

LEGALIZATION OF CANNABIS FOR NON-MEDICAL USE: RECOMMENDATIONS FOR DEFENDING A PUBLIC HEALTH APPROACH

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In an earlier publication before the introduction of Bill C-45 to Parliament, evidence and reasoning were advanced to support implementation of legalization of cannabis incrementally rather than in one step (Kalant, 2016). An initial decriminalization would prevent further harm produced to those receiving a criminal record *only* for possession of small amounts for personal use, and a legislated pardon could terminate the harm to those who had already received a criminal record exclusively for such possession. An interval of time should be left to enable close monitoring of the effects of legalization in other countries where it has been introduced, and the additional information would then make possible a thorough, well-informed and rational cost/benefit assessment which could serve as a basis for a decision about proceeding with legalization. I believe that this would be the most beneficial social policy, but if political realities prevent its adoption, the purpose of the Senate's present review in Committee must be to ensure that legalization, though without the benefit of that study interval, is carried out in a way that achieves the benefits with the least risk of harm to society and to individual users of cannabis.

The proposal for legalization advanced by CAMH (Crépault, 2014) and endorsed by the Task Force on Legalization and Regulation (2016) emphasized the importance of avoiding a monetary profit motive for legalization, and adhering closely to public health principles. I agree completely with such motivation, but current developments in the Canadian stock market, reported frequently and in detail in the public media, make it obvious that for a large and influential part of Canadian society the profit motive is primary and enthusiastically supported. In addition, for various levels of government the possibility of using cannabis sales as an important source of new revenue can have very strong appeal. Therefore it seems obvious that strong and sustained commitment to the public health goal will be needed to prevent it from being overwhelmed in the eager search for profit. The Senate Committee review of Bill C-45 has the opportunity and the responsibility to explore possible modifications to Bill C-45 to safeguard the public health approach as much as possible.

Most mature occasional users of small amounts of cannabis will have relatively little risk of adverse effects on health, other than from acute problems such as accidents from driving while impaired by cannabis, heart attacks and strokes due to circulatory effects in those with pre-existing vascular problems, or psychosis in those with a genetic predisposition to schizophrenia (National Academy of Sciences, 2017). However, in any large population there are many who regularly use larger amounts of drug frequently and even daily, and as a result suffer a variety of harms to physical, mental, and emotional health and social functioning that result in serious costs to themselves and to society at large. While much is known about the types of harm and numbers of victims of chronic heavy use, there are still new forms being discovered, because the endocannabinoid system, through which cannabis and its constituent cannabinoids act, is very widely distributed throughout the body and affects a wide variety of bodily functions. Currently there is growing interest in what are called epigenetic actions.

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These are actions brought about not through changes in the chemical composition of the gene DNA, but by changes in the control of gene expression, i.e., in altering the freedom of various genes to carry out their genetic functions. Epigenetic actions are now believed to underlie long-lasting effects that persist well after the actual exposure to cannabis, and there is research interest in the question of how some epigenetic effects can be transmitted to the offspring (Yohn et al, 2015; Szutorisz & Hurd, 2016).

Composition and potency of cannabis preparations is an important determinant of the likelihood of adverse effects, because high potency can cause the user to quickly consume more than was originally intended. For many physicians and researchers it has been difficult to understand why no upper limit was set on the percentage of THC in all cannabis preparations for medical use. It is even more important that an **upper limit for THC and a lower limit for CBD** should be set for preparations for non-medical use, which by definition will not be under medical supervision. The concept of limiting the alcohol concentrations in different types of alcoholic beverage is well established. It would be equally reasonable to direct Health Canada to set such limits on the cannabinoid concentrations of *all* cannabis preparations to be made available under legalization.

An abundance of evidence with legal drugs such as alcohol and tobacco has shown that as total use in a population increases, the proportion of heavy users and their resulting harms also increases (Schmidt & Popham 1978, Skog 1985, Rossow et al. 2007). Numerous studies of alcohol, tobacco and other drugs have shown clearly that total consumption within a population is reliably increased by several factors, including ease of access, low price relative to disposable income, social acceptance and “normalization” of drug use, and belief that such use poses no harm to the user’s well-being. In the remainder of this brief presentation, I would like to suggest how the Senate might respond to each of these factors in ways that could help to minimize the harm that they may create in the context of legalization of non-medical use of cannabis.

