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Chair

Mr. Ben Lobb

Standing Committee on Health

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● (1100)

[*English*]

The Chair (Mr. Ben Lobb (Huron—Bruce, CPC)): Good morning, ladies and gentlemen. It's 11 o'clock, so we'll get our committee meeting started.

This is the second meeting of our study on e-cigarettes. Today we have two hours of meetings. The first hour is with the Centre for Addiction and Mental Health, by video conference, and the second hour is by video conference as well. We'll suspend for a few minutes after the first hour to allow for all the technical needs to be met so that we're ready to go.

We have with us Peter Selby, chief of the addictions program at the Centre for Addiction and Mental Health.

Welcome back to the committee. You have 10 minutes or whatever you need. Carry on, sir.

Dr. Peter Selby (Chief, Addictions Program, Centre for Addiction and Mental Health): First of all, thank you so much. It's an honour and a pleasure to present to this committee again. I am speaking on the use of electronic nicotine delivery devices, commonly known as e-cigarettes.

We have sent some speaker's notes to you. I'm sorry they came at the last minute, but they have been sent.

Very quickly, the title of my presentation is “E-Cigarettes: Disruptive Innovations with Promise and Peril”. I think that's the reason why we need to look at this.

By way of background, I'm a physician who works at the Centre for Addiction and Mental Health. I specifically focus on the treatment of people with tobacco addiction and am currently also running some studies looking at the use of electronic cigarettes by Canadians.

The big problem is that we are stuck in tobacco control in Canada. For example, cigarettes were actually invented over 150 years ago and the technology hasn't changed that much. What has changed is the ability for tobacco companies to mass produce them and cause lots of harm.

The other reason that we are stuck is that the prevalence of smoking has not budged much in the last five years. Currently, the burden of smoking is borne by people who can least afford to smoke, those who have less than high school education, those who have other comorbidities, like mental health and other addictions. The rest of society has benefited from the existing policies, but there's an inequity that has crept into society where approximately 4.5 million Canadians still use tobacco on a regular basis.

We are stuck. We need new innovations and new ways to address it. We've looked at other mechanisms like education, taxation, and smoke-free by-laws. All of those things have been very useful, including creating treatments for smoking cessation.

However, with the advent of e-cigarettes, or electronic cigarettes, as delivery devices that came onto the market, we began to see great demand by smokers. When you spoke to them, they would say to us, “Well, I'll use it when I can't smoke”. On the other hand, many people were looking at it as a way to get the monkey of combustible tobacco cigarettes off their backs. Again, many people believe that it would be safer and less addictive.

When you look at them, not using a scientific approach but a common sense approach, automatically one can say that they appear to reduce harm and the cost. For example, we know they have lower numbers of particles compared to combustible cigarettes. The risk reduction level is not yet fully known.

On average, definitely, smokers are getting much less chemical exposure than they would from cigarettes. And of course, from a cost perspective, approximately, at least in the U.S., what people can get from one e-cigarette is essentially the equivalent of one to two packs per day. So definitely, it becomes much cheaper for them to use.

However, there are some health risks that are emerging that we need to pay attention to. Whether the e-cigarette contains nicotine or not, there are some problems. They come from the device itself and how it's manufactured. If the battery is faulty, for example, fires can occur. They can overheat, and we've seen some examples of that.

If there isn't any safety coating around the heating element you may be aerosolizing or putting heavy metals into people's lungs. With the newer devices that actually can heat up to higher temperatures we may be actually even creating some cancer causing chemicals that are getting into the person's lungs and body.

The other thing that is the big unknown is the propylene glycol. Although it's generally considered safe in humans, it's not necessarily proven to be safe in this repeated exposure that some people might get. But what we do have are increased cases of poisoning, especially in the U.S., where children have been getting their hands on the nicotine cartridges or refillable cartridges and getting toxicity. Of course, there's the issue of second-hand vapour.

Basically, the studies that have been done to see whether e-cigarettes could be a good smoking cessation alternative similar to the medications for smoking cessation are not as good, or are an equivalent at best. E-cigarettes just cannot compete with cigarettes. The switchover is still not complete because many people will use both cigarettes and e-cigarettes.

● (1105)

I think you are going to hear this metaphor many times from some of my colleagues as well. When both products are on the market, people will go to what they know. So that is one of the problems.

We have had examples in Canada. For example, when we had leaded gasoline and had to move to unleaded gasoline, we had to make some really significant shifts and not have leaded gasoline available at the same time as having unleaded gasoline available. Similar things happened with leaded and unleaded paint. So we have a history of making things safe by removing some toxic chemicals. But you can't have both on the market at the same time.

So the story is not completely told around whether e-cigarettes can be useful to quit smoking when you still have cigarettes available on the market.

The biggest concern we have now, especially in Canada, is that because e-cigarettes not containing nicotine are available in any general store with no age restriction, even my five-year-old could walk up to a store and purchase them and practise smoking without any regulatory framework as to what's in that product or whether it has nicotine or not, contaminations, viruses, or bacteria.... We have no idea what people are getting exposed to. There is no quality control or disclosure of contents and even from the same manufacturer from brand to brand we have no way of knowing what's in that e-cigarette.

Currently I am analyzing an e-cigarette that was bought so-called legally by a patient of a family doctor in our community. That person ended up with headaches, vomiting, nausea, and went to the emergency room where, when they tested him, found that the e-cigarette contained marijuana. We are doing further tests to see if in fact that is true, as we certainly have seen the devices and how they can be manipulated to deliver marijuana instead of nicotine.

So we also have this illogical regulation in Canada where e-cigarettes containing nicotine are not legal, but yet neither are they illegal. So basically we know of people who are using home-grown labs to make nicotine or are importing nicotine and then compounding it and selling it because it's not technically illegal to do that. People are easily converting their devices to use nicotine or marijuana.

What are the challenges and concerns we have? One is that this is potentially introducing youths to nicotine addiction. They are overdosing. The e-cigarettes have flavours and there is advertising for them. Although the U.S. data is comforting in suggesting that e-cigarettes may not be leading kids to go on to full-blown smoking, it is still unclear. There is a great potential for that happening.

The biggest concern currently in the absence of regulation is that we are re-normalizing smoking. So many of you, if you have travelled, may suddenly be surprised to see somebody in a restaurant or an airport lounge “vaping” an e-cigarette. Although it may not results in exposure harm, it is socially harmful because it re-normalizes the act of smoking and makes cigarettes attractive and, therefore, it becomes impossible or very difficult to enforce all the gains that we've made in tobacco-free policies.

The other thing that we've noticed is that it undermines people's efforts to quit smoking, because the attractiveness of this moves them away from approved medications or approaches that have been shown to have benefit towards these issues. I guess the biggest unknown question is the long-term health effects, although from a common-sense approach these would definitely be a lot less than cigarettes. Where the long-term harm might occur is if e-cigarettes become a gateway to people then going on to smoking combustible cigarettes.

If in fact we had a situation where people only used e-cigarettes without going on to other forms of cigarettes, then that would be a different matter. But with the availability of cigarettes and the regulations around cigarettes, the market could certainly get pushed using e-cigarettes as a way of getting a whole new generation of so-called replacement smokers for those who have quit or die off. It becomes very challenging to then have a consistent message to people about tobacco control.

However, having said all that, in the short term I'm going to start off with my eight recommendations that we should think about for the long term and the short term.

● (1110)

In the long term, we have to ask ourselves as a society whether we want to have technology that was developed 150 years ago, that has been proven to kill one-half of its users if used as intended by its manufacturers, to continue to be on the market, or do we owe it to the next generation, when we have a potentially viable alternative because of the development of technology, to study it and look at it as a possible way to replace cigarettes on the market?

We can learn what happened with alcohol prohibition. When that happened, clearly people were using moonshine and all sorts of denatured alcohol and that was causing more harm. But it was only when alcohol was legalized and regulated that we saw a dramatic drop in the poisonings related to alcohol and alcohol-related harm. Can we not do a similar thing with a very dirty, although legal, delivery device such as cigarettes and have better technology, better development of technology? Currently, where e-cigarettes are, they're in the early stages, so there are many ways one could look at e-cigarettes much like the early motorcar. You know, the horseless carriage. With what we have today, we're moving on to “electric cars”, etc., so we can see how this can progress to really help and be of value to society.

What do we need to do so that we can start that process? We need to be able to study these products better. Currently, our regulatory framework is through Health Canada where I, as a researcher wanting to study this, would need to have hundreds of millions of dollars to even start the research study. Forget about doing the research study. If only to show safety data and exposure data in animals—of course, it's extremely difficult to get animals to smoke—we would have to do this because they are fitting it into a frame of other medicines. Clearly, looking at e-cigarettes as medicine is wrong-headed, because we know what happens with medicines; they don't replace cigarettes. It actually promotes tobacco industry products in some sense, because it doesn't replace them.

Can we create a framework that allows an expedited study of these products so we can actually study them legally with nicotine-containing products, and have an integrated approach so we can study it while we are adding to the evidence base in Canada to make better refinements to the product? We need to look at it clearly because of the huge public health nature of smoking.

To this day, we still have approximately the size of the town of Belleville—that's about 35,000 Canadians—dying every year from tobacco-related illnesses. We know that if smokers stop smoking, within a year their risk of dying is reduced by at least half. So we could see some very immediate benefits if we started having people switching over. You'll hear from my colleagues in the U.K. that 7% of the population there has switched exclusively to electronic cigarettes.

