

HANSARD

NOVA SCOTIA HOUSE OF ASSEMBLY

STANDING COMMITTEE

ON

HEALTH

Tuesday, November 12, 2019

LEGISLATIVE CHAMBER

Youth Smoking and Vaping

Printed and Published by Nova Scotia Hansard Reporting Services

HEALTH COMMITTEE

Hon. Gordon Wilson (Chair)
Suzanne Lohnes-Croft (Vice-Chair)
Keith Irving
Ben Jessome
Rafah DiCostanzo
Barbara Adams
Colton LeBlanc
Susan Leblanc
Tammy Martin

[Hon. Margaret Miller replaced Hon. Gordon Wilson]

In Attendance:

Judy Kavanagh
Legislative Committee Clerk

Gordon Hebb
Chief Legislative Counsel

WITNESSES

Canadian Cancer Society

Kelly Cull - Advocacy Lead
Rob Cunningham - Senior Policy Analyst, National Office

Heart and Stroke

Pamela Fonseca - Nova Scotia Health Promotion Manager

Nova Scotia Lung Association

Robert MacDonald - President and CEO
Dr. Mohammed Al-Hamdani - Director of Health Initiatives;
Executive Director, Smoke-Free Nova Scotia



House of Assembly
Nova Scotia

HALIFAX, TUESDAY, NOVEMBER 12, 2019

STANDING COMMITTEE ON HEALTH

1:00 P.M.

CHAIR

Hon. Gordon Wilson

VICE-CHAIR

Suzanne Lohnes-Croft

SUZANNE LOHNES-CROFT (The Chair): Order. I call this meeting of the Standing Committee on Health to order. My name is Suzanne Lohnes-Croft. I am the MLA for Lunenburg and Vice-Chair of this committee. Today, we will hear from the Nova Scotia Lung Association, the Canadian Cancer Society, and as a guest of the Cancer Society, a representative from the Heart and Stroke Foundation. They will be discussing youth smoking and vaping. I welcome our witnesses today.

Please turn off your phones or put them on vibrate. In case of emergency, we'll exit through the back door and down the hill to Hollis Street and gather in the courtyard of the Art Gallery of Nova Scotia. This is a little change from what we were practising before.

I will ask the committee members to introduce themselves.

[The committee members and witnesses introduced themselves.]

THE CHAIR: Our topic today is: Youth Smoking and Vaping. We will have our opening remarks from Ms. Cull and Mr. Cunningham. I will ask for Ms. Cull to begin.

KELLY CULL: Thank you, committee, for the invitation to speak today. My name is Kelly Cull, and I'm here today representing the Canadian Cancer Society.

Twenty years ago, Nova Scotia's youth smoking rate was 30 per cent, and over two decades, remarkable progress has been made on tobacco control, a result of education, policies, and programs. Despite this progress, tobacco remains the single most preventable cause of cancer death in Canada: 45,000 Canadians are killed each year from tobacco use.

A recent Canadian study revealed that in one year, vaping among youth skyrocketed 74 per cent. The youth vaping epidemic is resulting in a new generation addicted to nicotine, with dire health consequences. Urgent action is needed. Party lines must be set aside. We must work together to stop this youth vaping epidemic.

Before we talk about the path of what needs to be done, I would like to talk about the destination.

There is a movement afoot in Canada called the Tobacco Endgame. The Endgame is the reduction of tobacco use to less than 5 per cent by the year 2035. We aren't talking about tobacco control anymore. There is no upside to this product. There is no way to consume it in moderation. It literally kills over half of its users when it is used as intended by the manufacturer.

This goal of an Endgame is a critical pivot point for this conversation today.

The current e-cigarette trend, with a new generation of teens addicted to nicotine, poses a severe threat to eliminating tobacco use or reducing it to 5 per cent by 2035. We need to start with the End in mind. Where do we want to be in 15 years with respect to youth tobacco and vaping? We need to work back from there.

With tobacco, the goal is clear. It's 5 per cent by 2035, with a youth smoking rate that is even lower. With respect to youth vaping, the goal should be even more bold. Five years ago, most high school teens didn't even know what an e-cigarette was. We need to turn back the clock.

How did we get there? What do we do? With respect to the first question, how did we get here: aggressive marketing, youth-enticing flavours, innovative design, and highly addictive levels of nicotine on the part of the industry, combined with a lack of sufficient oversight and regulation on behalf of successive governments. Governments prepared well for the legalization of cannabis but not for e-cigarettes.

What do we do now to protect youth and non-smokers from taking up vaping? How do we build on our success around tobacco use?

We need a comprehensive approach for this province, a strategy that puts everything on the table and addresses every aspect of tobacco and vaping. Specific to addressing the youth vaping epidemic that we face today, the Canadian Cancer Society proposes the following: first, restrict e-cigarette flavours. There is no justification for the thousands of flavours that could be available on the market in Nova Scotia. The red tab of

our binder showcases some of the flavoured e-cigarette products recently purchased in Nova Scotia stores.

In 2015, Nova Scotia became the first jurisdiction in the world to ban menthol and flavoured tobacco. Premier McNeil's government has the chance to take another leadership stance by restricting e-cigarette flavours. In this regard, I would also like to commend Tim Houston on his private member's bill.

Nova Scotia has regulatory authority to restrict flavours. Several states and the U.S. federal government are in the process of undertaking flavour bans and restrictions. Nova Scotia should do the same. Note that in the U.S., Juul has stopped selling flavours except tobacco, menthol, and mint. In Canada, menthol should not be allowed, given the menthol cigarette ban.

Second, ban sales, except in adult-only specialty vape shops. Regarding this, we would like to commend Tammy Martin for her private member's bill. The current system is clearly not working; youth are getting access. Cannabis is not sold in convenience stores and gas stations, and neither should e-cigarettes.

We would also like to recommend that all stores selling tobacco or e-cigarettes have a sufficient annual licence fee. The pink tab of our binder outlines licence fees across Canada.

Third, ban Internet sales. Quebec has done this by requiring that all sales be face to face. Banning Internet sales would reduce youth access and help enforce flavour restrictions.

Fourth, establish regulatory authority to establish other product standards, in addition to flavours. There could be standards on appearance such as no pink or other stylish colours. There could be a maximum nicotine concentration of 20 milligrams per millilitre, as the European Union has done. In Nova Scotia, Juul, Vype, and Logic sell e-cigarettes with nicotine levels of 59 or 57 milligrams per millilitre. These fuel youth addiction.

Fifth, raise the minimum age for tobacco and e-cigarettes to 21. The Institute of Medicine report in 2015 concluded that raising the age from 18 to 21 across the United States would reduce youth smoking by 25 per cent among 15- to 17-year-olds and 15 per cent among 18- to 19-year-olds. Nova Scotians also support this policy. In 2019 polling, 85 per cent of Atlantic Canadians indicate support for age 21 for e-cigarettes and tobacco. Eighteen U.S. states have implemented age 21, including Massachusetts and Maine, with a U.S. federal bill in process. Even Juul, the major e-cigarette company, publicly supports age 21.

In closing, I would like to thank the committee for their time and interest in this critical issue. We look forward to your questions. On behalf of the Canadian Cancer Society, the country's largest cancer health charity, we look forward to working in partnership with you to develop a healthier tomorrow.

THE CHAIR: Thank you, Ms. Cull. We will turn it over to Mr. MacDonald for opening remarks.

ROBERT MACDONALD: I would like to begin by thanking the committee for the opportunity as well to be here today to present before you, to discuss this extremely important issue that could have impact on Nova Scotia's lung health for years to come.

We are happy to be here with our colleagues from the Canadian Cancer Society and the Heart and Stroke Foundation - partners that we have worked together with for many years through our collaboration with Smoke-Free Nova Scotia. Just for some clarification, we have a job sharing arrangement where Dr. Mohammed Al-Hamdani is the Executive Director of Smoke-Free Nova Scotia, but he is also our Director of Health Initiatives for the Lung Association.

At the Lung Association, we have taken an active leadership role in vaping and e-cigarettes since the inception of these products. We believe that the time is now to enhance regulatory measures. While this is an issue with many complexities, we have broken it down to two main areas of focus, which are (1) how can we protect our youth from using these products; and (2) can these nicotine delivery devices be considered a cessation tool for those trying to quit smoking?

Youth. It is no secret that these products have infiltrated our schools, our locker rooms, and our playgrounds in astounding numbers. Another generation of smokers is being produced, addicted to nicotine and inhaling chemicals into their lungs. These products are easily accessible to our youth. Vape shops have opened around junior highs and high schools, social media advertising, and an abundance of candy flavours have created a broad appeal with youth. Nova Scotia has twice the national average of youth who have vaped in the last 30 days.

We as leaders need to protect our youth to ensure that their future is a healthy one. The tactics that have been used by the industry and the extreme societal pressures that youth face today have culminated in an epidemic. The Lung Association of Nova Scotia will not stand by while youth become needlessly addicted to nicotine and potentially harm their health.

In order to address this issue, we must look back at past experiences in tobacco control in which effective strategies such as banning flavoured tobacco products, health warning labels, banning smoking in cars, and taxation were used. At that time, our organization worked in tandem through comprehensive tobacco control strategies with our partners and stakeholders, government departments, and the political leadership of the day.

