Appendix A to Report # 003-16

Cannabis: A Public Health Approach

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Table of Contents

1.0 Introduction

A public health approach to cannabis policy is needed in Canada. Despite prohibition, Canada has one of the highest rates of cannabis use in the world with over 40 % of Canadian adults having used cannabis in their lifetime. In Ontario, it is the most widely consumed illicit drug, with youth and young adults having the highest rates of use. While it is known that cannabis use has the potential for adverse health consequences, most notably for those who begin use at an early age and use it frequently, the current approach of criminalization has been shown to increase these harms while also causing significant social harm. Furthermore, data shows that Canada's possession laws are not enforced consistently across jurisdictions or populations, making criminal prohibition of cannabis possession an issue of health equity.

The debate about the regulation of cannabis has been ongoing for decades. Most recently the issue has gained momentum with the election of a Liberal government that made cannabis legalization part of its election platform. The December 4th, 2015 Throne Speech included a pledge to "legalize, regulate and restrict access to marijuana". Canadian public support for change to cannabis control has been growing, and internationally, the landscape of cannabis policy is changing at a rapid pace.

This report builds upon the report: *Cannabis – Health Implications of Decriminalization, Legalization, and Regulation*, which was provided to the MLHU Board of Health in July, 2015. This report will provide background information about cannabis and trends in use; provide an overview of the current evidence related to the health harms of cannabis and the harms stemming from the criminalization approach; briefly describe current law and the historic progression of Canadian law related to cannabis control, including how medical marijuana fits into the current regulatory landscape in Canada; and provide an overview of regulatory models that have moved away from prohibition and the lessons learned.

While taking into consideration the positions of leading Canadian organizations, this report will conclude with a recommendation for a regulatory approach to cannabis control that will reduce the risks of health and social harms.

2.0 Cannabis: What Is It?

Cannabis, more commonly called marijuana, is the dried flowers, fruiting tops and leaves of the cannabis plant, most frequently, *Cannabis sativa*. The cannabis plant contains several different *cannabinoids*, the psychoactive component being delta-9-tetrahydrocannabinol (THC). The level of THC varies depending on the part of the plant used, plant breeding, and product processing. Cannabis can be consumed by smoking, such as a "joint" or in a pipe or bong, ingested as an edible, or consumed in a liquid infusion (CCSA, 2015; Room et al., 2010).

Psychoactive substance is a name given to a classification of substances that affect mental processes such as mood, sensations of pain and pleasure, motivation, cognition and other mental functions. Cannabis can be considered in the context of other psychoactive substances which include alcohol, tobacco, some prescription medications, and even caffeine. Psychoactive substances, including cannabis, have been used both medically and non-medically by humans for thousands of years (CPHA, 2014; Health Officers Council of BC, 2011). People use cannabis for various reasons and it affects people in different ways. Typically it produces a state of relaxation, happiness and changes in perception. The level of THC in the product, the amount of product consumed, the user's previous experience with the drug, and mode of consumption will impact its effects. When smoked, effects will typically be felt by the user in about 10 minutes and rapidly dissipate; while when ingested, the effects of cannabis can take anywhere from 30 minutes to 2 hours to be felt, and can last several hours. (Monte, Zane & Heard, 2015).

3.0 Prevalence of Use

Globally: Cannabis is the most widely used illegal drug in the world. According to the United Nations Office of Drugs and Crime (UNODC) an estimated 160 million people - 4% of the global adult population used marijuana in 2005 (Room et al., 2010). Cannabis became popular in Western countries in the 1960's. While prevalence has shifted over years and decades, rates are highest among youth and young adults. Common patterns of use across countries suggest that penalties for personal use do not affect prevalence of use (Room et al., 2010).

Canada: Canada has one of the highest rates of cannabis use in the world, with more than 40% of Canadian adults having used cannabis in their lifetime and 10% reporting past year use. Youth have the highest prevalence of use, with 2012 data indicating that over 20.3% of youth aged 15-24 used marijuana in the previous year (Health Canada, 2014)

Ontario: Ontario use is consistent with Canada as a whole, with population surveys indicating that 14% of adults and 23% of secondary school students have used cannabis in the past year. While cannabis use is most common in youth and young adults, Ontarians aged 30 and over account for half of all use (CAMH, 2014).