We could have some really huge impacts if we had an investment in studying these products in this way, making sure we had products that met quality assurance standards. They would have to meet certain standards for hygiene, cleanliness, and in what they deliver being consistent from product to product, meeting some sort of standard and having some inspectors going in to make sure these were not being manufactured around children, and to make sure that people are wearing masks and are not coughing into the liquids they're preparing, etc.

Immediately, we need to prohibit e-cigarette vaporizing where smoking is prohibited. We have made so many gains in society and to shift backwards would be a shame, because we would lose all the benefits to health care workers and to workers who work in these places by protecting them from being exposed to these compounds. Clearly, we need to have a policy right away that restricts e-cigarettes from minors. If nothing else, how is it possible that a five-year-old could go into a convenience store and buy an electronic cigarette simply because it says it doesn't contain nicotine? When they do studies on electronic cigarettes right now that claim not to have nicotine, they do find traces of nicotine, because their manufacturing practices are not meeting standards. They get contaminated.

What can we do to restrict sales to minors? How do we prevent the advertising?

● (1115)

If you see the advertising of e-cigarettes in the U.S., it is certainly becoming an undermining effort to helping kids stop or not to start. We certainly need to educate people about the risk, especially youth and pregnant women. Most importantly, we need to have a detailed surveillance and monitoring system that can tell us what people are using and what harms they're coming to.

I'll stop now and take any questions.

Thank you very much for your attention.

The Chair: Thank you very much, Mr. Selby.

First up for seven minutes is Ms. Davies.

Ms. Libby Davies (Vancouver East, NDP): Thank you very much, Mr. Chair.

First of all, Mr. Selby, thank you so much. You really had a jam-packed presentation there. I was madly taking notes, because your brief hasn't been circulated yet because it did come in late. But hopefully we'll get it later.

First of all, I do want to say thank you to CAMH for coming out with a public, and I think very rational, position on marijuana. I think we have so much evidence to show that prohibition of any substance is very problematic. We basically drive it underground and into organized crime. Regulation is better than no regulation. Regulation is better than chaos. So I very much appreciate the position that CAMH takes from a public policy point of view.

In terms of e-cigarettes, I hear the same approach coming through here, but I just want to get a couple of clarifications from you.

You said earlier that the risk reduction is not yet known. I want to ask you if that includes e-cigarettes that may have nicotine and may not, so it's both sides of the equation?

Secondly, a little bit later on you said something about promising research that points to youth not going on to cigarettes from e-cigarettes. I'm not sure if I heard that right, so if you could just say that again....

Thirdly, if there's time, I'm very interested in your proposition that in the long term we actually need to look at switching or actually prohibiting cigarettes and moving to replace them with something like a new regime under new technology. I just wonder how far away you think we are from that. Is that actually a feasible thing to do? Is it possible to switch people over?

I get the points about research. We need to do the research, We need to look at the long term and the short term. I think these are all excellent points, but could you just clarify the things that I asked about?

Dr. Peter Selby: Yes, thank you so much for your questions. They are important ones.

We at CAMH really try to be the honest brokers around bringing the science to bear to what our recommendations are and point out where there are gaps. So I want to make sure that we are clear about that as well.

Overwhelmingly we recognize that a regulatory framework overall benefits society and the individuals who might be suffering from addictions, because of a framework of understanding addictions as an interaction between somebody's brain behaviour and society.... It's an interactional effect.

Having said that, when we look at e-cigarettes, there are some mixed reports that suggest that young kids experiment. Because they may be subject to market forces, there being these e-cigarettes as starter products and then they are pulled away, much like hard drug dealers use people. They give them drugs for free a little bit, and then they get them hooked. Now, when they get an e-cigarette, they try it out, they like it, and then the next switch is to the cigarette.

Because of the changing landscape, initially e-cigarettes were separate from the tobacco industry. But more and more, e-cigarette markets are now being taken over by the tobacco industry itself. It's a bit confusing as to whether those industries are buying these products off to kill the market, to grow the market, or to have dual markets. It's not clear. I'm not an expert in it, but that's what we observe. When you look at it from that perspective, one has to worry about these vulnerable kids who may be getting pulled in.

On the second hand, the large population-based studies, which are a little older, don't point to the fact that kids are taking on e-cigarettes in any large numbers. That could be because these are population-level surveys and are missing the kids who are at the highest risk in society for taking this up, because they are surveys done at population levels.

Does that make sense?

● (1120)

Ms. Libby Davies: Yes, it does.

Can I jump in? When you were saying that we need more study—and you said it's going to cost hundreds of millions of dollars with nicotine—I presume you mean that we need to study both. We need to study what it means to have e-cigarettes with nicotine and without, and what the differences are in terms of health impacts?

Dr. Peter Selby: That's exactly right. We need to study it from that perspective.

I'm sorry, your third question was...? You had a third question as well.

Ms. Libby Davies: I don't know. I've forgotten it myself now.

A voice: If there's a need to replace combustible cigarettes.

Dr. Peter Selby: Oh, yes. How feasible would it be to replace combustible cigarettes.

I think that's an aspirational one. Of course, whenever we talk about changing something...society has been rife with these things. When you want to make a big, bold idea most people want to have the status quo. But with leadership and enough people coming around to it, I think the combination of efforts can lead us to that. I think if we asked Remington in the fifties whether they'd ever see typewriters go obsolete and if they needed to have a different business plan, they never would have agreed to that. Now, you know, I wish you good luck trying to find a typewriter. We've replaced them.

I think things are possible. It depends on how we, as a society, approach it. I don't think it's going to line the medical profession's hand, but I think it's all of society's responsibility to push this agenda forward.

Ms. Libby Davies: Thank you.

The Chair: You still have a few seconds.

Ms. Libby Davies: Is there much research going on now that you're aware of? We've got one individual who's doing some research on a Ph.D., I think. Is there much research under way now?

Dr. Peter Selby: To do research in Canada is hard. To do experimental research with the actual product is hard. We can do population trends. We can look at people doing that, absolutely. But trying to do the study where we give one group e-cigarettes with nicotine and one group without nicotine is proving to be very difficult.

Let me tell you how crazy it is right now. I can do the study by giving the person an e-cigarette without nicotine, because that's not under any regulation, but I have to give them the nicotine through the approved nicotine lozenge. As soon as I put that nicotine into the e-cigarette it becomes...under this regulation of the clinical trials application, and then I need my hundreds of millions of dollars to actually get that study even looked at for approval. We have a very bizarre situation right now in Canada to be able to study this.

The Chair: Okay. Thank you very much.

Ms. Adams, for seven minutes.

Ms. Eve Adams (Mississauga—Brampton South, CPC): Thanks, Mr. Chair.

Allow me to preface my comments with the fact that my heart truly is in my childhood hometown of Hamilton, Ontario, today where Corporal Cirillo is being laid to rest. I know that our entire country joins Hamilton in mourning his passing and especially weeping for his very young child, but we are back to work as usual to demonstrate our resiliency here.

Thank you very much for joining us today on this important study on e-cigarettes.

I'm not sure if you're familiar with two recent studies, one published in *The Lancet*, and one published in *Addiction*. The study that was published in *The Lancet* compared both e-cigarettes with nicotine and without nicotine, up against nicotine patches, to see whether or not these were effective smoking cessation tools. While you can't extrapolate based on one study, it seemed to be that a patch was about as effective as these cigarettes. I'm also aware of the study in *Addiction* that looked to see, in real-world applications of sorts, whether an e-cigarette was an appropriate smoking cessation aid. There were some promising insights there. Those are two that are I'm aware of.

Are you aware of any others?

● (1125)

Dr. Peter Selby: Yes, we're aware of those. Actually, the one in *The Lancet* was done in New Zealand by someone who is a close colleague of mine. Here's the issue: they can't get the same e-cigarette back because they can't tell, even if it's the same name brand, whether they're getting back the same product. That's one of the challenges.

To answer your question, yes, there are other studies that are looking at whether it can be equivalent to other nicotine replacements or not. That's a line of research that we should do. There's one study out of Italy. There's a colleague of mine in Switzerland who's doing a similar study. There's another group in South Africa that's trying to do the study. There's a huge investment by the FDA for these centres. There's a group out in Buffalo and a group out in Virginia. We are collaborating with the Virginia group as well to see if we can do some collaborative studies, because they can do studies in the U.S. on e-cigarettes that contain nicotine, whereas we cannot. So there may be some experiments—

Ms. Eve Adams: If I might ask, based on these studies that you're aware of amongst your colleagues and associates, what are the underlying trends? Is it more of a smoking cessation device or is it a gateway to addiction?

Dr. Peter Selby: Well, I think because of the way the studies are being done right now, most of them are done on recalcitrant smokers or peak smokers who are having difficulty stopping. What is being shown in the naturalistic studies is that in the current framework people are becoming dual users, which means when they can, they smoke cigarettes and when they can't smoke cigarettes they'll use their vapour device. That's the trend that's occurring.

The second thing that we are noticing is that in the short term if you frame it and study it as a medicine to quit smoking, it acts approximately similarly to nicotine replacement, which means that most people who have used that method in the short term will be back smoking within six months. That's where we are struggling with this, and given the current demographic—

Ms. Eve Adams: To be fair, that is similar to all sorts of addictions. People need to try over and over and over to beat whatever their addiction might be. Would you not say that's a fair assessment?

Dr. Peter Selby: I think you're absolutely right that to quit addictions people often need more than one attempt or they may need continuous support to stay off something. Certainly, we've seen that with, for example, prescription opioid users, heroin users. At least 25% of them, if not more, need long-term treatment rather than the short-term treatment we offer them.

