

Youth electronic cigarette use in Canada: A growing public health concern

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KEYWORDS

public health, youth, vaping, Canada, e-cigarette

Received: 5 December 2025, **Revised:** 14 December 2025,

Accepted: 17 December 2025

Popul. Med. 2025;7(December):27

<https://doi.org/10.18332/popmed/215776>

Dear Editor,

Among Canadian youth aged 15–24 years, vaping has sharply increased, with more students trying e-cigarettes (ECs) than traditional tobacco, posing a significant public health concern¹. Although ECs may offer harm-reduction potential for adults seeking smoking cessation, their increasing uptake among adolescents raises serious risks, including nicotine dependence, mental health challenges, and the potential for later combustible cigarette use. Spatial analysis of all 293 Canadian Census Divisions revealed key findings to inform youth-focused nicotine reduction policy².

Population-level surveys such as Canadian Tobacco, Alcohol, and Drug Survey and Canadian Student Tobacco, Alcohol, and Drug Survey demonstrate the scale of this issue^{3,4}. Nationally representative data show that between 2016–2017 and 2018–2019, EC use nearly doubled among students in grades 7–9, while among students in grades 10–12, approximately 29% reported past 30-day EC use, with daily use widespread among those using high-nicotine pod devices^{5,6}. In 2020, 14.4% of youth aged 15–19 years reported vaping in the past 30 days, and almost 5% were daily users⁷. These trends closely followed the 2018 legalization of nicotine-containing EC products in Canada, which expanded product availability and diversified flavored options⁵.

Evidence indicates that nicotine exposure during adolescence has long-term consequences. Nicotine alters neurocognitive development, emotional regulation, and reward pathways, contributing to impaired concentration, higher impulsivity, and increased susceptibility to addiction⁸. Recent studies in Canada also link EC use with elevated symptoms of depression, anxiety, somatic complaints, and suicidal ideation⁹. Moreover, adolescents who vape have significantly higher odds of initiating combustible cigarette

smoking, often progressing to dual use, which compounds cardiovascular and respiratory harms^{10,11}.

Flavored EC products remain a primary driver of youth uptake. More than 80–90% of youth aged 12–17 years report using flavored e-liquids, with fruit and mint flavors dominating¹². Exposure to EC advertising, particularly on digital and social media platforms, also shapes favorable perceptions and increases susceptibility to experimentation¹³. Despite federal prohibitions on youth-targeted marketing, enforcement gaps continue to allow exposure, especially online^{5,13}.

Compared with international policy responses, Canada's regulatory framework remains incomplete¹⁴. A review of e-cigarette regulations in 68 countries found that 22 countries use existing laws, 25 countries have created new policies, 7 countries have updated old laws, and 14 countries use a mix of approaches, with most including rules like minimum purchase age, bans on vaping in public indoor spaces, and limits on marketing¹⁵. Evidence suggests these measures reduce youth access and use¹⁶. Canada has not enacted similar national restrictions, leaving significant policy gaps at the federal and provincial levels.

Strengthening regulations is essential. National policies should include restricting flavored EC products, enforcing robust online age-verification systems, limiting nicotine concentrations, and ensuring comprehensive bans on digital advertising. Schools also require strengthened prevention and cessation support, with evidence-based behavioral approaches such as cognitive-behavioral interventions integrated into youth health services.

The rise of youth EC use threatens to undermine decades of progress in tobacco control. A coordinated, evidence-informed national response is urgently needed to prevent a new generation from becoming dependent on nicotine.

