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Chair

Mr. Ben Lobb

Standing Committee on Health

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● (0845)

[*English*]

The Vice-Chair (Ms. Libby Davies (Vancouver East, NDP)): We're ready to start the meeting. Our chair, Ben Lobb, is away today, so as vice-chair I agreed that I would chair the meeting.

Welcome, everybody, and to our witnesses.

We're continuing our study on marijuana's health risks and harms. Today we have two witnesses, Dr. Walsh from UBC and Mr. Lucas from the University of Victoria.

Welcome to both of you. It's great to have folks from B.C. here in person, because otherwise they usually have to get up super early to be on video conference. So it's nice to have you here in Ottawa.

We'll do our usual rounds. We'll have a seven-minute round and then a five-minute round. We do have two hours, so you're actually on the hot seat today because you're the only two witnesses. We'll go as long as there are questions and until we get to the end of our meeting time.

Again thank you for being here and we'll begin with Dr. Walsh.

Dr. Zach Walsh (Associate Professor, University of British Columbia, As an Individual): Thanks for inviting me. It's an honour to be here.

Given the relatively brief time I have, I'd like to highlight five points that I think are particularly salient to the estimation of the health risks and dangers of cannabis. My first point provides a broad context for the discussion to follow. I am a clinical psychologist and an addictions researcher with considerable experience conducting research with, and providing treatment to, individuals who struggle with problematic substance use and mental health more broadly.

In light of my expertise in this area, I'd like to focus primarily on the harms and risks of cannabis use as they pertain to psychological and behavioural functioning and well-being. I'm also choosing to focus on psychological and behavioural effects, rather than physical health per se, due to the absence of evidence for meaningful physical health risks and harms associated with cannabis use.

A 1988 ruling by U.S. DEA Chief Administrative Law Judge Francis Young described cannabis as “one of the safest therapeutically active substances known to man”. Considerable subsequent research that has examined the health consequence of cannabis use has not provided evidence to the contrary. Judge Young's statement is, in my opinion, as true today as it was a little more than 25 years ago. In the absence of risks and harms related to physical health, I believe the estimation of risks and harms should focus on psychological health and public health.

To this end, I would like to speak to the state of the science regarding the associations between cannabis use and the negative health outcomes of violence, cognitive functioning, anxiety, and psychosis. Because of the limited time, I'm just going to provide an overview of each of these points, focusing on a few key studies that I've provided to the clerk.

Violence is a major public health concern and a leading cause of injury. A robust literature attests to violence being an important negative consequence of substance use in general, particularly alcohol use. As such, it makes sense to investigate the extent to which cannabis use might also be associated with interpersonal violence. Indeed, the prohibition of cannabis in the early 1900s was fueled in part by the putative role of cannabis in eliciting aggression, and the association between cannabis use and violence has garnered substantial research attention. However, in contrast to the robust literature relating alcohol use to violence, the evidence of an association between cannabis use and violence is not at all clear. The results of extant studies are inconsistent, and many have failed to consider the potential confounding effects of other variables, such as general antisociality and the concurrent use of other substances, most notably alcohol.

Indeed, one of the most prominent theories explaining the association between cannabis use and violence, the general deviance theory, proposes that the apparent association between cannabis use and violence, when it is apparent, can be attributed to general predisposition to rule-breaking and antisociality rather than reflecting any direct effects of cannabis use per se. This proposition is consistent with the findings of laboratory studies of animals that find no association between cannabis intoxication and aggression.

Human studies produce divergent results. Although some studies have found associations between cannabis use and increased risk for violence, many have failed to control for key variables. A recent study that examined temporal association between cannabis use and domestic violence—that is, which came first, the substance use or the violence—found that cannabis use was associated with a reduced risk for violence. Another recent study of male domestic violence perpetrators reported no association between cannabis use and domestic violence after accounting for alcohol use. This later finding is consistent with recent work from our lab, which found that the association between cannabis use and the perpetration of domestic violence was accounted for by alcohol use and antisocial personality features. In sum, there's not strong or consistent support for the proposition that increased violent behaviour should be included among the risks and harms of cannabis use; it should not be.

Interestingly, a very recent U.S. study that examined the effects of medical cannabis legalization on violent crime found that legalizing medical cannabis was associated with decreased rates of violence in the states that did so. Such findings are plausible to the extent that cannabis may serve as a substitute for such other consciousness-altering substances as alcohol or amphetamine, for which more robust associations with violence have been established. However, more research is required to estimate the potential of cannabis to reduce interpersonal violence.

● (0850)

As is the case with research that has examined the association between cannabis and violence, studies that have examined the association between cannabis use and mental functioning have not led to a scientific consensus on the consequences of cannabis use for cognitive performance. While it is clear that for many users acute cannabis intoxication interferes with cognitive processes, such as memory and attention in the hours directly following cannabis ingestion, the longer-term consequences and the stability of any detrimental effects are not clear and appear to depend on a number of other factors.

Specifically, even the acute effects of cannabis intoxication appear to vary considerably from individual to individual, with more profound cognitive effects being experienced by infrequent cannabis users, whereas regular cannabis users appear to develop tolerance to the cognitive interference and associated performance deficits that may accompany cannabis intoxication.

Of greater concern than acute effects of cannabis are the longer-term or residual effects and the reversibility of any cannabis-related cognitive differences following cessation of cannabis use.

A study conducted at Harvard Medical School compared three groups: frequent cannabis users, who had used more than 5,000 times across their lifetime and were still using cannabis regularly; frequent users who had cut down or quit their cannabis use; and non-users. The study found that after a 28-day abstinence period, the three groups did not differ on tests of cognitive functioning.

Similarly, a comprehensive meta-analysis—that's an analysis of several studies wrapped into one—on the non-acute effects of cannabis found a small but discernible residual effect of cannabis use in only two of eight cognitive domains and concluded that, based on the extant data, they “failed to reveal a substantial, systematic effect of long-term, regular cannabis consumption on the neurocognitive functioning of users”. Notably, a recent study of Canadian youth reported better academic performance among those who used both cannabis and tobacco compared with those who used tobacco alone.

In sum, the extant data indicates that whereas acute cannabis intoxication may interfere with response speed, memory, and attention, the evidence does not indicate that substantial, irreversible detrimental effects on mental functioning or on performance of cognitively demanding tasks should be included among the risks and harms of cannabis use. They should not be.

The relationship between cannabis use and psychosis has been the subject of considerable research attention, and several studies have confirmed the existence of an association between cannabis use and psychotic disorders, the most concerning of which is the serious and debilitating condition of schizophrenia. However, the extent to which cannabis use plays a causal role in the development of schizophrenia remains unclear, as does the extent to which cannabis use influences psychoses among those who might not otherwise develop a psychotic disorder. There is, however, evidence that cannabis use may lead to earlier age of onset of schizophrenia among some vulnerable individuals and may also lead to some worse outcomes among those with a history of psychotic disorders.

A compelling argument used to refute the causal association between cannabis use and psychosis is the observation that the substantial rise in the prevalence of cannabis use over the past several decades has not been accompanied by a rise in the incidence of psychotic disorders. However, this important observation does not preclude the possibility that cannabis use might have more subtle effects on the exacerbation of existing psychosis or on lowering the age of onset of full-blown psychotic disorders. In general, as is the case with much of the research on cannabis and mental health outcomes, further research is required to establish causation and to rule out such potentially confounding factors as personality, pre-existing mental health vulnerabilities, and concurrent use of other substances.

Indeed, there is growing evidence that the constituents of cannabis may have opposing effects on the development of psychosis, with THC, one of the active ingredients in cannabis, leading to the development or exacerbation of psychosis, whereas CBD, one of the other main constituents, having anti-psychotic effects. This suggests that individuals at risk of psychosis may use cannabis to relieve symptoms; this may in turn lead to the over-estimation of the causal influence of cannabis use.

● (0855)

These divergent effects of the distinct constituents of cannabis further suggest that the risks associated with cannabis use might vary according to the type of cannabis used, i.e., be related to the relative ratio of THC and CBD.

In summary, although further research is needed and the effects are dependent on a diverse array of other risk factors related to genetics, environmental context, and cannabis varietals, the evidence suggests that cannabis use may confer risk for earlier onset and worse outcomes among the small proportion of the population who may be predisposed to psychosis.

Finally, the association between cannabis and anxiety has been noted in the medical literature for well over a century. Nonetheless, the empirical literature remains equivocal with reports of both anxiety-relieving and anxiety-causing consequences of cannabis use.

Some studies reported a higher prevalence of anxiety disorders among heavier cannabis users and the risk of later development of anxiety disorders among cannabis users. In addition, panic-like responses are among the most common unwelcome side effect of cannabis intoxication, particularly among naive users. In contrast, other studies report decreased depression and anxiety amongst cannabis users, and the relief of anxiety is among the primary reported motives for cannabis use. Cannabis has also been noted for its effectiveness in relieving anxiety that is secondary to other medical conditions, such as chronic pain, HIV/AIDS, and multiple sclerosis.

Results from our lab provide further evidence of the anxiety-relieving rather than anxiety-causing effects of cannabis. Relief of anxiety was among the most commonly reported reasons for using cannabis among Canadian medical cannabis users, and our research with students indicates that frequent cannabis users were less anxious and less sensitive to psychological symptoms of anxiety than were infrequent users and abstainers.

Consistent with the potential anxiety reducing properties of cannabis is the inclusion of post-traumatic stress disorder, PTSD, among the conditions for which medical cannabis is recommended or allowed in several U.S. states. Researchers in the U.S. are now preparing to conduct clinical trials of cannabis for PTSD to help relieve the suffering of war veterans, PTSD being one of the most serious and debilitating of the anxiety disorders.

In summary, research on the association between cannabis use and anxiety is equivocal and extant research does not indicate that the problematic exacerbation of anxiety should be included among the risks of cannabis use. Indeed, further research may establish cannabis or its constituents as treatments for some types of problematic anxiety.

Thank you very much.

The Vice-Chair (Ms. Libby Davies): Thank you very much, Dr. Walsh. I did let you go over a bit, because there's only the two of you today and I could see everybody madly taking notes. Thank you very much for your presentation.

We'll begin questions after we've heard Mr. Lucas.

Mr. Lucas, please go ahead.

Mr. Philippe Lucas (Doctoral Candidate, University of Victoria, As an Individual): Thank you very much, Madame Chair. I just have to ask Dr. Walsh if he wouldn't mind stepping over here and working the French side of my presentation, because I only have so many hands. If we could set the time when I begin that would be great.

Thank you, Madame Chair.

My name is Philippe Lucas. l'm a Ph.D. student in the University of Victoria's social dimensions of health program, a graduate researcher with the Centre for Addictions Research of British Columbia, and vice-president of Patient Research and Services at Tilray, is a federally licensed medical cannabis company located in Nanaimo, B.C.

Today my presentation will explore the impacts of cannabis use on both individuals and society as a whole, with a focus on addiction. So let's begin by answering a crucial question, is cannabis addictive?

Evidence suggests that only about one in ten regular cannabis users develops problematic patterns of use and, as you can see from this chart, studies have found cannabis to be considerably safer and less addictive than many licit and illicit substances, including nicotine, alcohol, and even caffeine. For those who do develop a dependence on cannabis, withdrawal is typically mild and short-lived. According to the DSM-V, the symptoms of cannabis withdrawal include irritability, loss of appetite, and sleeplessness lasting a few days to a few weeks, and the majority of Canadians who give it up do so without the need for formal addiction treatment.

Despite its low potential for abuse, for decades cannabis was touted as a potential gateway or stepping stone to harder drugs; however, both social and clinical research have convincingly debunked the gateway theory.