Ms. Eve Adams: Could you comment on the secondhand smoke impact—the aerosol that's being exhaled by the e-cigarette user?

Dr. Peter Selby: In the studies that have been done to date, depending on the generation of the device, you'll see early e-cigarettes did not generate as much because they didn't reach the temperature. The newer ones, the second generation, tend to generate a lot more of the vape and the aerosolizing of compounds. For the most part, it is nowhere close to what you would get out of a cigarette or an equivalent. But the nicotine in some of them, because they are not regulated, can sometimes spike even higher than what you would get out of a cigarette. The science can only tell you about what is on the market, but that same product today may be very different from the same product a week later. It's shifting. Because of the lack of regulations of this market, we have no idea whether what is true today in what we are studying will be true tomorrow. So you have to take that with a grain of salt.

Ms. Eve Adams: Are the international jurisdictions regulating tobacco content, and to what levels at this point?

Dr. Peter Selby: Well, I think you're seeing some variations around whether nicotine content in cigarettes is being regulated. What most people are doing is regulating flavourings or these other things that make cigarettes attractive. So most tobacco-controlled things.... Health Canada, for example, has the manufacturer submit the contents of their product to Health Canada, which cannot share that with anyone because of trademark or privacy rules. So many jurisdictions are trying—

● (1130)

Ms. Eve Adams: In Canada, Health Canada doesn't allow any e-cigarettes with nicotine currently, but are there other jurisdictions that do permit that, and at what levels are they permitting that tobacco?

Dr. Peter Selby: If your question was about e-cigarettes that contain nicotine, they tend to be available in the U.S. and Europe as well. Some jurisdictions are beginning to.... The only ones that don't allow it are Australia and Canada. They are the two ones where e-cigarettes are available as long as they don't continue nicotine. Those are the two that I'm aware of, but in the U.S., as long as the e-cigarette manufacturer is not making a health claim, they can sell that product with nicotine.

Ms. Eve Adams: But are you aware of what content levels they're allowed? Are you aware of how much tobacco is permitted or what current regulations they have? Are they approaching this systematically?

Dr. Peter Selby: In general, tobacco is not put into it. It's actually nicotine that is extracted, so the other compounds and chemicals in tobacco are not there. There's a look at whether there should be a 18 mg limit or not, but again, that rationale behind that is still being debated. The regulatory framework in the FDA is beginning to look at this, but I'm not aware of others that are setting limits per se. I think that 18 mg limit is beginning to surface in some fora, but whether that's definitely going to come through I'm not in an expert position to comment on that right now.

The Chair: Ms. Fry, for seven minutes.

Hon. Hedy Fry (Vancouver Centre, Lib.): Thank you very much, Mr. Chair.

I've heard the answers about whether or not second-hand vapour is dangerous. I have also heard about children picking up some of the vapour containers or the flavoured nicotine bottles and being at risk as a result of that. However, the reality is this: the product is now being sold on the Internet. It's very difficult to contain the Internet, as we all know. We even have people getting prescriptions on the Internet from people who have never examined them, so it's very difficult to do this.

The question then is this: If we cannot stem the accessibility of this thing because of the Internet, if we know of its dangers with regard to children and, perhaps, second-hand vapour, is it therefore not logical and practical to look at ways in which we might be able to regulate the use of this product? That's the first question I want to ask.

The second question is, do we have what we need to regulate age and also the potency of the amount of nicotine? We have seen in some instances, in dealing with other addictions, the argument made by the e-cigarette manufacturers that it can help people to get off cigarettes and is therefore a good thing. We've seen people use the methadone argument and other arguments in the case of opioids for this.

So I'm asking you what are the dangers of not regulating? What are the dangers and the harm to people of the easy accessibility? And should we not look at whether or not using nicotine in this manner might be an appropriate way to wean people off cigarettes per se?

I'm asking you this with no bias whatsoever. I haven't come to any kind of decision and opinion on this. I'm simply asking you.

Dr. Peter Selby: Thank you very much for that question, Ms. Fry.

When you look at regulations, I think history has taught us that people do use substances, and how can we reduce the harm to them, their families, and the communities in which they live? When we look at the regulation, I agree with you that we need to figure out how to regulate that product so that people are not choosing to buy things on the Internet that could blow up or expose them to chemicals and toxins. Suddenly, we need to regulate the practices that we have. We've done that with tobacco, for example, and so much of that could be applied to this as well. Those are certainly areas of regulation that could help.

Failing to do this, we will undermine all the progress that we've made in reducing the harm from tobacco. Yes, we are stuck, but we are certainly not at the 50% level of prevalence that we were in the fifties. We're down to 20% or thereabouts. Can we go lower? Absolutely, we can go lower. If we have a safer product how can we show that it's demonstratively safer or substantially safer, and then make it available under a regulated framework so it is mostly in the hands of adults? Of course, there's never a way that you can keep everything 100% away from children, but at least if you can keep it away from the bulk of children, most adults who are stuck with this addiction....

I am currently doing a study in family medicine right now across Ontario, and I can tell you that in that study, with no coercion, we are getting terminally ill people voluntarily wanting to quit smoking before they die. I have never seen that happen. People are dying to quit, and it is really difficult for them. If they don't have an alternative, it is really difficult.

I think we owe it to the next generation to really help move this needle by creating a regulatory framework around electronic cigarettes or electronic delivery devices to make sure that we can harness that technology for good while minimizing any harm and mitigating the harm to others.

I don't know if that answers your question, but that's where I stand on this.

● (1135)

Hon. Hedy Fry: I have another two minutes, so I'm going to put forward a theory and nothing more.

If one regulated e-cigarettes, so that the nicotine and all the tars and benzopyrenes, etc., that come with the combustible cigarette are gone, could one then make cigarettes illegal and allow for the vaporizers and e-cigarettes to be legal products?

Dr. Peter Selby: That's a great question and a very exciting one because I think we've done that before. We can go back in history, and I used that example of leaded gasoline. We got rid of it; we got rid of leaded paint and leaded gasoline, and it's been a very important public health move. What we can learn from that is that when there's a safer alternative, generally the industry is made to put the safer alternative on the road. If you look at regulations around cars and the manufacture of cars, we don't allow cars with tires that explode to be on the road anymore, or cars that catch fire when they get into an accident. We use a combination of regulation and market forces to create a better product and better health. As a physician, I can tell you that I want to see that it's not all going to happen in the clinic; it's going to happen outside of the clinic and that's going to change and improve the health of Canadians. It's not going to be on a health care delivery system where that's going to happen. We see the impacts when good policies don't come into place.

The Chair: Mr. Young.

Mr. Terence Young (Oakville, CPC): Thank you, Chair.

Doctor, if you were treating an adult female who drank half a bottle of vodka every day, and you were giving her your best advice and you felt she was going to take that advice, would you recommend that she switch to wine or beer because she might drink less alcohol?

Dr. Peter Selby: That's a great question. It's very contextualized. If, for example, we have done—

Mr. Terence Young: Brief answer, please.

Dr. Peter Selby: If it's a yes or no answer, it would be no, if she hasn't done anything else.

Mr. Terence Young: Thank you.

What is the worst health addiction we have in Canada? What causes the worst social problems, the worst health problems, the most human misery and costs to our economy?

Dr. Peter Selby: The consumption of combustible tobacco.

Mr. Terence Young: What is the second worst?

Dr. Peter Selby: Alcohol.

Mr. Terence Young: You may be aware that in Ontario, for example, we have one of the most sophisticated regulatory regimes in the world. It is quite excellent. When people go in to buy alcohol, they're carded strictly to age 25; the bars close at 2 a.m. and don't open again until noon; people who have bars that are overcrowded or over-serve their clients can have their licenses suspended or revoked; and we tax alcohol massively. There are no shortages of regulations and yet alcohol addiction is still one of the largest problems we have in our society and sales keep going up. We also know there are hundreds of millions of dollars, in Ontario alone, of bootleg alcohol sold in after-hours clubs, etc. Regulation are not solving the problem, would you agree?

● (1140)

Dr. Peter Selby: I would disagree on the basis that you have to compare it to what you were comparing it to. Regulations will never solve a problem 100%, but compared to the alternative—which we've learned from prohibition, which caused more problems and more deaths than—

Mr. Terence Young: I understand, when it's compared to having no rules at all.

Dr. Peter Selby: In the absolute it won't; you're absolutely right.

Mr. Terence Young: Compared to having no rules at all, yes. Understood.

Why do you professionals at CAMH take this academic approach when you're studying addictive substances instead of cautioning people against a new addiction or cautioning Canadians about the health problems and dangers caused by marijuana, or potential dangers caused by e-cigarettes? It's like you're accepting addictive drugs, like you're saying, well, they're going to be normalized so let's just legalize them, and yet we know that regulations don't always work, to say the least.

I'm wondering why you don't focus your messaging on protecting people from the dangers of addictions and new addictions instead of somehow looking for ways to normalize the use.

Dr. Peter Selby: I think there may be some confusion. There is no way that we are saying that by legalizing something that you are normalizing its use. I think that is—

Mr. Terence Young: No, I'm saying that.

Dr. Peter Selby: We're not saying that. We certainly believe that prevention comes...and we know what works for prevention: access, price, family values, and good living conditions. All those social developments prevent kids from getting addicted. Having good prenatal care, all of those things have been shown.... So clearly that work continues. The issue, clearly, is warning people about the dangers. We have cigarette package warnings with the phone number to a quit line; we've seen that. It does not reach people—

Mr. Terence Young: I'd like to get one more question in. It's around my same concern.