In many cases, Nova Scotia was the first jurisdiction to implement these regulations and we should be commended for that. We have a reputation when it comes to tobacco control of being leaders, and I believe that this is another opportunity for us to prove that point again.

Vaping as a cessation method. Currently, there is need for further research around the long-term harms and the effectiveness of vaping as a cessation tool. We'd rather take a cautious approach to lung health. We will continue to advise the use of evidence-based methods for smoking cessation such as pharmacological aids - methods that have gone through a regulatory process. If the industry believes that their product is a smoking cessation aid, they should be regulated as one and have their product go through rigorous processes, just like any other.

Anecdotally, we have heard that those struggling with smoking have been able to reduce or quit their smoking, and we're very aware that this is an addiction. However, we will continue to encourage using evidence-based cessation aids to overcome this addiction. Our mandate is to protect the lung health of all Nova Scotians, and that includes those who smoke or vape.

The issue of vaping is similar to smoking in several ways, and the lessons that we have learned from tobacco need to remain at the forefront of this discussion. I always wonder if we could go back in time to when tobacco first emerged, would we have done things differently now that we have seen the carnage that this product does produce?

From my discussions over the last year with all three Parties, it's fair to say that all political stripes are in favour of being proactive and being leaders on vaping regulation. I look forward to the questions today and the discussion so that together we can make a difference in lung health in Nova Scotia. Action is needed and it's needed immediately.

THE CHAIR: Thank you, Mr. MacDonald. We will open up for questions, starting with the PC caucus for 20 minutes. Ms. Adams.

BARBARA ADAMS: I am so grateful to all of you for being here today. I actually think that your introductory statement should be required watching of all youth in our province, as well as all their parents. I think the one thing that stands out for me is that people don't realize just how deadly serious this issue is. As a health professional, I know that we were winning the battle on smoking cessation. I love the idea of having this 5 per cent by 2035, because it's a measurable and achievable outcome.

But like you, I have watched with a sick feeling in my stomach the explosion of vaping in our youth, so I agree with you that anything we can all do together to reduce this is important.

I want to start out with one of the things that you said. The Canadian rate for youth who vape rose from 6 per cent in 2014-15 to 10 per cent across Canada in 2016-17, but in Nova Scotia, the percentage of youth who vaped rose from 9 per cent to 21 per cent. That's more than double the national average. It doesn't matter to me who wants to answer the question, which is: Why is it twice as much vaping in Nova Scotia compared to the rest of the country? Why do you believe that we have twice the problem that other provinces have?

[1:15 p.m.]

DR. MOHAMMED AL-HAMDANI: As you may be aware already, Smoke-Free Nova Scotia has conducted a detailed survey of youth and young adults - about 670 of them - all of which vape. We tried to really understand why these youth are addicted to this product and why they're using them.

We've heard many things that may or may not apply to other provinces, but a few that really jumped at us have to do with flavours. If you look at how many youth who vape say they prefer flavours, 96 per cent of them say they do. If you look at youth females specifically between the ages of 16 and 18, they're telling you that the most important thing to them about vaping has to do with flavours.

Another thing that is also worth noting has to do with nicotine. If you looked at some of the findings of the survey, you'd see that 66.5 per cent of youths - so we're talking about 16- to 18-year-olds - who use nicotine-based products said that they go for the highest concentrations of nicotine available. So, the nicotine rush is a certain motive and we saw that specifically being declared by youth males, by about 55 per cent of them.

These are some of the issues. Another one that might also explain why we're seeing these rates in Nova Scotia has to do with retail access. To be honest with you, it came to me as a surprise - and I believe I can speak to my colleagues, as well - that the number one access point for vaping product is actually retail locations rather than online stores which we thought would be the number one point of access because there are minimal safeguards.

The thing is, about just over 33 per cent of underage youth access these products from a physical retail location in Nova Scotia. The closest percentage that you can find in terms of self-reported access points is 17 per cent for tobacco that I found for a study in Ontario. That's about twice as high, so we need to tighten up those retail locations and we need to do that immediately.

Now, I haven't done any research on other provinces specifically, but I've also looked into social media. Vape shops are very active on social media, and the survey has also identified an unacceptable level of exposure to social media advertisements including ones through Instagram and Twitter.

There's a host of reasons that could explain the issue, but rather than focusing on what is contributing to the rates in Nova Scotia that are twice as high as the national average, it's important to focus on a few things that we can change - and perhaps should be changed - in order to better protect youth in Nova Scotia. My colleagues at the Cancer Society have already touched on a few of them, including taxation, increasing the minimum age to 21, flavour bans; but also capping nicotine levels because they shouldn't be that high and certainly tightening up access through retail access points. All of those may be helpful.

BARBARA ADAMS: Thank you very much for that. The last edition in Nova Scotia for a comprehensive tobacco control strategy was released in 2011 and we have not seen an updated strategy since that time, but we've had giant evolutionary steps in the smoking industry that include the legalization of cannabis, the introduction of the flavours in e-cigarettes and, as you said, the increased nicotine content and the increased access around the province from just vape shops to every convenience store and gas station around the province.

Something Ms. Cull mentioned in terms of all of the strategies about dealing with the aggressive marketing, youth-enticing flavours, was another statement, "combined with a lack of sufficient oversight and regulation on behalf of successive governments," I'm assuming that's municipal, provincial, and federal because we all have to do that.

Bill No. 167 that was introduced by Mr. Houston, the member for Pictou East, was to ban the e-cigarette flavours. I noticed in Smoke-Free Nova Scotia's recommendations that banning flavoured vaping juices was the number one recommendation. I'm wondering if you can comment to those who are watching just how important the banning of the flavours would be in terms of reducing the incidence of youth vaping in Nova Scotia.

MOHAMMED AL-HAMDANI: I think the numbers speak for themselves: 48.3 per cent of youth and young adults who vape said that they would quit vaping if we removed flavours. I think that's a very powerful self-reported statement from local data, from local respondents. Let's assume for a minute that flavours are very important to those who want to quit smoking, assuming that vaping might have some merit in terms of helping some people quit smoking, there is a smaller proportion of tobacco and vaping co-users who say that they would quit vaping if we were to remove flavours. That just shows that flavours are less important to those who are trying to quit tobacco use using vaping products.

If you're interested in elaboration on the impact of vaping as a smoking cessation aid and also the importance of weighing that against its tendency to lead to smoking initiation, I could speak to that, if that's a question that you may have.

BARBARA ADAMS: I think it's so important that people realize that the banning of the flavours would result in almost half of kids stopping vaping, which is really why we're here.

THE CHAIR: Ms. Adams, I think Ms. Cull had something to add to that. Would you mind her responding?

BARBARA ADAMS: By all means.

KELLY CULL: I wanted to pick up on a point that you were saying around the comprehensive strategy and Nova Scotia's approach to tobacco control. As I talked about in my comments, the goal of 5 per cent by 2035 is really pinned on having a comprehensive multi-pronged strategy. A lot of the success that we have seen in Canada around reducing tobacco rates to the extent that we have seen over the last decade is because there has been this real holistic view in how we come at this problem: taxation, advertising, packaging, point of sale. All of those things have worked together to see the progress that we have witnessed.

I think that Mo has talked a lot about flavours. The other thing I want to bring your attention to is around the social sourcing of these products. For a good majority of young people who are accessing these products when they're underage, particularly when you look at the younger age groups, Grade 9 and Grade 10, they're often less frequent users. They're in the process of developing a more sustained level of addiction. Their source of obtaining - whether it's tobacco or e-cigarettes - often comes from a friend, what we call social sources. They access it from a sibling, a brother, or possibly someone who's legal age.

When we talk about comprehensive approaches, it's really important that we address that social sourcing as well. That is really the foundation upon which we put forward this recommendation around age 21. We really need to get at how these products are circulating in the high school environment. Raising the minimum age to 21 is not a perfect solution. There are no perfect solutions here. Ending tobacco use is really a product of a number of things that work together to achieve results. Age 21, we really believe, would take the legal purchaser out of the social circle, which in Nova Scotia's instance is the high school environment.

BARBARA ADAMS: One of the things that you referenced earlier was that Nova Scotia was a leader in 2015 when they banned the flavoured cigarettes. That was a big deal. Then as time went on, it became acceptable. That was done through legislation, not through regulation. The PC bill on the Tobacco Access Act amendment would require that the banning of the flavours be legislated. The Minister of Health and Wellness has indicated that they would consider looking at things through regulation, and I'm just wondering if you can comment on where in the past the banning of flavoured cigarettes was done through legislation, if that's not the strategy we should be using for the banning of the flavoured e-cigarettes in terms of legislation versus regulation.

ROB CUNNINGHAM: From a public health point of view, the most important thing is the final outcome. Whether it's done by legislation or regulation, what is the outcome? Nova Scotia has demonstrated it has been a leader, as the first place in the world to ban menthol and the first province in Canada to ban smoking in cars with kids. Wolfville had done it around the same time. Nova Scotia can be a leader. Nova Scotia can do things first, and other provinces and other parts of the world can follow.