The Senate Special Committee on Illegal Drugs 2002 report on cannabis concluded that while it may be true that many people who use hard drugs have also used cannabis, the reasons range from social factors such as poverty to the illegal status of cannabis, which ultimately results in the black market control of its distribution. As the Senate discovered, Canadian drug use trends simply do not support the gateway or stepping stone hypothesis, concluding that, and I quote, “...while more than 30% [of Canadians] have used cannabis, less than 4% have used cocaine and less than 1% heroin”.

Additionally, recent evidence suggests that rather than being a gateway to addiction, for some people cannabis has proven to be an exit drug for problematic substance use. A number of studies on both humans and animals have found that the cannabinoid system plays a role in dependence and addiction to both licit and illicit substances. For example, research shows that nicotine cravings can be modulated by the endocannabinoid system, and recent studies suggest that cannabinoid receptors interrupt signaling in the opioid receptor systems, affecting both cravings for opiates and withdrawal severity. Labigalini Jr. et al studied this effect on people with a dependence on crack cocaine, reporting that 68% of the 25 subjects who self-medicated with cannabis in order to reduce cravings were able to give up crack altogether.

Furthermore, research suggests that cannabis use does not interfere with substance abuse treatment. Data from the California outcomes measurement system found that medical cannabis patients fared equal to or better than non-cannabis users in important outcome categories such as treatment completion, criminal justice involvement, and medical concerns. More recently, Scavone et al examined the impact of cannabis use during stabilization on methadone maintenance treatment in 91 patients with a dependence on opiates, finding that opiate withdrawal decreased in patients using cannabis, thereby improving overall methadone treatment adherence and outcomes.

My own research supports these findings. I recently conducted a cross-sectional survey of the subjective impact of medical cannabis on the use of both licit and illicit substances as self-reported by 404 medical cannabis patients, finding that 75% of respondents report substituting cannabis for another substance: 67% use cannabis as a substitute for prescription drugs, 41% as a substitute for alcohol, and 36% as a substitute for illicit substances like crack cocaine and crystal meth.

These findings are further reflected in results from the “Cannabis Access for Medical Purposes Survey”, otherwise known as CAMPS, which is the largest polling of Canadian medical cannabis patients to date. Overall, 86% of CAMPS participants reported using cannabis for at least one other substance: 80% of patients stated they used cannabis as a substitute for prescriptions drugs, 51% as a substitute for alcohol, and 32% used it as a substitute for illicit substances.

Patients who listed a greater number of symptoms were more likely to report cannabis substitution, and interestingly, patients below 30 years old were far more likely to substitute cannabis for prescription drugs, alcohol, and illicit substances than those 50 and over.

● (0900)

In regard to youth, a survey of 67 UBC students aged 17 to 24 that examined cannabis and alcohol use over the last six months found that 71% reported drinking more slowly when using cannabis, 53% reported drinking less when using cannabis, and 34% stated they didn't desire alcohol when using cannabis, with 0% reporting increases in alcohol cravings. This suggests that for some students cannabis is a conscious means of reducing alcohol use.

That's the state of knowledge about cannabis and addiction, but what about the impact of cannabis use on society as a whole? The current government has made crime reduction a central part of its platform, so it may be useful to understand if an increase in the use or social acceptance of cannabis leads to an increase in crime. Interestingly, a new study by Morris et al on crime rates in U.S. states that legalized medical cannabis found that there was actually a net reduction in rates of homicide and assault in medical cannabis states compared to neighbouring jurisdictions.

The authors suggest:

> Given the relationship between alcohol and violent crime, it may turn out that substituting marijuana for alcohol leads to minor reductions in violent crimes that can be detected at the state level.

So what are the public health impacts of Canadians using cannabis instead of alcohol, pharmaceuticals, and illicit substances? In light of the alarming rise in addiction to prescription opiates in Canada, a growing body of research suggests that cannabis may prove to be a safe and effective substitute for patients treating chronic pain as well as non-medical opiate users.

Additionally, since the intravenous use of opiates, crack and cocaine, and crystal meth can all lead to the transmission of serious chronic conditions like HIV/AIDs and hepatitis C, evidence suggesting that cannabis might be an effective substitute for these substances can be part of a public health-centred strategy aimed at reducing disease transmission and overdoses from injection drug use. Since alcohol has a far greater social, health, and financial impact on individuals and communities than all illicit substances combined, public policies informed by the growing evidence that cannabis might reduce or even treat alcohol dependence could have a significant impact on overall rates of alcoholism, and consequently on alcohol-related automobile accidents, domestic violence, and violent crime.

To sum up, cannabis is not particularly addictive and 90% of regular users never develop a dependence on it. Furthermore, a growing body of evidence suggests that cannabis, once thought of as a gateway drug to addiction, may ultimately prove to be an exit drug to problematic substance use for some individuals. In light of this research, policies that reduce the penalties associated with cannabis use or regulate legal access by adults could reduce the harms associated with alcohol and problematic substance use on both public health and safety and could even lead to a reduction in violent crime in Canada.

I'd like to end by thanking the House of Commons for inviting me here today, and Tilray, the Centre for Addictions Research of BC, and the University of Victoria for supporting my research.

I look forward to your questions. Thank you, Madam Chair.

● (0905)

The Vice-Chair (Ms. Libby Davies): Thank you very much. It was perfectly within the 10 minutes.

We'll begin our first round of questions, which is seven minutes. You may want to put your earpiece in if you don't understand both official languages.

We'll begin with Dr. Morin, for seven minutes.

[*Translation*]

Mr. Dany Morin (Chicoutimi—Le Fjord, NDP): Thank you very much, Mr. Chair.

[*English*]

I just want to make sure that everybody can understand French. If not, put your earpiece in and you can program the device in front of you for French.

Sorry, Madam Chair—

The Vice-Chair (Ms. Libby Davies): It's okay.

Mr. Dany Morin: —I'm going to wait for my witnesses to....

The Vice-Chair (Ms. Libby Davies): I think Philippe was—

[*Translation*]

Mr. Dany Morin: I want to thank the two witnesses for meeting with us today. The information they have provided is fairly new, as it has not been brought to the committee's attention until now. I appreciate the fact that the information is coming from two members of the scientific community.

Since the beginning of the study, it has been pointed out that scientific research on this issue is lacking—and you also mentioned that—either when it comes to the health benefits or the health risks involved. The Canadian government has had a medical marijuana program for several years. However, the medical use of marijuana is not supported by scientific evidence. That is why I am very grateful for your personal and collective contributions.

My first question is about the program I mentioned.

Health Canada published a document titled Information for Health Care Professionals, which outlines the scientific knowledge on the use of cannabis and cannabinoids in the treatment of a host of diseases. The document also discusses adverse effects.

Do you think this document does a good job of taking into account the scientific literature on marijuana's potential therapeutic uses and side effects?

[*English*]

Dr. Zach Walsh: I think the directions for health providers is quite a good document in general. It's certainly fairly comprehensive. I was actually quite impressed with that document, yes.

● (0910)

Mr. Philippe Lucas: Like any document, before it appears, it's a little behind the times. It doesn't capture the last three or four years of research, and clearly it focuses more on potential harms than on actual medical efficacy.

The amount of science that's being presented now on the potential benefits of medical cannabis is remarkable. The chief areas of exploration include cannabis and cannabinoids in the treatment of cancer; in the treatment of mental health issues, as Dr. Walsh has discussed; in the treatment of dementia and Alzheimer's, as well as a number of physical conditions.

There is no doubt that the last 70 years of prohibition have significantly impacted the amount of research that's been available to do in North America and throughout the world. But as those research restrictions seem to be falling away and as we are able to work with more patients throughout Canada and around the world within scientific contexts, we are seeing a growing amount of opportunities to conduct research on the therapeutic potential of cannabis.

It's interesting to note that Dr. Walsh mentioned post-traumatic stress disorder as one of the treatment opportunities for cannabis. I think we can all agree that treating our soldiers, police officers, and correctional workers who have suffered trauma is one of the key goals and challenges of our public health system.

Right now Veterans Affairs Canada pays for the cost of medical cannabis for veterans who need it for the treatment of post-traumatic stress disorder. It's one of the only patient groups in Canada that gets cannabis paid for, and I think it's a step in the right direction to cover the cost of cannabis for those soldiers who've been affected by trauma while serving their country.

[*Translation*]

Mr. Dany Morin: Last week, Andra Smith, another scientist, told us about her own research on cannabis. She said it may be beneficial for Health Canada to carry out or sponsor more research projects in order to flesh out the file on the medical use of marijuana and on the federal program. I hope that research will be undertaken soon.

When Health Canada does conduct or sponsor that type of research, should it prioritize any specific areas? Those areas could include pain management, nausea, vomiting and epilepsy. Do you think the studies on the medical use of marijuana should be specific or more general?

[*English*]

Dr. Zach Walsh: We need broad-based research. The conditions you mentioned are certainly good starting points. In our research with Canadian medical cannabis users, we found that a large proportion are also using cannabisto treat anxiety both on its own and in relation to their illness, and to assist with sleep, in addition to some of those areas that you mentioned.

For anxiety and sleep, many Canadians use prescription medications and over-the-counter medications, and I believe we need studies to compare the side-by-side efficacy of cannabis with those widely used medications, because they have their own set of benefits but also their own set of risks, particularly the common sleeping medications and benzodiazepines. One area of particular importance would be a comparison of cannabis to those sleep and anti-anxiety medications.

Mr. Philippe Lucas: I think that we've mentioned some of the conditions that I think are the most promising and the most challenging to treat that we can look at with cannabis. There is ongoing cancer research around the world including on its relieving effects and the anti-tumourific and anti-carcinogenic effects of cannabis and cannabinoids, including tumour reduction in glioma patients, breast cancer patients, and breast cancer cell lines. I think those are very promising areas that deserve more attention. I don't know many families that haven't been affected by cancer, so personally I think that would be a promising direction.

There is also growing interest right now in using non-psychoactive forms of cannabis with higher CBD, or cannabidiol, in the treatment of childhood seizure disorders. Some of you may be aware of circumstances where there are parents right now who are seeking access to cannabis supplies that are low in THC, which is the psychoactive in cannabis, and high in CBD to treat seizure disorders of children as young as two who are having up to 100 seizures a day and whose lives are literally threatened by these seizures. So far the findings have been very promising, very anecdotal, and not very scientific yet. But I think when it comes to parents who are desperate to save their kids' lives, that's an area that we absolutely need to look at and move forward in.

Also we mentioned post-traumatic stress disorder earlier. My personal research at the University of Victoria, my research interest, is looking at medical cannabis patients' patterns of use. We still don't know the most basic science around how Canadian patients are using medical cannabis. We have 50,000 Canadians right now who are using medical marijuana. I can't tell you, for example, how much the average patient using it for MS uses it per day. I can't tell you their strain preference, if they have a preference of one strain or another. We don't have even that kind of basic information, so that's part of my Ph.D. work right now, looking at a thousand Canadian patients and following their use over a year's time to gather some of that basic information.

● (0915)

The Vice-Chair (Ms. Libby Davies): I think we'll wrap it there and maybe come back to the subject because we're over time now.

Now we'll turn to Mr. Wilks.

Mr. David Wilks (Kootenay—Columbia, CPC): Thank you very much, Madame Chair.

Thank you to the witnesses for being here today.

I want to continue with your point about the 50,000 marijuana users through the medical process and that we've never really monitored what they do. I wonder if you could talk a little bit more about that, because it's a concern to me that we introduce a substance that we don't control, but then we don't monitor it either. We claim that it has successes, but we can't prove it. So I appreciate what you said today, but the reality is that we can't prove anything right now. Talk a little more about how we go about proving all of this, because there is no way of doing it.

