



**POLICY REPORT
HEALTH**

Report Date: September 18, 2014
Contact: Harley Machielse
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Meeting Date: September 30, 2014

TO: Vancouver City Council
FROM: General Manager of Community Services and Chief Licence Inspector
SUBJECT: Regulating E-cigarettes

RECOMMENDATION

- A. THAT Council approve amendments to the Health By-law to prohibit the smoking (“vapourizing”) of electronic cigarettes and similar devices in the same places that tobacco smoking is disallowed;

FURTHER THAT Council instruct the Director of Legal Services to bring forward a by-law amending the Health By-law, generally as set out in Appendix A of this report.

- B. THAT, conditional upon enactment of the above amendments, TransLink and the Park Board be apprised and encouraged to make similar amendments to their smoking policies.

- C. THAT Council approve amendments to the License By-law:

- i. prohibiting the display or sale of e-cigarettes or related products to minors, and,
- ii. authorising the Chief Licence Inspector to place conditions on business licences with respect to posting signage regarding e-smoking,

FURTHER THAT Council instruct the Director of Legal Services to bring forward a by-law amending the License By-law, generally as set out in Appendix B of this report.

REPORT SUMMARY

E-cigarettes, a relatively new smoking simulation product, have entered the Vancouver market amidst concerns about their potential health impacts. Staff have evaluated the risks, with assistance from Vancouver Coastal Health, and recommend a cautious regulatory approach that parallels the requirements imposed on tobacco products.

COUNCIL AUTHORITY/PREVIOUS DECISIONS

The Health By-law (9535) disallows smoking in all public places including buildings, taxis, transit, transit shelters, and within six metres of a building's door or window. However, because the definition of "smoke" and "smoking" addresses methods that burn, rather than vapourize, e-cigarettes and e-smoking are not technically considered smoking under the By-law.

The Park Board Smoking Regulation Bylaw creates similar protections from second hand smoke in all open and enclosed spaces in Vancouver's parks.

CITY MANAGER'S/GENERAL MANAGER'S COMMENTS

The General Manager of Community Services RECOMMENDS approval of the foregoing recommendations.

REPORT

Background/Context

Electronic cigarettes are also known as e-cigarettes, e-hookahs, personal vapourizers, Electronic Nicotine Delivery Systems or "ENDS". Some mimic the look of traditional cigarettes, while others are designed to look like something else (e.g. a pen, lip gloss or a USB stick). Invented in China in 2003, they have the potential to eclipse traditional cigarettes in sales within ten years¹. These devices (hereafter referred to collectively as "e-cigarettes") use a battery-powered heating element to vapourize a solution known as "e-juice". The resulting vapour is inhaled and exhaled much in the same manner as cigarette smoke. E-juice is sometimes flavoured to mimic the taste of tobacco, or in some cases contains flavours such as mint or watermelon. E-juice contains ingredients to create a vapour that resembles the feeling of inhaling real smoke; it may or may not contain nicotine. Although nicotine free e-juice is unregulated (i.e. allowed to be purchased and used anywhere), Health Canada states that e-cigarettes with nicotine:

"...fall within the scope of the *Food and Drugs Act*. All of these products require market authorization prior to being imported, advertised or sold in Canada. Market authorization is granted by Health Canada following successful review of scientific evidence demonstrating safety, quality and efficacy with respect

¹ Bloomberg Industries, 2014 (<http://www.businessweek.com/articles/2014-02-06/e-cigarettes-fda-regulation-looms-for-1-dot-5-billion-industry>)

to the intended purpose of the health product.... To date, no electronic smoking product has been authorized for sale by Health Canada.”²

The Chief Medical Health Officer of Vancouver Coastal Health (VCH) conducted a literature review on the safety and potential benefits of e-cigarettes. The review raised concerns about harmful effect of second hand “vapour” on bystanders, the potential for e-cigarettes to renormalize smoking (i.e. especially among youth), and the risk of accidental poisoning from e-juice. As a result of this review and their *Public Health Act* responsibility to advise cities, VCH recommended that the City place limits on this new type of smoking (with or without nicotine) in public places (see Appendix C). The concern is the harmful effect on bystanders (i.e. second hand “vapour”), and potential for e-cigarettes to renormalize smoking, especially among youth.

