

# Dispensing of Medical Marijuana: Economic Well-being Arguments in Support of a Dispensary Model



August 26, 2016

Prepared by

Anielski Management Inc.

## 1.0 Introduction

This research paper was prepared on behalf of the Green Room Society (GRS), a Canadian medical marijuana organization. It was prepared to provide an overview of the potential economic, social, health, and well-being impacts of the legalization of medical marijuana and to examine the benefits of using a dispensary business model to distribute medical marijuana Canada.

This analysis is meant to guide the national Task Force on Marijuana and Regulation in its decision-making and to provide a policy analysis tool by which future governments can assess the extent to which the legalization of medical marijuana is contributing to the overall well-being of communities, provinces and the nation.

The well-being impact analysis framework used in this analysis is similar to the one employed in the Socio-economic Impacts of Gambling developed by economist Mark Anielski for the Canadian Centre for Substance Abuse in 2008. The analysis uses a comprehensive well-being impact analysis framework to examine the broadest suite of economic, financial, tax, societal costs, health, and well-being impacts related to the legalization of medical marijuana and the models for dispensing of medical marijuana.

The report tries to distinguish between medical and recreational marijuana. Although the recreational and medical marijuana markets have distinct customer profiles, standards on quality of product will need to be established for both markets in a manner that is consistent with how other industries are regulated. The medical market in particular must be subject to quality assurance testing to ensure that patients receive products that have the appropriate quantity of ingredients and are free from contaminants, as is currently done for prescription and over-the-counter drugs. Accordingly, medical and recreational marijuana markets and businesses will face different financial and economic conditions.

The analysis and estimates of well-being impacts are based on the best and most currently available information on the emerging legalized marijuana business. It draws on available evidence about the experience, to date, of medical marijuana in Canada and the United States, particularly in those states, such as Colorado, that have recently legalized medical marijuana. The description of the Canadian experience is based on the first few months of medical marijuana dispensary operations of the Green Room Society in Toronto. A comparative assessment of the medical marijuana business was undertaken by examining performance data from relevant benchmark sectors, such as Canadian pharmacies and liquor stores. While the estimates of the impacts of the Canadian medical marijuana industry are preliminary, they provide one perspective on the potential future benefits of legalized medical marijuana for Canada.

## 2.0 Measuring Well-being Impacts of Medical Marijuana

The legalization of medical marijuana will have economic, financial, tax revenue, social, health and well-being impacts on Canada and its provinces and territories. Evaluation of these impacts requires a comprehensive framework that can examine the full range of benefits (positive impacts) and costs (negative impacts) of policy alternatives and then help determine whether the net impact of any each alternative on the well-being of citizens in society or a community. The question being addressed in this study of medical marijuana and its dispensing through private enterprises is whether this economic development opportunity will result in the genuine progress of society as measured in terms of improved well-being.

Our analysis uses conventional cost-benefit analysis (CBA) to examine profitability, employment, government tax revenues, and other economic benefits along with other potential impacts including reduced social costs (e.g. crime, premature mortality) and qualitative well-being impacts on individuals and families. However, it uses a much broader measurement framework than just CBA in order to encompass both monetary and non-monetary (e.g. quality of life) impacts in the analytic framework. This framework for analyzing well-being impacts of medical marijuana may be appropriate as a tool for measuring and reporting future impacts the legalization of medical marijuana if and when this occurs.

### 2.1 Health and Well-being Impacts

Marijuana is recognized as an alternative to opioids and could provide a net-positive health and well-being benefit to Canadians if medical marijuana serves as a suitable substitute for opiates that are currently being dispensed for chronic pain, depression and mental well-being.