BARBARA ADAMS: All of the steps that you've talked about we know are not going to ever eliminate the choice to use these things, but in other recommendations that you had brought in, the banning of the flavoured vaping juices was number one, and then we were talking about the enforcement of the regulations that are already in place. We know that we have school policies banning vaping, but the youth will tell us that they're vaping right in the classroom when the teacher turns their back.

I'm just wondering, in terms of an education program in the Province of Nova Scotia, I personally, having four sons, haven't seen a whole lot of education for youth on the dangers of vaping. People my age don't appreciate yet the dangers of vaping as a gateway towards smoking. I know that some in the industry argue whether that's even the case. I'm just wondering if you can talk about the government's current programs to educate youth and parents and even health professionals. I'm a health professional and there has been zero training for us on how to assess, treat, and report the impact of vaping on anyone in the province.

I'm just wondering if somebody can comment on the province's attempts to educate youth and parents on the dangers of this, what other strategies we might recommend that they use in order to not need to use these substances, and what more you think the government could be doing.

MOHAMMED AL-HAMDANI: Education is important, there's no question about it, but sometimes as health professionals, we are concerned about overstating the benefits of education without implementing policy. Policy comes first. If we cut the access point through restricting access to the products in physical retail locations at least, and through minimizing social sourcing through increasing the minimum age to 21, we're already targeting two-thirds of youth, because about 33 per cent of them access them through retail locations and another 33 per cent access them through friends.

To the point of education, I think the issue and the epidemic of vaping has grown a lot faster than what we had anticipated. I believe that the government acted in good faith in terms of making the product available to see if it may have any potential for smoking cessation. Now that they've seen the impact, I believe that they are going to work towards providing some education in schools or at least work with health professionals and not-for-profits such as the Lung Association and maybe other ones like the Cancer Society or even Smoke-Free Nova Scotia in order to coordinate the availability of that educational information, even if it's in the form of brochures or infographic materials.

We have to understand that the industry was able to hook these youth through quick messages, sleek designs, burstful flavours. We need to use a similar light approach where we provide concise information via methods that resonate with them. I think we can work towards that goal, but more importantly focus on the policy changes as a primary goal.

PAMELA FONSECA: Also, we want to make sure that the education we bring to youth and parents is health-promoting, so we don't want to already target vulnerable youth who are addicted to these nicotine products. We really want to make sure that we don't just focus on that individual level and that behaviour-based response, but more like social norms and the environment.

BARBARA ADAMS: Our ultimate goal is that kids aren't smoking anything that's going to harm their lungs. One of the recommendations - number three - for Smoke-Free Nova Scotia and all of these stakeholders, was stronger enforcement is required to prevent the sale to minors. You alluded to that.

I'm just wondering if anyone knows how many store owners have been fined. What kind of enforcement has actually happened in the province? When I speak to police officers and RCMP, they're not spending a whole lot of time doing that. I'm just wondering if anybody can comment on how much actual enforcement of the laws and regulations is currently happening in Nova Scotia; how effective do you think that's been?

[1:30 p.m.]

KELLY CULL: Certainly, retail density is a huge component of the issue that we have here. E-cigarettes, and particularly ones that are sold with high, high concentrations of nicotine are sold in every convenience store across this province of which I don't have count, but I saw online that there was about 6,500 across Atlantic Canada and there's all these specialty vape shops that most people are seeing in their communities at this point in time.

I think one of the challenges related to enforcement is on retail licensing. Right now in Nova Scotia, there is no retail licence requirement to sell e-cigarette products. In your binder underneath the pink tab, there's a listing here of some of the retail licensing fees that exist across Canada; these are specific to tobacco. I believe there are some municipalities that have recently introduced retail licensing across Canada.

I think that's an important part of this conversation because right now from an enforcement perspective, because of the sheer concentration of vendors in this province, it's really hard to get a handle on that enforcement strategy. I couldn't comment on the efficiency of the enforcement here in this province, but I know that it's done through the Department of Environment. I think what needs to be looked at is how we can better control, manage, and monitor the density of the issue.

The other piece that I would add here is that right now Nova Scotia and New Brunswick are the only provinces in Canada that currently have tobacco retail licensing fees. It costs \$42 a year to sell a tobacco product in this province, which I think is quite economical considering the health harms that are incurred.

THE CHAIR: Ms. Adams, you have about a minute and a half.

BARBARA ADAMS: Thank you very much. I guess my last question is: Where the incidence of vaping has skyrocketed here in this province and we want to do everything we can to protect our youth and to stop them from moving onto the path of smoking, the organizations such as all of yours that are dedicated to doing this - this is a greater threat than we ever anticipated, so we need more people fighting the battle.

I'm just wondering whether your organizations have grown along in terms of numbers of people and resources that you have at your disposal, or have you had to divert your attention to other health issues to deal . . .

THE CHAIR: Order. Time has elapsed. We'll turn it over to the NDP caucus for 20 minutes. Ms. Martin.

TAMMY MARTIN: Thank you for being here. I have to start out by saying the vaping evening that was put on down the street - I'm not from Halifax, so down the road - by the kids from high school or junior high was eye opening for me; I had no idea. To have them tell me all of these things about all of these different devices was shocking. They were so well versed, sadly, in vaping.

When we got to ask questions afterwards, one of mine was how do these kids afford it? I guess like everything when there's an addiction - it's just it was very eye opening. I think that form of education or road tour or something would be a great tool if we could do that in schools.

What is the answer? I had a conference call not that long ago with Dr. Strang, another colleague of mine and myself, and we talked about how involved the Department of Health and Wellness is in this. How committed are they to blocking the sale and restricting sales or fining the vendors?

It takes me back to a time when cigarette packages had the gross pictures on them and a hundred years ago in another life, I smoked. My daughter, who was eight at the time, caught me - I never, ever smoked in front of her - and she started to cry hysterically because she was taught in school that if your parents smoke, they're going to die. She thought I was going to die, and that was enough for me.

How do we get to that end game? How do we just block it? If this is killing people, how come we don't go back to those gross pictures and all of that information to stop this?

MOHAMMED AL-HAMDANI: I think Kelly has touched on that beautifully already from the Canadian Cancer Society. She said comprehensive tobacco control policies are a suite of policies that work best when they're implemented together. Yes, we need to look at different pieces that we can implement in order to reduce the impact of this issue. If we learn from the lessons of tobacco control as well as some findings from this survey, we can come up with a number of policies that can effectively bring down youth vaping rates very aggressively. I'm confident about that.

I want to stress one point because I feel very frustrated sometimes even talking to some health professionals and researchers about the true impact of vaping as a smoking cessation aid. There is a systematic review by the Ontario Tobacco Research Unit, and it has concluded that there is inconclusive evidence on the effectiveness of vaping as a smoking cessation aid. Systematic reviews tend to look at a summary of evidence of multiple studies and tend to be the strongest level of evidence that we rely on besides meta-analyses.

Not only that, if you look at individual studies on the impact of vaping as a smoking cessation aid, the most promising one from an effectiveness perspective is by Hajek et al, from 2019. They showed a one-year abstinence effectiveness of 18 per cent versus nicotine replacement therapy, which was about 10 per cent in that study, so that was good news for the industry.

But if you dig down deeper, what you will find is that of those who quit using vaping or e-cigarette devices, 80 per cent continued to use e-cigarettes. E-cigarettes sustain nicotine addiction - they do not get rid of nicotine addiction. How many of those who used nicotine replacement therapy - those 10 per cent who quit - ended up continuing to use these products? About 9 per cent. That's a true smoking cessation aid. These numbers don't often get analyzed to that deep level, and there's even more.

If you look at that group that received nicotine replacement therapy in that particular study, you will find that most of them used nicotine patches in addition to other forms. What we know about nicotine patches is that they are what we call a slow-acting, low-dose supply of nicotine in comparison to inhalers. Inhalers will give you a good strong boost, and I'm talking about inhalers that are through the pharmaceutical industry. Had we compared them to a nicotine inhaler, I bet you that the rates wouldn't have been that high for e-cigarettes in comparison to vaping. You need to look at that level of detail to be able to get a better picture and come up with a better conclusion on the effectiveness of vaping as a smoking cessation aid.

Not only that, look at how many people vaping recruits in terms of smokers. If we look at the evidence, in our study, we found that 20 per cent of youth and young adults with a history of tobacco use and vaping have reported vaping first and then using tobacco. That's not random. If you look at another study outside of the one that we did in Smoke-Free Nova Scotia, it's from 2019 as well, by Barry et al, it shows you that 21.8 per cent of new cigarette smokers have started smoking after vaping.

I'm asking you to be the judge. From one side, there "may be" some effect of vaping as a smoking cessation aid with so many question marks on its effectiveness. On the other side, we have more conclusive evidence on its relationship with smoking initiation. Even for the one reason that the industry claims this product is available, it's not really doing its job.

ROB CUNNINGHAM: Just to reinforce the importance of a comprehensive strategy, we need a whole series of measures very quickly. Ms. Cull referred to the 74 per cent increase in youth vaping in Canada among 16- to 19-year-olds in a single year from 2017 to 2018. We don't yet have 2019 data in Canada, but we do for the United States. The trend - and this is in the yellow tab in your binder - has gone from 11.7 per cent in 2017 to 27.5 per cent in 2019 among high school students; among middle school students, I think it has tripled. When those middle school students become high school students, the concern is going to be - it's just going to keep going up and up unless we do something. That's why we have a whole series of measures that can be implemented urgently in Nova Scotia.