The Ontario Student Drug Use and Health Survey (OSDUHS) is a population survey of Ontario students in grades 7 through 12. According to the 2015 OSDUHS, cannabis is the third most commonly used substance after alcohol and energy drinks. Cannabis use increases with each grade level, with 10.3% of 9th graders compared to 37.2% of 12th graders reporting past year use. Males and female rates of use are similar. While cannabis use has shown a gradual decline since 1999, about 2 % of students report using cannabis daily, which equals approximately 20,000 Ontario students. Age at first use has shown an increase over past decades. In 2015, the average age at first cannabis use reported among 12th-grade users was 15.3 years. For grade 7 students, less than 0.5% used cannabis for the first time before the end of grade 6, compared with 5% in 2003, and 7% in 1981 (Boak et al., 2015).

Middlesex-London: London and Middlesex data regarding prevalence of cannabis use is limited. Although the Ontario Student Drug Use and Health Survey (OSDUHS) does not analyse data at the county level, it does analyse data down the level of a Local Health Integration Network. Across regions, the OSDUHS did not find significant difference in student cannabis use (Boak et al., 2015).

4.0 History of Law Related to Cannabis

The laws and systems that have been put in place to manage substances, including cannabis, reflect the dominant social norms, beliefs and political stances of the times when they were created, rather than current scientific knowledge and evidence (CPHA, 2014).

Cannabis was added to the schedule of prohibited drugs under Canada's *Opium and Narcotic Drug Act* in 1923. While the first charge for cannabis possession was not laid until the 1930's, cannabis became a primary drug enforcement focus in the 1960's. By 1972 there were more than 10,000 arrests for possession and use, with many young Canadians receiving criminal convictions (Ontario Public Health Working Group, 2004). The *Controlled Drugs and Substances Act* was introduced during the 1990's and is the legislation that currently governs cannabis and other psychoactive drugs in Canada.

Globally, cannabis was widely used for medical purposes from the end of the 19th century continuing into the 1950's. In 1961 it was added to the strictest prohibition category of the 1961 Single Convention on Narcotic Drugs specifying that 'use of cannabis should be prohibited for all purposes medical and non-medical alike'. International prohibition of cannabis was further solidified in the 1988 Convention, making even possession a criminal offence under each signatory country's domestic law. Many countries, including Canada, are signatories to these international drug control Conventions, criminalizing the production, distribution, use and possession of cannabis (Room et. al., 2010).

Despite legislation and international conventions aimed at eliminating use of cannabis, by the early 1970's there was a growing realization that prohibition was not achieving its intended effect. Public inquiries and commissions occurred in several

countries, including Canada, concluding that the effects of criminalization were excessive and counterproductive and calling on lawmakers to eliminate or reduce criminal penalties for personal use (Room et al., 2010).

In Canada alone, the ineffectiveness and high cost of criminalization has been described, and a call to move away from absolute prohibition made, in several reports: the Le Dain Commission (1972); the Senate (1974); the Canadian Bar Association (1994); the Canadian Centre for Substance Abuse (1998); Centre for Addiction and Mental Health (CAMH) (2000); the Frasier Institute (2001); the Senate Special Committee on Illegal Drugs (2002); The Health Officers Council of British Columbia (2011); the Canadian Drug Policy Coalition (2013); the Canadian Public Health Association (2014) and CAMH (2014).

5.0 Current Canadian Law Related to Cannabis

Marijuana is classified as a Schedule II drug under the *Controlled Drugs and Substances Act* (CDSA). This means that it is illegal to grow, possess, distribute and sell marijuana. Convictions under the CDSA will result in a criminal record and may result in penalties ranging from fines to life imprisonment depending on the nature of the offence (CCSA, 2014).

In Canada in 2013, 58,965 incidents involving possession of cannabis were reported to police. Over 600,000 Canadians currently hold a criminal record related to cannabis possession (Canadian Drug Policy Coalition, 2015).

Marijuana is also regulated through international treaties to which Canada is a signatory (CCSA, 2014).

Drug-impaired driving is an offence under the Criminal Code of Canada (Beirness & Porath-Waller, 2015).

