A Brief for Standing Senate Committee on Social Affairs, Science and Technology as part of the study Bill S-5, An Act to amend the Tobacco Act and the Non-smokers’ Health Act and to make consequential amendments to other Acts.

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My name is Amelia Howard and I am a PhD Candidate at the University of Waterloo. I study the sociology of science, technology and expertise. My dissertation is, as far as I am aware, is the first in--depth study to document and sociologically analyze aspects related to the emergence of vaping technology, science and expertise. This project has given me a nuanced understanding of the context of these products, the way their market works, the way experts understand them and the way regulations can enable or constrain their ability to impact public health goals.

I submit the following brief to the Standing Senate Committee on Social Affairs, Science and Technology as part of the study Bill S-5, An Act to amend the Tobacco Act and the Non-smokers’ Health Act and to make consequential amendments to other Acts.

Evaluating evidence in the context of a political controversy

There are instances when policymakers must act to protect the public good in advance of full scientific consensus. There are also instances when the idea of scientific controversy can be exploited by politically motivated actors and used to perpetuate doubt around an issue of relative consensus, when evidence interferes with their agenda. Legitimate controversy about unsettled science can be hard to distinguish from illegitimate controversies contrived for political reasons.

The textbook case of this is the tobacco industry's campaign of doubt aimed at undermining the scientific consensus that their products caused cancer which prolonged political action to restrict access of the products and properly inform the public of their risk. Millions died unnecessarily and specifically because they were deceived.

There are extreme amounts of misinformation circulating about vaping and it is leading to confusion that is deterring smokers from making a choice that could save their life. Politically motivated actors are raising the spectre of scientific controversy on issues that are currently consensual in the relevant expert communities, or matters of well known fact. This has led to some confusion that seems to be reflected in Bill S-5’s treatment of vaping as a threat and not a solution. I review some of the matters of confusion below.
Safety: There is no serious dispute in the relevant expert communities about the safety of non-combustible nicotine products relative to cigarettes. It is accepted that these products are safer, any debate is a question as how much, and no one debating suggests they come close to the harms of smoking. When it comes to smoking, the public health objective is reducing disease and suffering in affected populations. Canada should take the purpose of the Tobacco Act, as well as the established scientific consensus that it is smoke from combustible cigarettes that causes disease, not nicotine.

Effectiveness: Consumer technologies are not medicine, nor are they extensions of medical science. Vapor products are consumer technologies. It is a matter of indisputable fact that vapor products can be used and are used by smokers to replace cigarettes. Medical trials are not need to show effectiveness of vaping products. Just as the recent growth of the market for hybrid and electric vehicles is proof that they are used effectively to replace gas cars. The same is true for vapor products, the growth of the market along with the decline in smoking shows that they work. As do individual success accounts from smokers who now use these products instead of cigarettes.

Vapor products are highly user-centric and customizable. These are the mechanisms that make them attractive substitutions to deadly combustible cigarettes for long-term smokers. As such, effectiveness is an outcome of a complex combination of technical components, user preferences, competence, and learning and practice. It is unwise and unjustified to ban flavours or ban flavour names, especially on the basis of some subjective suspicion that certain flavours appeal to adolescents and not adults. Flavour variability is very important in transitioning smokers away from cigarettes, and preventing relapse to cigarettes by vapers.

That the ability to customize is essential to the harm reduction function of vaping. So much so that the products themselves are sold in interchangeable parts, flavours, and nicotine strengths, which users assemble to their own preferences. The successful vaping device is whatever device the user prefers - and while there is some standardization, and agreement that things like the power of the device and the density of vapor are "better," much is left to the user to decide, and this is something that the vaping community came to see as good. Regulations that limit consumer choice and therefore limit the ability of vapor products to compete with deadly combustible cigarettes must be rejected.

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There is increasing evidence that products, knowledge and support unique to the independent vaping sector increases smokers’ success rates for cessation. A 2015 study of U.S. vape shop consumers found that most consumers reported starting vaping as a way to quit smoking. Further, the combination of newer generation devices and non-tobacco/non-menthol flavours were associated with higher rates of biochemically verified smoking cessation in study participants. A more recent study by the same research group linked high rates of smoking abstinence in vape shop consumers to high-powered open-systems devices, and found that consumers value the atmosphere and the knowledgeable staff at vape shops. These findings point to the unique function of independent entrepreneurial businesses in shaping the smoking and vaping behaviors of patrons, and the importance of regulating vaping in such a way that does not inhibit successful switching.

