



# The shifting landscape of cannabis legalization: Potential benefits and regulatory perspectives

Christopher L. Newman<sup>1</sup> | Marlys J. Mason<sup>2</sup> | Jeff Langenderfer<sup>3</sup>

<sup>1</sup>University of Mississippi, Oxford, Mississippi, USA

<sup>2</sup>Oklahoma State University, Stillwater, Oklahoma, USA

<sup>3</sup>Meredith College, Raleigh, North Carolina, USA

## Correspondence

Marlys J. Mason, Oklahoma State University, Stillwater, Oklahoma, USA.  
Email: m.mason@okstate.edu

## Abstract

This comment is a response to Al-Hamdani et al. (forthcoming) in this issue. The authors of that paper advocate plain packaging and warning label regulation for cannabis drawing on research from Canadian tobacco labelling and based on the public health dangers of cannabis. While we acknowledge the harmful effects of cannabis for some vulnerable consumers, this paper highlights the benefits of cannabis legalization and proposes regulatory oversight more akin to alcohol with a goal of responsible usage, information, and access; rather than one drawn from tobacco labeling, a product with few discernable benefits and myriad documented harms. Highlighted advantages include increased tax revenues, enforcement cost savings, therapeutic benefits, positive environmental impacts, and social benefits such as a reduction in racial disparities related to marijuana prosecutions. We discuss how a regulatory approach that mirrors alcohol control can better foster consumer protection, fair competition, and public interest in this emerging industry.

## 1 | INTRODUCTION

In the United States, the legal and regulatory environment for cannabis products is in the midst of a period of dramatic change (Kees et al., 2020). Once sold only through a black market shadow economy, the production, retailing, and consumption of cannabis is now legal in many states (despite continued U.S. federal prohibition as a Schedule 1 substance). Cannabis is also now enjoying an emerging cultural acceptance (Pew Research Center, 2020). A review of the

U.S. cannabis laws indicates that, as of December 2020, 36 states and four territories (including Washington, DC) have legalized cannabis for medical purposes,<sup>1</sup> and 15 states and three territories have legalized cannabis for adult recreational use.<sup>2</sup> An additional 11 states allow the use of low-THC CBD oil,<sup>3</sup> while three states and one territory ban cannabis products in all forms<sup>4</sup> (National Conference of State Legislatures, 2020). The preceding list includes the five states that had cannabis-related measures on the ballot in November 2020, all of which passed.

Increased legalization and access has led to rapid growth of the cannabis industry. The best estimates of legal (at the state or territory level) domestic cannabis sales for 2019 were between \$10.6 and \$13.0 billion, and as of mid-2020, were up 40% (McVey, 2020).<sup>5</sup> Tax revenues have risen in tandem with sales, providing significant funds to otherwise cash-strapped state coffers (Boyd, 2020). Though this rapidly emerging industry may benefit from regulatory oversight, current state regulations vary significantly in terms of intended use, consumer access restrictions, product standards, labeling, promotions, retailing, and more. Moreover, many of the potential benefits and harms of cannabis are under-studied and tentative (Kees et al., 2020).

Following the recent legalization in Canada, Al-Hamdani et al. (2020) call for greater regulation of cannabis products in this issue. The authors focus primarily on package labeling and warnings, and draw on tobacco control regulation to advocate a harm reduction, demarketing approach. While protecting public health is critical, we posit that such a harm reduction focus treats cannabis as (only) a dangerous product in need of demarketing and significant restrictions, rather than as the complex product it is (i.e., a product that also has an array of potential benefits in addition to a number of documented risks associated with its use). We believe that such a narrow regulatory approach prematurely limits market competition, emphasizes potential product harms, and overlooks potential benefits. We argue that a regulatory framework that recognizes the product's beneficial aspects, supports access with oversight, fosters competition, and enables the market to expand, should instead be considered when moving toward legalization in the United States and elsewhere.

Therefore, the purpose of this paper is to provide a complementary perspective to Al-Hamdani et al. (2020) by providing a brief overview of some of the potential *benefits* of cannabis legalization (rather than the potential harms, which are well-documented therein). Specifically, we focus on the potential economic, societal, environmental, health, and recreational benefits associated with cannabis legalization in the United States. We then discuss how a regulatory approach that more closely mirrors alcohol control (rather than tobacco) can better foster consumer protection, fair competition, and public interest in this emerging industry. It is our hope that these two distinct approaches will together provide policy makers, consumer advocates, and academic researchers with more comprehensive insight when assessing the shifting landscape of cannabis legalization.