5.1 Medical Marijuana in Canada

The human body has naturally occurring endocannabinoids that act on the brain and nervous system. When the body's own endocannabinoids bind to specific receptors, symptoms, such as anxiety, convulsive activity, hypertension and nausea which can be caused by over-activity of the nervous system are reduced. When marijuana is consumed, these same cannabinoid receptors are activated. Although there are claims that marijuana can benefit a wide range of symptoms and diseases, more research is needed. Current evidence supports the medical use of cannabis for nausea, vomiting and chronic pain (Kalant & Porath-Waller, 2014).

Cannabis for medical use has been legal in Canada since 2001, initially under the *Marihuana Medical Access Regulations* (MMARs). Under the MMARs, legal access to marijuana for medical purposes could be granted to Canadians meeting certain requirements. Health Canada was responsible for issuing authorizations and approved individuals had the option of obtaining their medical marijuana through Health Canada, a designated grower, or growing their own (Kalant & Porath-Waller, 2014).

Effective 2014, the MMARs were replaced with the *Marihuana for Medical Purposes Regulations* (MMPRs). Individuals now must receive a prescription from a medical practitioner versus Health Canada, and users of medical marijuana no longer have the legal option of growing their own product (Kalant & Porath-Waller, 2014). There are limits to how much cannabis that an individual can possess at one time (Health Canada, 2015).

As of September 30, 2015 there were 26 Health Canada authorized, licensed producers in Canada under the MMPR, 14 located in Ontario. While some are licensed only to produce, others can both produce and sell. Licensed producers are highly regulated and routinely inspected by Health Canada. Licensing requirements are strict and include quality control standards, physical and personnel security measures, inventory management and stringent record keeping. Products must be shipped in child resistant packaging and meet labelling requirements with health warning messages as well as THC content (Health Canada, 2015).

6.0 Harms

While the scientific evidence suggests that cannabis has a smaller public health impact than alcohol and tobacco, cannabis, like other drugs, is associated with health risks. Evidence has shown that these health risks generally increase with frequent consumption (daily or nearly-daily) and when used at an early age.

6.1 Direct Health Harms

Cannabis-Impaired Driving: Research has shown that driving while impaired by cannabis is associated with performance deficits in tracking, reaction time, visual function, concentration, short-term memory, and divided attention which increases the risk of motor vehicle crashes (Beirness & Porath-Waller, 2015). Epidemiologic data suggests that cannabis users that drive while intoxicated have 2 to3 times the risk of motor vehicle crashes over a non-drug intoxicated driver and the higher the level of THC in the blood, the higher the risk of crash (Hall, 2014 & Colorado Department of Public Health and Environment [CDPHE], 2015). In comparison, intoxication with alcohol has been found to increase motor vehicle crash risk by 6 to15 times. The combination of cannabis with alcohol increases the risk of collision more than either substance on its own (Hall, 2014). CAMH currently has a study underway to determine the extent of relationship between cannabis consumption and driving ability.

The 2012 Canadian Alcohol and Drug Use Monitoring Survey (CADUMS) found that 2.6% of drivers admitted to driving within two hours of cannabis consumption at least once in the previous year (Beirness & Porath-Waller, 2015). Among young drivers, driving after using cannabis is more prevalent than driving after drinking alcohol; with 1 in 10 drivers in grades 10 -12 reporting driving within an hour of cannabis use at least once in the past year (Boak et al., 2015). The issue of cannabis impaired driving is particularly of concern for youth, as data indicates that young adults are at highest risk of injury and death from motor vehicle crashes while are also the highest users of cannabis.

In contrast to alcohol, testing for drugged driving is more complicated, inconsistent, and there is not a specific level of cannabis consumption that leads to intoxication. A very real policy challenge therefore is to define a THC level in blood that can define impairment (Room et. al., 2010). Detection of cannabis–impaired driving is further complicated by the fact that cannabis can remain detectable in the blood and urine for days, long after the effects have worn off. Thus even in cases of motor vehicle collisions, the detection of cannabis in body fluids does not necessarily mean that someone was impaired at the time of collision (Hall, 2014; Room et al., 2010).

Brain Development: In addition to the risk of motor vehicle collisions, there is growing evidence that regular cannabis use in adolescence can cause harm to the developing brain. Regular cannabis use beginning in adolescence and continuing through young adulthood appears to produce cognitive impairment, with unclear evidence on whether this impairment is fully reversible (Hall, 2014). Early, regular cannabis use has been associated with low levels of educational attainment, diminished life satisfaction, higher likelihood of developing cannabis use disorder, and increased risk of developing mental health problems (CAMH, 2014). Additionally, some research shows that regular adolescent cannabis users are more likely to use other illicit drugs, although the association is not fully understood (Hall, 2014). Given that a large portion of cannabis users are youth, youth cannabis use is a significant public health concern.

