

## FINAL EXECUTIVE SUMMARY

### Qualitative/Quantitative Research on E-cigarette Flavours and Risk Perception

*Prepared for: Health Canada*

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Ce sommaire est aussi disponible en français.

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## Executive Summary

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Health Canada commissioned Phoenix Strategic Perspectives Inc. to conduct qualitative and quantitative research with youth and young adult to explore issues related to e-cigarettes.

### Background and Objectives

Under the current federal framework, vaping products are either regulated under the *Food and Drugs Act* (FDA) or the *Canada Consumer Product Safety Act* (CCPSA). Vaping products that contain nicotine or make a therapeutic claim must be authorized under the FDA by Health Canada before being sold. Vaping products without nicotine and without therapeutic claims do not require authorization by Health Canada but are subject to post-market requirements of the CCPSA.

The Government of Canada has launched an ambitious tobacco control agenda for Canada, which includes banning menthol in most tobacco products, implementing plain packaging requirements, introducing a new approach to regulating vaping products, and modernizing Canada's approach to tobacco control.

With respect to vaping products, the Government of Canada has introduced amendments that would establish the *Tobacco and Vaping Products Act*, a new legislative framework to regulate the manufacture, sale, labelling and promotion of these products in Canada. The proposed legislation aims to protect youth from nicotine addiction and inducements to tobacco use, while allowing adults to legally access vaping products as a likely less harmful alternative to tobacco. The new legislation would apply to a range of devices and substances, such as e-liquids, and cover vaping products with and without nicotine. The proposed legislation includes provisions that would ban the sale and promotion of all vaping products to persons under 18, prohibit the promotion of flavours that appeal to youth, and create regulatory authority to mandate the display of health warning messages on vaping devices and refill packages.

Though scientific knowledge is still emerging, Health Canada recognizes that vaping products could bring public health benefits if they reduce tobacco-related death and disease by helping smokers quit or switch completely to a likely less harmful source of nicotine. However, vaping products could also bring public health harms. There is a growing body of evidence that nicotine exposure during adolescence adversely affects cognitive function and development. Nicotine is also a potent and powerfully addictive substance, particularly for youth. There are concerns that vaping products could potentially lead to nicotine addiction, the use of tobacco products, and the renormalization of smoking behaviours.

There is a wide selection of flavours in e-liquids, some of which may be more appealing to youth. Health Canada is interested in better understanding how youth and young adult e-cigarette users engage with the product and how flavours factor into the appeal of the product for both users and non-users.

The 2014-2015 Canadian Student Tobacco Alcohol and Drugs Survey (CSTADS) asked students in grades 6 to 12 (grade 6 to secondary V in Quebec) about perceived harm associated with e-cigarettes. Almost one in four students (23%) thought there was "no risk" of harm from using an e-cigarette once in a while, compared to 9% who thought there was "great risk". Using an e-cigarette on a regular basis was thought to pose "no

risk" of harm by 12% of students and great risk of harm by 25%. Almost one in six students (16%) were unaware how much a person risked harming themselves by using an e-cigarette once in a while or on a regular basis. The perception of risk of harm from smoking cigarettes and using e-cigarettes varied by smoking status. Current and former smokers attribute less risk to the use of cigarettes and e-cigarettes than never smokers.

E-cigarettes have been in the North American market for approximately a decade. With only a few studies available, data are limited on the knowledge, attitudes and beliefs of Canadians as they relate to e-cigarettes. Health Canada is interested in better understanding how Canadians, and in particular youth and young adults, are using e-cigarette products. Further, the study intends to explore the impact of flavours on the appeal to Canadian youth and young adults.

Qualitative and quantitative research was therefore required to better understand Canadians' perceptions on e-cigarette flavours, and perceptions of harms associated with e-cigarette use with a special focus on youth and young adults.

Specific objectives of the research were:

- To examine Canadian youth and young adults' knowledge, awareness, attitudes, opinions and behaviours regarding e-cigarettes.
- To gain a broader understanding of Canadian youth and young adults' perceptions and opinions of e-cigarettes risks (including sources of information on e-cigarettes).
- To explore Canadian youth and young adults' perceptions regarding e-cigarettes flavours, including the attractiveness of certain flavours.

