

## The Issue

Electronic cigarettes (e-cigarettes) are small devices that are designed to emulate tobacco smoking and can provide a safer alternative to smoking that does not involve combustion and all of the related toxic emissions. E-cigarettes have the potential to help tobacco users reduce or overcome nicotine dependence. However e-cigarette devices are currently unregulated in Canada and more evidence is required to confirm that e-cigarettes are effective as smoking cessation aids. Meanwhile e-cigarettes are growing in use and popularity particularly among young people. Evidence suggests they have the potential to increase youth tobacco dependence and contribute to the possible re-normalization of smoking in public areas.<sup>1,2</sup>

Regulation of e-cigarettes is desperately needed and the federal government is currently considering legislation to regulate these products and how they are designed and marketed. All provinces except Alberta and Saskatchewan have approved specific laws to regulate the use and/or marketing of e-cigarettes. How these products are regulated will in large part determine whether they are a net benefit or a net harm to public health.

## Background

E-cigarettes are small devices that are used to deliver nicotine and/or other substances to a user in the form of vapour and liquid aerosols, while simulating the sensation of smoking. Battery operated heating elements within the canisters heat fluid-filled cartridges that emit vapour and liquid aerosols. These products are often made to look like cigarettes, cigars, and pipes. Using an e-cigarette is often referred to as “vaping.” The cartridges contain a fluid referred to as ‘e-liquid’ or ‘e-juice’ which is a combination of various amounts of propylene glycol, glycerol as well as flavourings.<sup>3</sup> The e-liquid used in e-cigarettes can also contain nicotine. When the vapour and aerosol is inhaled the nicotine is absorbed into the bloodstream through the linings of the mouth, throat and lungs. The amount of nicotine delivered varies depending on the e-cigarette.

The base of most e-liquid is propylene glycol which is considered safe for digestion but not necessarily inhalation especially when heated. In addition, the process of heating the liquid can result in additional emissions including possible toxins especially since there are no current products standards regarding the safe composition and heating of e-liquids. Although propylene glycol is used in some approved inhalation products like medical inhalers and mists, the glycol is not heated in these products and there are no heating by-products or emissions.

Research is ongoing regarding the effectiveness of e-cigarettes containing nicotine as a smoking cessation tool. E-cigarettes are almost certainly less harmful than cigarettes. However there have been no long-term studies to examine cessation efficacy and existing studies have had very small sample sizes and lacked scientific rigour and there is limited scientific support for claims about the safety of e-cigarettes.<sup>4</sup> As a result, Alberta Health Services supports Health Canada’s position and warnings to Canadians not to purchase or use e-cigarettes.<sup>5</sup>

In addition, many e-cigarettes claiming to be nicotine-free may actually contain nicotine. A study by the University of Montreal’s Regional Centre for Mass Spectrometry found that six out of nine e-cigarette products labelled nicotine-free

1. World Health Organization Framework Convention on Tobacco Control. *Electronic nicotine delivery systems*. FCT/COP/6-10 Rev.1. 2014.

[http://apps.who.int/gb/fctc/PDF/cop6/FCTC\\_COP6\\_10Rev1-en.pdf?ua=1](http://apps.who.int/gb/fctc/PDF/cop6/FCTC_COP6_10Rev1-en.pdf?ua=1)

2. Czoli CD, Reid JL, Rynard VL, Hammond D. *E-cigarettes in Canada - Tobacco Use in Canada: Patterns and Trends, 2015 Edition, Special Supplement*. Waterloo, ON: Propel Centre for Population Health Impact, University of Waterloo.

3. U.S. Food and Drug Administration. *E-Cigarettes: Questions & Answers*. <http://www.fda.gov/ForConsumers/ConsumerUpdates/ucm225210.htm>. Accessed May 26, 2014.

4. Czoli CD, Reid JL, Rynard VL, Hammond D. *E-cigarettes in Canada - Tobacco Use in Canada: Patterns and Trends, 2015 Edition, Special Supplement*. Waterloo, ON: Propel Centre for Population Health Impact, University of Waterloo.