Local Businesses

A staff survey of Vancouver’s retailers found that the major drug and grocery chains offer e-juice without nicotine, while some smaller retailers are selling the nicotine version as well (i.e. without the required authorisation from Health Canada).

Practice In Other Jurisdictions

Three Canadian municipalities already ban e-cigarette use in places where smoking is banned: Red Deer, Alberta; Innisfil, Ontario; and, Hantsport, Nova Scotia. Other Canadian jurisdictions (e.g. Quebec, Toronto) are currently considering regulating e-cigarettes.

In the US, three states (North Dakota, New Jersey and Utah) and more than 170 municipalities (including Boston, New York, Chicago, and Los Angeles) also regulate e-cigarettes.

Strategic Analysis

Potential Effects on Bystanders

Because e-cigarettes are a relatively new product, data on the health risks of inhaling secondhand e-cigarette vapour is limited. What is known is that e-cigarettes emit “vapour” to which bystanders are exposed. This vapour may contain ingredients that raise health concerns: propylene glycol, artificial flavours (known to be cytotoxic), volatile organic compounds, heavy metals, and particulates³. Many of these compounds are present in lower levels than noted in cigarette smoke; however, some heavy metals are higher in concentration⁴. The studies to date raise concerns about

² http://www.hc-sc.gc.ca/dhp-mps/prodpharma/applic-demande/pol/notice_avis_e-cig-eng.php

³ Khara, Okili and Dawar. Electronic Nicotine Delivery Systems: A review of Literature. 2014

⁴ Grana R., Benowitz N., and Glantz S. E-cigarettes: A Scientific Review. Journal of the American Heart Association, 2014

asthma⁵, respiratory resistance/lung irritation⁶, cellular changes similar to that caused by tobacco smoke⁷, and cancer⁸.

Some, but not all, e-juice contains nicotine. The product may be poorly labelled (i.e. inaccurately, deceptively, or not labelled at all)⁹. Vancouver Coastal Health has expressed concern about nicotine-laden e-juice because of the following concerns:

- a) the potential risk of nicotine in second hand vapour to affect bystanders. (A recent study found nicotine markers in the blood of non-users who had inhaled second hand vapour¹⁰);
- b) unclear labelling practices regarding the nicotine content of e-juice could expose unsuspecting consumers to this addictive drug; and,
- c) an upswing in nicotine poisoning reports among children from inadvertent e-juice exposure - specifically a total of 14 calls to Poison Information Centre in the past three years, half involving children under five years old)¹¹.

The specific effects of second hand vapour on vulnerable populations such as children, pregnant women, and people with cardiovascular conditions are unknown at this time and require further study.¹²

Potential Effects on Youth

Of particular concern is the effect that e-cigarettes might have on youth. Many youth are averse to traditional smoking, likely due to parental modelling and social marketing campaigns about the risks. However, there is growing concern that some youth will see e-cigarettes as a safe alternative to traditional cigarettes. For example, some businesses including those frequented by minors, display e-cigarettes prominently, and in some cases, adjacent to products popular with youth (e.g. candy

⁵ Reported in Khara, Okili and Dawar. Electronic Nicotine Delivery Systems: A review of Literature. 2014

⁶ Vardavas CI, Anagnostopoulos N, Kougias M, et al. Short-term pulmonary effects of using an electronic cigarette: impact on respiratory flow resistance, impedance, and exhaled nitric oxide. *Chest*. 2012; 141: 1400-1406.

