Electronic Nicotine and Non Nicotine Delivery Systems (ENDS)

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VCH MHO Recommendations

1. Include e-cigarettes and related ENDS devices in the City Health Bylaws to prohibit use in public spaces

2. Restrict sales to minors

We also support City’s proposal to
- Ban display of these products
- Signage requirements for businesses
Reasons for these recommendations

1. Unregulated market

2. Long-term safety of e-cigarettes to users and bystanders has not been proven and there are ingredients of concern (warning signs)

3. Efficacy as a ‘quit-aid’ remains unproven

4. This product has the potential to undermine progress in tobacco control
WHO, July 2014

• Use of ENDS in public spaces should be legally restricted until ENDS vapor is demonstrated to be completely safe to bystanders (√ 30 countries)

• Advertising, promotion, and sponsorship should be regulated or banned in order to decrease appeal to youth (√ 39 countries)

• Ban sales to minors (√ 29 countries)

• Clear distinction between nicotine and non-nicotine containing products

• “Never promote ENDS use in non-smokers as a desirable activity on it’s own”
Definition

Electronic nicotine and non nicotine delivery systems (ENDS) describe a range of devices which include:

– Electronic cigarettes (e-cigs) – most common
– Hookah pens
– E-hookahs
– Vape pipes
– Electronic cigars
Evolution of products

First generation

Second generation

Third generation
Liquid contents

>7000 varieties available

Propylene glycol and/or vegetable glycerine (glycerol)

Nicotine ranging from 0-36mg/ml

Flavourings (e.g. tobacco, mint, fruit)

Additives
The ENDS Market

Global sales estimated at US $3 billion, ↑ to $10B by 2017.

Canadian stores selling ENDs:
– Rexall, Lawton Drug's (owned by Sobeys), Loblaw, Safeway, and Shoppers Drug Mart.

A survey in the summer of 2012 in Ontario found
– 19% of all retail stores are selling e-cigs
– 58% of chain convenience stores
– 49% of gas stations

## Role of Big Tobacco

<table>
<thead>
<tr>
<th>Tobacco company</th>
<th>Tobacco brand(s)</th>
<th>ENDS product(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Altria, Philip Morris</td>
<td>Marlboro</td>
<td>MarkTen</td>
</tr>
<tr>
<td>Reynolds American</td>
<td>Camel</td>
<td>Vuse</td>
</tr>
<tr>
<td>Lorillard</td>
<td>Newport</td>
<td>Blu Cigs</td>
</tr>
<tr>
<td></td>
<td>Oldgold</td>
<td>SkyCig</td>
</tr>
<tr>
<td>Imperial Tobacco</td>
<td>10 + brands</td>
<td>Plans to launch two brands shortly</td>
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<tr>
<td></td>
<td>(Du Maurier, Players)</td>
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1. Absence of quality controls in production

No regulations governing manufacturing
- Products vary widely in the amount of nicotine and other ingredients (Diethylene glycol detected by FDA)
- Intra-brand variation in the release of nicotine and other ingredients in vapour
- Structural defects resulting in leakage

No packaging or labelling requirements
- Inadequate disclosure of ingredients
- Absence of warning information
- Child proof packaging not required
2. ENDS aerosol is more than water vapour

- **Known health risks**
  - Eye and respiratory irritation
  - Potential for nicotine addiction
  - Potential for harm to pregnant women
  - Risk of poisoning

- **Warning signs**
  - Propylene glycol exposure associated with asthma
  - Cancer and other chronic diseases: too early to tell
  - Several cancer causing chemicals detected in vapor
Ingredients of concern

• E-Juice
  – Coffee and other flavours were found to be cytotoxic (kill mammalian cells in studies)

• E-vapor (Primary and second hand vapour exposure)
  – Cancer causing chemicals known to be present in tobacco smoke (TS) also detected in vapor (⇓ TS)
  – Hazardous chemicals, such as formaldehyde and acetaldehyde, among others also detected (⇓ TS)
  – Particulates (⇓ TS)
  – Heavy metals (nickel, lead, chromium) (↑, ⇔ TS)
  – Nicotine can be absorbed from second hand vapor exposure (⇔ TS)
Ingredients of concern

- E-Juice
  - Coffee and other flavors were found to be cytotoxic (kill mammalian cells in studies)

- E-vapor (second-hand exposure)
  - Cancer-causing chemicals known to be present in tobacco smoke (TS) also detected
  - Hazardous chemicals, such as formaldehyde and acetaldehyde, among others also detected (TS)
  - Particles (TS)
  - Heavy metals (nickel, lead, chromium) (TS)
  - Nicotine can be absorbed from second-hand vapor exposure (TS)

Tobacco smoke is considered carcinogenic at all levels of exposure.
3. Evidence of benefit?