Findings from this study are intended to provide greater insight and understanding into how Canadians are interacting with e-cigarettes and what the appeal of e-cigarette products is, particularly among Canadian youth and young adults. The results will inform future regulation as well as contribute to future public awareness and education campaigns.

## Methodology

To meet the research objectives, qualitative and quantitative research was conducted with Canadian youth and young adults. Specifically: a series of 12 in-person focus groups in three locations across Canada; and an online survey of 1,509 Canadian residents between the ages of 15 and 24 years. Phoenix ensured that all steps in the research complied with market research industry standards and guidelines, including those of the Marketing Research and Intelligence Association (MRIA).

### 1. Qualitative

Phoenix conducted a series of 12 focus groups with youth and young adults between January 30<sup>th</sup> and February 2<sup>nd</sup>, 2017. Four sessions were conducted in each of Toronto, Montreal and Vancouver: two groups with non-users of e-cigarettes and two groups with e-cigarette users. The groups were segment by age: 15-19 year olds in one group, and 20-24 year olds in the other group. Each group included a mix of cigarette smokers and non-smokers. Groups lasted two hours and turnout was excellent, with at least eight participants taking part in each group. Recruitment was undertaken by Research House, under sub-contract to Phoenix, and participants received an honorarium of \$125 in

## Qualitative and Quantitative Research with E-Cigarette Users

appreciation of their time. Parental consent was obtained for all 15 year olds who participated in one of the focus group discussions.

The 12 sessions were distributed as follows:

### Groups' distribution

Date and time	Location	Group Composition
January 30, 5:30 p.m. Eastern	Toronto, Ontario	Youth (users)
January 30, 7:30 p.m. Eastern	Toronto, Ontario	Youth (non-users)
January 31, 5:30 p.m. Eastern	Toronto, Ontario	Young adult (users)
January 31, 7:30 p.m. Eastern	Toronto, Ontario	Young adult (non-users)
February 1, 5:30 p.m. Eastern	Montreal, Quebec	Youth (users)
February 1, 7:30 p.m. Eastern	Montreal, Quebec	Youth (non-users)
February 1, 5:30 p.m. Pacific	Vancouver, British Columbia	Youth (users)
February 1, 7:30 p.m. Pacific	Vancouver, British Columbia	Youth (non-users)
February 2, 5:30 p.m. Eastern	Montreal, Quebec	Young adult (users)
February 2, 7:30 p.m. Eastern	Montreal, Quebec	Young adult (non-users)
February 2, 5:30 p.m. Pacific	Vancouver, British Columbia	Young adult (users)
February 2, 7:30 p.m. Pacific	Vancouver, British Columbia	Young adult (non-users)

The groups in Toronto and Vancouver were conducted in English and those in Montreal in French.

The investigators for this study were Alethea Woods and Philippe Azzie. Alethea moderated the groups in Vancouver. Philippe moderated the focus groups in Toronto and Montreal. Both moderators contributed to the final report.

## 2. Quantitative

An online survey was administered to 1,509 Canadian youth (15-19 year olds, n=759) and young adults (20-24 year olds, n=750) between March 1<sup>st</sup> and 20<sup>th</sup>, 2017. The survey was designed to take up to 10 minutes to complete. The sample was drawn from Research Now's panel of online Canadians.<sup>1</sup> Surveys that use samples drawn from online panels cannot be described as statistically projectable to the target population. Panellists were invited to participate in the survey through an email invitation which contained a password-protected URL to access the survey. Parental permission was obtained for youth 15 years of age. Panellists were rewarded for taking part in the survey per the panel's incentive program, which is structured to reflect the length of survey and the nature of the sample. Survey data has been weighted by region, age and gender to reflect the demographic composition of the target population. Because the sample is based on those who initially self-selected for participation in the panel, no estimates of sampling error can be calculated.

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<sup>1</sup> For this survey, probability sampling was not feasible given the known incidence rates of the target audience (youth and young adult smokers and e-cigarette users).