KELLY CULL: I would just underscore the comment around urgency. There were many of us - many of our partners seated here in this room back in 2014 - talking about a ban on e-cigarettes. The decision at that point in time was to wait for the evidence to unfold. So here we are in 2019 with a massive public health epidemic.

I think it's appropriate in this instance to introduce as many comprehensive policies that can work together to address this issue an urgent way. I think a lot about how this would have looked different in Nova Scotia if we had operated on a more precautionary principle back in 2014, to at least start trying to reign this issue in. As Rob has shown from the U.S., I suspect that we're going to see a similar trend here in Canada that really, regretfully, could have been nipped a number of years ago.

TAMMY MARTIN: I have to assume then that the reason it hasn't been nipped is because it's big business with big dollars behind it and making a lot of money and providing a lot of tax dollars, which I find at people's expense is very unsettling.

Would you agree then that the legislation we have all talked about and tabled needs to be implemented? I agree with what you said - whether it's legislation or regulation, we need action and we needed it yesterday. That's what we need to do in order to contain this.

ROB CUNNINGHAM: Absolutely, those measures and others. There are a series of measures that can be put in place and you have our full support.

TAMMY MARTIN: Thank you for that. Have there been continuous meetings or ongoing meetings - like I said, I spoke with Dr. Strang and I understood him to be the go-between on this issue with the Department of Health and Wellness. How is that progressing?

ROBERT MACDONALD: Yes, there are ongoing conversations with Dr. Strang and with all the officials within the Department of Health and Wellness that this comes under their purview. From our point of view - the Lung Association - we're going to be proactive. I know we were kind of touching on education and a comprehensive tobacco control strategy. Is that something we should revisit? Potentially, yes.

A year ago, we had a tobacco control symposium. We had over 70 stakeholders from all the departments and from the Health Authorities - they need to be included in this as well. So yes, we're working closely with them.

ROB CUNNINGHAM: Just to add in terms of your prior question about the cause of the problem - it's very much the commercial interests that can be held accountable and responsible. The major tobacco companies are now the dominant players in the e-cigarette business. Juul is a corporate affiliate of Philip Morris. The brand, Vype, is a brand of Imperial Tobacco Canada. The brand, Logic, is of JTI-Macdonald.

These are companies that have this long history, documented in internal documents of the Supreme Court of Canada that say they have targeted underage youth. They have been the masters of successfully getting kids to start - to replace those smokers who quit and those smokers who die.

We're troubled by what we're seeing. We're seeing, in a way, a repeat of what was going on 40 years ago with the tobacco companies in terms of their marketing strategies, in terms of their public relations campaigns, in terms of their lobbying. We've seen how we can put public health first to protect our kids, to respond to these companies whose interest is not the health of kids. They need kids as long-term, addicted customers; it's very good financially for them. We need to be able to respond - we have in the past, and we can do so quickly once again.

TAMMY MARTIN: It's funny that you say that because we had a request from both a convenience store group and Imperial Tobacco to appear today to provide information, and immediately our caucus said no because we believe that's the problem. We believe that's the root of the problem. We don't need to hear why they need to continue to make or sell. We need to hear what we need to do to stop it. I think, at the end of the day, it is big business.

[1:45 p.m.]

Sadly, the legislation could come relatively quickly, I would think. With that, what role do the schools have in helping this and promoting this? I've heard, just since the event down the street, that some kids go into the washroom and vape on their way to another class. It sets me back to when I was in high school and the seniors used to smoke in the bathroom then. Are the schools involved? Do you have any outreach with them?

ROBERT MACDONALD: I, too, attended that event - the MLA dinner hosted by the Cancer Society - and it was beneficial to us as we had a conversation with the Minister of Education and Early Childhood Development; we're going to be having a meeting with him to see what can be done and how we can get into the schools. There's a lot of pressures put on the school to get information out, so a strategic approach needs to be done on that as well. Education is very important - this is where our students are, our youth.

We've worked with our colleagues in British Columbia - the British Columbia Lung Association - and they've created a vaping tool kit. We're looking at that and modifying it for a Nova Scotia approach where it's focused on not only students, but educating parents and educators, as well. We're in that process and we're working on that as well.

KELLY CULL: As you know, we at the Cancer Society have continued to work very closely with the students at Millwood High School who - I agree with your sentiment - were very, very impressive and continue to be very, very engaged on vaping and tobacco. We will continue to work with them to move some different things forward over the course of the coming months.

I have two things to add to what you said. The first is that I've had some conversations with some of the administrators, specifically at Millwood. I don't envy their position. I think this has been a very, very challenging issue for them to try to regulate and try to address from a cultural standpoint in their school.

I certainly think that the administration there is really grappling with some of the best ways to deal with this very challenging issue. You've talked about how these products are slick and they're highly advanced and they're very undetectable to a certain extent, which does make it very, very difficult for them to manage in the school environment.

I can speak to Millwood specifically: they have put a couple of pieces in place. I think that they have shown a lot of leadership in terms of managing the school environment to be safe, healthy, and smoke-free. I certainly think there are opportunities for schools to find ways to better manage their own student environments.

On the educational piece as well, I agree with what many across the table have said: this isn't an issue that we're going to educate our way out of. I don't think we can overstate the addictive nature of these products. It's hard to compare apples to apples, but many would say that a lot of these high concentration e-cigarettes can contain two to three times the amount of nicotine as an average cigarette.

These students - and I've met several of them through my time with Millwood - are highly addicted. I actually met one student in the process of trying to quit e-cigarettes, who was in the youth health centre trying to access some support and was shaking violently after 24 hours of withdrawal on these products.

My point is that these are highly, highly addictive products. Educating someone out of an addiction is just a really simplistic way of looking at these products. This is more than educating around the food guide or eating healthy or exercising. This is talking about a product that is really impacting someone in terms of their brain development, in terms of their body chemistry. I think that we need to really account for that type of addiction when we're talking about education. To echo what my colleagues have said, I think education comes as a complement after we establish good comprehensive policies in our schools.

I also think that an opportunity in terms of education is to talk about this in a way that de-normalizes some of the industry's approaches. I think we have to be really, really thoughtful about the way that we approach young people on this issue. Through my conversations at Millwood, I've learned that students don't like being talked at. They don't like being talked down to or lectured. I think there's an opportunity to talk to students in a way that really educates them on how this vaping industry is specifically targeting them through advertising, through product design, through nicotine levels, and come at it from a lens that's more peer to peer as opposed to top down.

THE CHAIR: A reminder for our guests in the gallery that there are no photos nor are you to lean over the railings or near the railings. Ms. Martin.

TAMMY MARTIN: It kind of flies in the face of why I understood e-cigarettes came out - it was to help with quitting smoking, but now if the levels are double or triple - I guess they don't have to justify once somebody is addicted to them. They don't need justification on why the tobacco is higher.

Looking at your recommendations as a comprehensive plan to get to an end game or to reduce to 5 per cent by 2035, have you presented this to government? Is there any uptake? Like you said, there shouldn't be Party lines to this. Money shouldn't come before people's lives. Money shouldn't come before young people, let alone anybody. What is the problem? Why can't we sit down and have a conversation? Let's look at how we implement this into legislation to protect the youth and the adults that continue to do this. Has any conversation like that happened?

KELLY CULL: The Canadian Cancer Society - and I know many of my colleagues have had conversations with the Minister of Health and Wellness and with several people within the Department of Health and Wellness. They're certainly aware of and have been presented that comprehensive suite of recommendations.

Our key message to those stakeholders has been, if we just do one thing - if we just do, for example, a flavour ban, we're going to see an opposing response on the other side. If we're going to look at this in a serious way and if we're going to look at addressing this in a meaningful way and really move the needle, then we need to have a balanced approach to whatever the legislation or regulations look like so that we're not doing one thing and creating a different issue over here. The industry is very adept at creating loopholes and exploiting loopholes and opportunities, so we need to be as thorough, careful, and meticulous as possible.

TAMMY MARTIN: As always, your information is just mind-blowing, but welcomed.

THE CHAIR: Order. Time has expired. We'll hand it over to the Liberal caucus for 20 minutes. Mr. Irving.

KEITH IRVING: I want to thank our guests first of all for writing this committee several weeks ago and asking to be part of our agenda. We were very delighted to give up one of our agenda topics for this, because as you have outlined over the last 40 minutes, this is an extremely important issue that is going to take a concerted effort by everyone to get at.

I did also want to thank your three organizations over the years. Nova Scotia has led, not only by successive governments, but also by organizations like yours that have kept the topic at the forefront and allowed Nova Scotia to be a leader. Thank you for all of that.

I want to begin with a couple of kind of technical questions as we - as legislators and as Nova Scotians - kind of understand this issue. I was just wondering, are there any second-hand harms to vaping that led our initial attack? I think of tobacco use with second-hand smoke. Are there second-hand harms with respect to vaping that we should be aware of?

ROB CUNNINGHAM: Yes. Second-hand vapour is not just water. There are some harmful substances in that. Nova Scotia and other provinces have banned use of e-cigarettes where smoking is banned. It's less harmful than second-hand smoke, but it's not harmless.