Canada is the world's second-largest per capita consumer of opioids after the United States, according to the International Narcotics Control Board (2013). A high number die from overdose of oxycodone, hydromorphone and morphine. Opioids are known to have addictive properties and have resulted in overdose deaths in Canada.<sup>1</sup> Overall, 21.7 million opioid prescriptions were issued in 2015 and this represents nearly a 25 percent increase from 2010.<sup>2</sup> Estimates of death from opioid overdose for Ontario show an estimated 550 deaths in 2010. There are an estimated 2,000 opioid drug overdose deaths per year in Canada and 14,000 in the U.S.<sup>3</sup>; this would rank opioid-related deaths as the 11th most important cause of death in Canada after suicide (3,951 Canadians killed themselves in

---

<sup>1</sup> Hager M. Researchers urge medical marijuana over opioids to treat neuropathic pain, 2015

<sup>2</sup> Weeks, C. 2015. 'Staggering' number of chronic opioid patients dying, according to new study. Retrieved August 20, 2016, from The Globe and Mail

<sup>3</sup> <http://www.theglobeandmail.com/news/national/opioid-overuse-is-creating-lost-generation-experts/article31547148/>

2010). The suicide figures would, however, likely include opioid drug overdose. In 2012, a survey found that 410,000 Canadians reported abusing opioids and other such painkillers. The same 2012 study found that 1 in 350 Canadian men died from an opioid overdose and 1 in 800 women who are taking opioids chronically, or for three months or longer, will die as a result of the medication.<sup>4</sup>

Medical marijuana has been demonstrated to contribute to the alleviation of chronic pain, anxiety, depression, anxiety, gastrointestinal disorders, such as Crohn's disease, and offers an alternative to the deadly, addictive opioids painkillers. "The evidence supporting the therapeutic use of cannabis is actually much stronger than the use of other drugs that are used to treat the same conditions and it also seems, in many cases, that cannabis has a more favourable side-effect profile," said Dr. Thomas Kerr, co-director of the Urban Health Research Initiative.<sup>5</sup> There is no association with cannabis and mortality, and yet North America is in the midst of, really, what is a public-health emergency associated to opioid overdose deaths," according to Dr. Kerr. The use of medical marijuana may help reduce morbidity from opioid overdose. According to some US statistics, states such as Colorado that have legalized marijuana have seen a 25% reduction in fatal opioid overdoses.<sup>6</sup> On this basis, the legalization of medical could have resulted in 357 fewer deaths in 2010 in Canada. Early death due to any cause, including fatal doses of opioid painkillers, represents a cost to society and the economy.

## 2.2 Cost of Crime Savings

The cost of crime related to illegal drug offences is significant. Of a total of 2,200,000 crime incidents in Canada in 2013, there were an estimated 109,057 illegal drug possession violations, of which 73,723 (67.6%) were marijuana drug possession violations. Drug possession crimes made up 5% of all reported crimes in Canada; cannabis possession violations made up 3.4% of Canada's total crimes. Based on a Fraser Institute study of the cost of crime in Canada, the average societal cost of crime per criminal violation in Canada was \$81.5 billion or \$37,045 per violation in 2013. This cost of crime would be equivalent to 5% of Canada's GDP. In a 2001 study by the Canadian Centre for Substance of the societal costs of substance abuse, estimated the societal costs of illegal drug use was estimated at \$8.2 billion, which is roughly two times higher than the Fraser Institute estimates of the societal costs of drug-related crimes.

It is not possible to predict, in advance, the extent to which the number of cannabis possession crimes would be reduced as a result of legalization of medical marijuana.

---

<sup>4</sup> These findings are according to Dr. David Juurlink, a senior scientist at Toronto's Institute for Clinical Evaluative Sciences and lead author of the study.

<sup>5</sup> M. Hager. 2015. Researchers urge medical marijuana over opioids to treat neuropathic pain. The Globe and Mail. October 9, 2015

<sup>6</sup> *ibid.*

However, any reductions would result in considerable societal cost savings in terms of lower policing and court costs.

### 3.0 Colorado as a Benchmark for Canada

The State of Colorado formally legalized marijuana, both recreational and medicinal, January 1, 2014.<sup>7</sup> Its experience provides a valuable benchmark for the analysis of legalization of medical marijuana and recreational marijuana, including the projected sales, tax revenues and impacts if Canada chooses to implement a dispensary model for medical marijuana.