**Gateways and concerns about young people:** There is absolutely no evidence to support the idea that vaping is a gateway to smoking.

The Committee is likely familiar with the arresting statistic from the 2015 Canadian Tobacco Alcohol Drugs Survey that “twenty-six per cent of Canadian youth aged 15 to 19 have tried a vaping product.” This alarming rate of youth was cited in the press release for Bill S-5, and again in Senate readings. Most prohibitions in Bill S-5 are aimed at deterring youth from vaping.

These prohibitions will have an immediate and profound impact on Canadians who currently use vaping products to reduce harm and the independent businesses who make and sell them. Given this, we should ensure that “protecting youth” from any hypothetical risks specific to vaping are balanced with our duty to protect young people and indeed, all Canadians, from the real and serious harms of smoking. Moreover, vaping regulations need to address known problems and not imaginary ones.

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First, the 26% figure tells us nothing about vaping prevalence in the youth demographic because "ever-trying" something is a wildly inappropriate measure for use prevalence from a population health standpoint.

A closer look at the data shows that past 30 day vaping was actually only reported by 5% of youth in the 15-19 demographic and that this use was almost entirely occasional. Not enough young people reported using the products regularly to give a reliable estimate but it appears to be one percent of youth. This is consistent with Canadian surveys\(^6\) population data from the United Kingdom and the United States, which consistently show that while a considerable proportion of youth have tried an e-cigarette once or twice, rates of current use are low, and established use of vapour products is limited to smokers and former smokers\(^7\).

### Problems with Bill S-5

The purpose of the Tobacco Act provide a legislative response to a national public health problem of substantial and pressing concern and to protect the health of Canadians in light of conclusive evidence implicating tobacco use in the incidence of numerous debilitating and fatal diseases. Proper regulations for vaping would compliment this aim. A central flaw in Bill S-5 is that it applies a tobacco style regulatory regime to these products. If this style of regulation remains, it will severely diminish access to low-risk, smoke-free products that are being used to reduce the harm from smoking.

### Bans Truthful Information:

Consumers, and indeed all citizens have a right to trustworthy, fact-based information from health organizations and governments. Consequential health policies must be made with careful consideration of the best available evidence, and informed by those with the most relevant expert knowledge. Vapour products contain no tobacco, may or may not contain nicotine, and are known to be far less harmful than combustible cigarettes.

Bill S-5 would make it illegal to honestly inform smokers that vaping is less harmful than combustible cigarettes. There is NO legitimate scientific uncertainty around whether or not vaping is less harmful than smoking combustible tobacco. Withholding this information from smokers is plainly wrong.

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Bans Flavours, or flavour names: All e-cigarettes and liquids are flavoured with something – and this forms a key part of the appeal. Eliminating broad flavour categories, or hiding and obscuring the flavours of e-liquids, as Bill S-5 proposes, will cause relapse among e-cigarette users, deter switching and lead to the development of a black market flavours and unnecessarily risky “DIY” practices. Since food flavourings that may not be inhalation tested are freely available, and eliquids are easy to make, anywhere, by anyone - Canada should regulate in such a way that encourages responsible manufacturing practices, does not subject legitimate firms to unnecessary costs, and keeps safe, properly packaged and labelled products affordable to consumers.

High Regulatory Burdens The bill establishes a path to market for nicotine containing e-cigarettes outside of the Food and Drugs Act. But formally allowing nicotine (the de facto situation is that consumers have voted with their feet in Canada) for e-cigarettes is not harm reduction, and “legalization” will not ensure access effective harm reduction for the millions of smokers in Canada. At least not if it comes with a regime that could easily make many if not most products available on the market today illegal, i.e. if Bill S-5 gives new authority to ban the many currently legal zero nicotine flavoured e-liquids (dessert/drinks/confectionary). Hardware specifications and emissions testing, and other potentially burdensome compliance requirements, all to be determined by regulation, could make it overly difficult or impossible for companies to comply despite their products being far less harmful than combustible cigarettes which are widely available and widely used in Canada.