Mental Health: Research has found that individuals who use cannabis, especially frequent and high potency users, are at increased risk for psychosis and psychotic symptoms. Regular cannabis use in adolescence has been associated with increased risk of being diagnosed with schizophrenia (CAMH, 2014, CCSA, 2014).

Dependence: Although much lower than the dependence rates for other drugs (e.g., nicotine, alcohol and cocaine), about 9% of cannabis users develop dependence (CAMH, 2014). Cannabis has remained the third most common identified drug of dependence (behind alcohol and tobacco) in both Canada and the United States over the past 20 years (Hall, 2014). Long term frequent users have higher risk of dependence than those who use occasionally (CAMH, 2014). For Ontario youth, the 2015 OSDUHS survey found that among past year users about 7% of students grade 9-12 report symptoms of dependence.

Pregnancy: THC can pass through the placenta, as does carbon monoxide when cannabis is smoked (CDPHE, 2015). Maternal cannabis use during pregnancy has been shown to modestly reduce birth weight (Hall, 2014). There is also some evidence that cannabis use during pregnancy can affect development and learning skills throughout childhood, including children's cognitive functioning, behaviour, substance misuse and mental health (Porath-Waller, 2015).

Respiratory Problems: Regular cannabis smoking has been associated with respiratory symptoms of chronic bronchitis and reduced lung function (Hall, 2014). Cannabis smoke contains many of the same carcinogens as tobacco smoke. Furthermore, cannabis smokers tend to inhale unfiltered smoke, inhale more deeply and hold smoke in their lungs (Room et al., 2010). While there is some evidence that smoking cannabis can be a risk factor for cancers of the lung and upper respiratory tract, this association remains unclear as many cannabis smokers have also smoked tobacco (Hall, 2014). With regards to second hand cannabis smoke, few studies have been conducted. However, because of the similarities in composition between tobacco and marijuana smoke, marijuana second hand smoke is likely to be a similar public health concern (Springer & Glanz, 2015).

Product quality: The quality of cannabis sold on the illegal market is questionable, however hard to qualify due to lack of testing. There have been accounts of contamination with molds, bacteria and pesticides as well as other contaminants, including other drugs. Unknown contamination is a potential risk for health problems and disease outbreaks. Licenced producers of medical marijuana in Canada are required to grow under strict conditions and batches must be tested for contaminants.

6.2 Indirect Harms

The public health impact of cannabis cannot be fully understood without consideration of the impact of the policies and legal sanctions that have been put in place to manage it. Relative to the health dangers of the drug itself, there has been a growing concern about the disproportionate social harms stemming from its prohibition. A conviction for a marijuana related offence results in a criminal record that can reduce opportunities for education, employment, and travel. From a public health lens, the illegality of cannabis has hindered the ability of health and education professionals to effectively prevent and address problematic use (CAMH, 2014).

The consequences of cannabis criminalization were well described over a decade ago by the Senate Special Committee on Illegal Drugs: "In addition to being ineffective and costly, criminalization leads to a series of harmful consequences: users are marginalized and exposed to discrimination by the police and the criminal justice system; society sees the power and wealth of organized crime enhanced as criminals benefit from prohibition; and governments see their ability to prevent at-risk use diminished" (Senate Special Committee on Illegal Drugs, 2002 , p. 42).

The cost to enforce the current cannabis law is significant. In 2002 the estimated annual cost in Canada of enforcing cannabis possession laws, including police, courts and corrections, was 1.2 billion dollars (CAMH, 2014).

The need for a public health approach to the management of cannabis is paramount. A balance between the health risks, social harms and legal ramifications is necessary.

7.0 A Public Health Approach…What Is It?

In May of 2014 the Canadian Public Health Association released a discussion paper entitled "A New Approach to Managing Illegal Psychoactive Substances in Canada", recommending a public health approach as the best alternative to prohibition and criminalization for the management of psychoactive substances.

A public heath approach addresses the public health concerns of cannabis use while aiming to eliminate or reduce the health and social harms resulting from its criminal prohibition.