Legalization clearly increases **ease of access**, even for those too young to be able to purchase cannabis legally. In Colorado and Washington state, legalization substantially increased total use of cannabis and also increased the incidence of its harmful effects as shown by numbers of emergency room visits, hospitalizations, motor vehicle accidents and resulting injuries and fatalities. It also increased deviation of cannabis to the black market which, together with older friends and even family members, is the major source of cannabis for under-age users (Rocky Mountain HIDTA, 2017). To reduce the facilitating effect of legalization, one possible measure would be to **set a maximum limit on the number of sales outlets** per 100,000 inhabitants of an area. As in the case of alcohol, controlling the hours of sale is another possible measure. Colorado allowed smaller localities and regions the **local option of rejecting sales outlets** altogether. As of July 31, 2017, 59% of Colorado counties and 61% of its municipalities had rejected legal sales outlets. Such measures are worthy of consideration for Canada. The proposed legislation would permit home growth of up to four plants per residence, but it is obviously impossible to monitor this provision effectively, to control which members of a family have access to the plants, and whether any of the home-grown material is disposed of via illegal means. **Removal of the home growth provision** from the Act has much to recommend it.

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Setting a **low price** for legal cannabis is a two-edged sword. Its presumed merit is that it would win customers away from the black market, and this is quite possibly true for many adult users. However, it would increase total amount of use, as experience with alcohol and tobacco has shown, and the extent of its impact on the black market appears not to be as great as hoped. Police in both Colorado and Washington have indicated that their black markets are alive and well. Therefore consideration should be given to **setting a price high enough to limit the extent of sales** by legal outlets, so that at least one benefit would be to restrict the amount of the legal product finding its way indirectly to under-age users, whose financial resources are usually limited. Alternatively, **if a competitively low price is adopted, it should be combined with enforceable strict limits on the total amount that each user can purchase in a given period of time.**

Social acceptance of cannabis, and **normalization of its use** among the general population, is generated in a number of ways, such as constant reference in the media to legalization as though it were a *fait accompli*, stressing its value as a generator of profitable new business and employment, publishing recipes for use of cannabis in cooking even before legalization becomes a reality, and use of cannabis leaf themes in a variety of illustrations and patterns. Concurrently with these influences, frequent repetition of the claim that cannabis is safer than alcohol tends to persuade people, especially adolescents and young adults, that cannabis is essentially harmless. This can result in wider use among youth. The Monitoring the Future study has for over 40 years followed the changing beliefs and practices of representative samples of American high school students. When they believed the scientific evidence that cannabis could be harmful to them, they used less, but when succeeding age cohorts did not believe the evidence, their use increased (Bachman et al., 1998).

Section 2.1.3 of Bill C-45 indicates that part of the purpose of the bill is to enhance public awareness of the health risks associated with cannabis use. This implies the hope that **education** can help to dissuade both adults and adolescents from ignoring the solid evidence of harmful effects, and promote either non-use or carefully limited use. This is a legitimate hope, but education is not a simple and rapid process that can succeed in one application. It is more effective if implemented before cannabis use has begun, and it must be repeated frequently, in a variety of different ways. The content must be obviously rational, factual and moderate in tone. For children and adolescents it must be delivered at least in part by trusted peer group members. There is still much research needed in the development of effective educational approaches. The Senate could help to advance the process by adding to the Bill **clear specifications of the need and responsibility for developing, setting up and maintaining effective long-term educational programs** to counteract misinformation and promote sound public understanding of the potential harms of frequent and heavy use, and use by those with special vulnerabilities. It is equally important to reduce the influence of “normalizing” factors by a **ban on advertising of cannabis**, since advertising has become very skillful in delivering seductive messages.

The CAMH Framework document (Crépault, 2014) correctly emphasized that in order to protect public health against unrecognized or unanticipated harmful effects of legalization, it is necessary to **monitor the results** of this major change in a reasonable time after it goes into effect. To recognize and

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measure changes occurring after legalization, it is necessary to have a clear picture of the situation at the starting point. There are good data on numbers of users in different age and gender groups, and fairly good knowledge of the frequency of use, but no reliable data on the amounts and potencies of the widely differing preparations that people use. It is important to gather this information before legalization goes into effect. Bill C-45 was modified to include a mandatory review to be initiated three years after its implementation. There is no specification, however, of the nature or extent of such review, no designation of who would be qualified to actually conduct it, or what use would be made of the findings of the review. The Senate could improve this section greatly by making clear that the **focus must be on public health consequences** of the legalization, and not only on the administrative performance or the effects on police and juridical aspects.

A last point I would like to raise for your consideration is the question of the time of implementation of legalization, and its implications for education and for monitoring. As pointed out above, it is important to gather certain information about the starting point, and to prepare and implement extensive educational activities, before legalization goes into effect. It is unrealistic to expect the government to postpone the proclamation of the new legal status for many years. Nevertheless, the Senate should recommend a delay of up to a year in order to draw attention to the importance of these measures for the intention to protect public health.

I thank you for the opportunity to present these comments and suggestions, and hope that they will give the Senate some additional useful points to consider in its review of Bill C-45.

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