I should tell you that not all parliamentarians were pleased that CAMH made a public statement that we should legalize marijuana and have regulations, because we don't believe that criminals and drug dealers, who disobey the criminal law, are going to somehow magically obey regulations. We don't believe that people who buy drugs in the street and in bars are going to go into government-run stores and buy a product they might see as inferior. In fact, we think it would lead—and the evidence is with alcohol use—to the proliferation of marijuana among young people. So we're disappointed in that.

Why are you at CAMH not focusing on warning the people of Canada about these potential new risks of using e-cigarettes to smoke marijuana or other drugs, instead of looking at ways to say, “Well, they might be helpful, so let's see how it goes?”

Dr. Peter Selby: They are warned. They are advised, but when we see that 40% of kids are using marijuana, that our hospital is full of kids with psychoses because they got marijuana. We don't know whether it was the marijuana or the marijuana spiked with methamphetamine or cocaine, or problems like that. We say, “Hey, wait a minute, these kids are getting into big trouble not only from the consumption of marijuana but also from the contaminants of the marijuana”. Then they end up with a criminal record and go down a path that then will make them much more likely to land in jail, less likely to be productive members of society.

Ours is a very pragmatic approach. This is the lesson learned from prohibition regarding alcohol. If you look at what happened with prohibition—

Mr. Terence Young: I need to interrupt because my time is almost finished.

If you compare alcohol use after prohibition to before prohibition—and this is a myth actually that America was in great shape before prohibition—America was not in great shape. It was the worst problem they ever had, that any country has had with alcohol before prohibition.

People were drinking far too much. They were drinking during the day; they were drinking at work. Prohibition did solve that problem to a large degree. Prohibition was not a complete failure. I'm not suggesting we bring prohibition back, but let's not keep repeating that myth. Let's not compare our regulatory regime now to prohibition, because that's not realistic.

● (1145)

Dr. Peter Selby: Every regulatory regime will get you so far, after which you start plateauing the impact of that. I don't want people to walk away saying that e-cigarettes are the magic bullet that will fix everything, but it certainly does require study.

It does require regulatory framework under which we can look at changing how the product is delivered and how it's used, so that you minimize its impact on all of society. You're right, there is no single framework, whether we ban something or we keep it legal, that will solve these human problems, but we certainly can have the maximum benefit to the most and produce an equity by having these frameworks.

The Chair: Mr. Morin, for five minutes.

Mr. Dany Morin (Chicoutimi—Le Fjord, NDP): Thank you, and thank you so much for your testimony.

You mentioned in your comments that right now people can smoke e-cigarettes in restaurants, and I've seen this in Ottawa restaurants, which bothered me. You said that currently those e-cigarettes can be sold to minors, that there might be dubious advertising practices from those companies, and that there is no education program or awareness campaign coming from the government or organizations.

Basically right now, we are all doing this for regular cigarettes. Would you say that as a first step to regulate e-cigarettes, we should have the same model and regulations that we have for cigarettes, and if it doesn't apply, that we remove those regulations that pertain to e-cigarettes?

Dr. Peter Selby: Yes. We talked about the short-term and the long-term effects. In the short-term, not to undermine the comprehensive regulatory frameworks that exist in most provinces, absolutely, e-cigarettes should be regulated exactly like a combustible cigarette in terms of where people smoke and who they are sold to.

Clearly, that will be the first way to not re-normalize the act of smoking in public places. So I agree with you, that's an easily, feasible, doable first step.

Mr. Dany Morin: Thank you. You also mentioned that propylene glycol is probably not harmful in a single inhaled dose, but we don't know if the repeated use of propylene glycol in lungs is harmful. Can you expand on that? Are there some studies that are perhaps not long-term but middle-term or short-term?

Dr. Peter Selby: Well, in the short term, the FDA regulation describes it as generally accepted as safe for humans. That comes from propylene glycol being used as a delivery mechanism in many of the asthma inhalers, which is where we've got the human exposure data from. But again, with an asthma inhaler, the person sprays maybe once or twice a day, as opposed to puffing back or whiffing on that e-cigarette through the whole day and becoming a chain user of it. You may be getting yourself a very large exposure to propylene glycol, for which we don't have any understanding whether it is harmful or not.

The same thing applies if somebody drinks alcohol in a small quantity for a standard drink every other day: their risk of harm is small. Of course, they could be harmed if they tripped, fell, and hurt themselves, but clearly, the risk of harm to somebody who's consuming a whole 40-ouncer every day is going to be much greater. It's not that the quality of the alcohol has shifted; it's the amount of exposure that makes a difference.

Mr. Dany Morin: Thank you.

Last week we heard from other witnesses that an Ontario study done in 2013 said that 15% of kids in grades 9 to 12 had smoked e-cigarettes, which is troubling. What do you think of that statistic, and how did it come to that?

● (1150)

Dr. Peter Selby: As I said, because it can be sold anywhere. It's a novelty product that has all these flavourings. It's attractive. People are seeing Hollywood stars doing it in movies or on TV shows, so you're starting to get this renormalization of the behaviour. Also, as we all know, our adolescent years are the times when we try different things. Some kids are more vulnerable than others to getting addicted, because of their biology or their social circumstances, or a combination of that.

It is troubling that kids are beginning to.... Canada has been pretty good in bringing smoking down really low in kids, and we should figure out ways to keep it that way. We see the big jump when cigarettes become legal.

Mr. Dany Morin: Thank you very much.

The Chair: To round out our hour, Mr. Lunney.

Mr. James Lunney (Nanaimo—Alberni, CPC): Thank you very much.

Thanks for your contribution to this study that we're really only beginning to wade into.

I want to pick up on the concerns with kids. Vapour delivery mechanisms can deliver a whole lot of other things besides nicotine. I think, perhaps, we're a little naive to think that for children engaging in the new " vaping" trend, their drug of choice would be nicotine. There are already all kinds of stuff on the Internet about how to take your dried marijuana with propylene glycol and prepare your own preparation.

Of course, that is a very serious concern, because there's not the scent that's normally associated with marijuana when they vaporize it. Therefore, parents may not know. School officials may not know that they're toking up by their locker. That's certainly a concern to many of us.

But it's beyond marijuana. Vaporizing, of course, is a very powerful delivery mechanism for all kinds of physiologically active chemicals. There's no end to the list of other chemicals that might also be applied to this readily available and inexpensive technology. Is that a concern for you at your agency?

Dr. Peter Selby: Most definitely, because we see patients who have the worst addictions, and in many cases these are the things that, because of the ready availability and use of it.... Absolutely, the unregulated.... It's the wild west, in what people can put out there. We have even seen electronic shishas, or water pipes, being developed and somebody making an e-cigarette on one of those printable home printers. So we are keeping our eyes open, and I think we do need to have a regulatory framework that stops the harms right away, but also in that rush to stop the harm that we don't lose and inadvertently perpetuate the continued sale of cigarettes in society today.

Mr. James Lunney: In terms of re-normalization, we know there's a whole psychological and neurological phenomena associated with smoking. It's timing—after eating—and it's the mechanics of what to do with your hands and so on. For many smokers, the great successes we've made have been because of the restrictions we've brought in on where you can smoke, on smoke-free areas and so on. It's like a get-out-of-jail-free card with regard to the social stigma for many smokers who might be on the verge of quitting or who are now having a great opportunity to switch, when they have trouble smoking, to a "vaping" program. Is that not going to help them perpetuate their problem rather than break the habit they might be on the verge of quitting?

Dr. Peter Selby: There are two ways to look at that. One is, when they start doing dual use, is that actually an exit strategy from cigarettes completely or is it a stable state? We don't have the science to suggest what it is, but we do have something to point to. As shown in a study by my colleague, Robert West, in the U.K., who I think is presenting to you, if you look at a population, you will see that before they make that attempt at quitting, often the population will have started reducing their cigarette use before they quit. So anything that can help people to reduce.... Generally, we need to study to see if it actually translates into quitting. The unanswered question with e-cigarettes is whether it becomes, as you rightly pointed out, a matter of, “I will smoke when I can, and when I can't smoke, I'll vape”.

It's a great unanswered question right now.

● (1155)

Mr. James Lunney: What causes me some concern are the heating elements themselves and the metal, the way they're produced, the temperatures, the batteries. What other toxic chemicals are being released? Are we ingesting metal vapours which can be very highly toxic? What information do we have? Has anybody studied any of these aspects? Do we have any quantitative data at this point?

Dr. Peter Selby: Yes, there are some studies out of Virginia Commonwealth University, as well as recent studies at Buffalo, where they have been looking at the heavy metals that are coming out of these products.

Having said that, this is rapidly changing technology. In fact, very quickly after I brought up the concern that a kid could pull back and vape on one of these high-voltage low-resistance devices, within a few months the distributor brought back to me an e-cigarette they had manufactured in China, which had a safety device to get it powered up. It was a child-proof lock.

What we are studying today is changing so rapidly that we don't know if engineering principles can be brought to bear to reduce the vaporization of any heavy metals. Would coating with an inert compound the heating element eliminate the heavy metal that comes out of the copper that is currently used?

We are not experts. We rapidly are having to reach out to engineering colleagues and others who know this, because the market is moving faster than we are able to.... We are behind the eight ball in understanding it.

The Chair: It's time. Thank you very much, Mr. Lunney.