KEITH IRVING: In terms of these nicotine levels, these high concentrations - you've answered my question that it's two or three times a cigarette. Does that really affect the addictive properties of this product or are there corresponding health issues exacerbated when you've got those higher concentrations of nicotine?

ROB CUNNINGHAM: The rates of youth e-cigarette use in Canada and the United States are enormously higher than, for example, in the United Kingdom. A big difference is that there they have a maximum nicotine level of 20 milligrams per millilitre; we don't have that here. I think that's an important explanatory difference between the trends. It's very much a factor with respect to addiction.

KEITH IRVING: But in terms of us having the health effects of cancer-creating, presumably with higher concentrations of nicotine, it's beyond the addictive properties - it's damaging health. Maybe the doctor can help us here.

MOHAMMED AL-HAMDANI: The most import issue when it comes to nicotine is the hook. It's the psychoactive substance that perpetuates the addiction. Vaping comes as a package. It comes with the average of 41 cytotoxins or toxic components. As long as you vape higher concentrations of nicotine, you're very likely to sustain that addiction and thus continue to absorb those chemicals along with it.

Although we haven't seen any specific literature, or at least it's mixed when it comes to the health effects of nicotine on its own, if you look at some of the effects that we're seeing now in the U.S. when it comes to vaping in general, there are over 2,000 hospitalizations and close to 40 deaths. That's telling us that vaping is far from being benign.

The second important point comes back to how many people started using tobacco as a result of starting vaping first. Vaping is a gateway to tobacco use, according to some evidence, and those people who start using tobacco after vaping will get exposed to tobacco smoke, will inhale tobacco smoke, and get all those harms that come with tobacco smoking.

KEITH IRVING: Just returning to a comment by Ms. Cull with respect to this battle that we are about to wage with the producers of these products in terms of a comprehensive suite of approaches, I'm just wondering whether there is any evidence or concern around a black market. Is there a black market that exists for this product? Have actions been taken that have resulted in a black market? Is that going to be part of these actions, this discussion over the next five years, the development of a black market around that? Should that be part of the considerations of the actions that we take?

ROB CUNNINGHAM: I would say right now there is not a black market. I think if there was to be a total ban on e-cigarettes, that would create issues, and there would be illegal sales. In fact, e-cigarettes with nicotine were illegal in Canada until the passage of federal Bill S-5 in May 2018, yet they were everywhere. They were in vape shops, and Health Canada was not enforcing the law.

If there was to be a ban, there would be a black market, an illicit market. We're not proposing a ban. E-cigarettes are intended for smokers unable to quit. They should be available for smokers. What's not supposed to be happening is this incredible youth use, and we need to tackle that.

KEITH IRVING: With respect to what's happening in other jurisdictions - and I understand that these are early days, I guess - are there actions that have been taken in other jurisdictions that have been particularly effective? Are there lessons learned in these initial days from other jurisdictions that help us prioritize the actions that we should be taking?

ROB CUNNINGHAM: I think yes. We know from the evidence that age 21 works - the Institute of Medicine report, but there have been subsequent studies since then, and it's very transferable among e-cigarettes and smoking. There is the European Union experience, with the maximum nicotine level.

We know what has worked from tobacco control after decades of practical experience and studies, and there's a parallel in our recommendations.

[2:00 p.m.]

MOHAMMED AL-HAMDANI: I'll add to that also. Any evidence that we've seen from tobacco can essentially be applied to e-cigarettes or vaping control when it comes to policies. I was waiting for someone to mention it, but taxation and tobacco control has been shown to be the most effective policy in terms of reducing tobacco use, no question about it. Not only that, the good thing about taxation is that it would decrease youth vaping rates disproportionately in comparison to adults.

A high percentage of youth are going to quit if we implement taxation in comparison to adults because that's what we've seen from tobacco. The broader economics literature tells us that youth are more price sensitive, meaning the higher the price, the less the affordability specifically for that age group.

Again, we can look at tobacco control and everything that has worked with tobacco control is very likely to work with vaping. What's not acceptable is for us to wait and say, let's see what will happen, because we did that with tobacco. Some of the evidence that came in the 1950s on the link between cigarette smoking and lung cancer came very late because, for the following three decades, nothing happened but skyrocketed lung cancer rates and increased lung disease and a host of other diseases. Even though we were working on policies to try to reduce that trajectory, it took us another two decades to be able to do that. We can't wait.

KEITH IRVING: I'll ask just one more question before turning it over to my colleague. I don't want this question to be construed in any way that I don't sense the sense of urgency here. I am interested to know, is there more research that we need, or can you talk about how much research is going on right now? Is there more information that would

help inform us that's under way, or are there gaps in our information? We want to be taking actions that are going to work and be effective and prioritize this.

Dr. Al-Hamdani, you alluded that we have a lot of knowledge from our battle with cigarettes, so maybe my question is misplaced. Is there research that would be helpful here?

THE CHAIR: Was that a comment or a question?

KEITH IRVING: That's a question. Is there particular research that we really need to help us here?

ROB CUNNINGHAM: There's a two-part answer to the question. Do we need more research? Yes. There's research on e-cigarettes coming out practically every day or certainly every week. There's a lot happening in North America, and we can benefit from that. At the same time, we have more than enough information now in terms of being able to respond with a whole series of measures. That research and surveillance can be ongoing to supplement and to go to a further refinement of policy requirements.

So the two-part answer to the question. Do we have a need for more research? Yes. Do we have enough information to act now? Yes.

THE CHAIR: Ms. DiCostanzo.

RAFAH DICOSTANZO: Thank you for the information, but I want to start by thanking Ms. Cull who came to my office last year in the Summer. I hadn't really thought about vaping at all. My daughters are in university and they didn't go through vaping in high school, so I literally did not know about the product until I hired a student in the Summer, and he was vaping. I said, what is this?

There's a big generation gap where parents don't really know and until I have grandchildren, then it will be something that I'm interested in. I really don't think the public has been aware enough and knowing that this is so important. It's coming.

The session you did with the student was a big help, but I wish more people could have seen it. We need to advertise or do something to reach larger. I'm listening here and I have a meeting with my parent-teacher from Park West School, so I put it on right now. Make sure you speak to them so that the word comes out for the youth and for the families.

I truly thank you and I think Nova Scotia has always been a leader in many things, especially tobacco. We will - with your help - and I actually remember hearing Dr. Al-Hamdani on the radio and I had just spoken to the department the day before saying, where are we and what are we doing?

I've been nagging - trust me - since I met with you, I've been nagging on this subject and all the five things they talked to me about were all what Dr. Al-Hamdani said on the radio. I was very happy that they're looking into all five items that have been brought to our attention. I'm confident that something will come up soon, but they are targeting all.

As he said, and for me it's very important that taxation is one of the items that we look at because I was surprised from the information that vaping is half the price of cigarettes. I believe you mentioned some figures on the radio. If you can maybe enlighten us about the price of vaping compared to cigarettes.

MOHAMMED AL-HAMDANI: These are, of course, approximations to the best of our knowledge based on the information that we received. If youth are telling us that they vape about just over 600 puffs, that translates usually into three pods which have the equivalent of about three packs of nicotine-worth of cigarettes.

THE CHAIR: Excuse me. I ask that people do not lean on the railings please. Sorry, Dr. Al-Hamdani.

MOHAMMED AL-HAMDANI: We estimated that three pods would deliver the amount of nicotine that three packs of cigarettes would. We asked the same youth how much they spend on those pods, and that was about \$24.30. If you go and buy any three packs of cigarettes - the cheapest brands - you'll pay at least around \$48.

For approximately the same amount of nicotine, e-cigarettes are half as expensive as tobacco, and part of that has to do with the fact that they only have HST and not specific taxes like tobacco does. That's where we need to have more taxes to make them a little bit more expensive so that the affordability can go down when it comes to youth, specifically, at least.

RAFAH DICOSTANZO: It's not just the price, but it's also the education of the harm. We've been very good at conveying that tobacco isn't the stylish thing and the puffs like in the 1950s movies and other things that we need to show that this vaping is a very negative thing.

I think that our teenagers that look at this big amount of - steam, is it? It's not smoke, is it? Vapour - to me, when it comes out, it covers the face. It's just very unpleasant to look at. We just need to make sure these images are negative. How are we doing with that?

MOHAMMED AL-HAMDANI: I always say and have even published on this: I hate calling it vaping, but I use this term because that's the term that everybody understands. It's not vaping. Water vapour is vapour. This is not vapour. This is propylene glycol base for the most part along with 40 other chemicals, at least. It should be called something maybe like cloudy matter. That's how I would refer to it, but how many people

will look at me weird if I tell them cloudy matter, right? We try to use some language that people would understand. It's unfortunate.

I'm sorry, I'm jumping back to answer part of Mr. Irving's question, if that's okay, because he asked specifically about harms. We didn't, of course, ask youth in this survey about materialized harms or diagnoses, but we asked them whether they've experienced any side effects, and 14 per cent of youth between the ages of 16 to 18 said that they've experienced side effects.

