

November 19, 2019

### Toronto Public Health Position on Vapour Products

## 1. POSITION STATEMENT

Toronto Public Health (TPH) recommends that if an individual does not smoke combustible tobacco cigarettes, they should not use vapour products.

While vapour products, also referred to as electronic cigarettes (e-cigarettes), are considered to be less harmful than combustible cigarettes, they are not without risk. Based on the most current evidence there are multiple public health concerns associated with vapour product use.

Members of the public should be aware of the potential harms of vapour product use, the addictive potential of vapour products and the risk of vapour product use leading to subsequent tobacco cigarette smoking. Vapour products are not safe for youth, young adults, pregnant women, or adults who do not currently use tobacco products<sup>3</sup>.

To minimize the health impacts of vapour product use in Ontario, Toronto Public Health recommends that the provincial and federal governments align vapour product legislation closer to that for tobacco products in the areas of advertising and promotion, availability of flavours and maximum allowable nicotine content.

## 2. DEFINITIONS AND ACRONYMS

**Vapour products, also referred to as electronic cigarettes, vaping products or vapes,** are battery operated devices that mimic the use and sometimes appearance and taste of conventional cigarettes. They do not contain tobacco and when used produce an aerosol, also referred to as vapour, instead of smoke. A typical e-cigarette consists of a battery, a cartridge containing nicotine (sometimes), water and flavouring in a base of propylene glycol and vegetable glycerine, and an atomizer that heats the liquid and produces the aerosol.

**Vaping** is the act of using an e-cigarette or vapour product and specifically refers to the inhalation and exhalation of the aerosol that is produced by the vapour product.

**E-hookahs, hookah pens, e-shisha and hookah sticks** often operate in a similar manner to vapour products but are meant to mimic hookah or shisha smoking.

**Heated tobacco products, also referred to as heat not burn devices,** consist of two main components, a cigarette-like tobacco product referred to as a tobacco stick, and a heating device or mouthpiece made specifically to fit the tobacco stick. This combination of tobacco and vapour product is used to consume tobacco with little to no combustion. Tobacco sticks are similar to standard cigarettes and are regulated as tobacco products, while the heating device is regulated as a vapour product.

### 3. BACKGROUND

Awareness, availability and use of vapour products has rapidly increased in Toronto, across Canada and globally over the past ten years. Although vapour products are considered by some health authorities to be less harmful than traditional cigarettes, local and international public health experts have noted important public health concerns.

In 2014, TPH released a position statement on Electronic Cigarettes and reported on this issue to the Toronto Board of Health. At that time, a number of concerns were identified about e-cigarette safety, impact on youth smoking initiation, and potential to normalize smoking behaviour and undermine existing tobacco control legislation<sup>1</sup>. This updated TPH position is based on the most current evidence from several sources.

#### **Health harms of vapour product use and exposure**

- Vapour product aerosols have been shown to contain multiple toxic substances (propylene glycol, carcinogenic compounds, heavy metals and volatile organic compounds), particulate matter and nicotine<sup>5</sup>.
- Short term health effects can include respiratory inflammation and throat irritation. Symptoms of respiratory disease have been observed in young vapers, including coughing, wheezing, and worsening of asthma<sup>5</sup>.
- A recent outbreak of severe pulmonary illness cases in North America has been linked to vapour product use, especially products containing tetrahydrocannabinol (THC). Vitamin E acetate appears to be associated with the cases, although a firm cause has yet to be determined<sup>2 3,4</sup>.
- Long term health effects of vapour product use are unknown<sup>5</sup>.
- While there is moderate evidence that second-hand exposure to nicotine and particulates is lower from vapour products than from combustible tobacco cigarettes, this exposure could have the potential to lead to adverse health effects<sup>5</sup>.

#### **Vapour product use increases the risk of subsequent cigarette smoking**

- Most vapour products contain nicotine which is an addictive substance<sup>5</sup>.
- Pod-based vapour product systems have become very popular among youth and contain high concentrations of nicotine which can alter brain development and lead to addiction<sup>6</sup>.
- Among youth and young adults there is substantial evidence that vapour product use increases the risk of ever using combustible tobacco cigarettes<sup>5</sup>.

#### **Vapour product use has increased among youth/young adults**

- Vapour product use among Canadian youth and young adults is higher than it is for adults<sup>7</sup>.

- Vapour product use has increased significantly among youth in Canada; from 2017 to 2018, there was a greater than 70 percent increase in the proportion of youth using vapour products<sup>6</sup>.
- More students have tried vapour products (22.6 percent) than regular tobacco cigarettes (19.1 percent) in their lifetime<sup>7</sup>.
- In Ontario in 2017, past year vapour product use among Grade 7 -12 students was 10.7 percent compared to 7 percent who smoked cigarettes<sup>7</sup>.
- Over 50 percent of youth and young adult ever-users cite flavours as a reason for trying vapour products, with fruit flavours being the most commonly tried<sup>8</sup>.