Thank you, Dr. Selby, for your time. We always appreciate your contributions here on the health committee.

Dr. Peter Selby: Thank you very much for having me.

The Chair: We're going to suspend for a few minutes to allow our technical team to get in sync with the U.K. and Switzerland, and then we'll reconvene.

Thanks again.

● (1155)

(Pause)

● (1200)

The Chair: Thank you. We're back in session here.

I would like to welcome two guests, Professor John Britton and Dr. Armando Peruga. Welcome gentlemen. We're having our second meeting on e-cigarettes in our health committee here. We appreciate your taking the time out of your day to help us in our quest for knowledge. We'll have each of you present for 10 minutes and then we'll follow it up with some rounds of questions.

So, Professor Britton, if you would do us a favour and begin, that would be appreciated. Go ahead, sir.

Dr. John Britton (Professor of Epidemiology, University of Nottingham, United Kingdom, UK Centre for Tobacco and Alcohol Studies): Thank you to you and the committee for the invitation here to give evidence. I do so as professor of epidemiology at the University of Nottingham. I'm director of the UK Centre for Tobacco and Alcohol Studies, a research network based in the U.K. for alcohol policy and practice, and I chair the Royal College of Physicians' tobacco advisory group. It was in that role that I led the production of a report called *Harm Reduction in Nicotine Addiction*, which was published in 2007 and called for exploitation of the opportunity to provide smokers with alternative sources of nicotine to reduce the death and disability caused by tobacco smoking. We used as our proof of concept that it can work the experience that the Swedes have had with oral tobacco, which has resulted in very low levels of smoking prevalence and very low cancer rates.

That approach was accepted by the U.K. governments. The outgoing Labour Government published a policy strategy document that included harm reduction, and then the incoming coalition government a year later did the same thing. We've had an environment of encouragement of alternative sources of nicotine for smokers for some years in this country.

Electronic cigarettes came along just at the time that the RCP report was published in 2007. So it wasn't covered in that report but essentially went a long way towards fitting the bill of what we felt was needed to encourage smokers to use less harmful sources of nicotine—something that's socially acceptable, affordable, available in the same points of sale as tobacco cigarettes, and something that works as a tobacco substitute. It's probably fair to say that the early generation electronic cigarettes were less effective than the later generation ones, but the fact remains that these have proved extremely popular in the U.K. and many other countries since.

Earlier this year with Dr. Bogdanovica, I published a report for Public Health England, which is available on their website and which I think has been accepted by Public Health England, the organization that supervises public health in our country, as the sort of background policy or principle of electronic cigarette use and public health. The report concluded that smoking kills. We have 10 million smokers in the U.K. I don't know what the figure is in Canada, but five million of those are going to die unless they stop smoking tobacco. Although we're doing our best with conventional tobacco control policies, the prevalence of smoking is coming down steadily but slowly. Most of those smokers are alive today. Therefore five million of those smokers are alive today. Most of those will die from their smoking before existing policies touch them.

That burden of morbidity and mortality falls particularly on disadvantaged people, the socially and economically disadvantaged, those with mental health problems, and various other isolated groups in society. Electronic cigarettes provide a substitute that many of those people find acceptable. We have found that by switching as a lifestyle choice rather than something that's medicalized involving a commitment to quit smoking, a couple of million of our smokers in the U.K. are now occasional or regular users of electronic cigarettes and about 700,000 are now exclusive users. Seven hundred thousand people quitting smoking by swapping to an alternative source over the course of about four years is more than our National Health Service smoking cessation services have achieved in over a decade.

We therefore feel that electronic cigarettes and the products that are in development that follow them into the market offer huge potential health benefits, which will be accrued particularly by the most disadvantaged in society. But they also pose risks to society. A number of them—too many to list here—include renormalization of smoking, concerns over long-term safety, use by the tobacco industry to re-engage in tobacco policy, use as a dark marketing tool by tobacco companies, promotion to children to establish new generation of nicotine addicts and many other risks. We feel that all of these deserve concern, but all of those can be managed and it would be a mistake to throw the baby out with the bath water by restricting electronic cigarettes so severely as to prevent the benefits to existing smokers.

● (1205)

Already in this country electronic cigarettes are being used by many more people than use conventional nicotine replacement therapies. The latest evidence from the Smoking in England website, which is a rolling survey of smokers, is that the prevalence of use has levelled off and is about one in five smokers.

On the pros and cons of how these products can be regulated, I can only comment on what's happening in the U.K., where we currently cover them under general sales regulations and which do not require demonstration that the products work. So a smoker can go out and spend a lot of money on one of these things and get no nicotine from it. Nor do we have guarantees of their safety. I think most people accept that this is an unsatisfactory situation. We do have legislation in progress and voluntary agreement recently accepted to stop advertising and selling to children.

The MHRA, our medicine regulatory agency, has recognized these nicotine products as a good thing for public health and stepped back from defining them as medicines a year or so ago, but have offered what they call right-touch regulation of medicines as a route to market for manufacturers. The idea was that the right-touch regulation would be a simplified version of medicines regulation or licensing. In my opinion it isn't working out that way and it remains extremely cumbersome.

From 2016 or 2017, depending on which products, all electronic cigarettes will come under the control of the European tobacco products directive, which will impose limits on emissions and amounts of nicotine delivered according to standards that have yet to be set. We have no idea what they will involve, but they will limit the maximum dose delivered by the products so as to render them ineffective. That's unsatisfactory regulation and we don't have a suitable way out.

Going back to the original RCP report, what we argued was that the only solution to this is to regulate nicotine differently from other products, and that tobacco and non-tobacco products should all come into a consistent system. This allowed market freedoms in direct proportion to the relative safety of the product, therefore making cigarettes extremely unaffordable and difficult to get hold of, but making it increasingly easy to get hold of nicotine substitutes. I would like to see us doing that, but I don't think it's going to happen.

A final thing that is very important to the monitoring of electronic cigarettes, and realizing the potential they offer, is that you must have very effective monitoring or prevalence monitoring in place. In the U.K. we have that on a relatively small-scale survey. If we do this then it's possible to see where the abuses are and to deal with them early. At the moment in the U.K., use among smokers, as I've said, is about 20% exclusive use to the exclusion of cigarettes and about 7% of smokers. Use among children and young people is almost entirely limited to those who smoke, with about 1% or 2% of young people who are non-smokers ever experimenting with the product. At the moment the impression is that electronic cigarettes are providing a very powerful force for the good in English public health, and we hope that can continue.

Thank you.

● (1210)

The Chair: Thank you, very much.

Next up we have Dr. Peruga. Please go ahead, sir.

Dr. Armando Peruga (Program Manager, World Health Organization's Tobacco Free Initiative): Can you hear me?

The Chair: Yes, we can hear you now. Please carry on.

Dr. Armando Peruga: I was saying it is an honour to be able to present testimony to this committee on electronic nicotine delivery systems, ENDS, of which electronic cigarettes are the better known type. My testimony is presented on behalf of the World Health Organization, based on its report on ENDS, which was prepared in response to the request made by the Conference of the Parties of the WHO Framework Convention on Tobacco Control. This report was presented at the sixth session of the COP, Conference of the Parties, which just took place two weeks ago. A copy of this report in English and French has been provided to the committee. My testimony will refer also to the decision adopted by the sixth session of the COP on ENDS, also provided to the committee.

ENDS are the subject of a health debate among bona fide tobacco-control advocates. Whereas some experts welcome ENDS as a pathway to the reduction of tobacco smoking, others characterize them as products that could undermine efforts to denormalize tobacco use. ENDS, therefore, represent an evolving frontier, filled with promise and threat for tobacco control. ENDS deliver an aerosol by heating a solution that users inhale. The main constituents of the solution by volume, in addition to nicotine when nicotine is present, are propylene glycol, with or without glycerol and flavouring agents.

The global ENDS market is presently formed by about 500 brands, which use liquids presented in close to 8,000 flavours. Transnational companies have entered the ENDS market and are increasingly dominating it. Questions related to the use of ENDS as reflected in the WHO report have been articulated in three groups include whether ENDS pose health risks to users and non-users, whether they are efficacious in helping smokers to quit smoking and ultimately nicotine dependence, and whether they interfere with existing tobacco-control efforts and implementation of the WHO FCTC.

When talking about the health risk of ENDS it is important to know that the battery voltage, unit circuitry differences, and the type of solvent used in the liquid result in considerable variability of the level of nicotine and other constituents they deliver, including the formation of toxicants in the emissions.

In the area of risks to health I would like to say three things.

In terms of risks from nicotine inhalation, a key concern with nicotine is its capacity to affect the brain development of foetuses, children, and adolescents; hence, our recommendation to regulate ENDS in a way that avoids initiation of ENDS by these groups.

In terms of health risks resulting from chronic inhalation of toxicants from ENDS, conclusive evidence about the association of ENDS use with specific diseases will not be available for years or even decades, given the relatively recent entry of ENDS into the market and the lengthy lag time for onset of some diseases of interest such as cancer. However, evidence based on the assessment of the chemical compounds in the liquids used and in aerosol produced by ENDS indicate that average ENDS use produces lower exposures to toxicants than combustible tobacco products, although some ENDS can produce levels of some carcinogens that are similar to that produced by cigarettes. Hence our recommendation is to regulate ENDS in a way that minimizes risks for users and avoids the initiation of ENDS use by non-smokers.