The use of medical marijuana was legally approved in Colorado in 2000. Amendment 20, which amended the State Constitution to allow the use of marijuana in the state for approved patients with written medical consent, was approved by 54% of Colorado voters. Under this law, patients may possess up to 2 ounces of medical marijuana and may cultivate no more than six marijuana plants. Patients who are caught with more than this in their possession may argue "affirmative defense of medical necessity" but are not protected under state law with the rights of those who stay within the guidelines set forth by the state. Furthermore, doctors, when making a patient recommendation to the state, can recommend that patients be given the right to possess additional medicine and grow additional plants to meet their specific medical needs. Conditions recognized for medical marijuana in Colorado include: cachexia; cancer; chronic pain; chronic nervous system disorders; epilepsy and other disorders characterized by seizures; glaucoma; HIV or AIDS; multiple sclerosis and other disorders characterized by muscle spasticity; and nausea. However, patients may not use medical marijuana in public places or in any place where they are in plain view, or in any manner which may endanger others (this includes operating a vehicle or machinery after medicating).

Colorado medical marijuana patients cannot fill prescriptions at a pharmacy because under federal law, marijuana is classified as a Schedule I drug. Instead, patients may get medicine from a recognized caregiver or a non-state-affiliated club or organization, usually called a dispensary. Dispensaries in Colorado offer a range of marijuana strains with different qualities, as well as various "edibles" or food products that contain marijuana extracts. Certain dispensaries also offer patients seeds and "clones" for those who want to grow their own medicine.

Recreational marijuana was legalized in 2012 in Colorado with the enactment of Colorado Amendment 64. Adults aged 21 or older were then permitted to grow up to six marijuana plants privately in a locked space, legally possess all marijuana from the plants they grow (as long as it stays where it was grown), legally possess up to one ounce of marijuana while traveling, and give a gift of up to one ounce to other citizens 21 years of age or older. Any

---

<sup>7</sup> <https://www.bostonglobe.com/metro/2016/02/21/from-colorado-glimpse-life-after-marijuana-legalization/rccczhMDWV74UC4lxXIYJ/story.html>

adult living in Colorado may possess up to one ounce of marijuana at any time, however non-Colorado residents may only purchase up to one-quarter of an ounce at a time.

There are now two sets of laws in Colorado relating to cannabis use: those for medicinal cannabis and for recreational drug use along with a third set of laws governing hemp. Consumption of marijuana is permitted in a manner similar to alcohol, with equivalent offenses for driving while impaired. Consumption in public remains illegal. Amendment 64 also provides for licensing of cultivation facilities, product manufacturing facilities, testing facilities, and retail stores.

In 2015, Colorado reported total marijuana sales of US\$996 million of which 41.0% or US\$408.3 million or US\$74.84 per capita was medical marijuana sales. Annual marijuana sales in Colorado for 2016 (based on 5 months of reporting) are expected to reach US\$1.3 billion or US\$240.75 per capita: US\$105.28 per capita in medical marijuana (43.7% of total sales) and US\$135.47/capita (56.3% of total sales) in recreational marijuana sales. Marijuana sales in 2016 are projected to be 31.9% higher than in 2015.

Colorado has adopted a tax regime that includes a retail and medical marijuana sales tax (2.9%), a retail marijuana special sales tax (10%), a marijuana excise tax (15%), and retail/medical marijuana and license fees. In May of 2016, the State of Colorado collected US\$14.482 million in marijuana taxes on sales of US\$98.6 million; this represents 14.7% of total monthly sales.

## 4.0 Projected Canadian Medical Marijuana Sales

Preliminary estimates of Canada's marijuana market suggest market value potential of \$5-\$10 billion. Estimates of the value of illicit trade of marijuana in Canada are \$7 billion per annum.<sup>8</sup> These estimates are consistent with the Colorado experience, which suggests C\$135 per capita in projected medical marijuana sales in Canada in 2016. If the 2016 Colorado marijuana sales data are applied to Canada on a per-capita basis, a total of C\$11.1 billion in both recreational and medical marijuana sales could be expected. Of this, \$4.9 billion could be medical marijuana and \$6.2 billion would come from sales of recreational marijuana.

According to GRS data for its Toronto stores in 2016, medical marijuana sales are currently averaging \$28/capita. This is equivalent to 20.7% of projected US\$105.28/capita medical marijuana sales for Colorado for 2016. Based on GRS current financial performance data, Canada's marijuana dispensary business could amount to projected sales of \$1.0 billion on an annual basis. This suggests there is considerable upside for medical marijuana sales in Canada.