Mr. Philippe Lucas: The fact is that there are a lot of treatment modalities around medical cannabis that have been proven through clinical trials. We have a study—

Mr. David Wilks: But what about the 50,000 that we're talking about?

Mr. Philippe Lucas: Well, there is very little monitoring going on there, and I've suggested in the past at consultations with Health Canada that what we really need is a pharmaco-vigilance program around the medical cannabis program that would allow the tracking of patients.

I had a recent conversation with Dr. Mark Ware, who is president of the Canadian Consortium for the Investigation of Cannabinoids, and I understand that he and the Quebec government have an agreement to track all Quebec patients in terms of looking at their use through their physicians. That is going to be ongoing and it is something that we can certainly look at down the road as more of a national study.

Now, it's not unusual at all for us to have thousands of Canadians on different prescription drugs without doing active monitoring of what's happening with each patient.

Mr. David Wilks: But I guess the difference between cannabis/marijuana and the other drug is that every other drug is regulated, and cannabis is not.

Mr. Philippe Lucas: Well, cannabis is tightly regulated, that's why we have an MMPR program. Access to cannabis is much more challenging than access to any commonly, potentially more dangerous pharmaceuticals.

Mr. David Wilks: So what is the argument with regards to the synthetic models that Canada provides to patients? There are two regulated and one oral spray as well. Speak a little bit about that compared to the ingestion of smoking marijuana.

Mr. Philippe Lucas: I'd be happy to. As you say, Marinol, Cesamet, and Sativex are the commonly prescribed alternatives to raw cannabis. Marinol and Cesamet are single agents. One of them is an actual THC molecule, and the other one is a synthetic THC mimic. All of the research that's been conducted looking at single agent mimics have found them to be less effective in terms of treatment modalities than whole-plant cannabis. What scientists call the synergistic effect seems to be one of the important factors in the efficacy of whole-plant cannabis.

Now, Sativex is an oral mucosal spray that is a whole plant cannabis product. I think that it is much more promising than Marinol and Cesamet, but I still think that for most patients it's going to be inaccessible because of cost issues—it's a very expensive product. It's the equivalent of having a single strain of cannabis available to all Canadians. What we've found in research is that not all strains are effective in all conditions under all circumstances, so having a variety of cannabis strains, which is what's happening under the new MMPR, has made a big difference for cannabis patients.

Mr. David Wilks: One of my concerns with the program has always been that we don't have visible control for all Canadians to see what THC levels are. We all recognize that over the years the THC levels have increased, from the 1970s to now. In fact, there are some THC levels that are relatively high. I would suggest the average THC level is probably between 10% and 15%, but there are some that are much higher.

My concern is that we don't have any way of controlling that from of the perspective of outside of the MMRP. We still have the old system in place, as you know. I would suspect that a lot of those 50,000 people whom you refer to are not purchasing it through what we would call the MMRP program, but are getting it through their own sources, which is somewhat concerning to me. How do we control that?

● (0920)

Mr. Philippe Lucas: As you say, through the MMPR there are ratings now of THC and CBD on cannabis strains. For years, we didn't have access to that. What patients have been doing for years and frankly for generations is they've been using self-titration, which is basically starting at a low dose and working up until they find a therapeutic window that's effective for them. It gives them therapeutic relief without feeling a level of discomfort.

The nice thing is, compared to even aspirin and certainly more potentially dangerous pharmaceutical drugs like opiates, there's a very low risk of people coming into problematic use. For example, you can't die from using too much cannabis. There's no way to overdose. The actual risk of people self-titrating is very minimal in terms of personal risk. Once people figure out the right dose for themselves, it tends to be very consistent as they work across different conditions.

Do you have anything to add to that, Dr. Walsh?

Mr. David Wilks: I want to just interject, if I may. Last week, we had Dr. Harold Kalant here from the University of Toronto, who both of you probably know. He said the following:

> There is no such thing as a harmless drug. Everything with pharmacological action has the ability to produce harm, depending on the amount used, how often, for how long, by whom, and under what circumstances. Not surprisingly, the harmful effects of marijuana are most often found in heavier users and those with greater vulnerability.
>
> Among those who begin to use marijuana as adults, the most common adverse effects include chronic inflammatory changes in the respiratory system, poor memory, poor work performance in activities requiring mental and physical skills, driving accidents, and addiction. The physical and mental effects usually recover on cessation of use.

But he went on to say:

> ...adolescents and young adult users of marijuana greatly outnumber mature adult users. Young beginners, those who begin use as early as 12 or 13 years, are much more vulnerable to harmful effects....

I want you to talk about that for a bit. We've talked about the medical use, but let's talk about the adolescents and the youth who come into this at age 12 or 13. How do we deal with them? How do we convince them that this is not to be used as a recreational drug as opposed to what you two are talking about with regard to the medical use? There are far different reaches there.

Dr. Zach Walsh: Well, I think you make a good point. As a former junior high school teacher, that's certainly something I consider a lot. How do we minimize the risks for vulnerable young people?

I think we can look at the model that we've used for tobacco, where we have really, through accurate and aggressive information campaigns, been able to reduce the uptake of tobacco rather successfully amongst young people. That's a major public health victory that we've been able to have.

One of the reasons we see some use amongst young people is that there's a lack of trust in the information they're provided because of a long history of stigmatization and exaggeration in the war on drugs. We end up with young people who don't believe what they're told and won't take the advice of older people.

You're right, there is nothing that is harmless. So we want to think about relative harms and risks relative to other substances. Through accurate education, public health initiatives, and prevention, we can be effective at protecting those young people, which I think is a priority.

The Vice-Chair (Ms. Libby Davies): Thank you.

We've gone over time. We'll come back and I'm sure there will be another question.

I just want to say that our Liberal member has been unavoidably detained. I'm sure she'll be showing up later, so we'll now go to Mr. Young.

● (0925)

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

Mr. Walsh, do you have any medical training? Are you a pharmacist or a doctor?

Dr. Zach Walsh: I'm a registered clinical psychologist. I took medical neuroscience courses.

Mr. Terence Young: The answer is “no”, right?

Dr. Zach Walsh: So, yes.

Mr. Terence Young: The answer is “no”, and you're not a doctor or a pharmacist.

Dr. Zach Walsh: I am not a doctor or a pharmacist, no. A health care professional....

Mr. Terence Young: Okay.

You said that there is an “absence of evidence for...health risks and harms associated with cannabis use.” I want to try to get this quote right.

Is that right?

Dr. Zach Walsh: Yes.

Mr. Terence Young: Okay, well I want to tell you what we've heard at this committee.

We've heard from a Ph.D. in pharmacology from U of T, and we've heard from a director of patient care related to addiction at Women's College Hospital, and others that marijuana interferes with the prefrontal cortex of the brain, which is responsible for memory, judgment, and decision-making, effects that last for up to a month but with young people may cause permanent damage.

We've heard from another expert from the Centre for Addiction and Mental Health at a leading Canadian hospital that marijuana use can cause psychosis and schizophrenia in some people, and that users are twice as likely to be involved in a vehicular accident.

We've also heard from experts that there are links to various cancers, and that smoking anything is adverse to one's health.

That is just some of what we've heard on this committee, so I want to ask you how you can possibly claim that there is no evidence of health risks and harms?

Dr. Zach Walsh: I think I mentioned some of the risks in the rest of my testimony, the ones you mentioned regarding psychosis.

I think we're talking about relative health risks and I was speaking specifically about long-term physical consequences when I talked about a relative absence and quoted the DEA administrative....

Mr. Terence Young: Thank you.

You suggested, or seemed to be suggesting, that people addicted to cigarettes should switch to marijuana because marijuana use actually helps them with their addiction to nicotine. Is that correct?

Dr. Zach Walsh: I think you are referring to Philippe.

Mr. Terence Young: Oh, I'm sorry, I beg your pardon, Philippe.

Mr. Philippe Lucas: Yes, the suggestion is that cannabis users can actually cut down or quit—

Mr. Terence Young: Is that what you would recommend to people who are addicted to nicotine, that they switch to marijuana?

Mr. Philippe Lucas: I think that from a net harm-benefit ratio they'd have better health outcomes using cannabis than they would nicotine.

Mr. Terence Young: What about a third option of no addiction at all?

Mr. Philippe Lucas: That would be ideal and wonderful, but I think that in society and in our world we realize that before people can take those steps that would perhaps be preferable to some or to society as a whole, sometimes they need harm reduction in order to be able to get to that point.

Mr. Terence Young: Thank you.

Mr. Walsh, you said there is literature somewhere, or that you agree, that marijuana can cause anxiety. But you also claim that it can also relieve anxiety, and that panic attacks are most common for naive users. Does that mean new users or people who aren't addicted?

Dr. Zach Walsh: Yes.

Mr. Terence Young: I'd like to suggest to you that we heard from the experts that panic attacks are relatively common and that anxiety is also an effect of withdrawal from marijuana. So marijuana can decrease your anxiety until the user stops.

I don't understand why you made that statement. While it can relieve anxiety, which is great until it stops....

Dr. Zach Walsh: Well that's actually a common side effect of most anxiolytic or anti-anxiety medications—

Mr. Terence Young: I understand that.

Dr. Zach Walsh: —so some increasing anxiety is reported by some cannabis users as part of the short-lived withdrawal syndrome. It's more short-lived than withdrawal syndromes associated with benzodiazepines or barbiturates, which are less widely used now.

Mr. Terence Young: That's true, thank you.

You mentioned for some reason that marijuana users who also smoke cigarettes, or nicotine, actually have better academic performance than those who smoke cigarettes alone.

Dr. Zach Walsh: Yes, that's right.

Mr. Terence Young: I'm trying to understand why you would raise that. It seems to me you're trying to connect marijuana with better academic performance, which is ludicrous because the primary effects of marijuana are euphoria, memory loss, and apathy. If you want to destroy a student's future, probably the best drug you could give them is marijuana because it ruins their memory; they can't learn anything in school, and it causes apathy and they won't care.

Why are you trying to connect marijuana to better academic performance?

Dr. Zach Walsh: I'm certainly not saying that I would recommend it as an academic enhancer. As an educator, that's certainly not something that I'm interested in doing.

Mr. Terence Young: Okay, it's good to hear that.

Dr. Zach Walsh: Rather, I'm referring to the results of the study that showed that in people who used both cannabis and tobacco, compared to tobacco alone, we see worse outcomes among the tobacco users. It has to do with the increased stigmatization of tobacco use.

● (0930)

Mr. Terence Young: So your position is that it's the lesser of two evils.

Dr. Zach Walsh: Well, not exactly. I think it reflects the confounding effects of people who use one or both.

Mr. Terence Young: You also claim there's no rise in psychotic disorders, which is contradicted by the medical experts and pharmacologists. We heard from them that marijuana can lead to depression, and we know there's been a very significant rise in youth suicide in recent years. Have you studied the relationship between suicide and marijuana?

Dr. Zach Walsh: I don't know of any evidence to suggest that marijuana leads to increased suicide.

Mr. Terence Young: Have you studied it?

Dr. Zach Walsh: No.

Mr. Terence Young: Do you know anyone who has?

Mr. Philippe Lucas: Yes. There is a study in the U.S. that shows a decrease in suicides in states with medical marijuana. They assume it's because of less suffering and the suffering that's relieved by it.

You also mentioned higher income and academic achievement. In Canadian polling of medical cannabis users, Canadians who use marijuana have higher income levels and higher education levels than those who don't use cannabis.

Mr. Terence Young: Whoa, are you trying to claim that marijuana leads to higher income levels?

Mr. Philippe Lucas: I'm saying those are the facts according to all polling—

Mr. Terence Young: What a ludicrous connection. Come on, let's be scientific.