We asked them what they exactly experienced, and it was an open-ended question. We heard things like shortness of breath, I can't breathe anymore, and for those who use both tobacco and vaping, or used tobacco in the past, they said quitting tobacco was hard, but quitting vaping seems to be harder, and I'm paraphrasing a little bit here. Out of those 14 per cent of reported harm, 73 per cent were respiratory, so we're starting to see some correspondence with what we're seeing in other jurisdictions.

It's far from being definitive, this particular finding, but it certainly calls us to look for more research, as Mr. Cunningham has alluded to, in terms of specifically looking at which harms we need to focus on.

KELLY CULL: To touch on your point around product attractiveness, I think of this as an area specifically where there's a lot to learn when you compare vaping products with traditional cigarette products. There has been a lot of work particularly in recent years around things like plain packaging and around health warnings, really trying to drive down a lot of the attractive components of tobacco products.

If you juxtapose that with - under the orange tab in your binder, there's a colour photo of some e-cigarette products that were recently purchased in Nova Scotia. You'll see here the STLTH pink e-cigarette. Part of the reason that our proposal contains regulatory authority over product design is to really get at issues like this. We shouldn't have e-cigarette products that are coloured pink. Some of my students at Millwood have talked about the fact that there are new e-cigarette products coming down the pipe that are in each of the iPhone colours, which they're looking forward to. You're starting this product design and evolution that is really, really speaking to and targeting young people.

We would urge government to look at having regulatory authority over how these products look and feel and how palatable they are to young people, particularly girls. I think the trend that I have been seeing, anecdotally, is a lot of products that are specifically targeted at young females.

ROB CUNNINGHAM: To reinforce Ms. Cull's point and your question about education, there's all of these things out there that are undermining education: the low price, the attractive colours, the easy availability, the flavours that are enticing. Legislation in itself is education. When we had mandatory seatbelts, that really informed the public

about just how important it was. If we increase the age to 21, that sends an educational message as well. All of these policy measures are important for education.

Just quickly, Mr. Irving, with respect to your question on research, I want to acknowledge the research done by Dr. Al-Hamdani at Smoke-Free Nova Scotia. It's very beneficial, I think, for your consideration of potential measures for this province.

THE CHAIR: You have 30 seconds, Ms. DiCostanzo.

RAFAH DICOSTANZO: Maybe I'll come back later, just to see what your vision is for how it should be sold, what the stores look like, what limits you would be hoping for, for the sales of the item as well. We can come back to that after.

THE CHAIR: Mr. Cunningham, we have run out of time. It's now the PC caucus. Mr. LeBlanc.

COLTON LEBLANC: Thank you very much for coming this afternoon. I appreciate your insight and your knowledge on this important topic, which has become a public health epidemic not only across Nova Scotia, but across Canada. It has evolved quicker than expected, unfortunately. Our youth are a very vulnerable population and shouldn't be inhaling chemicals with unknown effects that are later affecting their health.

Our caucus is very concerned about this and about the health of our youth. We want to protect our youth. That's why we introduced legislation, Bill No. 167, very early in the Fall session, with no subsequent action from the government other than a promise from the minister to look at possible regulatory action. A month later, we haven't seen any timelines. We cannot afford to wait much longer for the federal government to take action. I echo Mr. MacDonald's point that we need to take action now. There are plenty of findings, plenty of instances documented regarding injury and illnesses across Canada. We have enough information to take action, and we do not have to wait.

I'm blown away at the findings of the survey that has been presented, and I'm glad that we can agree that tackling a flavour ban would be most beneficial to moving ahead on this initiative in Nova Scotia. I believe that again, like it has been said, we have an opportunity here to be leaders not only in Canada, but across the world in taking action similar to the tobacco action that was taken years ago.

I guess I'll start by asking Dr. Al-Hamdani to speak to the contents of the cloud matter. You mentioned propylene glycol, glycerine, the nicotine. You spoke about the effects of nicotine on our youth, related to brain development and addiction. Can you speak briefly about the other contents at all?

[2:15 p.m.]

MOHAMMED AL-HAMDANI: It really differs from one product to another. You have essentially four different categories of vaping products: ones that look exactly like a cigarette; others that are called a vape pen - essentially look like a pen and you can refill the e-liquid; you have tanks which are thicker, and you have an adjustable knob to adjust the amount of chemicals that reach the human body; and you have the disposable cartridges and pod products - Juul, STLTH, and many other brands have emerged from that. It depends on which product and which type of juice is in there.

In terms of which chemicals specifically might be causing the harm, that is a very difficult question to specifically answer because even when you're talking about flavour - cherry from one brand means five different chemicals from cherry flavour and another brand which could actually be made from 15 other chemicals. I've seen some very interesting research from my colleagues in Ontario that have looked at that.

The idea is that overall, we do see that people are landing in hospitals. People are landing on ventilators, and the CDC itself now is trying to figure out the reason behind that. They've come up with vitamin E acetate as a potential candidate. Vitamin E acetate is usually a supplement that's used on the skin or in food supplements, and it's safe to use in those ways, but it's not supposed to be inhaled and it could lead to lung inflammation and lung effects.

I want to point out that they've tested 29 biological samples from 2,000 cases, so it's still very early to identify the specific chemical that is the culprit. Not only that, 100 per cent of those 29 biological samples contained vitamin E acetate, but 82 per cent contained THC and 62 per cent contained nicotine. It could be one, more, or a combination of others, and they're still working on trying to identify those specific chemicals. But as a whole, they have a tendency to be harmful.

COLTON LEBLANC: When we look at health care delivery and the current state of our health care system, we often discuss it as being in a health care crisis. I think moving forward, there needs to be a very strong emphasis on prevention and preventive care. You've alluded to hospitalizations and things like that, so what are the potential risks and costs to our health care system here in Nova Scotia and other jurisdictions if we do not take action immediately on vaping?

MOHAMMED AL-HAMDANI: If we use a conservative approximation of one of the potential negative consequences of vaping, which is to recruit 20 per cent of smokers, just look at how much tobacco is costing us per year and add one-fifth of that cost. That would be huge. That's in the order of millions of dollars in terms of health care costs and that means an additional 20 per cent of tobacco-related consequences: lung cancers, COPD, heart attacks, liver cancer, pancreatic cancer, many other types of cancer, osteoporosis, and you name it. The list is endless when it comes to tobacco use.

Only focusing on its tendency to initiate smoking is sufficient, but also trying to understand that it does have some potential to impact the rates of hospitalizations, as we've seen in the U.S., is a secondary and moot point in comparison to its smoking initiation effect.

COLTON LEBLANC: Thank you. I believe Ms. Cull alluded earlier that we should either legislate then educate or regulate, I believe that you had said. Ms. Fonseca spoke a little bit about the education piece. Ms. Fonseca, can you explain what should be included, when it should be included, and where? Is it junior high, high school - different platforms, for example?

PAMELA FONSECA: I was alluding more to whatever education that we are going to be doing, making sure that it's not stigmatizing to youth who are currently using these nicotine products, so helping and supporting them to access nicotine cessation programming.

When it comes to timelines and education protocols, I think it should be targeted to younger youth. Junior high would be good, as well as older - all, really, and parents as well: a holistic kind of approach to everybody in the environment, not just the students, but those all around them as well - society.

COLTON LEBLANC: Your organization has worked within a budget, obviously. Since this issue of vaping has come to the forefront, how has that affected your operations? Have you been allocating more money or are you taking away from other initiatives or other projects that would equally need as much attention, but now since vaping is very predominant in the forefront, how is that affecting your organizations?

ROBERT MACDONALD: We've made tobacco control our number one priority. We see vaping falling under that, so it remains our number one priority. There are obviously other issues that we have to deal with when it comes to lung health, whether it's COPD, lung cancer, or lung transplant, which we saw movement on in the Spring from the government and has really been a big help to lung transplant patients. Our donors have indicated that this is an issue to them and that they want us to be focused on it.

To the education part as well, we have teachers contacting us on a weekly basis asking, what do I do? People are coming to us - the media, to the point of getting the word out. In recent times, we've had over 40 media pieces earned in probably the last four months. It's becoming more the topic of the day, so we have to put our resources into it and will continue to do so. That's why our partnership with Smoke-Free Nova Scotia is vitally important with our partners here. It makes the work lighter when you have many hands.

KELLY CULL: Advocacy is a core part of the work that's done by the Canadian Cancer Society. We do advocacy related to all aspects of the cancer journey, everything from prevention to palliative care.

We're particularly passionate about prevention because of the opportunity that it has to reduce the cancer burden for future generations. Tobacco is, has for many years, and will continue to be for many years, the biggest preventable cause of cancer here in Canada. It's a critical investment in terms of the Canadian Cancer Society, and it's something that we feel is really important if we want to work in an upstream way and really move the needle on reducing tobacco and vaping rates.

COLTON LEBLANC: Dr. Al-Hamdani, can you speak briefly about the methodology of the survey?

MOHAMMED AL-HAMDANI: The online survey, using a system called Qualtrics, advertises through Facebook and Instagram to better be able to reach respondents in the survey. It's quite representative of the province but with a high concentration of HRM by virtue of having high density of shops in HRM.

COLTON LEBLANC: Is this something that you look to repeat in the future, this type of survey?

THE CHAIR: Order, the time has elapsed. We'll hand it over to the NDP, Ms. Leblanc for 11 minutes.