---

<sup>8</sup> Task Force on Marijuana Legalization and Regulation. 2016. Toward the Legalization, Regulation and Restriction of Access to Marijuana. Discussion Paper. p. 5.

## 5.0 Private Dispensary Model for Medical Marijuana

The analysis of a dispensary model in Canada is based on financial and operating data provided by the GRS as well as two years of data from the State of Colorado related to the sale and distribution of both medical and recreational marijuana. The medical marijuana dispensary model is used in 17 US states, including California, Colorado, Connecticut, Michigan, New Jersey, New York, and Washington, which have developed a variety of regulatory and taxation structures to govern dispensary operations. These represent potential examples for consideration in the Canadian context.

### 5.1 Comparisons with Traditional Pharmacies

The following analysis examines the potential advantages and disadvantages of a medical marijuana dispensary system as compared to that of dispensing medical marijuana through conventional drug store operations. It compares preliminary financial performance measures from GRS against the financial and economic performance of Canada's pharmacies as a benchmark for dispensary model for medical marijuana. While there is no information on the financial performance of other companies that also dispense medical marijuana, it is likely that their gross operating margins are similar to those of GRS.

In 2012, there were an estimated 5,950 pharmacy businesses operating in Canada.<sup>9</sup> This means there were 16.5 pharmacies for every 100,000 Canadians. Sale revenues of Canada's pharmacies in 2012 were an estimated \$31.4 billion, or an average of \$868 per person or \$2,171 per Canadian household. Sales revenues for Canadian pharmacies and drug stores averaged \$5.3 million per store in 2012. Total operating expenses (cost of goods sold, operating expenses and labour) per registered pharmacy business in Canada averaged \$5.1 million in 2012; this represents 96% of revenues. In 2012 the pre-tax profit margin in Canadian pharmacies and drug stores industry was 3.4%, while in 2003 it was 4.5%. However, pre-tax profit-margins varied greatly from a low of 0.6% for small (lower-quartile) pharmacies to 58.4% for large (top quartile) pharmacies.

GRS is one of an estimated 48 medical marijuana dispensary businesses operating in Toronto, and this represents 0.8 medical marijuana dispensaries per 100,000 residents. The estimated sales for Toronto's 48 marijuana dispensaries, based on GRS preliminary sales data, suggest average purchase of medical marijuana of \$28 per person. GRS annual gross sales revenues for an average Toronto store are projected to be \$4.8 million per annum. It is too early to estimate pre-tax profit margins for medical marijuana dispensary businesses in Toronto or Canada compared with traditional pharmacies.

---

<sup>9</sup> Statistics Canada, Canadian Business Patterns Database, unclassified excluded, December 2014. Pharmacies and Drug Stores (NAICS 44611)



GRS believes that its dispensary model for medical marijuana is relatively unique in Canada and in the emerging marijuana business. GRS's unique service offering is based on specialized/customized consultation with clients on the appropriate dosage and product specifications for client's specific health needs. This service is highly specialized and differs from traditional pharmacies which dispense drugs primarily based on prescriptions from doctors. GRS is of the opinion that pharmacies are ill equipped to handle the complexity of medical marijuana products and market offerings, and do not have the necessary infrastructure and service demands that are unique to a medical marijuana dispensary practice.

Another approach for dispensing medical marijuana could involve the use of a government-operated dispensary system that might be similar to Ontario's LCBO model for alcohol. A review of available studies indicates that there is inconclusive evidence as to whether a government operated liquor stores provide more societal well-being than private sector operators. There is also insufficient economic or financial data to determine whether a private-sector model of retail dispensary would have financial or strategic advantages over a government-based dispensary system.

## 5.2 Canadians Support Dispensary of Medical Marijuana

A Globe and Mail/Nanos poll conducted in the spring of 2016 showed that 68% of Canadians support legalization of marijuana.<sup>10</sup> Similarly, a spring 2016 CTV News/Nanos poll found that 69% of Canadians support the legalization of marijuana.<sup>11</sup> A survey by Insights West last summer found that 78% of British Columbians said they believe pot has legitimate health benefits.<sup>12</sup> Despite the public support, many physicians are hesitant to prescribe marijuana. According to Dr. Charles Webb, past President of Doctors of BC, "many physicians will remain reticent to prescribe it until Health Canada comes out with guidelines on dosage, concentration and best practices for administering the drug."

