Memorandum

Date: April 7, 2017
To: Standing Senate Committee on Social Affairs, Science and Technology
From: Cannabis Canada Association
Subject: Submission regarding Bill S-5

Introduction

Cannabis Canada objects to the broad premise evident throughout S-5 that the use of vaporizers to deliver a prescribed, legal medical treatment is equivalent to the recreational smoking of tobacco or even to the recreational use of e-cigarettes. This is not factual and is disrespectful of patients’ rights and interests.

Need for Decisions to be Science-based

Vaporization of medical cannabis is in no way comparable to the smoking of tobacco products. Vaporizer devices, one of which is approved by Health Canada as a Class 2 medical device, do not burn cannabis; no burnt plant material or hazardous particulate matter escapes into the air. Instead, a vaporizer gently heats cannabis to release the active pharmaceutical ingredients – cannabinoids such as THC and CBD, which have therapeutic effect. What the patient exhales into the air is a small amount of vapor. There is no ‘second-hand smoke.’ Moreover, even if the
vapor is released in proximity to bystanders, the minute amounts of cannabinoids (THC and CBD) that are released are in the range of parts

There is growing evidence, on the other hand, as to the efficacy and safety of vaporized cannabis in the treatment of pain (please see sampling of abstracts in Appendix).

Patients Report Vaporized Medical Cannabis is Effective and Safe

The licensed producers of medical cannabis recommend vaporization rather than smoking cannabis.

Patients use vaporized medical cannabis to help manage symptoms of illnesses such as multiple sclerosis, nausea caused by cancer chemotherapy, epilepsy, certain anxiety disorders, chronic pain and other conditions.

Some patients, including those who use vaporized cannabis to manage pain, nausea and seizures, require regular dosing throughout the day in order to keep their symptoms under control. While alternative products are being developed, these will not supplant vaporization of medical cannabis, which, as a faster acting, shorter duration relief, offers unique ‘as-needed’ dose advantages -- oral forms of cannabis are longer acting and not as fast acting as vaporized doses.

Patients must not be prevented from accessing their legal and prescribed medical care, by, for example, prohibitions affecting access to their medical treatment in places such as hospitals or on hospital grounds, in private hospitals, long-term care homes and psychiatric facilities, at their workplaces, inside buildings (including public areas within their own apartment buildings), or outdoor locations.

Employers too will be adversely affected if their employees are unable to access their medication. Workplace productivity will decrease by the amount of absenteeism and presenteeism that will inevitably follow if patients are not able to take their medical cannabis when needed.

With over 130,000 Canadian patients using medical cannabis for relief of their symptoms – a number that will continue to grow as patients and doctors become more educated about the advantages of medical cannabis over other therapies -- proposed restrictions to access will likely face court challenge for being discriminatory to patients’ rights.
Finally, in the context of the current public safety crisis related to opiate overdose, it is worth considering whether it is advisable to increase the barriers to access to a safer alternative for the relief of chronic pain. States in which cannabis has been made legal for medical purposes, including the treatment of pain, have seen the numbers of deaths by overdose of opioid pain medications drop dramatically: 24.8% lower mean annual opioid overdose mortality rates compared with States without medical cannabis provisions.


Conclusions and Recommendations

There is a need to either change the definitions in the Acts referenced in S-5 so as to exclude vaporizers used for medical cannabis, or create an exemption for vaporized medical cannabis, so as to ensure that, in its zeal to protect Canadians from the dangers of tobacco and second-hand smoke, the Government does not adversely impact the rights and interests of patients who use vaporized medical cannabis to help manage the symptoms of a range of health conditions.

If the definitions are not changed, then we recommend that the Government create an exemption for medical cannabis users, which would permit them to use medical cannabis in places where vaping is otherwise prohibited.
About Cannabis Canada Association

Cannabis Canada is the leading organization of Canada’s Licensed Producers of Medical Cannabis under Health Canada’s *Marijuana for Medical Purposes Regulations* (MMPR), which has been recently modified and renamed *Access to Cannabis for Medical Purposes Regulations* (ACMPR).

The Association’s mission is to act as the national voice for our members in their promotion of industry standards, and to support the development, growth and integrity of the regulated cannabis industry. The Association serves as a trusted resource on issues related to the safe and responsible use of cannabis for medical and non-medical purposes.

