyed indicated their support for restrictions on vape products.⁴³ In September 2019, eight leading health organizations including Heart & Stroke and the Canadian Medical Association called for the use of an Interim Order to immediately address the youth vaping crisis.⁴⁴ The Chief Medical Officers of Health across Canada have publicly called for action on youth vaping.⁴⁵ Furthermore, a 2020 Pollara Strategic Insights public opinion poll found that 80% of people in Canada and 69% of nicotine vape users are concerned about vaping usage levels among youth.⁴⁶ This poll also found that 85% of respondents support new government policies to restrict the marketing, sales and use of vaping products among young people under the age of 21.⁴⁶ Finally, 77% want the government to adopt policy measures by July 2020, underscoring a need for urgent action.⁴⁶

References

1. Health Canada. Canadian student tobacco, alcohol and drugs (CSTADS) survey 2018-2019. aem. <https://www.canada.ca/en/health-canada/services/canadian-student-tobacco-alcohol-drugs-survey/2018-2019-detailed-tables.html>. Published December 19, 2019.
2. Hammond D, Reid JL, Rynard VL, et al. Prevalence of vaping and smoking among adolescents in Canada, England, and the United States: repeat national cross sectional surveys. *BMJ*. 2019;365:l2219. doi:10.1136/bmj.l2219
3. Health Canada. Canadian tobacco alcohol and drugs (CTADS) survey: 2017 summary. aem. <https://www.canada.ca/en/health-canada/services/canadian-tobacco-alcohol-drugs-survey/2017-summary.html>. Published October 30, 2018. Accessed March 7, 2019.
4. Alzahrani T, Pena I, Temesgen N, Glantz SA. Association between electronic cigarette use and myocardial infarction. *American Journal of Preventive Medicine*. 2018;55(4):455-461. doi:10.1016/j.amepre.2018.05.004
5. National Academy of Sciences. *Public Health Consequences of E-Cigarettes*; 2018. doi:10.17226/24952
6. Chaumont M, van de Borne P, Bernard A, et al. Fourth generation e-cigarette vaping induces transient lung inflammation and gas exchange disturbances: results from two randomized clinical trials. *American Journal of Physiology-Lung Cellular and Molecular Physiology*. 2019;316(5):L705-L719. doi:10.1152/ajplung.00492.2018
7. Centers for Disease Control and Prevention. Outbreak of lung injury associated with e-cigarette use, or vaping. Centers for Disease Control and Prevention. https://www.cdc.gov/tobacco/basic_information/e-cigarettes/severe-lung-disease.html. Published September 19, 2019. Accessed September 20, 2019.
8. Barker D, Schleicher N, Ababseh K, Johnson T, Henriksen L. ENDS retailers and marketing near university campuses with and without tobacco-free policies. *Tob Induc Dis*. 2018;16(October). doi:10.18332/tid/94600
9. Andrade M d., Hastings G, Angus K. Promotion of electronic cigarettes: tobacco marketing reinvented? *BMJ*. 2013;347(dec20 1):f7473-f7473. doi:10.1136/bmj.f7473
10. Cho YJ, Thrasher JF, Reid JL, Hitchman S, Hammond D. Youth self-reported exposure to and perceptions of vaping advertisements: Findings from the 2017 International Tobacco Control Youth Tobacco and Vaping Survey. *Preventive Medicine*. 2019;126:105775. doi:10.1016/j.ypmed.2019.105775
11. Dai H, Hao J. Exposure to Advertisements and Susceptibility to Electronic Cigarette Use Among Youth. *Journal of Adolescent Health*. 2016;59(6):620-626. doi:10.1016/j.jadohealth.2016.06.013
12. Glauser W. New vaping products with techy allure exploding in popularity among youth. *CMAJ*. 2019;191(6):E172-E173. doi:10.1503/cmaj.109-5710
13. Zhu S-H, Sun JY, Bonnevie E, et al. Four hundred and sixty brands of e-cigarettes and counting: implications for product regulation. *Tob Control*. 2014;23(suppl 3):iii3-iii9. doi:10.1136/tobaccocontrol-2014-051670
14. Barrington-Trimis JL, Leventhal AM. Adolescents' Use of "Pod Mod" E-Cigarettes - Urgent Concerns. *N Engl J Med*. 2018;379(12):1099-1102. doi:10.1056/NEJMp1805758
15. St Helen G, Havel C, Dempsey DA, Jacob P 3rd, Benowitz NL. Nicotine delivery, retention and pharmacokinetics from various electronic cigarettes. *Addiction*. 2016;111(3):535-544. doi:10.1111/add.13183
16. Kalininskiy A, Bach CT, Nacca NE, et al. E-cigarette, or vaping, product use associated lung injury (EVALI): case series and diagnostic approach. *The Lancet Respiratory Medicine*. 2019;7(12):1017-1026. doi:10.1016/S2213-2600(19)30415-1
17. Government Of Canada. Severe lung illness related to vaping. <https://www.canada.ca/en/public-health/services/diseases/vaping-pulmonary-illness.html>.