- Anecdotal
- Survey data, transition rather than cessation
- Two trials: low quit rates from both nicotine and non-nicotine delivery systems
- Long term safety unclear

- Industry claims that ENDS help people quit smoking (use as a cessation aid) should be reviewed and approved by the usual regulatory drug approval pathways

Health continues to recommend safer, evidence based cessation interventions
4. Potential to undermine tobacco control

Use among youth is increasing (US, EU)

Grade 6-12 students (CDC 2013)

- Ever use: ↑ 4.7% (2011) to 10.0% (2012)
- Use in past 30 days: ↑ 1.5% (2011) to 2.8% (2012)
- 76.3% of e-cigarette users also used conventional cigarettes in same period

- An increasing proportion are not concurrent tobacco users. Will they ‘graduate’ to using tobacco?
Father furious after mall kiosk sells e-cigarette to 11-year-old son
Sale of non-nicotine devices unregulated, says industry consultant

Recreational use is currently permitted.
Unrestricted marketing

- Claims:
  - Safer than cigarettes ("clean")
  - Quitting aid
  - Freedom to use wherever you want (avoid smoking bans)
  - Cheaper than smoking
  - Better for others - no odour, no risk from second hand vapour
  - Most recently among youth – no association with tobacco whatsoever
Renormalization of smoking

Use in public, where tobacco smoking is prohibited, undermines denormalisation

Renormalisation of smoking because e-cigarettes appear similar to tobacco
Latest developments

Action by Consumers and regulators

• Class action law suit by plaintiff John Sheppard against Fumizer LLC for ‘falsely claiming its vaporizers could help users quit smoking’ or lead to ‘healthy smoking’

Utah State Government

• $1.1 M fines against three online ENDS companies for false advertising

New voluntary warnings by tobacco companies Altria, Reynolds American

• “nicotine is addictive and habit forming, and is very toxic…”
• “People with heart disease, high blood pressure and diabetes should not use this product. Neither should children.”
• “E cigarettes are not a smoking cessation product”
# Approach by Canadian Jurisdictions

<table>
<thead>
<tr>
<th>Jurisdiction</th>
<th>Measures Taken</th>
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<tbody>
<tr>
<td>Health Canada</td>
<td>ENDS containing nicotine or products making health claims are illegal</td>
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<tr>
<td>Nova Scotia</td>
<td>Announced intention to regulate under tobacco legislation (restriction on sales to minors, display of product, flavours, use in public and workplace)</td>
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<td>British Columbia</td>
<td>Minister’s mandate letter includes an objective to address e-cigarettes</td>
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<td></td>
<td>Banned from several HA premises and school grounds</td>
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<tr>
<td>Red Deer, Alberta</td>
<td>Regulated under local smoking by-laws</td>
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<tr>
<td>Innisfil, Ontario</td>
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<td>Hantsport, NS</td>
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Approach by other select jurisdictions

**Brazil, Singapore**  Complete ban

**United States**  226 local U.S. laws at city/county level restricting e-cigarettes use in smoke-free venues, including NY, LA, San Francisco, Chicago, Washington DC
FDA has proposed rules governing sales to minors, labelling requirements (ingredients and warning labels)

**European Union**  Regulate as medicinal products (if marketed as a quitting aid) or tobacco products
Conclusion

• Regulation to govern use in public spaces and sales to minors is warranted

• Regulation to govern displays will be helpful in curbing product promotion and recruiting new customers

• This does not preclude sales to adults or use as a cessation aid (if so chosen)

• Public use has to be consistent with smoking bylaws

• This regulation will position City of Vancouver in good company with other jurisdictions and in the lead among Canadian municipalities