When asked about the best means of distributing medical marijuana, a 2015 Insights West survey showed that 78% of British Columbians believed dispensaries were a safer way to distribute marijuana.<sup>13</sup> In 2016, a CTV News/Nanos survey found that 82% of Canadians

---

<sup>10</sup> LeBlanc, D. (2016, February 29). Majority of Canadians agree pot should be legal: poll. Retrieved August 23, 2016, from The Globe and Mail: <http://www.theglobeandmail.com/news/politics/majority-of-canadians-agree-pot-should-be-legal-poll/article28944411/>

<sup>11</sup> Tahirali, J. (2016, June 30). 7 in 10 Canadians support marijuana legalization: Nanos poll. Retrieved August 23, 2016, from CTV News: <http://www.ctvnews.ca/canada/7-in-10-canadians-support-marijuana-legalization-nanos-poll-1.2968953>

<sup>12</sup> Insights West. (2015, July 8). British Columbians Support the Legalization of Marijuana. Retrieved August 23, 2016, from Insights West: <http://www.insightswest.com/news/british-columbians-support-the-legalization-of-marijuana/>

<sup>13</sup> Ibid.



support regulation of dispensaries, while a Globe and Mail/Nanos surveys found that 44% of Canadians clearly favoured distribution through dispensaries over regulated liquor stores (36%) and somewhat over pharmacies (43%).<sup>14</sup>

### 5.3 Employment Impacts of Medical Marijuana Dispensary

In the past two months of operations, GRS has employed an average of 4.0 full-time and 7.5 part-time employees per store, as well as 1.4 contractors per store. This means an average number 11.5 people were employed per GRS store in 2016. Hourly salaries ranged from \$15 to \$20 per hour, which is competitive compared to average hourly salaries of \$16.26/hour in Ontario's sales and services occupations.<sup>15</sup> Employee wages and contractor costs averaged roughly 11.3% of sales revenues for GRS compared with 15.4% for the average of all Canadian pharmacies (labour and commission costs as a percentage of revenues).<sup>16</sup>

### 5.4 Tax Benefits

It is too early to estimate the extent of government revenues that would be generated by private dispensaries in the form of corporate income taxes, personal income taxes, property taxes, and GST/PST. However, using GRS financial performance for the past two months it is possible to estimate typical municipal license fees, municipal property taxes, HST/GST payable on medical marijuana sales, corporate income taxes payable as well as payroll deduction payments on behalf of employees as well as income taxes payable by employees.

**Special marijuana retail taxes:** If Canadian provinces adopted a sales tax and special marijuana retail tax regime similar to that of Colorado, Canadian provinces could collectively collect about \$717 million in medical marijuana sales taxes based on projected medical marijuana sales of \$4.88 billion.<sup>17</sup>

**GST/HST:** If medical marijuana were treated the same as prescription drugs in Canada, there would be no GST/HST charged. While the federal government does not currently apply GST/HST to prescription drugs, GST/HST is currently being collected by marijuana

---

<sup>14</sup> LeBlanc, D. (2016, February 29). Majority of Canadians agree pot should be legal: poll. Retrieved August 23, 2016, from The Globe and Mail: <http://www.theglobeandmail.com/news/politics/majority-of-canadians-agree-pot-should-be-legal-poll/article28944411/>

<sup>15</sup> Statistics Canada. Average hourly wages of employees by selected characteristics and occupation, unadjusted data, by province. <http://www.statcan.gc.ca/tables-tableaux/sum-som/l01/cst01/labr69g-eng.htm>

<sup>16</sup> Statistics Canada, Canadian Business Patterns Database, unclassified excluded, December 2014. Pharmacies and Drug Stores (NAICS 44611)

<sup>17</sup> Colorado adopted a tax regime which includes retail and medical marijuana sales tax (2.9%), retail marijuana special sales tax (10%), marijuana excise tax (15%), and retail/medical marijuana and license fees. In May 2016 the State of Colorado collected US\$14.482 million in marijuana taxes on sales of US\$98.6 million or 14.7% of a total estimated May sales revenues of US\$98.6 million.

dispensaries operating in Ontario at a rate of 13%. With projected medical marijuana sales of \$4.88 billion for Canada, GST/HST revenues to provincial and federal governments could be as high as \$600 million (based on a population-wage sales scenario across Canada).