18. Hartmann-Boyce J, McRobbie H, Bullen C, Begh R, Stead LF, Hajek P. Electronic cigarettes for smoking cessation. Cochrane Tobacco Addiction Group, ed. *Cochrane Database of Systematic Reviews*. September 2016. doi:10.1002/14651858.CD010216.pub3

19. Diemert L, Bayoumy D, Pelletier H, Schwartz R, O'Connor S. E-cigarette use for smoking cessation: scientific evidence and smokers' experiences. February 2019. https://www.otru.org/wp-content/uploads/2019/02/special_vape_quit.pdf.
20. Franks AS, Sando K, McBane S. Do Electronic Cigarettes Have a Role in Tobacco Cessation? *Pharmacotherapy: The Journal of Human Pharmacology and Drug Therapy*. 2018;38(5):555-568. doi:10.1002/phar.2103
21. Heydari G, Ahmady AE, Chamyani F, Masjedi M, Fadaizadeh L. Electronic cigarette, effective or harmful for quitting smoking and respiratory health: A quantitative review papers. *Lung India*. 2017;34(1):25-28. doi:10.4103/0970-2113.197119
22. Reid JL, Hammond D, Tariq U, Burkhalter R, Rynard VL, Douglas O. Tobacco Use in Canada: Patterns and Trends, 2019 Edition. <https://uwaterloo.ca/tobacco-use-canada/tobacco-use-canada-patterns-and-trends>.
23. Reid JL, Rynard VL, Czoli CD, Hammond D. Who is using e-cigarettes in Canada? Nationally representative data on the prevalence of e-cigarette use among Canadians. *Preventive Medicine*. 2015;81:180-183. doi:10.1016/j.ypmed.2015.08.019
24. Parekh T, Pemmasani S, Desai R. Risk of stroke with e-cigarette and combustible cigarette use in young adults. *American Journal of Preventive Medicine*. January 2020:S0749379719304684. doi:10.1016/j.amepre.2019.10.008
25. Hammond D, Reid JL, Cole AG, Leatherdale ST. Electronic cigarette use and smoking initiation among youth: a longitudinal cohort study. *CMAJ*. 2017;189(43):E1328-E1336. doi:10.1503/cmaj.161002
26. Soneji S, Barrington-Trimis JL, Wills TA, et al. Association between initial use of e-cigarettes and subsequent cigarette smoking among adolescents and young adults: a systematic review and meta-analysis. *JAMA Pediatr*. 2017;171(8):788. doi:10.1001/jamapediatrics.2017.1488
27. Chadi N, Schroeder R, Jensen JW, Levy S. Association between electronic cigarette use and marijuana use among adolescents and young adults: a systematic review and meta-analysis. *JAMA Pediatr*. August 2019:e192574. doi:10.1001/jamapediatrics.2019.2574
28. Kandel D, Kandel E. The Gateway Hypothesis of substance abuse: developmental, biological and societal perspectives. *Acta Paediatr*. 2015;104(2):130-137. doi:10.1111/apa.12851
29. Yuan M, Cross SJ, Loughlin SE, Leslie FM. Nicotine and the adolescent brain: Nicotine and the adolescent brain. *J Physiol*. 2015;593(16):3397-3412. doi:10.1113/JP270492
30. England LJ, Bunnell RE, Pechacek TF, Tong VT, McAfee TA. Nicotine and the Developing Human. *American Journal of Preventive Medicine*. 2015;49(2):286-293. doi:10.1016/j.amepre.2015.01.015
31. Khoury M, Manlhiot C, Fan C-PS, et al. Reported electronic cigarette use among adolescents in the Niagara region of Ontario. *CMAJ*. 2016;188(11):794-800. doi:10.1503/cmaj.151169
32. O'Connor S, D'Souza S, Diemert L, Schwartz R. *Promotion of Flavoured Vaping Products That Appeal to Youth*; 2019:12.