5. Alberta Health Services. Let’s Talk About...Electronic Smoking Products and Safety. [http://www.albertaquits.ca/files/AB/files/library/FINALElectronic\\_Smoking\\_Products\\_R2\\_.pdf](http://www.albertaquits.ca/files/AB/files/library/FINALElectronic_Smoking_Products_R2_.pdf)

in fact contained nicotine.<sup>6</sup> This misleading labelling creates an illusion of safety that does not exist and exposes consumers unknowingly to a highly addictive drug.

### Youth use and renormalization of tobacco use

The rapid and unregulated proliferation of the e-cigarette market gives rise to another serious public health concern. Even if e-cigarettes are proven to be safe and effective in helping smokers quit or reduce tobacco consumption, there is still a risk that e-cigarette use could lead to nicotine dependence and potential tobacco use among non-smokers. Also these products can model and renormalize smoking behaviour among children and youth. E-cigarette use closely emulates smoking with devices that often look like cigarettes and produce visible emissions that closely resemble cigarette smoke. To this day, these products are often marketed as “e-cigarettes” instead of nicotine vaporizers.

Recent evidence indicates that non-smoking youth are using e-cigarettes.<sup>7</sup> Due to the unregulated manufacturing, sale and use of e-cigarettes, youth who use e-cigarettes may be vulnerable to nicotine dependence which can lead to tobacco use.<sup>8</sup> The latest Health Canada data shows the number of youth aged 15 to 19 who have ever tried e-cigarettes is at 26 per cent.<sup>9</sup> This is an increase from 19.8% in 2013.<sup>10</sup> The number of Canadian youth trying e-cigarettes now rivals the number of youth trying tobacco cigarettes.<sup>11</sup> Some evidence suggests that youth who experiment first with e-cigarettes are almost twice as likely to intend to smoke conventional cigarettes compared to those who have never tried either.<sup>12</sup> While more research is needed to show a definitive link between youth e-cigarette use and an increase in tobacco use and dependence, the current evidence suggests that a precautionary approach should be taken.

Public health organizations are very concerned about the experimental use of e-cigarettes among youth and its potential to result in nicotine addiction and tobacco use. Health groups are also concerned about the potential renormalization of tobacco use that could result from e-cigarette use in public areas. E-cigarettes are designed to look and function like regular cigarettes and most have visible emissions and some even have glowing tips like normal cigarettes. Significant progress has been made in tobacco reduction due to reduced social acceptability which has largely resulted from smoking bans. Tobacco reduction legislation is being undermined by the public use of e-cigarettes in places where smoking is banned.

### Regulatory and legal framework for e-cigarettes

To date, **e-cigarettes containing nicotine** have not been granted market authorization and are not approved for sale or use by Health Canada. Health Canada has advised Canadians not to purchase or use electronic cigarettes, “...as these products may pose health risks and have not been fully evaluated for safety, quality and efficacy by Health Canada.”<sup>13</sup> **E-cigarettes without nicotine** have been permitted for sale by Health Canada. However it is prohibited to make any health claims relating to these products, such as stating that the product is effective for smoking cessation. There are currently no manufacturing standards or regulatory oversights to ensure e-cigarette products are contaminant-free, that they contain only the ingredients listed on the label, that they contain safe quantities of ingredients or that they were produced in sterile environments. There are also numerous reports of device failures leading to explosions, fires, and serious injuries among users.

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6. Canadian Cancer Society. PRESS RELEASE The Canadian Cancer Society's lab tests and exclusive survey: *Electronic cigarettes have misleading labels and are gaining popularity among youths*. September 2013.

7. Czoli CD, Reid JL, Rynard VL, Hammond D. *E-cigarettes in Canada - Tobacco Use in Canada: Patterns and Trends, 2015 Edition, Special Supplement*. Waterloo, ON: Propel Centre for Population Health Impact, University of Waterloo.

8. World Health Organization Framework Convention on Tobacco Control. *Electronic nicotine delivery systems*. FCT/COP/6-10 Rev.1. 2014.