**Municipal license fees:** Vancouver currently charges a license fee of \$30,000 per annum to a medical marijuana dispensary retailer.<sup>18</sup> The license includes requirements, such as being at least 300 metres away from schools, community centres, and other marijuana-related businesses. These are similar to the requirements in the states of Washington and Colorado. These municipal license fees could be directed towards regulation and enforcement, ensuring public safety.

**Property Taxes:** Based on the experience of GRS dispensary operations in Toronto, estimated annual property taxes for an average medical marijuana retailer could be about \$2,400 per month per store or \$28,800 per annum.

**Personal Income Taxes:** Personal income taxes payable by employees of medical marijuana dispensaries will vary depending on the wages of employees, whether full-time or part-time employees, and hourly wages. Given the infancy of the dispensary business in Canada, it is too early to forecast personal income taxes payable to federal and provincial governments.

**Corporate Income Taxes:** With the infancy of marijuana dispensary retailing in Canada and with only a few months of financial performance, it is difficult to estimate future corporate income taxes payable by the sector. However, using GRS as a benchmark for the rest of the emerging sector, pre-tax profit margins in the 35-50% range should generate large corporate income tax revenues for both federal and provincial governments.

## 5.5 Health and Well-being Impacts

There are many expected personal well-being impacts and benefits from a well-structured, well-regulated medical marijuana distribution dispensary system for medical marijuana. The approach provided by GRS, includes both evaluation and dispensary functions whereas, with some minor exceptions, pharmacies primarily provide only the dispensary services. The GRS approach targets the specific needs for treatment of medical, chronic pain, and mental well-being conditions whereas the pharmacy model would not. The extent of these impacts has not yet been estimated.

The development of a private dispensary system would like result in the development and implementation of stringent regulations on medical marijuana dispensers. The resulting certification and compliance program would ensure that dispensaries promote and protect public health and safety. Standardization of requirements for testing, packaging and labeling

---

<sup>18</sup> City of Vancouver. (n.d.). Regulations for medical marijuana-related businesses. Retrieved August 23, 2016, from City of Vancouver: <http://vancouver.ca/doing-business/medical-marijuana-related-business-regulations.aspx>.

medical marijuana products for distribution will help protect children and ensure adult patients have the information required to make informed choices. This will provide additional well-being benefits to Canadians who can benefit most from medical marijuana.

## 5.6 Other Benefits of the Dispensary Model for Medical Marijuana

The system developed for sales of medical marijuana will likely be fairly distinct from the existing drug, alcohol or tobacco industries. These industries have been heavily commoditized to the point that a customer can pull the product off the shelf with limited or no interaction with a salesperson or expert. Medical marijuana dispensaries are likely to be retail specialists and are unlikely to obtain revenues from the sale of a wide variety of other products such as occurs in pharmacies or drug stores. Assuming that the cost of marijuana to dispensaries will be similar, it is likely that dispensaries will need to compete on the basis of service and other costs. Furthermore, unless Health Canada or the provinces establishes set dispensing fees for these operations, dispensaries will adopt competitive pricing practices that benefits patients by lowering their spending on healthcare.

Based on their current structure and operations, the big-box pharmacies that dominate the Canadian market are ill-equipped to dispense medical marijuana because they do not have the staff capacity or expertise that are sufficiently knowledgeable to prescribe and dispense products. In addition, the environmental considerations for safe storage, display, and ventilation of medical marijuana could require significant overhauls of the existing pharmacy infrastructure. If big-box pharmacies choose to enter the medical marijuana dispensary retail market, it is likely that they will have to make significant capital investments in new infrastructure and ongoing staff training to service client needs that may ultimately prove to be cost-prohibitive. Existing medical marijuana dispensaries are thriving at the present time because they can provide a variety of safe products and high quality services that are meeting customer demands and expectations.