REFERENCES

1. Rotermann M, Gilmour H. Correlates of vaping among adolescents in Canada. *Health Rep.* 2022;33(7):24-35. Accessed December 17, 2025. <https://pubmed.ncbi.nlm.nih.gov/35862070/>
2. Lippert AM, Corsi DJ. The geographic distribution and community correlates of electronic cigarette use in Canada. *Can J Public Health.* 2025. doi:[10.17269/s41997-025-01084-8](https://doi.org/10.17269/s41997-025-01084-8)
3. Government of Canada. Canadian Tobacco, Alcohol and Drugs Survey (CTADS): summary of results for 2017. Government of Canada; 2017. Accessed December 17, 2025. <https://www.canada.ca/en/health-canada/services/canadian-tobacco-alcohol-drugs-survey/2017-summary.html>
4. Government of Canada. Summary of results for the Canadian Student Tobacco, Alcohol and Drugs Survey 2021-22. Government of Canada; 2024. Accessed December 17, 2025. <https://www.canada.ca/en/health-canada/services/canadian-student-tobacco-alcohol-drugs-survey/2021-2022-summary.html>
5. Hammond D, Reid JL, Burkhalter R, Rynard VL. E-cigarette Marketing regulations and youth vaping: Cross-sectional surveys, 2017–2019. *Pediatrics.* 2020;146(1): e20194020. doi:[10.1542/peds.2019-4020](https://doi.org/10.1542/peds.2019-4020)
6. Sanchez S, Kaufman P, Pelletier H, et al. Is vaping cessation like smoking cessation? A qualitative study exploring the responses of youth and young adults who vape e-cigarettes. *Addictive Behaviors.* 2021;113:106687. doi:[10.1016/j.addbeh.2020.106687](https://doi.org/10.1016/j.addbeh.2020.106687)
7. Coleman BN, Rostron B, Johnson SE, et al. Electronic cigarette use among US adults in the Population Assessment of Tobacco and Health (PATH) Study, 2013–2014. *Tob Control.* 2017;26(e2):e117-e126. doi:[10.1136/tobaccocontrol-2016-053462](https://doi.org/10.1136/tobaccocontrol-2016-053462)
8. Marynak KL, Gammon DG, Rogers T, Coats EM, Singh T, King BA. Sales of nicotine-containing electronic cigarette products: United States, 2015. *Am J Public Health.* 2017;107(5):702-705. doi:[10.2105/AJPH.2017.303660](https://doi.org/10.2105/AJPH.2017.303660)
9. Nguyen HV, Mital S. Effects of e-cigarette use on mental health among youths: Quasi-experimental evidence from Canada. *Addiction.* 2022;117(10):2673-2682. doi:[10.1111/add.15943](https://doi.org/10.1111/add.15943)
10. Riehm KE, Young AS, Feder KA, et al. Mental health problems and initiation of e-cigarette and combustible cigarette use. *Pediatrics.* 2019;144(1):e20182935. doi:[10.1542/peds.2018-2935](https://doi.org/10.1542/peds.2018-2935)
11. Czoli CD, Hammond D, White CM. Electronic cigarettes in Canada: Prevalence of use and perceptions among youth and young adults. *Can J Public Health.* 2014;105(2):e97-e102. doi:[10.17269/cjph.105.4119](https://doi.org/10.17269/cjph.105.4119)
12. Trucco EM, Fallah-Sohy N, Hartmann SA, Cristello JV. Electronic cigarette use among youth: Understanding unique risks in a vulnerable population. *Curr Addict Rep.* 2020;7(4):497-508. doi:[10.1007/s40429-020-00340-w](https://doi.org/10.1007/s40429-020-00340-w)
13. Wang L, Chen J, Ho SY, Leung LT, Wang MP, Lam TH. Exposure to e-cigarette advertising, attitudes, and use susceptibility in adolescents who had never used e-cigarettes or cigarettes. *BMC Public Health.* 2020;20(1):1349. doi:[10.1186/s12889-020-09422-w](https://doi.org/10.1186/s12889-020-09422-w)
14. Sharma RH, Dow-Fleisner SJ, Struik LL. Preventing and addressing youth vaping in British Columbia, Canada: Evidence from triangulation of a scoping review of vaping policy and qualitative interviews with school-aged youth. *Prev Med Rep.* 2025;51:102988. doi:[10.1016/j.pmedr.2025.102988](https://doi.org/10.1016/j.pmedr.2025.102988)
15. Kennedy RD, Awopegba A, De León E, Cohen JE. Global approaches to regulating electronic cigarettes. *Tob Control.* 2017;26(4):440-445. doi:[10.1136/tobaccocontrol-2016-053179](https://doi.org/10.1136/tobaccocontrol-2016-053179)
16. Ferkol TW, Farber HJ, La Grutta S, et al. Electronic cigarette use in youths: A position statement of the Forum of International Respiratory Societies. *Eur Respir J.* 2018;51(5):1800278. doi:[10.1183/13993003.00278-2018](https://doi.org/10.1183/13993003.00278-2018)

CONFLICTS OF INTEREST

The authors have completed and submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest and none was reported.

FUNDING

There was no source of funding for this research.

ETHICAL APPROVAL AND INFORMED CONSENT

Ethical approval and informed consent were not required for this study.

DATA AVAILABILITY

Data sharing is not applicable to this article as no new data were created.

PROVENANCE AND PEER REVIEW

Not commissioned; externally peer reviewed.

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