## 2 | POTENTIAL BENEFITS OF CANNABIS LEGALIZATION

### 2.1 | Potential economic benefits

Cannabis legalization can offer valuable economic benefits, especially with respect to tax revenues, tourism, job growth, and reductions in law enforcement costs. Official state reports indicate that tax revenues have generally grown each year in states that have legalized retail sales for medical or adult use (Boyd, 2020). In the state of Washington, alone, cannabis taxes collections and licensing fees totaled \$367.4 and \$395.5 million for the 2018 and 2019 tax years,

respectively (Boyd, 2020). Relatedly, a budding cannabis tourism industry has emerged in the United States, attracting both domestic and international travelers and offering significant financial boosts to local and state economies (Kang & McGrady, 2020). This increased demand for legal cannabis has in turn created a variety of legal employment opportunities throughout the entire supply chain: over 243,000 full-time jobs were supported by legal cannabis production and sales as of January 2020 (Barcott et al., 2020). Given the sales growth and expanding legal markets, job opportunities in the legal cannabis industry are likely to grow for the foreseeable future. Moreover, the median salary of \$58,511 for jobs in the cannabis industry is considerably higher than the U.S. median salary of \$52,863 (Glassdoor, 2019). Though it is not clear how many legal cannabis jobs have replaced black market employment (and thus indicate *net* employment gains), legitimizing the cannabis industry assures increased payroll and income tax collections.

Cannabis legalization also reduces many economic costs. Police in the United States have spent as much as \$3.6 billion annually to enforcing cannabis laws, resulting in as many as 820,000 arrests per year (ACLU, 2013). Though, cannabis legalization may add some costs in the form of regulatory expenses and state law compliance oversight, there should be a concomitant lowering of enforcement, court, and incarceration costs related to criminal cannabis violations by reducing black market incentives and participation. Moreover, the human costs associated with criminal prosecution and incarceration of possessors and distributors of cannabis, and the toll those activities take on human lives, cannot be easily measured monetarily. Though black market cannabis sales will never be completely eliminated, a reasonable, fair, and effective regulatory and taxation framework can substantially reduce incentives for black market activities.

## 2.2 | Potential societal benefits

Cannabis legalization can also offer numerous societal benefits. First, tax revenues from cannabis can be redistributed to increase the welfare of all citizens. A report from the State of Washington is illustrative: Of the \$395.5 million collected from legal cannabis taxes, license fees, and penalties in fiscal year 2019, \$116.5 million was distributed to the general fund, \$188.3 million to general health, \$15 million to city and county governments, \$9.9 million was spent on education, prevention, and research, and \$49.2 million supported various other programs (Washington State Liquor and Cannabis Board, 2019).

Next, the overall impact of cannabis legalization on public safety (and public safety expenditures) remains unclear to this point. For example, though both recreational and medicinal marijuana have been legal for nearly a decade in Colorado, the Colorado Department of Public Safety recently reported that "...it is difficult to draw conclusions about the potential effects of marijuana legalization and commercialization on public safety..." (Colorado Department of Public Safety, 2018). However, it is reasonable to assume that public resources that would otherwise be dedicated to prosecuting cannabis possession and distribution can be redirected to other important areas of societal need, enabling the police and courts to focus on enhancing public safety. Decreasing prosecution of cannabis-related crimes is also likely to reduce racial disparities in cannabis-related police enforcement and result in fewer potentially violent interactions between police and citizens, especially citizens of color. Research indicates that Black Americans are 3.64 times more likely than Caucasians to be arrested for cannabis possession, despite comparable usage rates (ACLU, 2013, 2020). While these incarcerations are costly for

punished individuals in the short term, they additionally reduce expected lifetime earnings by 30% for the incarcerated individual (ACLU, 2013).

From a public safety standpoint, legalization may also reduce violent crimes associated with illicit black market cannabis exchanges (e.g., murders, robberies) and lessen overall support of organized crime operating within the black market. Research indicates that drug market violence is “an inevitable consequence of drug prohibition,” suggesting that a move from a black market-based distribution system to a state-sanctioned, regulated, commercial market is safer for distributors and buyers, alike (Werb et al., 2011). In states where cannabis products are legal, consumers can safely visit commercial dispensaries rather than risk potentially dangerous black market exchanges. Legalization may also decrease consumption of opioids, a drug class with significant demonstrated harmful effects (Livingston et al., 2017; Shah et al., 2019). Though cannabis has been described by some as a “gateway drug” that can encourage users to move on to more dangerous illicit substances, the social environment of cannabis distribution may play a role in cannabis’ potential gateway drug status (National Institute on Drug Abuse, 2020). Thus, disaggregating the black market supply chains of cannabis from other illegal substances could reduce any gateway effects of cannabis use (National Institute on Drug Abuse, 2020). Legalization and attendant regulation may also curb potentially harmful cannabis consumption among youth by limiting their cannabis access through reduced black market availability.

Given the structural risks of the black market (e.g., violence, arrest, incarceration), cannabis prohibition significantly inflates the channel’s production and distribution costs (Kilmer, 2014), ultimately leading to high black market pricing for consumers. Cannabis legalization fosters open markets and competition, thereby helping ensure that consumers receive high quality products at reasonable prices in safe retail environments. Open, legalized competition also benefits the employees and owners of cannabis retailers, wholesalers, and producers. Lastly, legalization promotes consumers’ personal liberties and choices. A 2018 Gallup poll indicates that two thirds of Americans support legalizing cannabis, a record high (McCarthy, 2018). Cannabis legalization thus serves the will of the majority of its citizens—a fundamental aspect of governance in a democratic society.

