

Document 1

Vaping among youth in Ontario: OPH recommendations to Ontario Minister of Health regarding tobacco and vaping legislation to protect Ontario youth and young adults

OPH has contributed to a number of provincial government consultations related to smoking and vaping in recent months and years.

Based on the evidence of increasing prevalence of vaping, OPH staff recommends that the province consider taking further actions to further protect Ontarians, particularly youth and young adults, from the harmful effects of vaping. In particular, to prohibit for sale all vaping product flavours and products that are designed to appeal to youth; and prohibit the advertising of vaping devices at point of sale.

Recommendation 1: Prohibit the sale of all vaping flavours and products that are designed to appeal to youth.

Between 2016 – 2017, the Government of Ontario prohibited the sale of all flavoured tobacco products, including the sale of clove and menthol flavoured tobacco products. It is recommended that this prohibition on flavoured tobacco product also be applied to flavoured vaping products. The three most common reasons that youth report trying vaping products include curiosity, flavoring/taste and low perceived harm.¹

Researchers have identified hundreds of unique vaping flavours, including child and youth -friendly options such as cotton candy, root beer float, and banana split.² Flavours appeal to youth and encourage experimentation. According to a systematic review of consumer preferences, adolescents consider flavour an important factor in their decision to try vaping products.³ Youth are more likely to initiate vaping with flavoured e-liquids, especially sweet products.

In addition, a recent study has shown that the flavouring chemical called diacetyl has been found in some flavoured e-liquids. Diacetyl has been associated with a disease known as “popcorn lung”, which causes bronchiolitis obliterans and other severe respiratory diseases.⁴ Cinnamaldehyde is another flavoring agent that when inhaled has been shown to have deleterious effects on lung function and immunity.⁵

Finally, research shows that youth and young adults who vape regularly are using nicotine, and many are experimenting with cigarette smoking.⁶ Nicotine is an addictive substance that can result in symptoms of dependence. Children and youth are vulnerable to the negative effects of e-liquid nicotine. Nicotine can alter brain development and can affect memory and concentration, which may predispose youth to other drug addictions. The developing adolescent brain structure and functions are more vulnerable to nicotine exposure as compared to the mature brain.⁷ Several studies have shown a positive relationship between vaping product use and the intention to smoke cigarettes among youth, including a recently published study that found that non-

smoking youth who used vaping products were about three times more likely to be smoking conventional cigarettes than youth who did not use vaping products.⁸

- Restricting flavouring agents in vaping products and products that are designed to appeal to youth is an evidence-based strategy that will help prevent youth initiation and de-normalize vaping and smoking behaviour among youth and young adults.

Recommendation 2: Prohibit advertising of vaping devices at point of sale.

The Ontario Tobacco Research Unit (OTRU) reports exposure to the marketing and promotion of vaping products is high for Canadian youth and young adults. The effect of high levels of advertising has been shown in youth to increase the odds of being open to using vapes and being highly curious about them.⁹

The SFOA prohibits stores from promoting the sale of tobacco products or tobacco accessories by means of any commercial act or practice or use of any commercial communication, through any media or other means, that is intended to or is likely to encourage its purchase or use or the purchase or use of a particular brand, create an awareness of or an association with it, or with a brand or a manufacturer or seller. A retailer may post up to three signs in total referring to sale of tobacco in order to inform customers that they sell tobacco provided the signs meet the requirements set out in the SFOA.

The advertising of vaping products can be seen online, in newspapers and magazines, stores, and on television, with in-store advertising demonstrating the strongest association with vaping product openness and curiosity. Internet and point-of-sale based advertising have been shown to be particularly impactful on youth's susceptibility and openness to vaping products use.¹⁰ Research shows that prohibiting advertisements and promotions removes sensory cues to purchase and use these products, and helps to de-normalize use.¹¹

- Restricting vaping product advertising at point of sales is an evidence-based strategy that will help mitigate the negative health impacts associated with advertising and promotion of vaping products, especially among the youth population.

¹ U.S. Department of Health and Human Services. E-Cigarette Use Among Youth and Young Adults. A Report of the Surgeon General. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2016.

² Zhu, S-H, et al., Four Hundred and Sixty Brands of E-cigarettes and Counting: Implications for Product Regulation. Tobacco Control, 2014

³ Zare, S., Nemati, M., Zheng, Y. A systematic review of consumer preference for e-cigarette attributes Flavor, nicotine, strength, and type. PLoS ONE, 2018. <https://doi.org/10.1371/journal.pone.0194145>

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- ⁴ Allen, J., et al. Flavoring Chemicals in E-Cigarettes: Diacetyl, 2,3-Pentanedione, and Acetoin in a Sample of 51 Products, Including Fruit-, Candy- and Cocktail-Flavored E-Cigarettes. *Environmental Health Perspectives*, 2015
- ⁵ Clapp, P. et al. Flavored e-cigarette liquids and cinnamaldehyde impair respiratory innate immune cell function. *Am J Physiol Lung Cell Mol Physiol*, 2017
- ⁶ The Ontario Tobacco Research Unit. Youth and Young Adult Vaping in Canada, 2018. https://www.otru.org/wp-content/uploads/2018/10/recigwp_project_news_oct2018.pdf
- ⁷ Lydon, D. M., Wilson, S. J., Child, A., & Geier, C. F. Adolescent brain maturation and smoking: What we know and where we're headed. *Neuroscience & Biobehavioral Reviews*, 2014 <https://doi.org/10.1016/j.neubiorev.2014.07.003>
- ⁸ Willis, J., et al. Longitudinal study of e-cigarettes use and onset of cigarette smoking among high school students in Hawaii. *Tobacco Control*, 2016
- ⁹ Margolis, K. A., Donaldson, E. A., Portnoy, D. B., Robinson, J., Ne, L. J., & Jamal, A. E-cigarette openness, curiosity, harm perceptions and advertising exposure among U.S. middle and high school students. *Preventive Medicine*, 2018
- ¹⁰ Best, C., Haseen, F., Van Der Sluijs, W., Ozakinci, G., Currie, D., Eadie, D., Haw, S. Relationship between e-cigarette point of sale recall and e-cigarette use in secondary school children: A cross-sectional study. *BMC PublicHealth*, 2016. <https://doi.org/10.1186/s12889-016-2968-2>
- ¹¹ Smoke-Free Ontario Scientific Advisory Committee, Ontario Agency for Health Protection and Promotion (Public Health Ontario). Evidence to guide action: Comprehensive tobacco control in Ontario (2016). Toronto, ON: Queen's Printer for Ontario; 2017. https://www.publichealthontario.ca/en/eRepository/SFOSAC%202016_FullReport.pdf