In terms of risks to bystanders, they are exposed to the aerosol exhaled by ENDS users, which increases the background level of some toxicants, nicotine as well as fine and ultrafine particles in the air, although at levels lower than that of conventional cigarette emissions. It is not clear if these lower levels in exhaled aerosol translate into lower exposure, as demonstrated in the case of nicotine. Despite having lower levels of nicotine than in second-hand smoke, the exhaled ENDS aerosol results in similar uptake as shown by similar serum cotinine levels. It is unknown if the increased exposure to toxicants and particles in exhaled aerosol will lead to an increased risk of disease and death among bystanders as does the exposure to tobacco smoke.

● (1215)

However, epidemiological evidence from environmental studies shows adverse effects of particulate matter from any source following both short-term and long-term exposures. The low end of the range of concentrations at which adverse health effects have been demonstrated is not greatly above the background concentration, which means that there is no threshold for harm and that public health measures should aim at achieving the lowest concentrations possible. Hence, our recommendation is to protect non-users in indoor public places.

In terms of ENDS as an aid to quit smoking, although anecdotal reports indicate that an undetermined proportion of ENDS users have quit smoking using these products, the evidence for the effectiveness of ENDS as a method for quitting tobacco smoking is limited and does not allow us to reach conclusions at this point. Hence, our recommendation is to impede unproven health claims about ENDS.

From the point of view of the impact of ENDS on existing tobacco-control effort there are several concerns.

One is that ENDS could be a gateway to nicotine dependence and smoking for youth. The likelihood and significance of this effect occurring will be the result of a complex interplay of individual, market, and regulatory factors and is very difficult to predict. They can only be assessed with empirical data which at present are limited. These data show that young, never smoker users of ENDS is about 1% in the few countries which have data. In some countries this figure does not seem to grow while in at least one country, Poland, ever use of ENDS among never smokers between 15-19 years-old has gone up from 1.6% to 7.1% in three years and current use has gone up from 0.6% to 2% coupled with a significant increase of smoking in this age group.

Another concern is the aggressive marketing of ENDS by some tobacco companies to be used in smoke-free environments as a way to break the enforcement of smoke-free policies.

A third and final concern is the role of the tobacco industry that is at the same time marketing conventional and electronic cigarettes in order to dominate the ENDS market and to preserve the status quo in favour of cigarettes for as long as possible. The industry's historic interest in smokeless tobacco products outside some Nordic countries, for which similar benefits to ENDS were made, was because they could be used, as declared in their own documents, in smoke-free environments and could be promoted to young, non-tobacco users to create new forms of tobacco use. All of this is while they were simultaneously pretending to be part of the solution to the smoking epidemic because they present ENDS as the solution to the epidemic that they themselves have created.

After consideration of the report and extensive deliberations of the COP of the WHO FCTC during the week of October 13, 2014, the 179 parties to the WHO FCTC decided unanimously to welcome the WHO report, invite parties to take careful note of it, and request WHO for an update to be presented in two years. They also decided to invite parties to consider taking measures to at least achieve the following objectives in accordance with national law: first, prevent the initiation of ENDS by non-smokers and youth with special attention to vulnerable groups; second, minimize as far as possible potential health risks to ENDS users and to protect non-users from exposure to their emissions; third, prevent unproven health claims from being made about ENDS; and fourth, protect tobacco control activities from all commercial and other vested interests related to ENDS including the interests of the tobacco industry. It was also going to invite parties to consider prohibiting or regulating ENDS, including as tobacco products, medicinal products, consumer products, or any other categories, as appropriate, taking into account a high level of protection for human health. Finally, they urged parties to consider banning or restricting advertising, promotion, and sponsorship of ENDS, as well as to comprehensively monitor the use of ENDS.

Thank you for your attention.

I'll be glad to respond to any questions you may have about issues pertaining to...[*Inaudible—Editor*].

Thank you.

● (1220)

The Chair: Thank you very much, gentlemen, for your presentation.

First up, for seven minutes, is Mr. Kellway.

Mr. Matthew Kellway (Beaches—East York, NDP): Thank you very much, Mr. Chair.

And thank you, gentlemen, for joining us today.

You provided us with a lot of information in a very brief time.

If I could start with a bit of clarification, Dr. Peruga, your comments are with respect to electronic cigarettes that contain nicotine, I presume. Is that the case? Is that what you were dealing with entirely in your comments?

Dr. Armando Peruga: No, sir. They are with respect to those that contain nicotine as well as those that don't contain nicotine.

Mr. Matthew Kellway: Okay. Are you treating the electronic cigarettes with and without nicotine under the same approach?

I'm sorry. I didn't find or hear or detect in your presentation distinctions between regulation of one with nicotine and one without. Is there a clear distinction between your suggested treatment of these things?

Dr. Armando Peruga: Only with respect to the fact that electronic cigarettes, when they contain nicotine.... You could regulate that part, but the rest is exactly the same with those that contain nicotine and those that don't.

Mr. Matthew Kellway: Okay.

Your comments, if I understand them, about whether electronic cigarettes are a substitute for combustible cigarettes, suggest that the evidence is unclear whether this is the case or not.

Dr. Armando Peruga: Yes. The two points that relate to that is whether they are less or equally toxic. We think they are less toxic—in some cases extremely less toxic and in some cases not so much. There is some variety across brands and within brands.

Secondly, in relation to whether in addition they can be an effective substitute to switch from smoking cigarettes or other combustible products to electronic cigarettes, we have concluded that the evidence right now doesn't allow us to reach a definite conclusion on that.

Mr. Matthew Kellway: Thank you.

Dr. Britton, with your rolling survey, you threw a lot of statistics out there. I wonder if you could go over them for me, please, and tell me whether you have found in that rolling survey whether the electronic cigarette is acting as a substitute for the combustible one.

Dr. John Britton: Thank you.

It's not my rolling survey. It's carried out by Professor Robert West at the University College London. It's available online if you search under Smoking in England and the latest electronic cigarettes statistics. What he shows is that over the last two or three years there has been a progressive increase in use by smokers, both occasional and regular use. Largely, the use of electronic cigarettes has been cannibalizing the market in over-the-counter nicotine replacement therapy products.

What we see is a great deal more smokers using a nicotine product, if you lump NRT and electronic cigarettes together, and as a consequence, increased quit rates and increased numbers of smokers trying to quit.

Does that answer your question?

● (1225)

Mr. Matthew Kellway: Yes.

How much is that increase? Can you quantify it for me?

Dr. John Britton: Well that's hard to say because it's a rolling survey of a couple thousand people. There is a separate survey by Action on Smoking and Health, published in the middle of this year, which came up with a similar figure that about two million, or one in five, smokers are using electronic cigarettes occasionally, and of those about 700,000, or just over one third, were using electronic cigarettes exclusively as a substitute for cigarettes. So they've given up smoking.

Our smoking statistics figures for 2013—some preliminary figures were released last week—show a drop in prevalence from 19.9 to 18.6, I think, which is the biggest year-on-year fall in prevalence over the last couple of decades.

Mr. Matthew Kellway: Dr. Britton, if I were to characterize your comments about the other risks that attend the e-cigarettes, including other substances that come out of these things in the vapour as somewhat more casual—I think your comment was that we can manage these risks—can you explain that? Is it the harm reduction approach that you take that suggests that we have a bigger issue to deal with the combustible cigarettes and, therefore, let's get on with figuring this out and set those longer term risks aside?

Dr. John Britton: I wouldn't completely set them aside. I think one area that I would disagree with my colleague on here is that the risks of electronic cigarettes are unknown and will vary from product to product. Poor quality products burn or heat the nicotine less effectively and less thoroughly and produce more toxins than others, but with a good quality product the level of risk, although unknown, is in an order or two orders of magnitude lower than that of inhaling cigarette smoke. So whilst there is a risk there, that risk is trivial in comparison to the risk of continued smoking. The challenge is to try to minimize that risk as much as possible. As has been argued, it will be decades before we know what the impact of that is. But to minimize that risk by making the emissions as clean as is reasonable....

I think the risk is very low. So it's not that we can ignore it but I think we just have to keep it in perspective.

Mr. Matthew Kellway: Thank you very much.

The Chair: Next up for seven minutes is Mr. Wilks.

Mr. David Wilks (Kootenay—Columbia, CPC): Thank you very much to both parties appearing today.

Firstly, Professor Britton, regarding a commissioned report to Public Health England, which you were involved with in May of this year, I wonder if I could just ask you a couple of questions. Part of that report said:

> Electronic cigarettes, and other nicotine devices, therefore offer vast potential health benefits, but maximising those benefits while minimising harms and risks to society requires appropriate regulation, careful monitoring, and risk management. However the opportunity to harness this potential into public health policy, complementing existing comprehensive tobacco control policies, should not be missed.

What potential health benefits do you see in e-cigarettes as they currently exist? What changes to the current regulatory systems, if any, would be needed to maximize those benefits?

Dr. John Britton: Sorry, the first question was what?

Mr. David Wilks: What potential health benefits do you see in e-cigarettes as they currently exist?

Dr. John Britton: The current benefits are massive because lung cancer, chronic obstructive pulmonary disease, and cardiovascular disease are the three biggest killers from cigarette smoking. Those conditions are, so far as any of us knows, caused almost entirely by constituents of tobacco smoke other than nicotine. It's not to say that nicotine is completely safe, but it's not the cause of the harm from tobacco smoking. So the benefits of electronic cigarettes are that if the entire population of smokers in Britain switched to electronic cigarettes from smoking tobacco, we would see the incidence of those conditions drop dramatically—heart disease in the very near future and COPD and lung cancer in the more distant future.