⁷ Stacy J. Park, Tonya C. Walser, Catalina Perdomo, Teresa Wang, Paul C. Pagano, Elvira L. Liclican, Kostyantyn Krysan, Jill E. Larsen, John D. Minna, Marc E. Lenburg, Avrum Spira, Steven M. Dubinett. The effect of e-cigarette exposure on airway epithelial cell gene expression and transformation. [abstract]. In: Proceedings of the AACR-IASLC Joint Conference on Molecular Origins of Lung Cancer; 2014 Jan 6-9; San Diego, CA. Philadelphia (PA): AACR; Clin Cancer Res 2014;20(2Suppl):Abstract nr B16.

⁸ Schober, Wolfgang, et al. Use of electronic cigarettes (e-cigarettes) impairs indoor air quality and increases FeNO levels of e-cigarette consumers. *International journal of hygiene and environmental health* 2013; S1438-4639(13)00153-3. doi: 10.1016/j.ijheh.2013.11.003.

⁹ Food and Drug Administration (FDA), U.S. Department of Health & Human Services, Center for Drug Evaluation and Research, Division of Pharmaceutical Analysis. Evaluation of E-cigarettes. St. Louis, MO: Food and Drug Administration, 2009

¹⁰ Flouris AD, Poulianiti KP, Chorti MS et al. Acute effects of electronic and tobacco cigarette smoking on complete blood count. *Food and Chemical Toxicology*. 2012; 50:3600-3603

¹¹ BC Drug and Poison Information Centre, January 2011 to February 2014, as reported by Vancouver Coastal Health. Data does not differentiate between nicotine versus non-nicotine e-juice.

¹² Jan Czogala PhD1, Maciej L. Goniewicz PharmD, PhD1,2, Bartłomiej Fidelus PharmD1, Wioleta Zielinska-Danch PhD1, Mark J. Travers PhD2, Andrzej Sobczak PhD1,3. Secondhand Exposure to Vapours from Electronic Cigarettes

and energy drinks). In contrast tobacco products are required to be out of view of minors. This discrepancy raises concerns about “renormalizing” smoking by giving young people the impression that e-cigarettes pose none of the same risks as tobacco products. Furthermore, according to the Stanford School of Medicine the candy-like flavours (e.g. cherry crush, bubblegum, gooey butter cake) attract youth to e-smoking¹³.

Although e-cigarettes are sometimes promoted as a smoking cessation device, they are also being marketed to the first-time market with youth-oriented advertising campaigns (e.g. Playboy®, Blu®). A recent U.S. study found that the “ever-tried” levels among youth doubled over the course of one year, making market penetration to the youth cohort higher than any other (i.e. up to ten percent of high school students have tried e-smoking versus just three percent of adults).¹⁴

U.S. data indicates that e-cigarette use in youth is increasing¹⁵, raising concerns that e-cigarettes are a gateway to tobacco use. Inaccurate labelling of these products means that youth could inadvertently become addicted to nicotine.

City of Vancouver Response

Given the health concerns regarding the effect of e-cigarettes on youth and bystanders, Vancouver Coastal Health has recommended that the City take a cautious approach to safeguard public health. As a result this report recommends a regulatory response that treats smoking of e-cigarettes in the same way as tobacco products. Accordingly this report recommends amendments to City bylaws to limit public e-smoking (i.e. in enclosed public places and near building entrances). Furthermore, in the interests of discouraging youth from starting to e-smoke, retailers will be prohibited from the displaying or selling e-cigarette products (including the solution) to minors (i.e. under 19 years of age). This would bring them in line with tobacco retailers, who must meet the same requirements to retain their Tobacco Retail Authorization Certificate.

The recommended approach reflects strong concerns based on the evidence to date regarding e-cigarettes’ long term health effects. In the event that Health Canada approves e-cigarettes for sale to youth, the City’s approach could be reconsidered and adjusted.

Staff will work with our partners to ensure smooth implementation of the requirements. This report recommends that the City encourage the Park Board and TransLink to consider similar updates to their smoking requirements as they apply to parks and transit facilities, respectively.