SUSAN LEBLANC: Thank you for being here. I find this conversation both infuriating and also really exciting because of the potential and how it seems so easy in a way to bring in these recommendations that you've presented us with. Sometimes I just don't understand what the holdup is. Thank you for making it so concise.

The first thing I want to do is follow up on that advertising thing. I'm just looking at this picture. I don't know if I can do this for the people at home. I look at this picture, and this to me looks like perfume - these little glass bottles look like perfume. This looks like makeup - a nice, sleek little lipstick. I don't know what this looks like. Then the words - the brand names - are Fruitbae, Naked, STLTH, and Chill. How cool are all of those things? You just want to have some Fruitbae in your life.

It's really disturbing. As a parent of two elementary school kids, I feel like I need to have this conversation tonight with them, because before I know it, they're going to be encountering these products. It's terrifying.

I remember when I was young and reading my *Sassy* magazine, or whatever it was that I enjoyed when I was in junior high, and I'm sure that there were advertisements for tobacco and also alcohol in those magazines - maybe not that magazine, but something for older kids. Those are not allowed anymore. You don't see that anymore.

I'm just wondering about the advertising, and you were mentioning having regulatory control over what these products look like. Some of that is provincial, but is some of that federal? This is a question I'm asking. I feel like advertising laws are federal. If so, are you working with the federal government and your organizations at a federal level, to work on that aspect of it? Is that less of a priority than getting these provincial regulations in place?

ROB CUNNINGHAM: Nova Scotia has done a good job in terms of retail stores, banning displays and advertising within retail stores, with an exception for specialty vape shops. We support that, that specialty vape shops can have displays.

Federally, there's a gap. We have urged the federal Minister of Health Canada - and Health Canada has consulted on draft regulations to further restrict where advertising can be. Right now, it's possible for there to be e-cigarette advertising on television, radio, billboards, and social media. There is no actual restriction on the location of ads subject to provincial laws - there are a few places in Nova Scotia beyond retail, as well, that are covered.

That's a gap and we have strongly urged, including in a news conference on Parliament Hill on September 19th - during the campaign - to ask for regulations as soon as possible after the new government is sworn in.

SUSAN LEBLANC: As you referenced earlier, in the last sitting, the Progressive Conservatives and my colleague, the member for Cape Breton Centre tabled legislation getting at some of these issues. The Progressive Conservative legislation would have made the possession of vaping products by minors a criminal offence punishable by fines.

I'm just wondering if the witnesses here feel like fines and punitive measures are a part of this story. Do you think that they would be effective? Is it part of the package? What's your sense of that?

KELLY CULL: We support punitive measures particularly at the retail level. If there's going to be a punitive component, it should be focused on retail locations selling to underage youth, for example. That would be an appropriate focus for that particular initiative. We know that punitive approaches are not effective in terms of decreasing substance use among young people.

We are looking through the lens of these five recommendations in particular to change context, to change the environment, and to change the culture and norms around vaping for young people. We believe that that is really what's going to be effective in moving forward the change that we want to see.

MOHAMMED AL-HAMDANI: I think I'll be more direct with this answer. With punitive approaches, it's only effective when it's at the retail level - it's actually ineffective when it comes to targeting youth. We have seen some of that literature with other types of substances. There is also the unintended consequence of potentially stigmatizing youth who may end up getting penalized because of those approaches.

We appreciate the passion, and we appreciate the effort by the Progressive Conservatives to bring forth that part of the bill. Once again, when it comes to their other part regarding flavour bans, we are completely supportive of that.

SUSAN LEBLANC: I was going to say earlier when you were talking about your students at Millwood about things that get through to young people, in my experience it's almost like the best approach has been explaining to them and getting them to understand how they're being manipulated by the system or by corporate America or Canada.

I remember the most convincing or effective thing about not smoking that I ever watched was a movie called *The Tobacco Conspiracy*. It laid out everything that was going on in Big Tobacco. It was like, who would ever want to be manipulated in that way by a corporation? It was super effective. Just an observation on that.

[2:30 p.m.]

When we were looking at all the research that we've been given about this issue, we thought maybe a place to go would be targeting online sales in the way that cannabis is sold online. The delivery person has to receive proof of age, but we learned that that wasn't necessarily that effective because that's already happening. Obviously, there's something more to it.

Then we turned our focus to the age at which tobacco or these kinds of products could be sold, and we kind of thought in the same way that tobacco - or alcohol, I believe, and cannabis - cannot be sold to someone who looks under 25 or will be ID'd if they look under 25, that that could be a useful regulation in this realm too. I wondered if you could talk about your thoughts on that.

ROB CUNNINGHAM: Some other provinces already have a provision that says that for a customer who appears to be under age 25, you cannot sell unless they provide ID, as opposed to under age 19. Quebec has a ban on Internet sales. They've required all sales to be on a face-to-face transaction, and that would be a good measure in Nova Scotia, as well, to reduce youth access.

Some kids can get prepaid credit cards. Some kids are ordering a bunch and they're redistributing within their schools with respect to pods or e-cigarettes. Moreover, for an effective intervention where you pick the flavours, banning Internet sales would be very helpful. In Quebec, Purolator, Canada Post, FedEx will not deliver to a home address from a company. It's not perfect, but it's quite significant in terms of the difference. So that

would be a helpful measure to reinforce restrictions on flavours for the province in terms of enforcement.

SUSAN LEBLANC: I just wanted to pick up on some of the discussion around the actual health concerns around these products.

A recent study from the Centers for Disease Control and Prevention in the U.S. found that the nicotine content in e-cigarettes has more than doubled in the past five years; we've heard this today. Products that started with more than a 5 per cent nicotine concentration now make up 67 per cent of the market in the U.S. One of the things that the clinicians in the States have noticed is the increase in cases of nicotine toxicity, as you were mentioning, so severe that people are turning up in emergency rooms. There have been 40 recorded deaths, I think; you were talking about the shaking of someone going into withdrawal.

Besides these issues with the seizures and the addictive nature of the drug, which let's face it are good enough, in my opinion, to take serious measures, are there any concerns about the strength of the nicotine that's being delivered through the devices, and would we be less concerned about these potential harms if the dosage was regulated to a low amount?

MOHAMMED AL-HAMDANI: First of all, I'd like you to just note - you mentioned 67 per cent of nicotine products in the U.S. market constitute the highest amounts that are being used. We found 66.5 per cent, so we're seeing a very similar trend here which is very interesting.

Once again, I would mention that the main issue with nicotine is that it sustains the addiction and it allows for the other chemicals to be inhaled, and that's where we have most of the problems that might be stemming from vaping. Also going back to the point that vaping is related to smoking initiation, that is huge.

We're not talking about 1, 2, or even 10 per cent; we are talking about at least 20 per cent of new cigarette smokers becoming smokers because they started vaping first. That's a paramount issue that we need to face. If there was no issue with smoking initiation, the conversation would be completely different.

THE CHAIR: Order. We'll turn it over to the Liberal caucus, Mr. Jessome for 11 minutes.

BEN JESSOME: I want to revisit this conversation around punitive damages, and I appreciate hearing the information that we have related to not having a significant impact on whether this is reaching our youth or not. I'm trying to understand that more completely. Dr. Al-Hamdani, can you and Ms. Cull jump into that a little more thoroughly before I continue this line of questioning? I don't understand how adding to significant fines and targeting retail outlets doesn't have a positive correlation with keeping it away from youth.

MOHAMMED AL-HAMDANI: I think there must have been a little misunderstanding here. Punitive approaches towards retail locations themselves, or retail shops, works and that's what we expect. So, making sure that they're actually complying with not selling to minors, that is important and that is effective. Imposing harsher penalties on sales to minors is also important, that is effective.

What I was referring to earlier is punitive approaches towards youth themselves - going to youth and if you catch someone who's underage with a product, penalizing them in that way. That approach specifically has not been shown to be effective in terms of driving down substance use. However, punitive approaches towards shops that don't comply with minor sales laws have been effective. I hope that offers some clarification.

BEN JESSOME: That is helpful. I was surprised to see that - what was it, \$45 to get a licence to sell smokes in Nova Scotia - and we're one of only two provinces that has fees associated with distributing cigarettes. There's probably something bigger at play here that I'm not seeing right now, and I apologize to everybody for my obliviousness, but the sale of these products must be embedded into someone's bottom line somewhere along the line so making it less affordable to incorporate in your business model seems to be a way to cut the snake off at the head, I guess. If that makes sense.

What about fines associated with people who are distributing the product offline? It's not only kids and students that are selling the products or getting it from their older brother or sister or what have you. What about targeting them for dealing, so to speak? What impact would fining them, or repercussions on those individuals, have?

ROB CUNNINGHAM: I would agree that there have to be effective enforcement provisions. Anyone who's supplying to underage, anyone who's doing illegal promotion, anyone who's undermining these efforts and these public health laws - there needs to be effective financial deterrence and fines.

With respect to licensing, why is it the way it is? I think it's just an historic anomaly and I think we just put our attention to it. In terms of fiscal responsibility, cost recovery, if a restaurant or a bar has a liquor licence, there's a meaningful annual fee for the licence, but we just haven't done it for tobacco. I think it's a simple catch-up. Many municipalities have done it in Ontario and Alberta, and we can easily do that in Nova Scotia.