## Key Findings

### 1. Qualitative

#### *First Encounters with E-cigarettes*

Users and non-users of e-cigarettes first learned of them in similar ways. These typically include friends/acquaintances/colleagues, seeing vapers using them, social media (e.g. ads on Facebook, YouTube videos, Snapchat), ads in stores and vape shop windows, and relatives using them to try to quit smoking. Contexts or situations in which users first tried e-cigarettes varied but the vast majority were offered their first e-cigarette (i.e. they did not purchase it themselves). Routinely identified situations in which they first tried e-cigarettes include at school, at parties, in bars/on patios, at friends' houses, in parks, and on break at work.

Routinely given reasons for first trying e-cigarettes include curiosity, appealing smell, social bonding (e.g. fun making clouds/doing tricks), and convenience (i.e. the ability to vape indoors). Some were encouraged to try by others, and some said they first tried it because it seemed 'cool' (e.g. allowed them to engage in smoking without the bad effects of smoking). Only a few started vaping in order to quit smoking.

Non-users have seen e-cigarettes used in many places, including all those places in which users first tried theirs. In addition, non-users have seen them used on buses, subways, in movie theatres, in class, in school halls, on university campuses, and in cars. Virtually all non-users have smelled e-cigarettes and most found the smell pleasant, mainly because it was sweet, fragrant, or fruity. Most non-users have had the opportunity to try e-cigarettes or been offered one, typically by friends, colleagues, relatives, and acquaintances.

#### *Patterns of Use*

E-cigarettes are used both indoors and outdoors. Indoor locations include one's own house, friend's houses, parties, bars, on subways, and in cars. Outdoor locations include school yards, while walking home, while waiting for the bus, on work breaks, and on restaurant or bar patios. Patterns of use do not tend to vary (indeed there do not tend to be any patterns) because use of e-cigarettes tends to be circumstantial. Most do not purchase their own and usually use them only if and when offered by a friend or only in the company of other vapers (i.e. a group setting). Smokers were more likely to distinguish their vaping behaviour from their smoking behaviour. They are more likely to vape inside and smoke outside, smoke for relaxation/stress relief and vape for fun/amusement.

#### *Devices, Liquids, Flavours*

Most vapers use cig-a-likes, but many have at least tried an advanced vaping device. Cig-a-likes are typically used because they are what is on offer from friends, they are cheaper, and they are ready to use. Vaping devices are preferred because they allow a more intense pleasure (i.e. better/stronger flavour), produce thicker smoke, allow more puffs, are more hobby-like (e.g. can be customized), and allow you to change or mix flavours.

All users seem to know whether their e-cigarettes contain nicotine or not, but few users of nicotine-filled e-cigarettes know the strength of nicotine they contain. All users have tried more than one flavour but all have their favourite flavours, mostly sweet (e.g. dessert-like) or fruit-like flavours. The main reason why vapers like the flavours they use is that it

matches some of their consumption preferences (e.g. they like bubble gum, fruit, candy floss, cake, cappuccino).

### *Drivers/Motivating Factors*

Users typically use e-cigarettes for fun/pleasure and/or as a social bonding experience. For their part, non-users typically have not vaped because they find nothing appealing or attractive about it. Users and non-users tended to identify the same advantages and disadvantages of vaping. The main advantages included fun, pleasure, taste, social bonding, and convenience (i.e. ability to vape in many places including indoors). The main inconveniences included potential health risks/lack of knowledge of long-term health implications, cost, and social stigma.

### *Sources of Information*

Many users and non-users recall having seen advertising for e-cigarettes and they tended to identify the same locations or sources in terms of where they have seen ads and their content. Sources include television, online (e.g. Facebook, Youtube), in store/vape shop windows, in bus shelters, on buses, and in the metro/subway. Users and non-users also tend to agree on the target audience(s) of e-cigarette advertising. These include smokers in general, smokers trying to quit, and especially youth/young people. Users and non-users identified similar sources they would use to find information about e-cigarettes, with many adding that the source would depend on the information they were seeking. Google or the Internet were routinely identified first and most often.

Among both users and non-users, the most frequently identified important information for potential vapers was the possible long-term health effects of vaping and information about the content/ingredients in vaping liquids/flavours. Users and non-users also identified similar sources of information on the health benefits and risks of e-cigarettes. These typically included physicians, pharmacists, government sites (e.g. Health Canada), Universities, and research-based resources.