¹³http://tobacco.stanford.edu/tobacco_main/images.php?token2=fm_st333.php&token1=fm_img16527.php&theme_file=fm_mt025.php&theme_name=Electronic%20Cigarettes&subtheme_name=Teen%20Flavors

¹⁴ Carroll Chapman, SL; Wu, LT (Mar 18, 2014). "E-cigarette prevalence and correlates of use among adolescents versus adults: A review and comparison." *Journal of Psychiatric Research*.

¹⁵ Center for Disease Control, 2013. Catherine Corey, MSPH, Baoguang Wang, MD, Sarah E. Johnson, PhD, Benjamin Apelberg, PhD, Corinne Husten, MD, Center for Tobacco Products, Food and Drug Administration. Brian A. King, PhD, Tim A. McAfee, MD, Rebecca Bunnell, PhD, René A. Arrazola, MPH, Shanta R. Dube, PhD, Office on Smoking and Health, National Center for Chronic Disease Prevention and Health Promotion, CDC.

Impact on Business

It is expected that the recommendations of this report will have minimal impact on e-cigarette retailers. Staff are not aware of any business in Vancouver that derives all its revenue from selling e-cigarettes to minors. In fact, many retailers already refrain from this sales practice.

Stores and restaurants will experience some impact because their patrons will not be allowed to e-smoke inside or on their patios. They will also be required to post signage (similar to the “no smoking” signage that is currently required) about e-smoking. To mitigate the expense of replacing existing signage en masse, it is proposed to introduce the new signage requirements gradually. The Chief Licence Inspector will first require the signage requirements in new establishments by means of conditions placed on new licences. The new signage requirements for all businesses will come into force on September 30, 2016, giving existing businesses two years to replace their existing signs with signs that comply with the Health By-law. Staff will work with the B.C. Lung Association to update the current signage template (which currently refers only to regular smoking).

Financial

There are no financial implications for the City.

Legal

The City has the authority to make bylaws regarding the regulation of businesses and the care, promotion and protection of public health.

Communications

Licences and Inspections staff will work with Corporate Communications to inform businesses, business patrons and the broad general public about the new policy regarding e-cigarettes including signage requirements.

CONCLUSION

In the past people have argued that an earlier public policy response to the harmful effects of tobacco would have resulted in fewer years of life lost to smoking-related illnesses. The introduction of a new form of smoking, e-cigarettes, poses a similar challenge to policy-makers. Considering what is already known about their potentially harmful ingredients and effects, City staff and the Health Region recommend that e-cigarettes be regulated. In other words sales and use of the product will be allowed but managed so as to minimize bystander effects (i.e. secondhand vapour) and access by minors.

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BY-LAW NO. _____

**A By-law to amend Health By-law No. 9535
regarding electronic cigarettes**

THE COUNCIL OF THE CITY OF VANCOUVER, in public meeting, enacts as follows:

1. This By-law amends the indicated provisions of By-law No. 9535.
2. In Section 1.2, in alphabetical order, Council adds:

"vapourize" or "vapourizing" means to inhale or exhale vapour produced by an electronic cigarette, electronic pipe, electronic hookah or other similar device that can be used to deliver nicotine or other substances."
3. In Section 2.2:
 - a) in the heading, after "smoking", Council adds "and vapourizing"; and
 - b) in section 2.2, Council strikes out "A person must not smoke:" and substitutes "A person must not smoke or vapourize:".
4. In Section 2.3:
 - a) in the heading, after "smoking", Council adds "and vapourizing"; and
 - b) after the word "smoke" adds "or vapourize".
5. Council strikes out section 2.4 and substitutes:

"Signs banning smoking and vapourizing
 - 2.4 A responsible person must display, or ensure the display of, a sign at all times:
 - (a) at each entrance to a building or customer service area or to premises, or in a vehicle for hire, where section 2.2 prohibits smoking or vapourizing, stating:

THIS IS A SMOKE FREE ENVIRONMENT - NO SMOKING OR VAPOURIZING; and
 - (b) on each exterior wall of a building, where section 2.2 prohibits smoking or vapourizing, stating:

SMOKING OR VAPOURIZING IS PROHIBITED WITHIN SIX METRES OF OPENINGS INTO THIS BUILDING INCLUDING DOORS AND WINDOWS THAT OPEN AND ANY AIR INTAKE."