A public health approach is "based on the principles of social justice, attention to human rights and equity, evidence informed policy and practice, and addressing the underlying determinants of health" (CPHA, 2014, p. 7).

The "Paradox of Prohibition" (Figure 1) provides a visual model demonstrating where a public health approach sits on a continuum of regulatory approaches. It proposes that supply and demand is best controlled and social and health problems are lowest when the extremes of complete prohibition and free market legalization and commercialization are avoided.

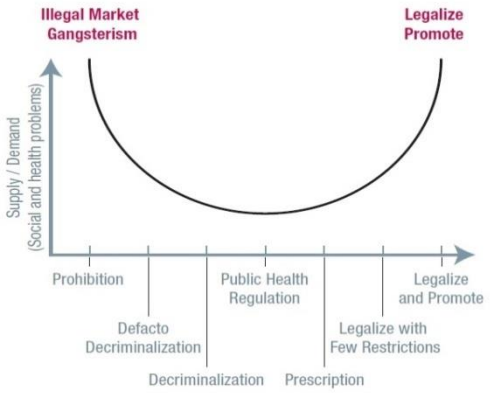

Figure 1: Paradox of Prohibition. Health Officers Council of British Columbia (2011). Reprinted with permission.

Public health approaches to tobacco and alcohol provide supporting evidence of effective strategies that could be applied toward a public health approach to cannabis.

Tobacco is a legal, but extremely harmful substance with no medical benefits, significant health harms, and is the focus of substantial public health efforts and government regulatory control aimed to dissuade consumption and reduce public harms. "Canada has been a world leader with regards to federal legislation about sponsorship restrictions, graphic packaging warnings and banning flavours" (Health Officers Council of BC, 2011, p.47). Provincially, the *Smoke-Free Ontario Act* puts in place many measures related to the sale, promotion and use of tobacco including prohibitions against the sale and supply of tobacco products to persons under the age 19, measures to control advertising such as banning displays, and indoor and outdoor smoking restrictions. Additionally, public health plays a role in tobacco use prevention, screening, brief intervention and cessation support for individuals that use tobacco products. The *Tobacco Tax Act* also provides substantial provincial control around the taxation and regulation of tobacco products from the production of raw leaf tobacco through to the sale of manufactured tobacco products.

Alcohol is legal and widely consumed but with clear evidence of health and social harms. Efforts to mitigate these harms include a combination of provincial and municipal regulatory approaches. These approaches include taxation, government based controls over production and distribution, minimum pricing, age restrictions for purchase, and restrictions retail outlet density and hours of sale. These are policies that have been shown to reduce alcohol related problems when implemented alongside targeted measures such as youth education, drinking and driving countermeasures, promotion of Canada's Low Risk Alcohol Drinking Guidelines, and screening and referral to treatment (Babor et al., 2010; CAMH et al., 2015).

Haden and Emerson (2014) have applied these public health based strategies to describe a public health model of cannabis regulation that incorporates evidence-based strategies from both tobacco and alcohol policy.

8.0 Trends Away From Prohibition

Evidence from other countries' experiences with cannabis policy approaches is incomplete. Furthermore, the policy and regulatory landscape within each jurisdiction is constantly evolving. When looking at the literature and reviewing related commentary, whether or not a certain cannabis policy is presented as a success or failure depends on the perspective of the writer. Outlined below are some of the key characteristics, differences and outcomes from countries that have moved away from a prohibition based approach.

8.1 The Netherlands

In the Netherlands a formal policy of non-enforcement has been in place since 1976 for the possession and sale of small amounts of cannabis. The intent of this policy was to separate cannabis from other hard drug use. Dutch policy and regulations continue to shift in response to emerging evidence related to cannabis, internal and external politics and lessons learned over time (MacCoun, 2011).

- Dutch 'coffeeshops' operate under strict licensing conditions, including age restrictions, limits on per person amounts, a ban on sales of alcohol and other drugs, and regulations related to shop appearance, signage and marketing.

- While purchase and use of cannabis is permitted, production is illegal. Thus, cannabis sold in coffeeshops comes from an illegal and unregulated production system (CCSA, 2014; Roles, 2014).

- There has been success in separating cannabis from the market for other illegal drugs (Room et al., 2010).