● (1230)

Mr. David Wilks: One of the questions I would have—and I'll relate to one of my family members who's a smoker, my lovely son, who has taken up e-cigarettes—is this. He will smoke e-cigarettes at home. He's part of our military family so when he goes on an exercise and he can't plug the e-cigarette in to recharge it, he goes and buys a pack of cigarettes because he can't still do without the nicotine. So my question to both you, Dr. Britton and Dr. Peruga, is this.

Aren't we just really substituting one for another? It seems to me from firsthand knowledge that I can see that we may be just substituting one for another. I understand the benefits. I can see potential benefits there. But how do we stop those people, for lack of a better word, from being dually addicted to two different substances? How do you stop that?

I'll start with you, Dr. Peruga, and then go to Dr. Britton.

Dr. Armando Peruga: You pose a very interesting question, which is at the heart of the matter. It's that the potential benefit would be maximized when the great majority of smokers substitute entirely for electronic cigarettes. If that happens, the potential will become important.

There's a problem we see, at least in the research that has been published in terms of clinical trials, which are very limited in terms of how efficacious they are.... This doesn't amount to a body of evidence, but some of them show that they have a low efficacy, which leads basically to dual use in most of the smokers. It's difficult to know whether that's good or bad, because obviously you can make the argument that, well, if you smoke two cigarettes less a day, that's an advantage. The problem is a sore one and it's difficult to respond to, but there are two other questions you have to pose.

One, we know that the maximum benefit from quitting smoking is not necessarily in reducing the amount of tobacco. The risk reduces primarily from the duration of the use and not the amount used, so that's a concern. I'm not saying that this is the only factor to consider, but the fact that people will continue using tobacco will mean that the potential benefit of electronic cigarettes is greatly diminished.

The other thing is this: what does it mean to have dual use? I think we can agree that the ultimate goal is obviously to switch entirely from tobacco to ENDS and, if possible, to abandon the addiction to nicotine. Whether dual use is able to achieve that in the long term or offer possibilities to go back to the use of tobacco is something that is uncertain.

I'm sorry that at this point I have more questions than answers, but it is indeed a very important issue.

Mr. David Wilks: Thank you.

Dr. Britton.

● (1235)

Dr. John Britton: Well, I would say that your son is not addicted to two products. He's added to one thing, which is nicotine, and he's finding it from wherever he can get it, so the more alternative sources of nicotine there are out there for him, the better.

Being a smoker is like being trapped in a nightclub when a fire breaks out. You need as many exits as possible, and it doesn't matter which one you use.

However, dual use is common with these products, just as dual use is common with medicinal nicotine. But what we do know, and the British National Institute for Health and Care Excellence has accepted this in its guidance on harm reduction, is that dual users are much more likely to quit smoking completely than people who never experiment with an alternative nicotine product. So the outlook for your son is good: he's going to quit, but it may take him a year or two to get around to it. That's the reality.

The strength of electronic cigarettes is that it draws people like your son to try nicotine products, people who otherwise wouldn't. The history of NRT is that it's used by a small minority of smokers, and electronic cigarettes by a much greater proportion.

Mr. David Wilks: Thank you very much.

Dr. Fry.

Hon. Hedy Fry: Thank you very much, Mr. Chair.

Thank you for being available to us to answer some questions.

I would like to ask a couple of questions. I think the argument that we have not actually seen whether or not these e-cigarettes would lead eventually to most cigarette smokers quitting was clearly stated by the World Health Organization, Dr. Peruga. There is no evidence yet, although in your report you said the only one that showed there was a rise in use of these cigarettes among people who had not used cigarettes before was in Poland.

The question I want to ask is this. As you know, as physicians, normally when we try to get someone off cigarettes, we're using the nicotine patch, the gum, etc. Now, that's nicotine the people are using, so here's my question for you, just for the sake of clarity. If you do not have a combustible source for nicotine, such as a cigarette, with the tar, the benzopyrenes, and all of these things that create cancer and COPD, etc., what inherently is the risk of simple nicotine addiction?

Dr. John Britton: I can start with an answer to that if you would like.

Hon. Hedy Fry: Yes, Dr. Britton. Go ahead.

Dr. John Britton: The evidence in clinical trial evidence is that nicotine is not particularly hazardous. It's not associated with an increased risk of cardiovascular disease. It does things to the human body that are probably on a par with caffeine.

The best long-term evidence on the hazards of long-term nicotine use without combustion is the evidence from exclusive users of smokeless tobacco in Sweden, who do have a possible increased risk of esophageal cancer and cancer of the pancreas, though those things may well be due to nitrosamines in tobacco that they're swallowing.

But the other disease risks—lung cancer, COPD, and cardiovascular disease—are just not substantially increased. For cardiovascular disease, there's a slight signal. For COPD and lung cancer, there is nothing.

I think we can conclude from that experience that the hazards of regular nicotine use to a healthy person for a lifetime are, if not trivial, close to it.

Hon. Hedy Fry: Thank you.

Dr. Peruga, do you have anything to add?

Dr. Armando Peruga: Yes. I agree with many of the things that Professor Britton has said. In terms of the risk of nicotine, it's not the killer in tobacco. However, I think it has not been researched thoroughly in some aspects.

We know that nicotine seems to play a small role as a tumour promoter, but the main concern, I would say, as indicated by the Surgeon General's report of this year, is the access to nicotine by young people in phases in which their neurological system, especially the brain, is not fully matured, and how that can have an impact on the brain's development, leading to some issues of learning disabilities. The report of the Surgeon General of the United States made a strong point about this being a concern. That's why the concern in regard to nicotine is about youth, mainly—and, obviously, pregnant women—not necessarily adults.

● (1240)

Hon. Hedy Fry: Could that be rectified by bringing in regulations that have an age limit for access to any form of nicotine whatsoever, especially on e-cigarettes? Therefore, there would be an age limit for youth—if you looked at regulations.

Dr. John Britton: Could I comment on that?

I agree with Dr. Peruga that none of us would want our own children or anybody else's children to be using nicotine as primary users, as new users, but I don't know what the prevalence of smoking in young people is in Canada. In my country, by the time people reach the age of 24, 40% have been smokers and about 25% are regular smokers. So kids from disadvantaged backgrounds, where cigarettes are lying around in the home as they grow up, are already being exposed to high quantities of nicotine at very important stages of brain development. The more that we can substitute clean nicotine products for the dirty stream of nicotine delivery—which is tobacco—the better.

Whilst I entirely agree that limiting access to young people is probably a good thing, particularly if we have young people who are otherwise going to smoke, it would make far more sense to have them use an electronic cigarette.

Hon. Hedy Fry: May I ask one other question? Is it possible to bring in a regulation that prohibits tobacco companies that already make cigarettes from actually producing e-cigarettes or the vaporized form of that? How can one do that? Can you do that, in other words, so that you stop them from benefiting from introducing it to a whole new generation of users?

Dr. John Britton: I think the answer to that question really depends on what your target is. If your target is stopping the tobacco industry from profiting any further, then you might take that move. If your target is to stop people smoking cigarettes, then we need to look at the products, not who makes them.

I quite accept and I share many of Dr. Peruga's concerns about the tobacco industry. I'm no apologist for that industry, but I do think we have to remember that our objective here is to prevent premature deaths in smokers, not to put the tobacco companies out of business. I don't actually care who makes the products, so long as they work.

Dr. Armando Peruga: However, I may say that I would be naive to consider that the product and who makes it are two separate and completely independent issues. How they manage their different portfolio of products is part of the tobacco industry's strategy. Who makes them and what they make are inseparable in many ways.

Hon. Hedy Fry: Thank you.

The Chair: For seven minutes, Ms. Adams.

Ms. Eve Adams: Thank you, Mr. Chair.

In Canada smoking is at an all-time low. We've dropped from 22% to 16% in the last decade.

We're obviously primarily and especially concerned with adolescents taking up smoking, because it does lead them onto a path of lifelong smoking—but smoking by them is also at record lows. We're only at 7%. Of Canadians aged 15 to 17, only 7% smoke. I believe that on an international basis we're leading the world in banning flavoured cigarettes, and we prohibit companies from advertising directly to children.

I want to follow up on the concern of one of my opposition colleagues about smoking e-cigarettes with or without nicotine in public places. I guess my concern is twofold. One, even if there is nicotine in that e-cigarette, I am less concerned about the fact that there is a dramatic decrease over combustible cigarettes, because I think the expectation that Canadians ought to have, certainly for ourselves and for our children, is that they should be in smoke-free environments altogether.

Additionally, I think we also want to de-normalize smoking. Children are particularly susceptible to social cues, so if they just see the behaviour.... You can remember that entire concept that smoking in movies just seems rather cool, or the fact that it seems rather normal that you would be out in a restaurant, a public place, or a place of work and people are out there smoking an e-cigarette, with or without nicotine. I think it sends a terrible message to youth, and I think we want to de-normalize that.

I think that's a separate conversation, though, from whether or not we want to offer adult choices to folks and provide e-cigarettes for sale in Canada with nicotine content. I would hope that as a nation we would encourage those who ban cigarettes currently from banning all e-cigarettes, with or without nicotine, because I think we genuinely do want to target adolescents and ensure that they aren't picking up on this habit and that we're not normalizing it.

Would you have any comment, though, on the concept of e-cigarettes with nicotine and ensuring that we have smoke-free places as opposed to just lowered output? Currently in Canada, we're banning that. You can't just go and smoke in a restaurant. I'm very concerned that you would be recommending that there isn't much harm there. Could you perhaps extrapolate?