BEN JESSOME: That's it for me, I guess. I just wanted to have some further clarification on that. Ms. Miller's going to jump in now.

THE CHAIR: Ms. Miller.

HON. MARGARET MILLER: I can tell you that this has been one of the most informative sessions that I've ever been at, and it's really nice to be back in committee again because we do get so much information.

I was part of that Law Amendments Committee in 2014, and I know my fellow members of the Opposition came after that point. I think three of us were here at that time. I remember the conversation then about banning flavours and all of this, and it was so new to everybody. Nobody really knew what to expect or whatever and there was so much opposition. I think you'll have to agree - I know some of you were in the room at that time, too, not realizing the effects. I'm just thinking now, wow.

Hindsight's 20/20 and what a different story we would have had today if we had gone forward with that instead of using recommendations to change that final recommendation in Law Amendments Committee. I really wish that had been a different story at this point, but like I said, it's 20/20.

Now, we do know that we're looking at several options in how to reduce youth and adult vaping, including regulating the e-flavoured cigarettes and licensing for sellers of vaping devices and e-liquids. I think with all the information that we now have, government is taking a stronger look at this and seeing whether we go forward with that or how exactly we go forward and address this.

Your comment earlier about the student who was shaking coming off of an addiction to the vaping fluid, it kind of makes me wonder, do the bulk of teenagers even get the fact that these are addictive substances? Do they still think it's just flavoured water? Is it a lack of information on young people now in a lot of that that gets them going and then becomes addictive?

KELLY CULL: I certainly think that that has been part of the evolution in terms of this conversation. I suspect that if you were talking to a group of high school students three or four years ago, the general perception would be that these products were benign; that there were no health harms to the extent that, in some ways, they were promoted as almost health promoting.

That conversation has changed dramatically, particularly with the passage of Bill S-5 and the legalization of e-cigarettes that contain nicotine. We've gone from e-cigarette products being viewed as more benign, or not health harming, to having products that have very dramatic escalations in terms of their nicotine content.

What I've heard, particularly from a lot of students, is that they'll start e-cigarettes at a very low nicotine content level - five milligrams per millilitre - and then gradually move their way up until they're reaching that maximum legal level of nicotine, and in some cases, actually jimmying together even stronger levels of nicotine so that they can sustain that addiction.

Part of that really comes from the efficiency of these products and their effectiveness in delivering nicotine. It's very smooth, it's very easy to inhale, it's very palatable for young people. I think there is a high level of awareness of the addictiveness of these products because there is such a large student population that is dealing with that addiction; they can't get through an entire class without going outside or getting a hit or having these physiological impacts.

One student who is a soccer player really directly felt the impact of being able to run and being able to perform. There are certainly other instances in terms of memory and concentration. Anxiety is something that I've heard a lot of students talk about in relation to this, as well. I think there has been a big evolution in terms of how these products are perceived by the student body.

I don't think that there's a lack of awareness among young people, quite frankly, around how addictive they are at this point in time, and that's why I think all of us here have underscored the importance of policy, either in tandem or before education, if we're going to get at this in a meaningful way.

ROBERT MACDONALD: I was just going to add to that, as well. We've seen an incident in Saint John, New Brunswick, where a teenager was coughing up blood. It was on the news and it highlighted some of the concerns out there. We have had discussions with her, and I think it's important that the messaging comes from the youth. I think it was kind of briefly mentioned before and I think there are opportunities there, as well, and we need to involve them in this process.

MARGARET MILLER: I guess I won't say too much. I really want to thank you all for your advocacy and what you do. Certainly, I agree with the taxation bit. When I was the national president of MADD Canada, we suggested exactly the same thing: tax your alcohol so that it becomes a deterrent to overdrinking, and I think that that could be part of the solution with this.

I think that your suggestions here for your different solutions are all very fact-based and are very good, so we're going to make sure that this will all be going back to the departments and be looked at by government. I'm just so pleased that you are here today and that we could take part in this conversation. Thank you so much.

[2:45 p.m.]

THE CHAIR: I'll ask for closing remarks. Does anyone have any they would like to do? Ms. Cull.

KELLY CULL: Thank you very much for your time today. I'd like to go back to where I started in terms of what the vision is around these substances and go back to that idea of a Tobacco Endgame.

We really are advocating for a complete phase-out of tobacco products in Canada. That's where we want to be and we want to be somewhere similar with vaping products, particularly when it comes to non-smokers or young people who've never used these products before.

I also want to talk a little bit about the different ways that we need to view these products. Oftentimes when we think about substances, we take alcohol, cannabis, vaping products, and tobacco and want to lump them all in the same category and have the same kind of regulations surrounding all of these products. I would challenge that thinking.

We have a different end in mind with respect to tobacco and vaping use, so that really requires different regulations and different approaches. If we want to get to 2035, it has to be different than the path that we're on today. We are working towards a tobacco-free society. We are not working towards, necessarily - I'm not here to argue the validity of it - a cannabis-free or an alcohol-free society.

We need to think out of the box, and we need to think outside of this comfortable space that we sort of live in around age of majority or age of maturity and think about it in relation to the long-term health harms and the long-term health impacts of these products. How do we get from here to 2035, and how do we actually drive down these rates to 5 per cent and be bold enough in our thinking and in our actions to actually take meaningful steps towards that goal?

Thank you for your time, and we look forward to working with you.

THE CHAIR: Mr. MacDonald.

ROBERT MACDONALD: Very similar to what Kelly said. I guess from a lung health perspective, we see on a daily basis those who have suffered dealing and coping with COPD, lung cancer, lung transplants, and that shame that they feel that they did it to themselves; that stigma, if you will. That was just the norm and it was an addiction. It was an addiction and we don't want to create another addiction with vaping.

We can talk about whether we're too late or too soon. I think the time is now. We've got to move forward. I think having this committee meeting today is a great step in moving forward. We're willing to work, we've shown that, and we'll continue to so with our partners and with the government to help avoid the conversations we've had with other people who dealt with lung health issues.

Again, thank you for the time, Madam Chair, and I appreciate it today.

THE CHAIR: Thank you all for coming here and being our witnesses today. We'll take a two-minute recess so that you may leave the Chamber. We have a bit of committee business, but I'm sure the media is outside waiting for you.

[2:48 p.m. The committee recessed.]

[2:51 p.m. The committee reconvened.]

THE CHAIR: Order. We will continue with our business meeting.

If you go to your correspondences, we received a correspondence on October 25th, a response from the Nova Scotia Health Authority. Did everyone receive that by email? Agreed.

From the September 10th meeting, we had an email received by members on October 31st from the Department of Health and Wellness. I think those were the organizational charts, perhaps? Also, on November 8th, we received a correspondence from Dr. Todd Howlett on Telecare 811. Did everyone receive those correspondences through the clerk? Okay.

We also had correspondence from Duncan Rayner of Temple Scott Associates, with a request from Imperial Tobacco Canada. We also had correspondence from Jessica Crane, Atlantic Convenience Stores. Those were done by polls and there was not unanimous agreement to having them at the meeting. Ms. Adams.

BARBARA ADAMS: I just wanted to make a request, perhaps, for the Nova Scotia Health Authority. I requested an organizational chart for the Nova Scotia Health Authority and the Department of Health and Wellness. During Question Period, the Minister of Health and Wellness said that they were working on updating because staff were always changing, and I said I would take whatever organizational charts he had at the time.

I'm wondering if I could request for our January meeting - that'll be sort of three months since we received it - if we could have an updated chart. I guess I probably will be asking for an ongoing updated organizational chart so that we can be continually updated as to the changing of staff in those various departments.

I don't know whether I need to make a motion.

THE CHAIR: I don't think so. We'll hear what the clerk has to say; it will be her work.

JUDY KAVANAGH: I can write a letter to the departments on behalf of the committee. If I were going to do that, I think we would need the entire committee to agree on that. If the committee agrees to it, I can certainly write to the NSHA and to the Department of Health and Wellness and ask them for this.

THE CHAIR: Mr. Irving.

KEITH IRVING: I may be confused with the request - the Minister of Health and Wellness tabled the organizational charts in the House of Assembly the next day after that question.

THE CHAIR: What Ms. Adams is asking for is a process where we will have continuous updates, maybe four times a year or something like that, which I think is reasonable because we all need them in our offices. If you're doing constituency work, you really need that information. Ms. Adams.

BARBARA ADAMS: I'd like to make a motion that the Health Committee request a four-time-a-year update of the organizational charts of the Department of Health and Wellness and the Nova Scotia Health Authority and for the clerk to provide that information and make that request.

THE CHAIR: There's a motion on the floor. Would all those in favour of the motion please say Aye. Contrary minded, Nay.

The motion is carried.

Seeing there is no more business on our agenda, our next meeting will be Tuesday, December 10th. Our topic will be: Pharmacists' Role in Health Care and Scope of Practice. Our witness will be Allison Bodnar, CEO of the Pharmacy Association of Nova Scotia. We all know who they are; they've always hosted an evening for us, and they always have great information.

There being no further business, I would say business is concluded for today and I adjourn this meeting.

[The committee adjourned at 2:55 p.m.]