



POSITION STATEMENT

Position Title:	Electronic Cigarettes
Approved by:	Cynthia St. John, Chief Executive Officer Dr. Joyce Lock, Medical Officer of Health Board of Health for Oxford Elgin St. Thomas Health Unit
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Position of Southwestern Public Health

1. There is substantial evidence that e-cigarettes have short-term negative health effects and that e-cigarette aerosol contains many harmful chemicals.
2. The long-term health effects of e-cigarettes are unknown. Further scientific research is needed to determine possible health effects of long-term use.
3. There is conclusive evidence that e-cigarettes contain and emit many potentially toxic substances posing a risk to bystanders. When compared to combustible tobacco, the chemicals in e-cigarette aerosol are found in lower levels.
4. Southwestern Public Health does not recommend using an e-cigarette to quit smoking. Until further evidence supports the use of e-cigarettes as an effective cessation device, Southwestern Public Health will continue to promote and support the public with quit attempts using evidence informed cessation methods, including nicotine replacement therapy (e.g., patch, gum, lozenge, inhaler, quick mist).
5. Nicotine has been shown to alter the adolescent brain. Some e-cigarettes products contain as much or more nicotine in a single pod as a pack of cigarettes and pose a serious risk to youth. E-cigarettes that do not contain nicotine also contain many potentially harmful chemicals.
6. E-cigarettes have the potential to re-normalize smoking and act as a gateway to traditional tobacco use among youth. Conclusive evidence finds that using an e-cigarette increases the risk of ever using a combustible tobacco product among youth or young adults.

7. Southwestern Public Health will enforce *the Smoke-Free Ontario Act 2017*, including provisions related to e-cigarettes.

Rationale:

E-Cigarette Use

Electronic cigarettes are also known as e-cigarettes, vapes, e-cigs, e-pens, tank systems, or vape pens. E-cigarettes are battery powered devices that heat a liquid and turn it into a vapour that is inhaled by the user. The e-substance in the device or device pod may or may not contain nicotine. E-cigarettes usually consist of a battery, mouthpiece, heating element, and tank that contains the e-substance.¹

In 2015, among Canadians 15 years of age or older, 13.2% reported having ever tried an e-cigarette, representing a significant increase from 2013 (8.5% reported ever tried an e-cigarette). People who use combustible cigarettes were much more likely to report that they had tried an e-cigarette with 62.8% of Canadians who used e-cigarettes in the past 30 days also reporting that they smoked combustible cigarettes. Additionally, 33.5% of current smokers reported using e-cigarettes as a quit aid in 2015, up from 22.9% in 2013. E-cigarette use is most prevalent among young people. In Ontario, vaping among youth is increasing. In 2016-2017, 10% of youth in grades 10-12 were past 30-day e-cigarette users, representing a 46% increase from 2014-2015.²

Health Effects

There has been some evidence assessing the short-term health effects of e-cigarette use. The long-term effects are still unknown.³ The e-cigarette aerosol inhaled by the user of an e-cigarette has been found to contain potentially harmful chemicals, including nicotine, ultrafine particles that can be inhaled into the lungs, flavourings such as diacetyl, which is linked to serious lung disease, volatile organic compounds like benzene, and heavy metals like nickel and lead. Additionally, research on a common ingredient in e-cigarettes, propylene glycol, has shown some side effects, including dry mouth, throat irritation, dry cough, and nose bleeds.⁴ A recent study has also shown that when propylene glycol is heated and vaporized, it is associated with increased levels of formaldehyde and acetaldehyde in the vapour.⁵ Moreover, the National Academies of Sciences, Engineering and Medicine (NASEM) report conclusions find there is substantial evidence that e-cigarettes can result in symptoms of dependence, increases in heart rate shortly after using the device, formation of reactive oxidative species/oxidative stress, and acute endothelial cell dysfunction.⁶

Additional health concerns from e-cigarettes include conclusive evidence that e-cigarette devices can explode and cause burns and other injuries. This risk is increased when the batteries for the devices are poor quality, are modified by users, or stored inadequately. Also, there is conclusive evidence that the exposure to e-substances through ingesting or through skin or eyes can result in health effects including seizures, brain injury, vomiting, and lactic acidosis.⁶

E-cigarettes produce a vapour that has the potential to pose a risk to bystanders. The NASEM report shows that e-cigarette use increases airborne concentrations of particulate matter, nicotine and other toxicants such as propylene glycol, glycerol, volatile organic compounds, carbonyls, and heavy metals. There is conclusive evidence that, in addition to nicotine, e-cigarettes contain and emit many potentially toxic substances. When compared to combustible tobacco, the chemicals in e-cigarette aerosol are found in lower levels. More research is needed on the impact of exposure to e-cigarette aerosol in outdoor settings and on the health risks of exposure to e-cigarette aerosol.⁶