[http://apps.who.int/gb/fctc/PDF/cop6/FCTC\\_COP6\\_10Rev1-en.pdf?ua=1](http://apps.who.int/gb/fctc/PDF/cop6/FCTC_COP6_10Rev1-en.pdf?ua=1)

9. Reid JL, Hammond D, Rynard VL, Madill CL, Burkhalter R. *Tobacco Use in Canada: Patterns and Trends, 2017 Edition*. Waterloo, ON: Propel Centre for Population Health Impact, University of Waterloo. [www.uwaterloo.ca/tobacco-use-canada](http://www.uwaterloo.ca/tobacco-use-canada)

10. Czoli CD, Reid JL, Rynard VL, Hammond D. *E-cigarettes in Canada - Tobacco Use in Canada: Patterns and Trends, 2015 Edition, Special Supplement*. Waterloo, ON: Propel Centre for Population Health Impact, University of Waterloo.

11. Czoli CD, Reid JL, Rynard VL, Hammond D. *E-cigarettes in Canada - Tobacco Use in Canada: Patterns and Trends, 2015 Edition, Special Supplement*. Waterloo, ON: Propel Centre for Population Health Impact, University of Waterloo.

12. Bunnell RE, Agaku IT, Arrazola R, Apelberg BJ, Caraballo RS, Corey CG, Coleman B, Dube SR, King BA. Intentions to smoke cigarettes among never-smoking U.S. middle and high school electronic cigarette users, National Youth Tobacco Survey, 2011-2013. *Nicotine and Tobacco Research*. 2014 Aug 20. [Epub ahead of print] <http://www.cdc.gov/tobacco/youth/e-cigarettes/>

13. Health Canada. Recall and safety alerts. *Health Canada Advises Canadians not to use Electronic Cigarettes*. <http://www.healthycanadians.gc.ca/recall-alert-rappel-avis/hc-sc/2009/13373a-eng.php>

In 2016, the federal government announced plans to regulate e-cigarettes through an amendment of the *Tobacco Act* (Bill S-5)<sup>14</sup>. The proposed new law would regulate manufacturing, sales, labelling and promotion of both nicotine and nicotine-free e-cigarette products. The proposed legislation includes a ban on sales of e-cigarette products to minors and gives the ability for Health Canada to prescribe health warning labels on e-cigarette products. When this law comes into effect, e-cigarettes containing nicotine will be legal to sell in Canada, thus the use of these product may continue to rise. Complementary provincial regulations will become even more important when the federal regulations come into effect.

Most Canadian provinces have provincial legislation to regulate the use of e-cigarettes in public places. Alberta and Saskatchewan are the only provinces that do not currently regulate e-cigarette use. The *Tobacco and Smoking Reduction Act* currently contains a section which would prohibit e-cigarette use in indoor public places and workplaces, however this section of the legislation remains un-proclaimed and unimplemented.

A handful of Alberta municipalities including Calgary, Edmonton and Red Deer have included e-cigarettes in their smoking bylaws and are prohibiting the use of e-cigarettes anywhere smoking is currently prohibited. All Albertans should be afforded the same protection through provincial legislation.

### Public support for restricting e-cigarette use

A telephone survey of 1,200 Albertans aged 18 and over conducted in 2016 revealed that 82% of respondents supported banning e-cigarette use in all public places where tobacco use is banned. The 2016 Chronic Disease Prevention Survey was commissioned by the Alberta Policy Coalition for Chronic Disease Prevention.

#### Policy Recommendation

The *Tobacco and Smoking Reduction Act* provides regulatory authority to prohibit the use of any tobacco-like products in indoor public establishments and workplaces. E-cigarettes can be easily defined as tobacco-like products through a Cabinet Order allowing for the prohibition of their use in indoor public establishments and workplaces. **The Campaign for a Smoke-Free Alberta recommends that Cabinet proclaim all sections of the TSRA pertaining to tobacco-like products and order the prohibition of e-cigarette use in indoor public places and workplaces.**

14. An Act to amend the Tobacco Act and the Non-Smokers' Health Act and to make consequential amendments to other Acts Accessed at: <https://openparliament.ca/bills/42-1/S-5/>