Members of Cannabis Canada share a philosophy of both patient-centric care and improved public health, and are committed to product safety and quality, secure and reliable access and the promotion of the safe and effective use of cannabis. [www.cann-can.ca](http://www.cann-can.ca)

Further information:

Colette Rivet  
Executive Director  
Cannabis Canada Association  
[colette.rivet@cann-can.ca](mailto:colette.rivet@cann-can.ca)  
613.407.1080
Appendix – Science in Support of Vaporized Medical Cannabis


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Abstract: Cannabis vaporization is a technology designed to deliver inhaled cannabinoids while avoiding the respiratory hazards of smoking by heating cannabis to a temperature where therapeutically active cannabinoid vapors are produced, but below the point of combustion where noxious pyrolytic byproducts are formed. This study was designed to evaluate the efficacy of an herbal vaporizer known as the Volcano®, produced by Storz & Bickel GmbH&Co. KG, Tuttlingen, Germany (http://www.storz-bickel.com). Three 200 mg samples of standard NIDA cannabis were vaporized at temperatures of 155°–218°C. For comparison, smoke from combusted samples was also tested. The study consisted of two phases: (1) a quantitative analysis of the solid phase of the vapor using HPLCDAD-MS (High Performance Liquid Chromatograph-Diode Array-Mass Spectrometry) to determine the amount of cannabinoids delivered; (2) a GC/MS (Gas Chromatograph/ Mass Spectrometer) analysis of the gas phase to analyze the vapor for a wide range of toxins, focusing on pyrene and other polynuclear aromatic hydrocarbons (PAHs). The HPLC analysis of the vapor found that the Volcano delivered 36%–61% of the THC in the sample, a delivery efficiency that compares favorably to that of marijuana cigarettes. The GC/MS analysis showed that the gas phase of the vapor consisted overwhelmingly of cannabinoids, with trace amounts of three other compounds. In contrast, over 111 compounds were identified in the combusted smoke, including several known PAHs. The results indicate that vaporization can deliver therapeutic doses of cannabinoids with a drastic reduction in pyrolytic smoke compounds. Vaporization therefore appears to be an attractive alternative to smoked marijuana for future medical cannabis studies.


Abstract: What is currently needed for optimal use of medicinal cannabinoids is a feasible, nonsmoked, rapid-onset delivery system. Cannabis “vaporization” is a technique aimed at suppressing irritating respiratory toxins by heating cannabis to a temperature where active cannabinoid vapors form, but below the point of combustion where smoke and associated toxins are produced. The goal of this study was to evaluate the performance of the Volcano vaporizer in terms of reproducible delivery of the bioactive cannabinoid tetrahydrocannabinol (THC) by using pure cannabinoid preparations, so that it could be used in a clinical trial. By changing parameters such as temperature setting, type of evaporation sample and balloon volume, the vaporization of THC was systematically improved to its maximum, while preventing the formation of breakdown products of THC, such as cannabinol or delta-8-THC. Inter- and intra-device variability was tested as well as relationship between loaded- and delivered dose. It was found that an average of about 54% of loaded THC was delivered into the balloon of the vaporizer, in a reproducible manner. When the vaporizer was used for clinical administration of inhaled THC, it was found that on average 35% of inhaled THC was directly exhaled again. Our results show that with the Volcano a safe and effective cannabinoid delivery system seems to be available to patients. The final pulmonal uptake of THC is comparable to the smoking of cannabis, while avoiding the respiratory disadvantages of smoking.


**Abstract:** Although cannabis may have potential therapeutic value, inhalation of a combustion product is an undesirable delivery system. The aim of the study was to investigate vaporization using the Volcano device as an alternative means of delivery of inhaled Cannabis sativa. Eighteen healthy inpatient subjects enrolled to compare the delivery of cannabinoids by vaporization to marijuana smoked in a standard cigarette. One strength (1.7, 3.4, or 6.8% tetrahydrocannabinol (THC)) and delivery system was randomly assigned for each of the 6 study days. Plasma concentrations of D-9-THC, expired carbon monoxide (CO), physiologic and neuropsychologic effects were the main outcome measures. Peak plasma concentrations and 6-h area under the plasma concentration–time curve of THC were similar. CO levels were reduced with vaporization. No adverse events occurred. Vaporization of cannabis is a safe and effective mode of delivery of THC. Further trials of clinical effectiveness of cannabis could utilize vaporization as a smokeless delivery system.