### **Nicotine content**

- Since vapour products containing nicotine became legal in Canada in 2018, nicotine concentrations available have increased from approximately 2 percent or lower to 5 percent<sup>6</sup>.
- The vaping pods that are used for newer brands contain nicotine salts, which is formulated in a way that allows for a faster and stronger nicotine dose. These newer brands are also very popular with youth<sup>6</sup>.
- There are currently no restrictions on how much nicotine can be put into vapour product liquids or vapour product pods in Canada, unlike in other national markets such as the European Union<sup>6 8</sup>.

### **Vapour product use and tobacco smoking cessation/quitting:**

- While vapour product use is less harmful than combustible cigarette smoking, there is limited evidence of vapour product use increasing the likelihood of smoking cessation<sup>5</sup>.
- There is evidence that vapour product use can lead to dual use of both combustible cigarettes and vapour products<sup>5 10</sup>.
- Vapour product use can increase the risk of cardiovascular disease if an individual is using a vapour product while continuing to smoke tobacco<sup>9 10</sup>.
- There is also insufficient evidence to conclude that vapour products are effective for smoking cessation when compared to no treatment or to nicotine replacement therapies and counselling<sup>5</sup>.
- The most effective way to quit smoking is through a combination of counselling and nicotine replacement therapy or other form of pharmacotherapy, consult with a health care provider and/or a smoking cessation counselor such as [Telehealth Ontario](#) at 1-866-797-0000 or [www.smokershelpline.ca](http://www.smokershelpline.ca) for Text Messaging and Live CHAT for support with quitting.

## Federal and Provincial Vapour Product Legislation

Vapour products are regulated federally by the Tobacco and Vaping Products Act (TVPA) passed in 2018, which prohibits sales to minors (under age 18), regulates product safety and ingredients and places restrictions on advertising and promotion, including; a prohibition on lifestyle advertising, sponsorships and celebrity endorsements as well as the promotion of flavours that are deemed appealing to youth (e.g., candy or confectionary flavours). The TVPA is enforced by Health Canada.

Vapour products are regulated provincially by the Smoke Free Ontario Act 2017, enacted in 2018, which prohibits sales and supply of vapour products to minors (under age 19), regulates advertising and promotion at retail and prohibits vapour product use wherever tobacco use is prohibited. The SFOA is enforced by TPH staff as mandated by the Ontario government.

This position will be revisited if or when any vapour product is approved as a cessation aid by Health Canada or sufficient high quality evidence demonstrates that they are effective as a cessation aid and safe to use.

## REFERENCE

<sup>1</sup> Toronto Public Health. 2014. Position Statement: Electronic Cigarettes  
<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2014.HL33.1>

<sup>2</sup> Government of Canada. 2019. Severe Lung Illness Related to Vaping.  
<https://www.canada.ca/en/public-health/services/diseases/vaping-pulmonary-illness.html>

<sup>3</sup> Office on Smoking and Health, National Center for Chronic Disease Prevention and Health Promotion, Outbreak of Lung Injury Associated with E-Cigarette Use, or Vaping Update  
[https://www.cdc.gov/tobacco/basic\\_information/e-cigarettes/severe-lung-disease.html](https://www.cdc.gov/tobacco/basic_information/e-cigarettes/severe-lung-disease.html)

<sup>4</sup> Health Canada Information Update <https://healthycanadians.gc.ca/recall-alert-rappel-avis/hc-sc/2019/70919a-eng.php>

<sup>5</sup> National Academies of Sciences, Engineering, and Medicine. (NASEM) 2018. Public Health Consequences of Vapour products. Washington, DC: The National Academies Press.  
<https://doi.org/10.17226/24952>.

<sup>6</sup> Hammond, D., Reid, J. Rynard, V., et al. (2019). Prevalence of vaping and smoking among adolescents in Canada, England, and the United States: repeat national cross sectional surveys. *British Medical Journal* 365:l2219. <http://dx.doi.org/10.1136/bmj.l2219>

<sup>7</sup> Government of Canada. Canadian Tobacco Alcohol and Drugs (CTADS): 2015 Supplementary Tables. Accessed January 11, 2018. <https://www.canada.ca/en/health-canada/services/canadian-tobacco-alcohol-drugs-survey/2015-supplementary-tables.html#a9>

<sup>8</sup> Health Canada (2019) Reducing Youth Access and Appeal of vaping Products: Potential Regulatory Measures. <https://www.canada.ca/en/health-canada/programs/consultation-reducing-youth-access-appeal-vaping-products-potential-regulatory-measures/document.html>

<sup>9</sup> Czoli CD, Fong GT, Goniewicz ML, and Hammond D. (2018). Biomarkers of exposure among “dual users” of tobacco cigarettes and electronic cigarettes in Canada. *Nicotine & Tobacco Research*.

<sup>10</sup> Heart and Stroke (2018). E-cigarettes in Canada, Position Statement. <https://www.heartandstroke.ca/-/media/pdf-files/position-statements/ecigarettesinCanada.ashx?la=en&hash=8939FF52C37A5E11C551176982F2E4AC5D38D605>