Mr. Philippe Lucas: It's not a ludicrous connection at all.

Mr. Terence Young: I don't believe it for one second, by the way.

Mr. Philippe Lucas: You don't need to believe it, but those are the stats. Those are the facts. It's not a belief system; it's a fact.

Mr. Terence Young: Say that again for the record.

Mr. Philippe Lucas: Those are the facts.

Mr. Terence Young: What is the fact? Say that again.

Mr. Philippe Lucas: The fact is that—

Mr. Terence Young: Marijuana users have higher incomes.

Mr. Philippe Lucas: —polling of Canadians shows that those who use cannabis have higher income and higher education levels than non-cannabis users.

Mr. Terence Young: That's because you can't poll street people, people who are addicted that we've heard about.

Anyway, there was a comment about psychiatric disorders. You really surprised me with that one; that's a wild claim.

Mr. Philippe Lucas: It's the Canadian addiction survey. I welcome you all to please look it up.

Mr. Terence Young: Yes, okay, we'll check it.

The Vice-Chair (Ms. Libby Davies): Maybe you'd like to provide the committee with the report, if you can put your hands on it.

Mr. Terence Young: Mr. Lucas, you said that people can't die from marijuana use.

Mr. Philippe Lucas: That's right. We were talking—

Mr. Terence Young: Bear with me. We heard from experts that marijuana users have twice the chance of being in a vehicle accident, and we know people die from vehicle accidents. We've also heard that marijuana can cause depression, as I mentioned, and that marijuana is linked to various cancers, including possibly lung cancer. A lot of people die from lung cancer. We heard from the experts that there are more chemicals in marijuana than in cigarettes. No one has ever done a double-blind study to prove whether it's true or not, but there are links between marijuana and lung cancer and other cancers. How can you claim that no one has ever died from marijuana use?

Mr. Philippe Lucas: No one has, and the biggest research project looking at the link between cancer and upper-respiratory-airway cancer and cannabis was done by a researcher named Donald Tashkin. It was funded by the National Institute on Drug Abuse in the U.S., and it found not only no link between cannabis use and upper-respiratory or lung cancer, but also that those who used cannabis moderately had a lesser chance of having upper-respiratory lung cancer than non-cannabis users, which is quite remarkable.

Mr. Terence Young: Did you know by a clinical standard of proof, no one has ever proven that cigarettes cause lung cancer? It's done by epidemiological studies over decades, so there's probably no way to prove by a clinical standard that marijuana causes lung cancer or other cancers.

It's going to have to be done over decades. So what happens to all the people who are smoking marijuana now, when they find out later, as we found out with asbestos and tobacco, that it leads to cancers later in life?

I want to ask you about one other study, although I don't have the name of it. It's a study in the U.S. on criminals in prison for a whole range of crimes, including violent crimes. They found that I think 40% of them were smoking marijuana when they committed their crimes. Are you familiar with that study?

Mr. Philippe Lucas: No, I'm not familiar with any study of that, and I would question whether they found cannabinoids in their system, which means they might have used cannabis in the last 30 days—it's one of the most detectable drugs in our system—or whether they were high on cannabis. Clearly the most criminogenic drug of all that we use in North America is alcohol. It's tied to the highest level of—

Mr. Terence Young: So alcohol is bad, and marijuana is less bad. Is that your position?

Mr. Philippe Lucas: No, it's just that alcohol is directly linked to violent crime, to risky behaviour—

Mr. Terence Young: No one denies that.

Mr. Philippe Lucas: But cannabis does not. In fact, quite the opposite—

Mr. Terence Young: No one denies the harms or risks of alcohol, Mr. Lucas. You're trying to deny the harms and risks of marijuana.

Mr. Philippe Lucas: Not at all.

The Vice-Chair (Ms. Libby Davies): Mr. Young, we're way over your time. I've been quite lenient with the time today because we only have the two witnesses, but we're way over now.

I'd like to welcome Ms. Jones to the committee. I realize that you haven't heard the testimony, so you could ask questions now or we could wait a bit and come back to you if you feel you need to get up to speed.

● (0935)

Ms. Yvonne Jones (Labrador, Lib.): I'd like to defer for a little while. I'm filling in, so—

The Vice-Chair (Ms. Libby Davies): Yes, I realize that.

Thank you very much for coming, and we'll come back to you when you feel that you're up to speed with what's going on.

Ms. Yvonne Jones: I appreciate that.

The Vice-Chair (Ms. Libby Davies): Our next questioner will be Mr. Gravelle, for five minutes.

We're in our five-minute round, but again, we're being a bit lenient today because we have just the two witnesses.

Mr. Gravelle.

Mr. Claude Gravelle (Nickel Belt, NDP): Thank you, Madam Chair.

Mr. Lucas, you said that 80% of cannabis is used as a substitute for prescription drugs.

Can you give us an example of the drugs that cannabis can be substituted for? Can you also tell us what the cost effect is on the Canadian health care system?

Mr. Philippe Lucas: Absolutely.

The most common substitution is for drugs involving chronic pain, so pharmaceutical opiates, and typically drugs that are pain relievers. Of course, the pharmaceutical opiates are attributed to the fastest-rising rate of addiction in Canada, with the associated fastest-rising rate of morbidity, which is disease and death—mortality. I think anything that allows us and physicians an alternative, to give them another tool than using prescription opiates in the treatment of chronic pain, can be very beneficial.

There has been no study to date to look at the impact on the public health system that medical cannabis users have or might have on the health system. That is part of my Ph.D. research right now. I'm doing an open cohort study of 90 patients who start using medical cannabis. I'm going to focus on post-traumatic stress disorder as a primary condition, and I'm going to track them over periods of time to see how medical cannabis use affects their use of other substances, and subject that to an economic analysis as well.

What I can tell you is that there has been a study by a large Dutch insurer—Holland also has a medical marijuana program—that decided to cover the cost of medical marijuana. Based on the results of their own internal study, they found that medical cannabis users, compared with patients with similar conditions, were doing better and had fewer ER visits, fewer doctor visits, and were using fewer pharmaceuticals.

Mr. Claude Gravelle: Thank you very much for that.

My colleague Mr. Wilks was concerned a little about the safety of cannabis a while ago, and he said that every other drug is regulated. That may be true, but every other drug that is regulated is not necessarily safe. Have there been a lot of regulated drugs that have caused harm and that have been taken off the market because they weren't safe? In other words, because you're regulated doesn't mean it's necessarily safe.

Mr. Philippe Lucas: I'm unfortunately affected by hepatitis C, which I got in 1982 through the tainted blood system here in Ontario. I can tell you that one of the main reasons for hospitalization associated with liver disease is actually the overuse of Tylenol.

You don't need to just look at prescription drug use to find problems with our current use of pharmaceuticals. I believe I read a study recently that showed that 23% of hospitalizations in the United States are caused by the misuse, abuse, or overuse of prescription drugs. It ends up being the number one cause of hospitalizations in the entire United States.

There's no doubt in my mind that there's currently a lot of legal, either prescription or over-the-counter, drugs, which unfortunately lead to a lot of health problems in Canada.

Mr. Claude Gravelle: Do only street people use cannabis?

Mr. Philippe Lucas: No.

As I've stated, the evidence suggests that people of higher education and higher rank tend to use cannabis as well. Unfortunately, our drug war focuses on 15-year-old to 25-year-old males. They're the majority target of our current enforcement policies.

When I've done studies of medical cannabis users at medical cannabis dispensaries, we tend to find that the average user is above 40 years old. That takes us well out of youth use.

It's also worth mentioning—and I completely agree, and I think we can all agree here in this room—that cannabis is not a panacea; it's not without health consequences. My concern, as someone who studies public health and cannabis and addiction, is whether criminalization is an effective public health tool in assisting people in dealing with potential problems to self or society.

● (0940)

Mr. Claude Gravelle: Thank you.

In 2006, you helped to update a book, which I want to quote from. I'm talking about cancer right now:

> Cannabis has been found to help cancer patients with the symptoms that usually accompany cancer such as pain, nausea, wasting, and loss of appetite. Notably, in a meta-analysis of 30 clinical studies on the therapeutic use of cannabis for chemotherapy-induced nausea and vomiting...proved superior to modern anti-emetics. Additionally, patients showed a clear preference for cannabinoids as anti-emetic medication over conventional drugs, when receiving chemotherapy.

Can you comment on that please?

Mr. Philippe Lucas: Sure. I think the evidence is starting to grow that cannabis can be used safely and effectively. I see it as one of the many tools that our medical system can benefit from. Until the 1930s it was part of the North American pharmacopoeia, and physicians were using cannabis in a lot of different preparations. We are now rediscovering its therapeutic potential through scientific research.

The Vice-Chair (Ms. Libby Davies): Okay, we'll leave it at that. Thank you very much, Mr. Gravelle.

We'll now turn to Dr. Lunney.

Mr. James Lunney (Nanaimo—Alberni, CPC): Thank you very much, Madam Chair. It is nice to see you in the chair today.

Thanks, witnesses, for being with us today.

I want to refer back to one of the earlier witnesses as well, Dr. Andra Smith. She is a neuroscientist. This is referring to the Ottawa pre-natal study. Would you be familiar with that work, using functional MRI?

They follow these subjects right from birth through their adolescent years, but they quantify some very significant changes in blood flow with people, referring to the executive functions that are impaired in marijuana users and the delayed cognitive response, reasoning power, problem-solving, and decision-making, particularly in the case of adolescents. The younger they are when they start and the heavier the use, the greater the impairment.

It seems to me that would be of real concern, with Canada's youth being one of the highest user populations in the world. It speaks to the productivity of our country, which is important to some of us at the table here. We want citizens who are able to perform higher cognitive-function activities later in life. I wonder whether it is of concern to you that in fact the fMRI evidence shows that it is delaying myelination in the prefrontal cortex and shifting activities to the limbic system, where decisions are made more on an emotional basis; that people performing these tasks are actually taking longer to solve simple problems, and that this therefore perhaps leads to the anxiety that we're referring to.

I wonder whether you have any comment on that part of the scientific literature that is out there and those concerns?

Dr. Zach Walsh: I'm familiar with the findings of acute cognitive effects of cannabis intoxication. I'm not familiar with the Ottawa pre-natal study that you refer to, but I am quite familiar with the literature on the cognitive effects of cannabis.

My sense of the literature is that the effects are generally reversible following cessation of cannabis use and that they vary according to the user's familiarity with cannabis, so that when cannabis is administered to relatively naïve users we see more profound deficits and that with regular users there is tolerance of most of the cognitive effects.

Of course, I'm highly concerned about the productivity of our young people. That is what I have devoted much of my life to fostering.

Mr. Philippe Lucas: If I could add a bit to that.

I think you're absolutely right that we should all be concerned about youth trends of use. I think we need to be conscious of this. In B.C., for example, about 70% of graduating high school students will have tried cannabis, and only 50% will have tried tobacco. We actually have a higher use—

Mr. James Lunney: Did you say 17%?

Mr. Philippe Lucas: About 70% will have tried cannabis and about 50% will have tried tobacco. In fact, the trends are declining right now.

It's interesting that using a public health-centred campaign and honest education, we have reduced tobacco rates without having to criminalize anyone or criminalizing our youth. But we've had to do that, and we're having no success is reducing youth use of cannabis.

It is also worth mentioning that U.S. states that have legalized medical marijuana are now finding a decline in youth use of marijuana, which is interesting. We find the same thing in Holland as well.

● (0945)

Mr. James Lunney: Thank you.

Well, in long-term studies, actually—I'm talking about the Neeson study in New Zealand.... They reported on decreased IQ, school dropouts, increased attention span problems, and again the impairment of higher cognitive and executive functionings. That's a significant increased risk to youth. There is also the increased risk of MVAs, which of course we would be concerned about for young people.