### *Risk Perceptions*

Both users and non-users tended to have difficulty identifying definite health risks or benefits associated with e-cigarettes. The only benefit identified with any frequency was the possibility of weaning oneself off cigarettes. The most frequently identified health risks were associated with lack of knowledge and information about the possible long-term health effects of vaping (e.g. lung problems resulting from inhaling vapour such as 'popcorn lung' or water on the lungs, possible allergic reactions, effects on pregnant women, abscesses, etc.).

## **2. Quantitative**

### *Smoking Status*

Six in 10 respondents said that they do not smoke at the present time. Specifically, 47% are non-smokers and 13% are former smokers. Conversely, 40% are current smokers, of which 18% smoke daily and 22% smoke occasionally.

### *Use of E-cigarettes*

Just over half the respondents (53%) said they have never tried an e-cigarette, while the remainder (47%) said they have. Among all respondents, 15% said they use e-cigarettes

## Qualitative and Quantitative Research with E-Cigarette Users

occasionally and 6% do so daily. The rest are infrequent (14%) or one-time (13%) users. The likelihood of having tried e-cigarettes was higher among young adults (20-24 years old) than among youth (15-19 years old). Nearly two-thirds of users were between 16 and 18 years of age (32%) or 19 and 21 years of age (31%) when they first tried an e-cigarette. Half (51%) of all e-cigarette users indicated that their parents are aware that they use e-cigarettes.

Friends are, by far, the most common source through which respondents first learned about e-cigarettes, with close to two-thirds (62%) saying this is how they initially heard about them. Friends were identified twice as often as the next most frequently cited source which was social media (31%). Young adults were more likely to have heard about e-cigarettes from their co-workers. Conversely, youth were more likely to have first learned about e-cigarettes from YouTube. Friends also topped the list of people in respondents' lives who use e-cigarettes. Just over half (53%) indicated that they have friends who use e-cigarettes.

Most daily and occasional vapers have not tried quitting (64%), but a significant minority (43%) think they will stop using e-cigarettes at some point. A majority (58%) of smokers who vape daily or occasionally have used e-cigarettes as a quitting aide. Among those who have not, 62% said they would be somewhat or very likely to do this.

### *E-cigarette Users' Knowledge and Habits*

Most e-cigarette users (64%) know that e-cigarettes *sometimes* contain nicotine. Compared to youth, young adults were more likely to say that e-cigarettes *always* and *sometimes* contain nicotine. Conversely, youth were more apt to believe that e-cigarettes *never* contain nicotine.

One-time users of e-cigarettes said they tried e-cigarettes because their friends were vaping (43%), because they liked the flavours and smell (40%), and because it was offered to them (39%) (multiple responses accepted). Youth were more likely to say they tried e-cigarettes because their friends were vaping. Conversely, young adults were more likely to say they tried because they liked the flavours and smell. One-time and infrequent users of e-cigarettes were divided over whether they would try an e-cigarette again: 38% said they would, 32% said they would not, and 30% said they did not know. The main reasons cited for not using an e-cigarette again were that it's not healthy (40%) and that it's unappealing (37%).

Many daily and occasional vapers use e-cigarettes at home (59%). A substantial minority (43%) said they tend to use them at parties, while approximately one-quarter identified the sidewalk (29%), school (26%), while driving (24%), and work (23%) (multiple responses accepted). Respondents 20 and 24 years old were more likely to say they use e-cigarettes at home and while they are driving. Those between 15 and 19 were more apt to say they use them at parties, at school, or at movie theatres or pool halls. Three-quarters of daily users of e-cigarettes<sup>2</sup> (76%) said, that in a typical day, they vape within one hour of waking up, with almost half (46%) doing so almost immediately after waking (i.e. within 15 minutes of waking). More than half of daily users (57%) said they have strong cravings to use an e-cigarette.

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<sup>2</sup> Exercise caution when interpreting results for daily users due to the relatively small sample size (n=87).

### Consumer Behaviour

More than three-quarters (77%) of daily and occasional users of e-cigarettes said they own their own device. Among those who own a device, more than half (58%) said they always use a device that can be refilled. Regarding nicotine, 54% said they *sometimes* use nicotine in their e-cigarette. Conversely, nearly one-quarter (23%) *always* use nicotine, while approximately one in five (19%) *never* use nicotine. Half of the respondents who use nicotine in their e-cigarette (51%) do not know what concentration of nicotine they use.