- During early commercialization, prior to advertising and age restrictions, there was evidence of more cannabis use by youth and an earlier age of first use. This trend reversed when increased regulations for coffeeshops were implemented in the mid-90's (Room et al., 2010).

- Evidence suggests that prevalence of cannabis use is lower in the Netherlands than in several neighboring countries as well as Canada and the US (MacCoun, 2011).

8.2 Portugal

Portugal decriminalized the possession of all drugs for personal use in 2001 at the same time as a national drug strategy was implemented aimed at providing a more comprehensive and evidence-based approach to drug use. This made possession and acquisition of personal amounts of drugs an administrative offence rather than a criminal offence.

- Offenders are referred to a Commission for the Dissuasion of Drug Addiction (CDT) who provide a range of sanctions ranging from a fines and community service to treatment (Hughes & Stevens, 2010).

- Early evidence suggests small increases in reported illicit substance use by adults, however reductions have been seen in problematic use, adolescent use, substance related harms, and criminal justice system burden (Hughes & Stevens, 2010).

8.3 Uruguay

In 2013 Uruguay became the first country to legalize the personal use and sale of cannabis. The law allows three ways to legally acquire marijuana: self-production of a limited number of plants by registered users, joining a cannabis club, or purchasing at a pharmacy. Households are permitted to grow up to six plants each. As written, the law states that to purchase from a pharmacy, people must be residents of Uruguay age 18 or over, and must be registered with a national database. Marijuana cannot be used in public places (CCSA, 2014). Change of Uruguay government since the law was initially passed has affected the extent and rate of implementation. Information on early outcomes is not readily available.

8.4 United States

While cannabis remains illegal for sale at the US federal level, there are significant differences in cannabis control policy across states. Fifteen states have decriminalized the possession of small amounts for personal use, with Oregon being the first state to do so. In 2012, Colorado and Washington State became the first two states to legalize recreational use of cannabis. Colorado began retail sales in January of 2014, while Washington State did so in July of 2014 (CCSA, Nov 2015). Since then, Alaska, Oregon and the District of Columbia have passed legislation allowing possession and personal use of cannabis for non-therapeutic purposes.

Colorado and Washington State are being looked to as a key source of information regarding legalization of cannabis and the resultant health, social, economic and public safety impacts. The early legalization experiences in these states will be highly informative to the development of Canadian policy. The Canadian Centre on Substance Abuse (CCSA) led a delegation in 2015 to both Colorado and Washington State with the aim to collect evidence to inform Canadian policy. Much of the data needed to evaluate the impact of legalization is not yet available. The CCSA will continue to monitor data from Colorado and Washington as it becomes available (CCSA, Nov 2015).

There are significant differences between how Colorado and Washington is implementing legalized cannabis, particularly related to the scope of government regulation. While Washington has a higher level of regulation, Colorado began with a more free-market approach.

8.4.1 Colorado

- Colorado took 1 year from voted legalization to implementation.

- Licensing body is Colorado Department of Revenue.

- Age restriction is 21 and over.

- Personal production of up to 6 plants permitted that must be in an enclosed locked space.

- Early legalization has been market driven, with new products and commercial branding.

- The extent of the edibles market was unanticipated and has become a large part of the market resulting in the need to address high potencies, child enticing packaging, and overconsumption.

- The Colorado Department of Public Health and the Environment (CDPHE) is responsible for monitoring changes in drug use patterns and health effects of marijuana. The CDPHE is also involved in the development of policies and regulations to protect public health and safety.

- Data on first year patterns of use and health outcomes is extremely limited. However, early data has shown increasing trends of poison centre calls, hospitalizations and emergency room visits possibly related to marijuana, and increase in hospitalization rates for children with possible marijuana exposure.

- The Rocky Mountain High Intensity Drug Trafficking Area (RMHIDTA) is concurrently tracking impact of marijuana legalization. While reported findings have been fairly widely quoted, this data should be interpreted with caution. RMHIDTA is a US Federally funded agency whose stance is to uphold US federal drug policy.

8.4.2 Washington State

- Washington took 18 months from voted legalization to implementation.

- Licensing body is Washington State Liquor and Cannabis Board.

- Age restriction is 21 and over.

- Personal production not permitted.

- In comparison to Colorado, Washington has stricter licensing laws: e.g. growers cannot sell and sellers cannot grow, limits on farm sizes, limited large corporate operations.