I want to make reference to the harmful effects on the lungs that were mentioned here by Ph.D. Kevin Sabet, showing an increased risk of bronchitis, cough, and phlegm production. He claims that there are 50% to 70% more carcinogenic hydrocarbons than in tobacco use. You talk about there being no significantly established health risks; I wonder how you respond to 50% to 70% more carcinogenic hydrocarbons. He went on to say that marijuana smoke contains an enzyme that converts hydrocarbons into a cancer-causing form, something on which he didn't actually elaborate scientifically.

I wonder how you relate those potentially cancer-causing risks for the lungs—I think I heard one of you suggest that it may be a cancer treatment, which I find quite astounding—and furthermore the contention that persistent and heavy use among adolescents reduces IQ by six to eight points. That would be a concern, I would think, to most people wanting to see a young generation grow up to become highly productive adults.

Dr. Zach Walsh: Certainly, and I don't think anyone would advocate cannabis use for young people. The study that you referred to, the Dunedin study, is one of the studies where substantial concerns have been raised about confounds. With the criminalization of cannabis, we see people who are more likely to violate all kinds of rules using cannabis. So it's not the effects of cannabis per se, but rather confounds related to socio-economic status or other personality factors related to rule-breaking and anti-sociality that may account for some of those IQ changes. So the Dunedin study, I think, is problematic and there have been publications to that effect.

Mr. Philippe Lucas: I mentioned the Tashkin study.

The Vice-Chair (Ms. Libby Davies): I'm sorry.

Mr. Philippe Lucas: I've submitted it to you, so you can look at the Tashkin study.

The Vice-Chair (Ms. Libby Davies): Thank you very much.

Thank you, Dr. Lunney.

We'll now go to Ms. Jones for five minutes.

Ms. Yvonne Jones: Thank you, Ms. Davies.

And thank you both for your presentations this morning. My apologies, but I was at the mercy of the airlines so I arrived a little past the due time.

However, I do have a couple of questions, and my apologies to the committee if they're somewhat repetitious of what's already gone on.

First of all, I'm just going through the note here. It states that cannabis use would relieve secondary anxieties. Can this lead to a decrease in prescription drugs such as anti-depressants and those kinds of medications?

Dr. Zach Walsh: Well, I think the good research remains to be done as far as the side-by-side efficacy of cannabis versus other anti-anxiety medications is concerned, but our reports from medical users and non-medical users indicate that cannabis does reduce their anxiety. It's one of the primary reasons that people use it. Amongst people with chronic and severe illness, they report high levels of using cannabis to deal with anxiety. We need to compare the side-effect profiles of cannabis to the other substances that are widely prescribed, the anti-anxiety medications, that also have more severe side effects in many ways than cannabis. We need a side-by-side trial of those two to say which is more effective, which has more palatable side effects, but the potential is certainly there, I believe.

Mr. Philippe Lucas: What I would add to that—and I think you missed this part of the discussion—is that currently Veterans Affairs pays for the cost of medical cannabis to veterans who are suffering from PTSD. One of the main symptoms of PTSD is high levels of anxiety; depression was mentioned earlier as well. We have very few good, effective tools to treat PTSD here in Canada or around the world. Those with PTSD are the only patient group I'm aware of in Canada that have their medical cannabis covered by the federal government.

There's an increased interest in research around the treatment of post-traumatic stress disorder using cannabis. There's a study that's been approved recently by the U.S. government, and a Canadian arm of that study will potentially start in the next few years as well.

Ms. Yvonne Jones: Is anyone doing any of the research around that? I guess my question would be for Dr. Walsh. You were saying that you need to do a side-by-side examination looking at this. Has that been done? Is anyone doing that in the medical or research community in Canada right now?

● (0950)

Dr. Zach Walsh: Unfortunately, that's not being done, to my knowledge. One thing you'll see running through the testimony and the research on medical cannabis is that it's incredibly difficult to conduct studies using cannabis, either administering it or clinical trials. There's so much research that remains to be done.

Ms. Yvonne Jones: Have you done any research around whether it decreases the use of prescription painkillers? I've dealt with a lot of cancer patients, in particular, and I know that people in the health care system offered it as a form of treatment for patients, depending on what they were going through at the time. I'm just wondering if there's any evidence that it can reduce the use of painkillers, for example, for people who are suffering in that way.

Mr. Philippe Lucas: My primary area of research is called the cannabis substitution effect. That's a phenomenon where people either consciously or unconsciously use cannabis instead of using prescription drugs, alcohol, or illicit substances. The evidence suggests that approximately 80% of medical cannabis patients use cannabis instead of prescriptions drugs. About 50% use it instead of alcohol and about 35% use it instead of illicit substances. So, the retrospective studies certainly suggest that many, in fact the overwhelming majority, of medical cannabis patients reduce the use of pharmaceutical drugs by using cannabis.

Ms. Yvonne Jones: Okay.

In the note I was looking at here, it talked about community-based medical cannabis dispensaries in Canada. How many of those actually exist in the country, and where are they? How do they work? What is it that they do, in terms of providing a service for patients or the public?

Mr. Philippe Lucas: There are about 75 medical cannabis dispensaries. It's a shifting number because they tend to open up and close down on a pretty regular basis in Canada. They tend to be concentrated in major urban areas. They have been shown, through research and otherwise, to provide a safe source of cannabis to Canadian patients who might need it.

They've been the primary provider of medical cannabis research in Canada thus far, because unfortunately the Canadian government hasn't been very forthcoming in providing funding for research into the medical efficacy of cannabis. Despite the switch over to the new MMPR program, they continue to exist and provide medical cannabis to patients.

The Vice-Chair (Ms. Libby Davies): Okay. I think we'll halt it there.

Thank you very much, Ms. Jones.

We'll now return to Dr. Morin.

[*Translation*]

Mr. Dany Morin: Thank you very much, Madam Chair.

My colleague, Dr. Lunney, mentioned the study conducted by scientist Andra Smith, to whom I referred a bit earlier. As far as I understand, you were not familiar with that longitudinal and perinatal study.

I will give you some information related to my question. The study consisted of a 10-person subject group and a 14-person control group. I thought it was peculiar that three young individuals from the control group said they had consumed marijuana one to four times in the previous year.

I think discussions on marijuana do not make enough of a distinction between

[*English*]

heavy users, light users, and occasional users.

[*Translation*]

Mr. Lucas, you said in your presentation that about 40% of Canadians have consumed marijuana in the past. That's a fairly high percentage.

Can you tell us what portion of those people have consumed marijuana a few times in their life? What percentage of people consume it regularly, a few times a month? What percentage do heavy users account for?

I don't know what the criteria or categories are, or where the limit is. I would like to hear what you have to say about this, since 40% represents a lot of people.

● (0955)

Mr. Philippe Lucas: The statistical information I remember is that 44% of Canadians admit to consuming marijuana at least once in their life.

As a researcher on drugs, I can tell you that the figure is probably a bit higher than that. Usually, when people call in and ask questions about drug use, not everyone gives an honest answer. So the percentage may be a bit higher than that.

[*English*]

In drug research, we call that.... We acknowledge that there's probably under-reporting going on with regard to substance use.

The other statistic that I recall is that around 10% of Canadians have used in the last month.

[*Translation*]

Mr. Dany Morin: So about 40% of people have smoked marijuana at least once in their life, and 10% of Canadians have smoked it the last month. Is any information available on those people's health status or the consequences of their marijuana use?

I don't want to accuse my colleagues across the way of fear mongering, but we can see where the conversation is headed. They seem to be insinuating that even the slightest marijuana use can cause irreparable long-term damage when, ultimately, I feel that the reality is much more nuanced.

Do you have any information on the health status of the 10% of Canadians who consume marijuana every month and of the 40% who have consumed the drug at least once? What are the long, medium and short-term effects on those people?

[*English*]

Dr. Zach Walsh: I can speak specifically to university students who we do research with at UBC. This is generally a high-performing group. Of those students, the rates of cannabis use are similar to what we see in the general Canadian population. We have about 35% to 40% who have used in the past year and maybe 5% to 10% who are fairly frequent users. We're embarking on a study to follow their university careers to see if there are differences in how these people go through their undergraduate education.

In looking at our cross-sectional data, we find that even the frequent cannabis users, on measures of mental health and well-being, are equivalent to and in some cases less anxious than are the non-users and even the infrequent users. We don't see any functional deficits on our measures according to the cannabis use, at least amongst the UBC undergraduates, who are admittedly overall a fairly high-functioning bunch.

Mr. Dany Morin: Thank you, Dr. Walsh.

You mentioned earlier in your presentation that after 28 days there were no differences in conditions between heavy users, light users, and non-users. Can you expand a little more on what other data you were able to collect, beyond cognitive differences, after those 28 days? Have you been able to evaluate whether there were other differences after 28 days of non-use of marijuana?

The Vice-Chair (Ms. Libby Davies): A very brief response, please. You're well over time.

Dr. Zach Walsh: That study was conducted at Harvard a number of years ago. Based on their sort of comprehensive neuropsych IQ tests, they didn't see any differences between the heavy users, the recently abstinent, and those who were never users.

Mr. Philippe Lucas: I just wanted to add regarding your first question that for the health care costs of Canadian users, according to 2002 data, the average cannabis user costs the health care system about $20 a year, the average tobacco user $822 a year, and the average alcohol user $165 a year.

The Vice-Chair (Ms. Libby Davies): Thank you very much.

Mr. Philippe Lucas: That's according to recent research.

The Vice-Chair (Ms. Libby Davies): We'll now go to Mr. Lizon.

Mr. Wladyslaw Lizon (Mississauga East—Cooksville, CPC): Thank you very much, Madam Chair.

Thank you, witnesses, for coming here this morning.

The first question I have is for both gentlemen.

This study has been going on for a few weeks. Are you familiar with the presentations that previous witnesses have made to the committee?

Mr. Philippe Lucas: I'm not, but I'm familiar with Dr. Sabet and some of his past statements on the use of cannabis.

Mr. Wladyslaw Lizon: There were many witnesses here. The reason I'm asking this is that some of your views presented here are contradicting not their views, but their studies and their expertise. You can comment on this. We had people here who are professionals in the medical field and the pharmaceutical field. Therefore, I'm just curious as to what you base your findings on.

● (1000)

Dr. Zach Walsh: My findings are based on a comprehensive review of the empirical literature, on my expertise as a professor at UBC, where I teach the course on drugs and behaviour, and on my considerable experience in treating mental health and addiction.

Mr. Wladyslaw Lizon: Dr. Walsh, as you stated before, you are not a medical doctor or a pharmacist.

Dr. Zach Walsh: That's correct.

Mr. Wladyslaw Lizon: Thanks.

Mr. Philippe Lucas: I'm a medical cannabis researcher and an addictions researcher, so my responses are based on scientific literature and experiences with medical cannabis patients as well, but frankly, I wouldn't cite anything that I didn't think could be backed up by peer-reviewed literature. That's why I've provided this committee seven or eight papers that support some of the findings I've stated here today.

Mr. Wladyslaw Lizon: Okay.

Going back to the discussion about prescription drugs versus cannabis, this committee completed a study on abuse and misuse of prescription drugs. We concluded it just a couple of months ago. All the prescription drugs, before they enter the market, have to go through the process of approval.

Contrary to that, cannabis has not gone through that process of approval. Therefore, we talked about and you talked about monitoring the patients. People who take prescription drugs.... We know there are side effects. We know that some people experience adverse effects, and those have to be reported. Sometimes, based on those adverse effects, the drug can be pulled from the market. This is not the case with medical marijuana. Can you comment on this?