● (1245)

Dr. John Britton: Canada has indeed brought in tobacco control policies that are the envy of the world. You and one or two other places are beacons of achievement in reducing smoking prevalence. We aspire to that.

In Britain we have a complete smoke-free policy for all enclosed public places and workplaces. We haven't gone down the route of banning electronic cigarette use by law in those circumstances.

The argument, as you've pointed out, has two sides to it. On the one hand, we want to protect our children, but on the other hand, exposing children to clusters of smokers outside the buildings and seeing smokers out in the street normalizes the behaviour of smoking, whereas seeing people using vaporizers arguably normalizes the use of vaporizers. Now, that's not say that I want children to grow up aspiring to become a vaporizer user, but I would much rather they aspire to that than aspire to being a smoker.

I think it's quite a difficult balance. The way that I've argued it in the U.K. is that for the most part where smoking is prohibited, so should electronic cigarette use, but it should be a matter of courtesy, not law.

But there are certain circumstances where indoor use would make sense. In that, I would include some hospital areas—for example, mental health settings, where in Britain the smoking prevalence is extremely high—and also the situation I have in my own clinical practice. As a chest physician, I know that my patients are using electronic cigarettes under the covers of the bed because they've been told they can't use them indoors. I think we need to make some system that accommodates that need, rather than have them get out with their drips to go and stand outside and smoke in the rain.

Ms. Eve Adams: You mentioned earlier that Europe was about to bring in regulations for e-cigarettes. You indicated that you weren't certain what the permissible nicotine content would be. Can you perhaps refer me to some papers that were under consideration?

Dr. John Britton: The tobacco products directive was published earlier this year. To find it you can just search online for the European Union's tobacco products directive. Dr. Peruga might be more familiar with the chapter and verse of it.

I can't remember what the upper limit on nicotine content was, but it was extremely low.

Dr. Armando Peruga: I would just add that the tobacco products directive separates products. Those that contain nicotine of up to 20 milligrams per millilitre would be regulated under the tobacco control legislation. For those that go over 20 milligrams per millilitre of nicotine, the recommendation is that they should be regulated as medicinal products. That's according to the tobacco products directive.

Ms. Eve Adams: Thank you.

To your knowledge, what are the best practices currently on providing for the sale of e-cigarettes? We, for instance, obviously regulate even our local convenience stores, which need to ensure that people are able to produce ID. People need to be over the age of 18 in order to purchase cigarettes.

What is the best practice that you are aware of internationally for e-cigarettes?

Dr. John Britton: If I respond to that first, I think something very similar.... It's difficult, because as I've already argued, I would prefer that teenagers experimented with electronic cigarettes than real cigarettes. At the same time, I think we have to have restrictions on sales below the age of 18. In England there is a law coming through to deal with that.

So far, however, it has to be said that, with the exception of the Polish data that Dr. Peruga referred to, which also showed a 60% increase in smoking in a three-year period—rather larger than I could believe, because the samples were not taken from the same sources on the separate occasions—the availability of electronic cigarettes hasn't led to a huge increase in use among young people who are not smokers.

So it makes sense to have restrictions in place, but I wonder if they're necessary.

● (1250)

The Chair: Thank you.

We'll now go to Ms. Davies.

Ms. Libby Davies: Thank you very much, Chairperson.

First of all, it's been a very interesting discussion to hear your perspectives.

I'd just like to go back to Professor Britton and speak about the experience in the U.K. I do think there's a lot of mythology around addiction. The stuff that I've read argues that probably the most common and one of the most powerful addictions, which you alluded to, is caffeine. In fact withdrawal from caffeine is very, very severe, as anyone who has tried it will know. Yet it's so culturally accepted in our society that we barely talk about it. So there is relativity in this discussion.

I'm very curious to know about the British experience in terms of how the debate went politically. You speak about harm reduction, risk minimization, and how less is better than more; e-cigarettes are better than people smoking outright combustible cigarettes and so on. Yet in the debate we have here, there's a great fear about a harm reduction approach. It has almost become a bad terminology to use. We keep coming back to this notion that it's only zero tolerance and prohibition, which to my mind means chaos, and that it's somehow a better approach. I don't subscribe to that myself.

I just wonder about how the debate went politically. You talked about two different governments that adopted this approach. What was the debate like in the U.K. around e-cigarettes and from a harm reduction point of view?

Dr. John Britton: I think the debate for us has been, and continues.... I'm presenting my overview and my opinions, but I don't speak for the United Kingdom; I speak for me. There have been many lines in it. One is that addiction is wrong, and as you suggest, that argument is often heard over coffee. There's the argument that doctors didn't think of this. These were not developed by a pharmaceutical company as a treatment for disease. These are a social phenomenon. So as public health physicians, we didn't think of this; therefore, it can't really be very good.

Then there's the opposition to the tobacco industry, which I entirely understand, but it is a secondary, rather than a primary, target. There's a lot of worry about gateway use and uptake in smoking. So it's been those things, and those arguments have been going on and continue now. But with the publication of the RCP report in 2007, I think those arguments came to the surface in Britain a little earlier than perhaps they did in other countries.

It's one of the truths of talking about harm reduction that until about two years ago it wasn't possible to have a conversation about harm reduction without arguing whether Swedish-Snus snuff was a good thing or a bad thing. Now it's whether electronic cigarettes are a good thing or a bad thing. I've said what I think on that matter.

Ms. Libby Davies: Just to further follow up, do you foresee a day in Britain where cigarettes would be banned, and that they would be completely replaced by e-cigarettes?

Dr. John Britton: As you suggested earlier, I think banning anything, and particularly anything that's addictive, is a very dangerous route to tread. But what I would like to think is that over the next coming years, in a decade or so, we will see tobacco cigarettes priced out of affordability for the great majority of people, and made much less available. So it's not that we prohibit them. We just make the obvious choice, electronic cigarettes, or at least their successors. This is a very rapidly evolving field, and in three or five years' time, we won't be talking about the products we're talking about today.

● (1255)

Ms. Libby Davies: I was on a flight recently and looking at the duty-free, and I was astounded when I looked at the price of a carton of cigarettes, even duty-free. I forget what it was, but I couldn't believe it; it was so high. So price is obviously part of a question around deterrence. But is there any research that tells us what the point is between price and people making decisions more based on health concerns, or is it really sort of a combination of the two? Does one outweigh the other?

The Chair: I'm sorry, just for fairness of time, please give a brief answer, and then we'll have to go to Mr. Lunney.

Dr. John Britton: At the moment, most people who switch to electronic cigarettes in Britain do so for health reasons, although price is an issue. Price is a huge determinant of tobacco consumption, but it depends on the price of the cheapest tobacco products on the market, not the average. In Britain, our average is very high, but our cheapest products are still very affordable.

The Chair: Thank you.

Mr. Lunney, take us home.

Mr. James Lunney: Thank you very much, Mr. Chair.

Gentlemen, thanks for contributing to our discussion today.

There's big concern here that you're dealing with a vaporizing delivery mechanism for all kinds of chemicals, not just nicotine. I think we're naive if we think that, for young people, putting nicotine in the chamber is going to be their drug of choice. Canada is very concerned, and it's all over the Internet, about how you prepare your own marijuana from dried marijuana with propylene glycol and ingest your marijuana that way, which bypasses the smell normally associated with marijuana, and so on. A whole range of other toxic chemicals may well be used and inserted, which have known and unknown effects. Is this part of the discussion? It hasn't come up in our discussion with you so far.

In the EU, in the WHO, have these discussions come up about the use of other products through the use of these e-mechanisms?

Dr. Armando Peruga: This is indeed a concern because it can be used for many other drugs. However, it's very difficult at this point to gauge the importance of this behaviour. One has to consider that they can do that not only with electronic cigarettes but also with many other things. The issue of the consumption of other, in this case illegal, drugs through some existing legal apparatus like an electronic cigarette requires a broader approach to enforcement.

It's not only a problem that pertains to electronic cigarettes. It may be compounded, however, by the fact that these products are now seen as very normal, at least in certain countries, and therefore pass totally inadvertently for others, in terms of enforcement in regard to the illegal use of drugs.

My point is that this is not a problem only with electronic cigarettes.

Mr. James Lunney: Dr. Britton.

Dr. John Britton: I would agree with that. Young people will find ways to consume drugs that they shouldn't, whatever we say or do. That's another issue which hasn't really been given a great deal of consideration.

Mr. James Lunney: A final question here. You mention cytotoxicity with respect to the WHO study. It was related to the concentration of flavourings in the e-liquid.

Dr. Peruga, can you briefly comment on that issue?

Dr. Armando Peruga: Yes, there have been a few studies. There are not many studies on that, but there has been some proof that the heating of some of these flavourings, what we call thermal decomposition, produces some cytotoxic products. That is true, but it's very difficult to gauge exactly what the importance is in terms of the final impact on health.

These comments were made more than anything to indicate that there are some concerns about toxics and cytotoxics that should be taken into account, especially as Professor Britton was saying, in order to regulate these products, to maximize the benefits but also to minimize their harms.

You can only do that through regulation. That's why one of the recommendations from the WHO is to minimize those harms through appropriate regulation and not on a voluntary basis.

● (1300)

The Chair: Thank you very much. We really appreciate your time. We know you're very busy. Your comments and information have certainly been helpful today. Thank you very much, again, on behalf of all our committee members.

The meeting is adjourned.

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