Far too much is left to be determined by regulation in Bill S5 without any stipulation that regulations be proportionate, serve the public health interest of reducing harm from smokers, protect the right to innovate of small businesses and users themselves, and so on. Restrictive, expensive regulatory regimes that oriented to industries dominated by a small number of large incumbent firms pose a real and severe threat to niche, user-driven technology sectors. In the case of vaping, over regulation would not only mean the end of the independent industry and the loss of thousands of meaningful jobs, but could hand the market for harm reduction to multinational tobacco companies, who also sell the products that are causing the harm.

Bill S-5 gives regulators authority demand expensive emissions testing of thousands of product combinations in many different operating conditions. This is extreme and there is no justification from a health perspective. No protocols for testing are specified, and if they are too restrictive they could demolish smaller players. For example, many small Canadian companies have invested a good deal of money to bottle their products in accordance with Good Manufacturing Practices (GMP) applicable to pharmaceutical and food industries with some going so far as to voluntarily seek costly independent professional certification. Responsible businesses now face a great deal of uncertainty, and have no way of knowing how Bill S-5 will will affect them, customers, or the industry as a whole.

Black Market Potential: Canada’s e-cigarette market emerged despite Health Canada’s official position that the products were illegal. Smokers and vapers voted with their feet, and in the
interest of their own health. If responsible businesses are not able to remain in the legal market, a far more risky and underground black market will form in Canada.

The Consumer Advocates for Smoke Free Alternatives Association (CASAA) surveyed 19,823\(^8\) adult vaping consumers in their membership base living in the United states. When asked about how often they choose sweet (fruit, candy, pastry, soda) flavors, 78% indicated that is what they used most or all the time. 87% indicated they quit smoking (entirely) after staring to use e-cigarettes. And 72% of those who had quit entirely credited interesting flavors with helping them quit while 53% of users who were still smoking reported that interesting flavors were helping move them toward quitting entirely.

Respondents were given a scenario where all types of e-cigarette hardware would still be available, but all e-cigarettes and e-liquid sold could only be in a limited number of flavours. 89% reported that if flavours were restricted to a limited number of options they would continue to use their preferred flavors of e-cigarettes, by getting e-liquid from overseas or the domestic black market and/or by making or flavoring e-liquid themselves. 14% of respondents who had quit smoking, and 35% of respondents who still smoked and used e-cigarettes said that if flavours were restricted they would start smoking or increase how much they currently smoke.

**Conclusion**

It is crucial to recognize that our tobacco control laws were developed to protect the public from the interests of multinational tobacco corporations, manufacturers of an addictive and extremely deadly consumer product. These companies had an established record of deceitful, illegal and harmful actions that cost Canadians dearly. Independent vaping companies, on the other hand, are the product of grass-roots problem solving efforts by smokers. This market exists precisely because smokers want to quit.

Bill S-5 proposes to apply a nearly identical legal framework to thousands of tiny Canadian businesses. Most were started by smokers who found something that helped them quit and believed in it enough to invest in helping others like them. Vaping is not smoking, the independent vaping industry is not the tobacco industry, and these products are the first meaningful competition to tobacco cigarettes in history – which also happen to be enormously safer.

My opinion, having studied the vaping industry, nicotine science and policy, and the controversy over vaping regulations is that the lack of an explicit harm reduction mandate Bill S-5 and the treatment of vaping under a tobacco framework is a deeply flawed approach. The bill must change significantly to avoid unintended and potentially disastrous negative public health outcomes. The proposal to change the legal definition of smoking to include vaping under the Non Smokers Rights Act is unsupported by evidence, likely to cause massive confusion between the relative risks of vaping and smoking, and entirely counterproductive to the public

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\(^8\) Discussion of this survey is available at: https://antithrilies.com/2016/01/04/casaa-ecig-survey-results/
health goal of ending smoking death and disease. I believe that the proposed regulations were conceived with the best of intentions, but good intentions won’t stop the damage they will cause.