Mr. Philippe Lucas: I would suggest that under the new system, the MMPR, it absolutely is the case. I work for a medical marijuana producer and distributor named Tilray, and if we get any adverse reporting at all that comes from the use of our cannabis, we need to report it back to the Canadian government. We have protocols to do that. In fact, since this new program started, we've actually seen recall of two different cannabis strains by two other producers, not because of adverse health effects to the end user but because problems had been found with the quality of that particular cannabis.

Right now in Canada we have the most robust and the strictest regulations around the production and distribution of cannabis that I think you'll find anywhere in the world. There's definitely no lack of reporting under our current system. What we don't have is a lot of patient outcome studies. The Canadian government could play a significant role in that direction by putting funding towards patient outcome studies, looking at the different conditions that we've brought up today.

Mr. Wladyslaw Lizon: When previous witnesses who talked about the negative effects of marijuana were asked “What are the medical benefits?”, they all told us that more research is needed before conclusions can be drawn.

Do you agree with that?

Mr. Philippe Lucas: I completely agree that in terms of long-term effects for a lot of the areas that people are using cannabis we absolutely need more research. I think there are certain conditions where we now have ample research to be able to suggest that there is some good going on. We have a strange conundrum here in Canada: we have a court-ordered medical marijuana program. It hasn't followed a normal path. It's tied up with ideological beliefs as well, which makes it challenging for the research to go ahead as we would with any normal pharmaceutical.

Those are the challenges we face at the political level and the challenges we face as researchers as well.

Mr. Wladyslaw Lizon: We were also told that over the past 20 years, the marijuana that's on the market now has become 10 to 20 times stronger. Would that be a concern to you?

Mr. Philippe Lucas: I think the evidence is pretty clear that even starting in the seventies, from seizures done by NIDA and governments that track the rates, there was always high-THC cannabis available at the time. I think we've seen an increase in the rates of THC that came with people producing indoors, as opposed to there being an outdoor supply. But there's certainly no evidence of greater harm associated with those higher rates of THC. People tend to self-titrate; they use the amount of cannabis they need and then they stop using it. I think it's a concern, but I don't think we've seen any evidence of an actual public health harm tied directly to those THC levels.

What I can tell you is that right now at Tilray, interestingly enough, one of our top-selling cannabis strains that's being used by patients is a high-CBD strain. It's low in THC. Patients are looking to try different modes and approaches to cannabis that don't involve intoxication necessarily.

I think through a regulated system, whether it be for medical or recreational use, giving people knowledge about what they're using, letting them know what's in it, the level of THC and CBD, is probably the best harm reduction tool we can hand to Canadian medical or recreational cannabis users, so that they actually know what they're getting. On the black market, unfortunately, there are no controls for that. There are no age controls, no quality controls, and that's a problem.

● (1005)

The Vice-Chair (Ms. Libby Davies): Thank you, Mr. Lizon. You had almost seven minutes there.

Members, I'll just let you know that we've heard that we may get a bell to go back to the House.

We'll now turn to Mr. Gravelle.

Mr. Claude Gravelle: Thank you, Madam Chair.

Mr. Lucas, can you tell me what the outcome would be if the government were to remove the medical marijuana program? Would there be more harm done than good?

Mr. Philippe Lucas: It would cause tremendous harm. There are, as has been suggested, 50,000 Canadian patients enrolled in our federal medical marijuana program. That is the tip of the iceberg of the actual Canadians who are using medical marijuana in Canada. The official estimates are that, among Canadians, between 500,000 and one million—about 2% to 4% of the adult population—currently use cannabis for medical purposes. So our program right now is protecting only a tiny proportion from arrest and prosecution. There's no doubt in my mind that those who are suffering from serious conditions, critically and chronically ill Canadians, would be negatively affected in a very significant way if they didn't have access to a safe source of cannabis.

I've had the opportunity and the privilege to work with patients for a number of years to see the way that it's changed some patients' lives, the way it allows them to live a richer life, the way it allows them to have more peace of mind and relate to their families better at the end of life because they get to use fewer pharmaceuticals, fewer pharmaceutical opiates in particular. It's been a remarkable privilege to be witness to people's healing and their better health outcomes when they use medical cannabis—which, by the way, simply isn't effective for everyone. It seems to help a percentage of the population, but another percentage of the population doesn't seem to benefit from the use of cannabis or doesn't respond well to it. In no way is it a panacea; it's not going to help everyone under every circumstance.

Mr. Claude Gravelle: Thank you.

I'd like to go back to the book that you worked on. There was a part on chronic pain. I'm going to read that out and I'd like you to comment:

> Cannabis can serve at least two important roles in safe, effective pain management. It can provide relief from the pain itself...and it can control the nausea associated with taking opiod drugs, as well as nausea, vomiting and dizziness that often accompany severe, prolonged pain.

Can you comment, please?

Mr. Philippe Lucas: No matter what the primary condition is that people use cannabis for, a primary symptom that they always report getting relief from is chronic pain. The primary symptomology beyond that includes better sleep, lower anxiety, and stress relief.

So there's no doubt in my mind that for people in Canada who are trying to seek relief from severe, chronic pain, whether it be due to MS, injury, or other debilitating conditions, cannabis should be a treatment option for them. It's yet another tool that we give to physicians in their tool belt of how to deal with chronic pain, and thankfully, it's less potentially addictive and less potentially harmful than a lot of the other common pharmaceuticals that are used to treat chronic pain.

Mr. Claude Gravelle: Also in the same book, concerning HIV, it's stated, "The effectiveness of cannabis for treating symptoms related to HIV/AIDS is widely recognized." How widely recognized is it?

Mr. Philippe Lucas: I think it's indisputable at this point. The amazing thing is not only that it helps people treat the symptoms of the disease, but that it helps people treat the symptoms and the side effects associated with the treatment, so what we see are actually better treatment outcomes.

The same is true for people with hepatitis C. They tend to have better treatment adherence. In other words, it allows them to go through the treatment more successfully and stay on treatment, therefore saving lives and public health costs in the interim.

● (1010)

Mr. Claude Gravelle: How much more time do I have?

The Vice-Chair (Ms. Libby Davies): You have about a minute.

Mr. Claude Gravelle: Also from the book, on gastrointestinal disorders, is this statement:

> The effectiveness of cannabis and its derivatives for treating gastrointestinal disorders has been known for centuries. Recently, its value as an anti-emetic and analgesic has been proven in numerous studies and has been acknowledged by several comprehensive, government-sponsored reviews, including those conducted by the Institute of Medicine...the U.K. House of Lords Science and Technology Committee, the Australian National Task Force on Cannabis, and others.

Can you comment, please?

Mr. Philippe Lucas: In my experience, for the treatment of conditions that are otherwise orphan conditions, we don't have a lot of good treatment modalities, including conditions such as Crohn's disease, irritable bowel disease, or irritable bowel syndrome. Cannabis appears to be a very effective treatment modality. There have been very few clinical studies and very little clinical research done on this, but certainly we know, by the large use by patients who suffer from GI conditions, that this seems to be an effective and potentially...well, it certainly is a popular treatment modality.

Mr. Claude Gravelle: Thank you.

The Vice-Chair (Ms. Libby Davies): Thank you very much.

Thank you, Mr. Gravelle.

We'll now go to Ms. Adams.

Ms. Eve Adams (Mississauga—Brampton South, CPC): Thank you, Madam Chair. It's nice to see you in the chair.

Mr. Lucas, I apologize that you're suffering from hepatitis C. Thank you very much for coming forward today to share your testimony.

I'd like to put this question to both of you individually. Can you tell me if you know of any health risks of the recreational use of marijuana? What would they be?

Mr. Philippe Lucas: I think that ultimately you would have to have concerns...well, I think that everyone has concerns over youth use of cannabis. I think that's the primary concern I have, both as an adult and a former high school teacher and child care provider. So I think that any policies that can help us keep it out of the hands of youth are going to have a net beneficial effect. I don't think that criminalizing our youth is a good way to do that, but I do think—

Ms. Eve Adams: What age—

Mr. Philippe Lucas: —that a public health-centred policy would be useful.

Ms. Eve Adams: At what age would you say that you would have no concerns whatsoever that there would be no health risks for the recreational use of marijuana?

Mr. Philippe Lucas: I've never said that there was no health risk at all associated with the recreational use of cannabis. It's an intoxicant and, like any intoxicant, it carries a potential health risk.

Ms. Eve Adams: What are those health risks, then?

Mr. Philippe Lucas: On the health risks while under acute intoxication, I think we've discussed this at this table and we've heard about this. It affects attention span. It affects memory and learning during the execute stage—so while you're under the intoxication of cannabis. Those would be a concern. I think—

Ms. Eve Adams: Mr. Walsh, do you have any other health risks that you're aware of from the recreational use of marijuana?

Dr. Zach Walsh: I think there's some evidence for short-term irritation of the lungs, such as acute bronchitis, although the evidence doesn't suggest that there are serious long-term effects on pulmonary function and respiratory function. Certainly there's short-term irritation. There are the acute effects on cognition so that while people are intoxicated on cannabis, there's cognitive interference with memory and attention as well.

Ms. Eve Adams: At what age would you say individuals should or could meaningfully engage in the recreational use of cannabis?

Dr. Zach Walsh: I think—

Ms. Eve Adams: When do you think they can consent?

Dr. Zach Walsh: I think the standards we use for alcohol are all right, so somewhere between 18 and 21 would be a reasonable age, based on when we allow people to engage in behaviours for which they can weigh the risks and benefits and make choices given that those risks are not too severe relative to other things we allow people to do.

Ms. Eve Adams: Mr. Walsh, are you aware of any scientific studies that differentiate between the health risks for a developing 15-year-old mind and the health risks for a developing 18-year-old mind when recreationally abusing marijuana?

Dr. Zach Walsh: I think, again, we need more research, because we haven't been able to pin down exactly what the differences are according to those ages.

Ms. Eve Adams: Some of the testimony you've presented today said that, for instance, health care costs for people who use marijuana are lower than are those for the general public. You've also presented that, for instance, people have less anxiety. They tend to have higher incomes.

I was wondering. I have this eight-year-old little boy who has asthma and he has some respiratory illnesses. The science that you cited earlier today said that in fact they have less respiratory illness. I'm wondering if I should start offering marijuana to my eight-year-old because it would lead to higher income for him one day. You don't think it should be for 8-year-olds or 12-year-olds or 14-year-olds, but we should study if it's okay for 15- to 18-year-olds. I'm just trying to get to what the science would be.

● (1015)

Dr. Zach Walsh: Certainly my hope would be for your child to live a long drug-free life without the need for any substance. But if he were to need medication, I would hope—

Ms. Eve Adams: No, I'm talking about the recreational use, if I might just address that. Today's testimony has really muddied the medical—

The Vice-Chair (Ms. Libby Davies): We have a point of order.

Hon. Hedy Fry (Vancouver Centre, Lib.): This is about the fourth time I have noticed my colleague asking a question and not waiting for the witness to even finish the first part of a sentence before cutting in again. Could we hear the answers?

Thank you.

The Vice-Chair (Ms. Libby Davies): I don't think it's a point of order, but I think it would be respectful to the witness to allow them to respond briefly to your questions.

Ms. Eve Adams: Absolutely, Madam Chair. However, my question was about the recreational use of marijuana, and he started to go down medical use. That's why I interjected to say I'd like to clarify that these are really two distinct things we're talking about.

The Vice-Chair (Ms. Libby Davies): Would you like to clarify your question then?

Ms. Eve Adams: Sure.