The most popular flavour by far among e-cigarette users is fruit. Asked what flavour they used last time they vaped, over one-third (37%) said fruit. Fruit is also the preferred flavour of e-cigarette users. Nearly half of daily and occasional e-cigarette users (47%) acquire their e-cigarettes by purchasing them themselves. Fewer, but a sizeable proportion nonetheless, said they usually borrow their e-cigarettes or get them from someone else. This includes 17% who said they get them from friends, 8% from someone else, and 7% from family members. Fourteen percent said they ask someone to purchase e-cigarettes for them.

### Risk Perceptions and Attitudes

Users of e-cigarettes collectively identified numerous reasons why they vape, but flavour and aroma topped the list with nearly half (45%) identifying this as the reason they use e-cigarettes. Following this, close to one-third explained that they vape because their friends do (31%) or because it's safer than smoking traditional cigarettes (30%) (multiple responses accepted). The two perceived disadvantages of using e-cigarettes most frequently identified by vapers were the associated health risks and the cost, each identified by 55% of e-cigarette users.

Turning to perceptions of potential harm, smoking cigarettes and using e-cigarettes with nicotine were seen as the riskiest activities. Nine in 10 respondents rated regular use of cigarettes as at least moderately risky, while 82% felt that way about regular use of e-cigarettes containing nicotine. Apart from using nicotine-free e-cigarettes once in a while, non-users of e-cigarettes were more likely than e-cigarette users to perceive every risk as a *great* risk. Occasional use of nicotine-free e-cigarettes was the only activity which a majority (59%) viewed as posing no more than a slight risk.

Attitudes towards e-cigarettes and nicotine tended to be mixed. The only majority view related to addiction and nicotine. Over three-quarters agreed that one can become addicted to e-cigarettes containing nicotine (79%) and that nicotine is a toxic chemical that should be avoided (77%).

### Information Needs and Sources

Information on health effects (42%) is the most common type of information sought by users of e-cigarettes. This was followed by information about content/ingredients, with one-third looking for information on ingredients (33%) and chemicals (32%) in e-cigarette liquids. Just over one-quarter (27%) have looked for safety information, including general product safety and information about explosions and device defects, while almost as many have looked for information comparing e-cigarettes to regular cigarettes (24%), information about choosing nicotine levels (24%), and information about the cost of e-cigarettes (23%) (multiple responses accepted). Online sources in one form or another constitute the main source of information for users of e-cigarettes. The most frequently



identified non-Internet source of information was friends and colleagues, identified by just over one-quarter of respondents (28%).

### Notes to Reader

- The report presents the findings from the qualitative research, following by the findings from the quantitative research.
- The expressions 'users of e-cigarettes' and 'vapers' are used interchangeably throughout the report to refer to focus group participants and survey respondents who use e-cigarettes. The expression 'vaping' is used at times to refer to the use of e-cigarettes.
- Qualitative findings:
  - Overall, differences by age (i.e. between youth and young adults), by use of e-cigarettes (users vs. non-users), and by location (i.e. Toronto, Montreal, Vancouver) were limited. Wherever such differences manifested themselves they are noted.
  - This research is qualitative in nature, not quantitative. As such, the results provide an indication of participants' views about the issues explored, but cannot be generalized to the full population of youth and young adult non-smokers, smokers and e-cigarette users and non-users.
- Quantitative findings:
  - All quantitative results in the report are expressed as percentages, unless otherwise noted. Throughout the report, percentages may not always add to 100% due to rounding and questions which permitted multiple responses.
  - Demographic and other subgroup differences are identified in the report. When reporting subgroup variations, only differences that are significant at the 95% confidence level, indicative of a pattern, and/or pertaining to a subgroup sample size of more than n=30 are discussed in the report.
  - The results are reflective of youth and young adult non-smokers, smokers and e-cigarette users and non-users, but they cannot be considered representative of the target population because random sampling was not used. When non-probability sampling is used, the extent to which the survey sample represents the target population is not known (because probability theory cannot be applied).
  - The full set of tabulated data for the survey are available under separate cover.
- The research instruments for both phases of the research are appended to this report.

The contract value was \$149,077.09 (including applicable taxes).