EXPLANATION

**Health By-law amending By-law
Re: Electronic cigarettes**

The attached By-law will implement Council's resolution of September 30, 2014 to amend the Health By-law regarding electronic cigarettes.

Director of Legal Services
September 30, 2014

BY-LAW NO. _____

**A By-law to amend License By-law No. 4450
regarding conditions on licences and electronic cigarettes**

THE COUNCIL OF THE CITY OF VANCOUVER, in public meeting, enacts as follows:

1. This By-law amends the indicated provisions of the License By-law.
2. In Section 2, in alphabetical order, Council adds:

“Electronic Cigarettes” means electronic cigarettes, electronic pipes, electronic hookahs, or similar devices that can be used to deliver nicotine or other substances, and replaceable cartridges and refills used with those devices.”
3. In Section 4, after subsection 4(9), Council adds:

“(10) The Chief License Inspector may impose such terms and conditions on a license as he considers appropriate, including but not limited to conditions:
 - (a) requiring that signs be posted, to the satisfaction of the Chief License Inspector, warning that the use of electronic cigarettes is prohibited in a business, or within six metres of openings into the building in which a business is located, including doors and windows that open and any air intake.”
4. Council re-numbers sections 14.1 and 14.2 as 14.2 and 14.3 respectively.
5. After Section 13.5, Council adds:

“ELECTRONIC CIGARETTES AND SIMILAR DEVICES

14.1 (1) The provisions of this section apply to all persons carrying on the business of dealing in, supplying, selling, offering to sell or distributing electronic cigarettes.

(2) No person shall deal in, supply, sell, offer to sell or distribute electronic cigarettes to a minor.

(3) No person shall display electronic cigarettes in any manner by which the devices may reasonably be seen or accessed by a minor who is outside or inside the business.

EXPLANATION

License By-law amending By-law
Re: Conditions on licences and electronic cigarettes

The attached By-law will implement Council's resolution of September 30, 2014 to amend the License By-law regarding electronic cigarettes.

Director of Legal Services
September 30, 2014



Office of the Chief
Medical Health Officer

#800 - 601 West Broadway
Vancouver, BC V5Z 4C2

April 2, 2014

Dr. Penny Ballem
City Manager
City of Vancouver
453 W 12th Avenue
Vancouver, BC V5Y 1V4



Dear Dr. Ballem,

Re: Recommendation to extend the City Smoking Bylaws to prohibit use of e-cigarettes in public spaces and to consider restricting sales to businesses with a tobacco license

We have recently witnessed an explosion in marketing and sales of e-cigarettes (also known as e-hookahs, personal vaporizers or electronic nicotine delivery systems) to City of Vancouver residents, including youth. Members of the public, including parents of youth, have expressed concerns to Vancouver Coastal Health (VCH) about the marketing and unrestricted sale of these products. E-cigarettes are currently not subject to regulation under municipal smoking by-laws, provincial tobacco regulations or federal tobacco legislation. Health Canada does not permit the sale of e-cigarettes (and cartridges) containing nicotine in Canada because these products are considered new drugs and can only be sold after authorization under the federal Food and Drugs Act. However, VCH public health inspectors have found nicotine-containing e-cigarettes and cartridges are being sold with apparent impunity in greater Vancouver.

As a result of these concerns, VCH has undertaken a comprehensive review of the current evidence to assess the safety of e-cigarettes for users and bystanders and their other potential harms and benefits. We provide a summary of this evidence and our recommendations for municipal regulation.