Smoking Cessation

Overall, there is limited evidence that e-cigarettes are effective smoking cessation aids.⁶ Results from a Public Health Ontario literature review found a lack of evidence that e-cigarettes are successful cessation aids and more recent evidence from randomized control trials and observational studies do not provide support for e-cigarettes as a cessation aid. As well, it is suggested that further research is required to determine the effectiveness of e-cigarettes with or without nicotine on smoking cessation.³ The World Health Organization concluded that, “population-based longitudinal studies that reflect real-world e-cigarette use found that e-cigarette use is not associated with successful quitting”. Additionally, the NASEM concluded there is limited evidence that e-cigarettes may be effective aids to promote smoking cessation.⁷

Harm reduction involves strategies to reduce harm such as reducing the number of cigarettes smoked. E-cigarettes do not contain tobacco and do not involve combustion, posing potentially less risk to health compared to smoking combustible cigarettes.⁸ Though available research suggests that e-cigarettes have the potential to reduce the number of cigarettes smoked, often individuals continue to use both the e-cigarette and combustible tobacco.³ Currently, it is unknown whether a reduction in harm occurs from dual use of tobacco and e-cigarettes.³ While there is potential for smokers to reduce their combustible tobacco consumption by using an e-cigarette, at this point in time, studies have indicated that continuing to smoke any amount of combustible tobacco still poses risks.⁷

Youth and E-Cigarettes

Evidence has shown the use of nicotine has negative impacts on adolescent brain development.⁹ Nicotine is known to alter brain development, affect memory and concentration, and may also predispose youth to addiction to nicotine and possibly other drugs.¹³ Of concern is the JUUL product and other similar pod-based systems which were introduced to the Canadian market in August 2018. These products are marketed to Canadian youth and contain as much nicotine per pod as an entire pack of cigarettes or more.

Evidence shows that common reasons for youth beginning to use an e-cigarette include because they are accessible, healthier than cigarettes, and more aesthetically pleasing.¹⁰ This perception by youth can be attributed to the rapid diffusion of e-cigarettes into the market place and industry’s campaigns that are marketed toward

young people. The use of youth friendly packaging, designs, and flavours such as Bubblegum, Snickerdoodle, and Sweet Tarts is a major marketing strategy of e-cigarette manufacturers.⁸ E-cigarette marketing is showing similar advertising tactics as traditional cigarette companies before regulations took place in 2006. The use of Hollywood celebrity endorsements, free product, provocative advertisements in magazines and social media, and the use of attractive flavours and packaging are arguably all tactics to target sales to youth and re-normalize smoking.¹¹ The use of youth friendly packaging, designs, and flavours can also be linked to the increased number of nicotine poisonings in the last five years.¹²

A major concern surrounding the e-cigarette industry is its effect on not only youth uptake of e-cigarettes but also the potential for e-cigarettes to act as a “gateway” to traditional cigarette use. A review by the NASEM concluded there was substantial evidence that e-cigarette use increases the risk of ever using combustible tobacco cigarettes among youth and young adult.⁶

Enforcement and Regulation

Southwestern Public Health will continue to enforce *the Smoke-Free Ontario Act 2017 (SFOA 2017)* and the provisions in the Act related to e-cigarettes. There is a need to ensure that vaping products are regulated consistently along with tobacco products, including prohibiting the advertising and promotion of e-cigarettes, regulating packaging, regulating ingredient labelling, mandating health warnings, and eliminating e-liquid flavours. While there have been Federal and Provincial Government regulations on vaping products in the last two years, additional measures must be put in place to regulate these products and protect the public, especially youth from potential harm.

Implications for Southwestern Public Health:

Southwestern Public Health will:

1. Continue to support clients who are making a quit attempt with evidence based, recommended and regulated cessation products. Until further evidence supports e-cigarettes as an effective cessation aid, Southwestern Public Health will not recommend their use to quit smoking.
2. Include cautionary messages for youth and parents around the use of e-cigarettes in parenting resources, programs and services.
3. Advocate to ensure e-cigarettes are regulated and enforced like tobacco products.
4. Continue to evaluate new research as it becomes available and review the organization’s position on e-cigarettes as necessary.

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Definitions:

Electronic Cigarette (e-cigarette): E-cigarettes are battery powered and contain an atomizer that heats the liquid and turns it into a vapour that resembles smoke. E-cigarettes are sometimes called e-cigs, vapes, vape pens, and e-hookahs. E-cigarettes sometimes look like regular cigarettes, cigars, pipes, pens, USB flash drives or other everyday items.