- Taxes are higher than in Colorado.

- The Washington State Institute for Public Policy (WSIPP) is responsible for evaluating legalization outcomes under the categories of public health, public safety, youth and adult rates of use and maladaptive use, economic impacts, criminal justice impacts and state and local administrative costs and revenues. While an evaluation plan is in place, initial outcome results are not expected until September 2017 (Darnell, 2015).

8.5 What are Canadians saying?

Canadian public opinion over the past several years has continued to shift away from a prohibitionist approach to cannabis. While there have been many polls, a recent poll conducted by Forum Research specifically surveyed Canadians about a model of cannabis legalization with regulation. According to this poll, 59 percent of Canadians support a change to law that would legalize tax and regulate recreational marijuana usage under some conditions. With regards to manufacturing and distribution if legalized, the largest proportion of respondents (40%) agreed with a model of corporations being licensed to grow marijuana, and sales controlled through government agencies where it could be restricted, regulated and taxed. However, 15% of respondents preferred an individual model where private consumers may grow their own product (Forum Research, 2015).

9.0 Policy Recommendation: A Public Health Approach

Legislative approaches to cannabis fall along a continuum, ranging from criminal prohibition at one end to unrestricted access and free market production at the other. Decriminalization and legalization (see definitions Appendix I) are approaches that have been used in other jurisdictions. The details within each legislative approach can vary widely. Limitations to the decriminalization approach have been previously described: Middlesex London Health Unit Report No. 047-15, July 2015.

The Center for Addiction and Mental Health's *Cannabis Policy Framework* (CAMH, 2014) provides a strong policy framework for cannabis, recommending legalization with strict regulation. The Canadian Centre on Substance Abuse's 2014 policy brief *Marijuana for Non-Therapeutic Purposes* as well as the

recommendations provided in the 2015 report *Cannabis Regulation: Lessons Learned in Colorado and Washington State* should also be considered key documents in the discussion of cannabis policy reform. Middlesex London Health Unit recommends an approach to cannabis policy that is consistent with many elements proposed by CAMH and CCSA. The positions of these organizations and others can be found in Appendix II.

Further, the Colorado Department of Public Health and Environment has developed a public health framework as a model to guide evidence based public health functions and activities including assessment, policy development and assurance (Ghosh et al., 2016).

The Ontario Public Health Standards mandates boards of health to reduce the frequency, severity and impact of substance misuse; with regards to cannabis, criminal prohibition is a barrier to effectively meet these objectives.

In the context of the coming legalization, strict regulation for the non-medical use of cannabis is recommended to best prevent and reduce health and social harms associated with cannabis use. A public health approach to cannabis would combine public education and awareness with regulations for production, distribution, product promotion and sale. This approach acknowledges that cannabis is not a benign substance and that policy built upon evidence is the recommended best approach to minimize the risks and harms associated with use.

9.1 Recommended considerations for public health focused regulations:

- Minimum age for access and use
- Regulations that address public consumption to the same extent as public smoking
- Regulations related to product formats, quality and THC potency
- Limits on marketing and advertising
- Labelling and packaging that clearly indicates dose and potential health harms
- Limit availability through measures including retail outlet density, business licencing, hours of sales
- Pricing and taxation at level that will curb demand while eliminating or minimizing black market access
- Public education about cannabis and potential health harms
- Targeted youth-focused prevention strategies aimed at preventing early use
- Drug –driving countermeasures that prevent and address cannabis impaired driving
- Access to treatment for problematic substance use that incorporates a harm reduction approach

9.2 Additional considerations:

- Sufficient time must be taken to develop regulations and build capacity to implement these regulations, ensure systems are in place to monitor patterns of use and health outcomes, and develop evidence based prevention and harm reduction messaging.
- Flexibility is paramount. Regulations must be responsive to new evidence as it becomes available.
- An incremental approach is warranted. It will take time to ensure that legalization is done well. Prior to full legalization, consideration should be given to the immediate decriminalization of possession of small amounts of cannabis as an interim step to mitigate the unintended health and social consequences of criminalization.
- Canada is a large and diverse country. Geographical, provincial, social, cultural, and other contextual factors must be taken into consideration in the development of Canadian policy.
- Sectors including but not limited to public health, enforcement, substance use, the medical marijuana industry as well as provincial and municipal levels of government should be consulted.
- Management of existing criminal records for cannabis possession should be a priority.
- Attention to unintended negative consequences is important. A health equity lens must be considered for any regulations that are put in place. For example, consequences of regulations that prohibit public consumption of cannabis will be disproportionately born by homeless or unstably housed populations.