Throughout today's committee meeting, we've been sort of muddying and going back and forth over the medical use of marijuana versus the recreational use. I think all reasonable people would concede that there really are two distinct uses there inasmuch as perhaps you might be required to have opiates if you are a cancer patient, but I don't think anyone reasonably thinks that opiates should be available at corner stores or that we should just make them available recreationally to 18-year-olds or 19-year-olds. I think there are two distinct uses, obviously. We do find ourselves in this court-mandated medical marijuana situation.

I want to pop back to my earlier question to you, which is really, genuinely what our entire study here is about. That is on the health risks of marijuana. You presented at length about possible medicinal benefits or pain reduction, but we're really here to talk about some of those health risks. At one point you indicated that, in fact, there is less respiratory illness amongst those who smoke marijuana, which I find very difficult to comprehend, simply because I would imagine that anything you're inhaling, especially if it's carcinogenic, could not be healthy for you.

Dr. Zach Walsh: I believe it was Mr. Lucas who described that study you referred to. It was comparing cannabis users to tobacco users and people who use tobacco and cannabis versus cannabis alone.

Ms. Eve Adams: That was the other interesting study you cited, stating that folks who are using cannabis might not be consuming as much alcohol. That might be a confound. I'm certainly not a doctor, as you are not a doctor. Neither of you are doctors.

Dr. Zach Walsh: I'm a doctor who helps train doctors.

Ms. Eve Adams: You're not a medical doctor.

Dr. Zach Walsh: No, I'm not.

The Vice-Chair (Ms. Libby Davies): Actually you're over the five minutes.

I would like to ask the committee something. On the rotation, we would normally go back to another Conservative member, but because Ms. Fry came late and she hasn't had a question, and you've each had a question, you are technically allowed another question right now or we could go to Ms. Fry.

Mr. Terence Young: I'd prefer to use my time; I'm prepared. Thank you.

The Vice-Chair (Ms. Libby Davies): Okay.

We're finished with Ms. Adams' time, so we'll now go back to Mr. Young.

Mr. Terence Young: Thank you, Chair.

Mr. Lucas, you mixed some terms there that I don't think should be mixed. You made a reference that sounded to me like you were talking about treating pain in end-of-life palliative care, and I think that's a completely different issue. When you take a prescription drug, the question is always, "Do the potential benefits outweigh the potential risks?", and when you're terminally ill, the risks are minimized.

You also used the term "healing". Now, I don't know of any clinical evidence or have never seen any that marijuana heals anything.

Mr. Walsh, you claim there's an "absence of evidence" of health risks and harms from marijuana. I have to tell you that all of the experts we've heard from in medicine and pharmacology disagree with you.

Have you conducted any double-blind clinical studies, not on animals but on human beings, that prove any benefits of marijuana by a clinical standard, which is cause and effect?

Dr. Zach Walsh: No, I haven't done any of those studies.

Mr. Terence Young: And we haven't heard of any others; in fact I don't think there are any. So it's all anecdotal, and it's from people who are taking a drug that is six times more powerful than it was perhaps 20 years ago—perhaps more—that creates a powerful euphoria and makes them feel better simply because of the euphoria. The anecdotal evidence is not clinical evidence.

● (1020)

Mr. Philippe Lucas: I think Dr. Ware's study, which was done at McGill University and clearly looked at chronic pain and the treatment of chronic pain, was a Canadian-funded—funded by the Canadian government—double-blind study, peer-reviewed and published study. It showed that cannabis was very effective in non-terminal patients in the treatment of chronic pain. There's a similar study out of the University of California, San Diego, by Donald Abrams.

So the clinical research is ongoing—

Mr. Terence Young: In the treatment of pain.

Mr. Philippe Lucas: In the treatment of pain.

Mr. Terence Young: And that's it.

Mr. Philippe Lucas: Well, you mentioned the treatment of pain, so that's why I thought we'd discuss the treatment of pain.

Mr. Terence Young: There are a whole lot of other claims for which we haven't heard any evidence.

Mr. Lucas, I think we should get it on the record that you work for a company that produces marijuana. You make your living selling marijuana. I think that's important to get on the record.

Mr. Philippe Lucas: I agree. That's why I stated it.

Mr. Terence Young: Yes.

In a previous study at this committee, we heard from Peggi DeGroote, who runs a methadone clinic in Burlington. She said there is absolutely no question that marijuana is addictive. We've heard from experts at CAMH. We heard from Kevin Sabet, Ph.D., from the Drug Policy Institute at the University of Florida, that one out of six teens—one out of six—who smoke marijuana will become addicted. We also know that addiction will cause serious health harms and hurt their relationships, academic achievement, and work opportunities.

So my question is this, Mr. Walsh: why do you try to minimize these terrible risks to our young people?

Dr. Zach Walsh: Oh, I'm not trying to minimize them; I'm trying to accurately convey them. It's hard for me to answer a question of why I would minimize them when that's not what I'm attempting to do.

Mr. Terence Young: Well, you said to this committee that there's no evidence; you said there is an "absence of evidence...of health risks and harms", which is a ridiculous claim based on everything else we've heard at this committee.

Dr. Zach Walsh: There's an absence of evidence of physical health risks.

I noted some risks associated with schizophrenia. As far as violence goes, I see an absence of evidence. As far as anxiety goes, I see an absence of evidence. As far as long-term cognitive deficits, I see an absence of evidence.

Those are the issues that I presented to the committee.

Mr. Philippe Lucas: I think I made it clear, or certainly the research that I have suggests, that one in ten regular cannabis users develops a level of dependence to it, but the dependence is short-lived. It's usually self-treated. It lasts three days to a few weeks—

Mr. Terence Young: That's not what we've heard.

Mr. Philippe Lucas: That's certainly what the evidence that I'm aware of suggests.

Mr. Terence Young: It's interesting that when drug companies are trying to sell a drug, they call addiction a dependence when it's really basically the same thing.

I just looked up the study I mentioned before. I would like to get it on the record, Madam Chair. It was a study by Gil Kerlikowske, director of the White House Office of National Drug Control Policy. This was under a Democratic president, the most liberal president since Jimmy Carter. This was from May 2003. The conclusion of the study was that marijuana was the drug most commonly linked to crime. Among adult males arrested for crimes in five major cities across the United States, 80% tested positive for at least one illegal drug. Marijuana was the most common, and it ranged from 37% to 58%. They did urinalysis, etc.

Surely you can recognize the misery suffered by the victims of these crimes and recognize the link between marijuana use and crime.

Mr. Philippe Lucas: The evidence is really clear on this issue that cannabis is not criminogenic. Mr. Kerlikowske is not an MD. He's a former police chief of Seattle. What he's referring to are blood plasma levels showing past cannabis use, not present cannabis use that was there when the crime was committed, or otherwise—

Mr. Terence Young: Well, let me tell you what we heard from a real expert, a pharmacologist—

The Vice-Chair (Ms. Libby Davies): Excuse me, Mr. Young. We're now over time, so we're going to go to Ms. Fry.

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

Thank you, Mr. Wilks. I understand that you gave me your time. Thank you very much. It's very kind of you, and collegial, I might say.

I wanted to discuss more about the benefits, because as a physician I have never seen any studies that looked at any drug at all, whether a prescription drug or a non-prescription drug, and did not look at the benefits versus the harms and risks. Because you can only decide on the value of the drug based on the weight of those benefits versus harms and risks.

I just wanted to go back to this. We've heard about—and it's well known—some of the risks to prepubescent mind and prepubescent brains in terms of cognitive disorders, etc. We know of the addictive nature of cannabis. These are all known factors. They're not something that anyone is disputing.

I think, however, that what we are looking at is, what are the benefits that may actually put some of those things into perspective? I wanted to go back because I noticed that you were challenged on the pain benefits of marijuana. I do know that there are many studies I have seen that have looked at neurogenic pain, hence a lot of MS users use cannabis because of the neurogenic pain component of it.

Can you tell me a little more about some of the benefits of marijuana, including for neurogenic pain? You've talked a little about the gastrointestinal uses, but about nausea, how does it work on nausea? Does it work on the brain or does it work in terms of nausea on the GI system and on the neurogenic pain component?

I don't know which one of you wants to take that.

● (1025)

Mr. Philippe Lucas: Sure, I can discuss this a little bit. The primary constituents of the endocannabinoid system, that we know of—CB1 and CB2—are found either in the immune system or in the brain and otherwise...so they course through our body. Now, different cannabinoids bind in the endocannabinoid system, and we're still discovering exactly what that relationship is. That's why we know, for example, that we tend to have better results with whole-plant cannabis products than with single cannabinoids. That's indicative of some kind of synergistic effect.

But because there are over 100 cannabinoids found in the cannabis plant, it's fair to say that we haven't discovered exactly what each mechanism is and how they work in isolation or together. What I can tell you is that, as you've listed, there's a number of different effects that cannabinoids and cannabis have that are incontrovertible among the scientific community.

They're anti-intoxicant. They're anti-inflammatory, which is one of the reasons why they're so effective in the treatment of chronic pain. They're calmative. They're anti-emetic, which stops people from having nausea and vomiting. They're associated with spasticity reduction when it comes to seizure disorders, such as MS and epilepsy. There's a reduction in the intra-ocular eye pressure, which is why people have recommended it for glaucoma. Also, they're anti-tumourific and anti-carcinogenic, as well as antiviral, and that's one of the reasons why people with hepatitis C sometimes find them to be effective in the reduction of liver inflammation, in the reduction of viral attacks on the liver, and also in helping people to put up with the side effects of hepatitis C treatments.

Hon. Hedy Fry: Thank you.

Dr. Walsh, did you have anything to add to that?

Dr. Zach Walsh: No, I think that's an excellent summary.

In particular, what I've heard in regard to some of the anti-nausea effects is that it's perhaps the most effective anti-nausea agent, particularly for people who have HIV/AIDS-related wasting and also for cancer sufferers who are dealing with the side effects of chemotherapy. I've heard that it not only reduces actual nausea but reduces some of the feelings that precede nausea, so that it's particularly effective in reducing their suffering.

Hon. Hedy Fry: Some public health officers across the country have asked for the decriminalization of marijuana, not just medical, but marijuana, because medical is a totally different set of uses. They have suggested, in fact, that it is less harmful than alcohol and tobacco.

Now, we talked a lot about the smoking effects of marijuana, and of course we all know that the amount of tar and benzopyrenes in smoked marijuana is higher than that in tobacco. However, what do you know of studies with regard to using canna oil, the oil of cannabis, and with regard to eating cannabis, in many instances? How does that stand up against any of the negative consequences of this smoking? Although I don't believe anybody could smoke 10 to 20 a day...they'd be under a table somewhere.

I think when we look at the amount of tar and benzopyrenes, we're weighing it up against the amount of cigarettes that people can smoke in one day and the amount of joints that you can smoke in any one day. Can you elaborate on the oil and the use of the leaves in food?

Mr. Philippe Lucas: There are many effective alternative methods of ingestion for cannabis and they're growing in popularity in the medical cannabis population. We see edibles. You can bake it into oils or butter and use it as a baking compound; you can make a tincture out of it so it can be used sublingually; or you can create an oromucosal spray. Additionally, it's interesting to note that technologies have evolved that allow people to get the benefits of smoked ingestion, including rapid onset of effect and use of titration, without actually smoking it. I'm talking about vaporizers that have been developed.

It's interesting to note that a product called the Volcano Medic has Health Canada's approval as a medical device, and it's being used in research and by patients. In our research, patients have been shown to use vaporizers at a much higher rate than the general population. There seems to be a health conscious aspect within medical cannabis use. Users are very aware of some of these concerns, and they're using these devices and methods of ingestion as alternatives.

Unfortunately, under a Health Canada program, we're currently only allowed to ship raw cannabis to patients, rather than oils, tinctures, or alternatives that would allow patients to do something other than smoke it.