E-cigarettes have not been proven to be safe, have the potential for major harm, and have not been shown to be of benefit as smoking cessation devices.

1. The safety of e-cigarettes has not been proven and there are numerous quality concerns with products currently marketed and sold.
 - a. There are no regulatory requirements to ensure these products are manufactured safely, meet quality standards or have an accurate labeling

of contents. Health Canada has issued an advisory to Canadians not to use e-cigarettes because of these concerns.

Studies have shown problems with leakage of liquid from e-cigarettes containing hazardous chemicals, inadequate and often false information on labels, and lack of warning data, such as information on the potentially lethal doses of nicotine in most nicotine containing cartridges. Poison control centres in North America have reported increasing poisonings of young children from inadvertent consumption of e-cigarette liquid.

- b. Propylene glycol, one of the main components of e-cigarettes, is a known respiratory irritant, even at low concentrations.
 - c. Nicotine-containing fluid cartridges are widely available in greater Vancouver, including in fruit flavours, even though federal legislation prohibits sale of these products in Canada. Misleading labeling may result in youth unintentionally consuming nicotine and risking becoming addicted.
 - d. E-cigarettes can contain heavy metals, chemicals and flavours that have been shown to be carcinogenic or cytotoxic, albeit at lower concentrations than in tobacco smoke.
 - e. Many of these chemicals may also be present in second hand vapour, and thus an adverse risk to bystanders from second-hand vapour cannot be excluded.
2. The evidence of the efficacy of e-cigarettes for smoking cessation remains unproven.
- a. There is extremely limited evidence indicating that e-cigarettes (with or without nicotine) may help people quit smoking. The absence of manufacturing requirements results in significant amount of within brand and brand-to-brand variability of nicotine doses and other contents. Therefore, the therapeutic dose of nicotine and benefit to consumers, if any, cannot be guaranteed.
 - b. Proven smoking cessation aids, such as nicotine replacement therapy currently approved for sale and other approved pharmacological agents, are supported by an enormous amount of safety and efficacy evidence arising from hundreds of studies; these continue to be recommended by experts over e-cigarettes to help people quit smoking.
3. The use of e-cigarettes has the potential to undermine progress in tobacco control.
- a. The use of e-cigarettes in public spaces can be confusing and may renormalize smoking behaviour for children and youth, many of whom have grown up without images of smokers in public places.
 - b. Public use of e-cigarettes provides visual cues and thus may encourage relapse for ex-smokers or undermine quit attempts for current smokers.
 - c. E-cigarettes could become a gateway to tobacco use and addiction for our youth. The products are both appealing to the youth and marketed aggressively to them. Many studies show there has been a dramatic increase in youth awareness and use of e-cigarettes as a result of these

marketing efforts. Experts are concerned this may become a gateway to smoking.

A few countries, such as Brazil and Singapore, have banned e-cigarettes completely. Several large U.S. cities including New York, Los Angeles, Chicago, Washington D.C. and San Francisco have applied varying degrees of regulatory control such as inclusion of e-cigarettes within their smoking legislation to curb sales to minors, banning use in public spaces, and restricting sale to businesses with a tobacco license. VCH has banned use of e-cigarettes on health authority premises. The Vancouver Board of Education and the West Vancouver School District recently banned e-cigarettes from school premises in response to our recommendation.

Based on the available evidence, we recommend that the City of Vancouver include e-cigarettes in current smoking by-laws, which will significantly reduce the use of e-cigarettes in public spaces. Further, we recommend that the City restrict the sale of e-cigarettes to businesses that hold a valid license for tobacco sale. We will be pleased to discuss this issue with you further and assist City staff in addressing this issue.

Yours sincerely,



Patricia Daly MD, FRCPC
Vice-President, Public Health and Chief Medical Health Officer
Vancouver Coastal Health