- Investment in research and establishing an evidence base with ongoing data collection related to prevalence of use and health effects is paramount.

- Revenue gained through marijuana taxation should go towards education, prevention and treatment programs and relevant research.

In closing, despite prohibition, Canada has one of the highest rates of cannabis use in the world thus requiring a new approach to the issue. A public health approach is needed to minimize the health and social harms of cannabis. Moving forward in a proactive manner in the context of legalization of cannabis possession and use, strict regulations is the most promising approach to minimize harm.

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Appendix I - Glossary of Terms

Cannabis: Cannabis, more commonly called marijuana, is the dried flowers, fruiting tops and leaves of the cannabis plant, most frequently, Cannabis sativa (CCSA, 2015).

Criminalization: The production, distribution and possession of cannabis are subject to criminal justice sanctions ranging from fines to incarceration. Conviction results in a criminal record. (CCSA, Nov 2015)

Decriminalization: Non-criminal penalties, for example, civil sanctions such as tickets or fines, replace criminal penalties for personal possession. Individuals charged will not, in most cases, receive a criminal record. Most decriminalization models retain criminal sanctions for larger-scale production and distribution. (CCSA, Nov 2015). Decriminalization still leaves cannabis in an unregulated market of producers and sellers (Canadian Drug Policy Coalition, 2015).

Legalization: Criminal sanctions are removed. The substance is generally still subject to regulation that imposes guidelines and restrictions on use, production and distribution, similar to the regulation of alcohol and tobacco. (CCSA, Nov 2015)

Psychoactive Substance: A name given to a classification of substances that affect mental processes such as mood, sensations of pain and pleasure, motivation, cognition and other mental functions (CPHA, 2014).

Public Health Approach: "A public health approach ensures that a continuum of interventions, policies, and programs are implemented that are attentive to the potential benefits and harms of substances as well as the unintended effects of the policies and laws implemented to manage them…ensuring that the harms associated with interventions are not disproportionate to the harms of the substances themselves" (CPHA, 2014, p, 7).

Regulation: Regulation refers broadly to the legislative or regulatory controls in place with regard to the production, distribution and possession of cannabis. The term is, however, increasingly being used in reference to the guidelines and restrictions on use, production and distribution of cannabis under legalization approaches. (CCSA, Nov 2015)

Appendix II – Positions of Others

CAMH: CAMH recommends legalization with strict regulation, offering 10 basic principles to guide regulation of legal cannabis use.

CCSA: "CCSA promotes a national, evidence-informed, multi-sectoral dialogue to develop policy options that will reduce the negative criminal justice, social, and health impacts of marijuana use in Canada. Changes to marijuana policy should be made based on the principles of applying available evidence, reducing harms, promoting public health and equitable application of the law. Based on the evidence available, decriminalization provides an opportunity to reduce enforcement-related health and social harms without significantly increasing rates of marijuana use. This option also provides the opportunity to further investigate and learn from alternative models such as the legalization approaches being implemented internationally" (CCSA, Oct 2014).

CPHA: CPHA endorses a public health approach to the management of illegal psychoactive substances. They have no formal stance specific to cannabis, however endorse Low Risk Cannabis Use Guidelines and support "comprehensive approaches to addressing the use of psychoactive substance based on an accurate assessment and evaluation of the benefits and risks, with an appropriate balance and integration of the four pillars of prevention, harm reduction, treatment, and enforcement, and also needs to include adequate investments in health promotion, education, health protection, discrimination reduction, rehabilitation, research, and monitoring trends; and a public health approach to problematic substance use be central to the development and implementation of a proposed national framework for action on substance use and abuse in Canada."

Canadian Association of Chiefs of Police (CACP) Resolution #03-2013: Does not support the decriminalization or legalization of cannabis in Canada. Rather propose an amendment to the *Controlled Drug and Substances Act* and the *Contraventions Act* in order to provide officers with the discretionary option of issuing a ticket for simple possession (30 grams or less of cannabis marihuana or 1g or less of cannabis resin (CACP, 2013).