● (1030)

The Vice-Chair (Ms. Libby Davies): Thank you very much. We're over time.

We'll move now to Dr. Morin.

[*Translation*]

Mr. Dany Morin: Thank you very much, Madam Chair.

Before I move on to my questions, I just want to say that I am a bit disturbed by the attitude of my colleagues opposite who seem to be attacking our witnesses. I think we should be very respectful of people who take the time to come testify before a committee. I am referring specifically to Ms. Adams, who is questioning our witnesses' studies and credentials, as well as Mr. Young, who is accusing one of our witnesses of having a financial interest in the sale of marijuana for medical purposes. After all, the Conservative government has decided that, as of this year, people have to buy their medical marijuana from third parties instead of growing it at home. So I feel that these comments are somewhat ambiguous.

Here are my questions for the witnesses.

It has been mentioned several times that marijuana has as many benefits as risks. Ideally, we would all like to live in a world where no one consumes any drugs, including marijuana. In 2007, one of the pillars of the government's drug policy was harm reduction. Today, one witness said that marijuana's level of dependence is very, very low compared with other types of addictive substances.

In the event of a government change or a new government measure to reinsert harm reduction into the drug policy, what kind of a role do you think marijuana could play in reducing harm?

[*English*]

Mr. Philippe Lucas: An evidence-based public health approach to regulating cannabis—which we're seeing now in Washington state and Colorado—allows adults to use cannabis for recreational purposes, regulates it by age, and regulates the amount that's allowed to be used. This would probably be the best step forward that Canada could take in order to keep it out of the hands of youth, and in order to ensure that those who are using cannabis have a safe supply and know what they are using through labelling practices.

If we moved towards regulated access to cannabis, I think we would likely see, as research suggests, a slight increase in the use of cannabis by the general population, maybe a 2% to 4% increase. We base that on looking at other jurisdictions that have taken similar paths, but we would see a subsequent decrease in the use of alcohol and alcohol-related problems, including drinking and driving, domestic violence, and property crime. We'd also likely see a reduction in the use of pharmaceutical substances, whether used for recreational purposes or medical purposes, and we'd see a reduction in the use of other substances that are currently illicit as well.

From a public health perspective, a net benefit perspective, and a cost perspective—because we're all Canadian taxpayers paying into our health care system—we'd probably see, as the evidence suggests, a net benefit through regulated access, not to mention the cost savings of not having to criminalize thousands of Canadians each year and bring them through the current criminal justice system. That is not a very effective approach to reducing the harms associated with cannabis. Giving people criminal records, or sending them to jail, can hardly be called a public health measure.

The Vice-Chair (Ms. Libby Davies): I'll just point out that we're back to a seven-minute round now, so you actually have about three minutes left.

Dr. Zach Walsh: If I could add to that, I think that it would also provide a better tone to our dialogue with young people if we accurately communicated risks and harms. I am also concerned that our current approach of prohibition hasn't prevented people from using cannabis at all, but it has caused them to use cannabis that can't be regulated for quality with regard to pesticides or moulds and mildews. I think if we were to regulate, people would know what they were getting, and they would know what they were getting in terms of THC content as well. So generally I think that amongst those who use cannabis now, that would certainly have a public health benefit.

● (1035)

[*Translation*]

Mr. Dany Morin: Thank you.

I would like to make a connection with what you just said, Dr. Walsh. In your presentation, you mentioned that the medicinal properties of THC and cannabidiol are basically what we are interested in, and not the plant as such.

Mr. Lucas, in your answer, you said that Health Canada prohibits your company from shipping the THC and CBD chemical agents in other forms that may be less harmful to health. My colleagues opposite still expressed their reservations, since the inhalation of smoke could be carcinogenic and could therefore be bad for health.

I agree with you and share your apprehensions when it comes to such means of consuming those chemical agents. Have the authorities told you why it is prohibited to distribute these chemical agents in other forms? Can you tell us whether shipping oils or other forms would be a good idea?

Mr. Philippe Lucas: Unfortunately, Health Canada has never justified its decision to only allow us to provide patients with raw cannabis.

[*English*]

There was never a good reason put forward. I think this is the start of our program. I don't think this is the end point of the medical marijuana program. I strongly suspect that due to pushback from physicians, largely, as well as from patients, Health Canada will have to consider allowing medical cannabis producers to ship out cannabis in other forms for ingestion if they really have a concern with smoked ingestion.

Right now all we can do as federal providers is to give people instruction on how they might turn cannabis into oils or butters to be able to do their own baking, but surely we would never give, for example, a raw poppy seed to someone and ask them to make their own opiates out of it, so I think we're asking people to produce medicines that can otherwise be safely and effectively produced in a lab setting to allow them to have an alternative to smoking.

The Vice-Chair (Ms. Libby Davies): Okay. Thank you very much.

We'll now go to Mr. Wilks for seven minutes.

Are you sharing your time with someone?

Mr. David Wilks: I'm sharing with Mr. Lunney.

The Vice-Chair (Ms. Libby Davies): Okay. Would you like me to tell you when you're about halfway through?

Mr. David Wilks: Sure. Thank you very much, Chair.

I want to get back to the comment made with regard to criminalization and how thousands of Canadians get criminal records each year.

Could either one of you give me an example of that with regard to one to thirty grams of cannabis marijuana?

Mr. Philippe Lucas: I was a city councillor in Victoria from 2008-2011, and I can tell you from the latest numbers I've had—I haven't looked at these in a while—that in 2008 we had about 300 cannabis arrests in the city of Victoria, two-thirds of which were for under an ounce of cannabis. In other words, over one in three of our cannabis arrests in the city of Victoria were for less than an ounce of cannabis. Currently—I think you're probably familiar with the statistics—50,000 Canadians or so get arrested for cannabis-related charges. In Canada, most of those arrests are for personal possession.

Mr. David Wilks: With regard to personal possession of one to thirty grams, how many of those arrested got criminal records?

Mr. Philippe Lucas: I certainly don't have that statistic.

Mr. David Wilks: Would you agree with me that none did?

Mr. Philippe Lucas: No, absolutely not.

Mr. David Wilks: Well, I'll tell you that they don't, and I'll tell you why. Under subsection 4(5) of the CDSA since 1995, when Allan Rock changed it from an indictable and summary conviction offence both, to a summary conviction offence only, you cannot fingerprint for summary conviction offences. So since 1995, there hasn't been a single Canadian—not one—fingerprinted for possession of one-to-thirty grams under subsection 4(5) of the CDSA, guaranteed. They may have been charged with another offence on top of it, but individually they have not been convicted, because they legally cannot be.

What would you say to that?

● (1040)

Mr. Philippe Lucas: I would say that this would be news to me. I'd be curious to find out if that were an accurate description of what's going on here in Canada.

Mr. David Wilks: I would suggest that you do that, because under subsection 4(5) it's been that way since 1995.

Having said that—that people get arrested and are not given a criminal record—can I get your understanding of a recent comment by the Canadian Chiefs of Police with regard to a ticketable offence for recreational marijuana use of one to 30 grams?

Mr. Philippe Lucas: You want just my general comments?

Mr. David Wilks: Yes.

Mr. Philippe Lucas: To be honest, I think it would be a step in the right direction. I think it would be a small step, but it would be a step in the right direction.

I would have concerns, because of evidence that comes from Australia, of a net-widening effect. That would be my concern as a social researcher. When a few states in Australia tried this in the first place, they actually saw an increase in the number of cannabis-related charges because police found it easier to hand out tickets than to write up a whole case arrest form.

But I think anything that takes a step to remove the criminal penalties associated with behaviour that otherwise doesn't have a significant public health or public safety impact on Canadians, and that is widely supported by Canadians, I think is a step in the right direction.

Mr. David Wilks: Thank you. And—

The Vice-Chair (Ms. Libby Davies): You're actually at three minutes and 30 seconds, so depending on how much time you want to give Mr. Young....

Mr. David Wilks: I have just one quick question.

The Vice-Chair (Ms. Libby Davies): Yes, Mr. Gravelle.

Mr. Claude Gravelle: On a point of order, Madam Chair, just as a point of information for Mr. Wilks, I'm currently working on a case where a women was arrested for simple possession of under 30 grams. She was fingerprinted. The charges were dropped, but her fingerprints are still on record. She's having problems finding a job because of that.

So people have been fingerprinted.

The Vice-Chair (Ms. Libby Davies): Thank you very much, Mr. Gravelle.

What I would suggest is this. I think Mr. Lucas also questioned whether or not that was correct. So I would invite the witnesses and also the committee members, if you have other information, to later submit it to the committee, if you want, in written form so that it can be part of the record.

We'll go now to Dr. Lunney.

Mr. James Lunney: Madam Chair, I just hope the intervention on behalf of our colleague didn't cut into the time that remains.

The Vice-Chair (Ms. Libby Davies): No, no, you have about three minutes.

Mr. James Lunney: Okay. Thanks.

My concern is about that use among young people in particular, and maternal use. These are the comments of the Canadian Centre for Substance Abuse:

> Cannabis use during pregnancy has been shown...to affect the development and learning skills of children starting at about the age of three years, and these effects continue at least until the children's teenage years.

This is a big concern. The numbers from Mr. Sabet were mentioned earlier: one in six teens become addicted, one in ten adults. The adolescent brain is especially susceptible. We're concerned about the myelination in the prefrontal area that could affect them for a lifetime.

My first question—I also want to pose a second one, because time is limited—is the following. Is the delayed myelination in the prefrontal area not of concern to the people at the end of the table? And how do we manage that with young people? That's question one.

Number two is on safety. You mentioned Colorado as an example of no harm done, but the evidence presented by Dr. Sabet was that in fact vehicle accidents in Colorado have gone up. He said: “While the total number of car crashes declined from 2007 to 2011, the number of fatal car crashes with drivers testing positive for marijuana rose sharply.” On the same point, he talked about increased ER admissions: “In 2011, marijuana-related incidents accounted for 26 percent of the total ER visits, compared to 21 percent nationally.”

Perhaps I can ask you for a quick comment on that. Then I'll turn it over to my colleague here if there's any time left.

Mr. Philippe Lucas: Sure. I have two quick comments.

First, I studied the cannabis substitution effect. The first study on this that I'm aware of was by a researcher named Karen Model, who looked at U.S. states that had decriminalized cannabis in the 1970s. She found a reduction in ER visits and in alcohol-related driving incidents in U.S. states that had decriminalized cannabis. That seems to contradict a little bit of what we've heard.

Just to quickly finish off, I think no matter how you feel about the impact of cannabis on the young brain, I'm just not sure whether arrest and prosecution are the best ways to reduce that impact.

● (1045)

Mr. James Lunney: Do you have a better way to manage that?

Mr. Philippe Lucas: Yes, I think we've done a very effective job in reducing tobacco through honest education without having to arrest youth or give them a criminal record.

Mr. James Lunney: So you're talking about a 40-year program to try to get them down on marijuana?

Mr. Philippe Lucas: Absolutely. I think at a time when most Canadian youth have access to it under our current system after 70 years of prohibition, it's hardly exemplary to continue doing the same thing.

The Vice-Chair (Ms. Libby Davies): Thank you very much.

We've now reached the end of the committee.

I want to say thank you to both of our witnesses.

You certainly had a very full two hours with a lot of questions. I would like to state for the record that both of you absolutely met the criteria for the study, which said in part that people had to be experts in their field, and you both do qualify.

A lot was made about your credentials. You're not medical doctors, but you are both experts and have done research and so you actually met the terms that were laid out in the motion for this study. That's why you're here today. We very much appreciate the thoughtful replies you gave. You answered a lot of question from all sides of the committee.

Thank you to the committee members as well.

The meeting is adjourned.