33. Weeks, Carly. How the vaping industry is targeting teens – and getting away with it. *Globe and Mail*. <https://www.theglobeandmail.com/canada/article-vaping-advertising-marketing-investigation/>. Published November 16, 2019.
34. Zare S, Nemati M, Zheng Y. A systematic review of consumer preference for e-cigarette attributes: Flavor, nicotine strength, and type. Cormet-Boyaka E, ed. *PLoS ONE*. 2018;13(3):e0194145. doi:10.1371/journal.pone.0194145
35. Dai H, Hao J. Flavored Electronic Cigarette Use and Smoking Among Youth. *PEDIATRICS*. 2016;138(6):e20162513-e20162513. doi:10.1542/peds.2016-2513
36. Harrell MB, Weaver SR, Loukas A, et al. Flavored e-cigarette use: Characterizing youth, young adult, and adult users. *Preventive Medicine Reports*. 2017;5:33-40. doi:10.1016/j.pmedr.2016.11.001
37. Kong G, Morean ME, Cavallo DA, Camenga DR, Krishnan-Sarin S. Reasons for electronic cigarette experimentation and discontinuation among adolescents and young adults. *Nicotine & Tobacco Research*. 2015;17(7):847-854. doi:10.1093/ntr/ntu257
38. Soneji SS, Knutzen KE, Villanti AC. Use of flavored e-cigarettes among adolescents, young adults, and older adults: findings from the Population Assessment for Tobacco and Health Study. *Public Health Rep*. 2019;134(3):282-292. doi:10.1177/0033354919830967
39. McMillen R, Tanski S, Wilson K, Klein JD, Winickoff JP. Adolescent use of different e-cigarette products. *Pediatrics*. 2018;142(4):e20180260. doi:10.1542/peds.2018-0260
40. Jackler RK, Ramamurthi D. Nicotine arms race: JUUL and the high-nicotine product market. *Tob Control*. February 2019:tobaccocontrol-2018-054796. doi:10.1136/tobaccocontrol-2018-054796
41. McKelvey K, Baiocchi M, Halpern-Felsher B. Adolescents' and young adults' use and perceptions of pod-based electronic cigarettes. *JAMA Netw Open*. 2018;1(6):e183535. doi:10.1001/jamanetworkopen.2018.3535
42. European Commission. E-cigarette myth busters. https://ec.europa.eu/health/sites/health/files/tobacco/docs/tobacco_mythbuster_en.pdf.
43. Heart and Stroke Foundation of Canada. 2019 Federal election survey responses. September 2019. <https://www.heartandstroke.ca/articles/2019-federal-election-survey-responses>.
44. Physicians for a Smoke-Free Canada. Protection delayed is protection denied: Health groups call for immediate federal action to protect young people from the risks of vaping products. <https://www.newswire.ca/news-releases/protection-delayed-is-protection-denied-health-groups-call-for-immediate-federal-action-to-protect-young-people-from-the-risks-of-vaping-products-896885786.html>. Published September 19, 2019.
45. Public Health Agency of Canada. Statement from the Council of Chief Medical Officers of Health on vaping in Canada. <https://www.newswire.ca/news-releases/statement-from-the-council-of-chief-medical-officers-of-health-on-vaping-in-canada-805249059.html>. Published October 11, 2019.
46. Heart & Stroke public opinion polling conducted by Pollara. Vaping in Canada. February 2020.

**The information contained in this position statement
is current as of: February 2020**