### 2.3 | Potential environmental benefits

Illegal cannabis cultivation results in a number of adverse environmental consequences, many of which could be eliminated or significantly ameliorated with legalization and attendant regulation. Specifically, illegal cannabis cultivation uses as much as six liters of water per plant per day, thus diverting substantial amounts of surface water in drought-stricken western states (Bauer et al., 2015). Such cultivation also often employs pesticides banned in the United States (Hardisty-Bishop, 2017; Thompson et al., 2014), while indoor clandestine production is highly energy intensive and creates a significant carbon footprint (Mills, 2012). While some of this negative impact would certainly continue under a legalized and regulated system, it could be reduced if the need for secrecy were eliminated and growing operations were subject to inspection and regulation.

### 2.4 | Potential health benefits

Cannabis legalization also offers individuals the opportunity to explore alternative therapies with a number of potential health benefits. There is conclusive or substantial evidence that

cannabis can alleviate chemotherapy-induced nausea and vomiting in adults, can improve the likelihood that adults with chronic pain will experience a significant reduction in symptoms, and can improve spasticity symptoms in adults with multiple sclerosis (NASEM, 2017). There is moderate evidence that cannabis can improve short-term sleep outcomes in individuals with sleep disturbance associated with obstructive sleep apnea, fibromyalgia, chronic pain, and multiple sclerosis (NASEM, 2017). There is also limited evidence that cannabis can increase appetite and decrease weight loss associated with HIV/AIDS, improve clinician-measured multiple sclerosis spasticity symptoms, improve symptoms of Tourette syndrome and anxiety symptoms in individuals with social anxiety disorders, and help patients with symptoms of posttraumatic stress disorder (CDC, 2018; NASEM, 2017). Cannabis is also considerably safer than opiates since it is far less addictive and very rarely overdosed (Livingston et al., 2017). More research is needed on these potential health benefits. Importantly, legalization reduces barriers to conducting needed cannabis research by opening access to the necessary quantity and quality of products (NASEM, 2017). Further, the contents, contaminants, and purity of cannabis can be controlled in a regulated legal market, thereby enhancing consumer safety.

## 2.5 | Potential recreational benefits

Finally, cannabis legalization can offer a number of recreational benefits. Recreational users report that cannabis products help them have fun, relax, think creatively, celebrate, and relieve boredom, and importantly, is often used as a substitute for alcohol (Lankenau et al., 2018). A qualitative study of Canadian cannabis users reveals a complex set of motivations driving recreational use (Osborne & Fogel, 2008). Many users report that cannabis helps them relax during periods of stress. Others report that they use cannabis to enhance their enjoyment of other activities such as experiencing nature, watching movies, reading philosophy, appreciating visual or performing arts, hiking, dancing, or exercising. Still others report that the primary purpose of cannabis use for them is social, and that it enhances their feelings of closeness to others, heightens enjoyment of sexual activity, and makes otherwise boring activities pleasurable (e.g., housework and repetitive tasks). In addition, some users have indicated that cannabis can be a vehicle to self-awareness, enhance their spirituality, and bring them closer to nature (Osborne & Fogel, 2008). All of these self-reported recreational benefits are non-trivial, as they improve users' everyday lives, make their experiences and life journey more pleasant, and improve their overall feelings of well-being.

## 3 | AN ALTERNATIVE REGULATORY LENS FOR CANNABIS LEGALIZATION

Al-Hamdani et al. (2020), drawing on tobacco control regulatory practice, propose significant demarketing restrictions on cannabis packaging for the Canadian cannabis industry. Specifically, they call for plain, square packaging that limits the background color to dark brown or gray, contains a series of large, prominent health warnings, and is free of product descriptors of any kind. This regulatory lens treats the product being regulated as solely harmful with few (if any) benefits. While cannabis can be legally sold under the Al-Hamdani et al. recommendations, the proposed regulations strongly discourage cannabis use for all users, and sellers' communications about the product to the consuming public are sharply restricted. The emphasis is

thus placed on the inclusion of explicit health warnings, substantial restrictions on promotional packaging and brand imagery, and the communication of product harms.

We agree that a demarketing approach is appropriate for tobacco products. However, we question its appropriateness for cannabis in light of the potential significant economic, societal, environmental, health, and recreational benefits outlined here. Cannabis, like alcohol, is a product that has both substantial benefits as well as numerous harmful effects. By contrast, tobacco is a product that has few (if any) benefits and countless harmful consequences.

Accordingly, we argue that a regulatory lens that more closely mirrors alcohol regulation should be used to better balance the interests of consumers, vulnerable populations, cannabis industry participants, and society at large, as this market evolves. Consumers would then be able to choose between competing offerings and have access to information about product characteristics and the differing benefits that various sellers provide. Sellers would face a competitive landscape that is fair and allows for product differentiation and communication with the consuming public, as well as the opportunity to earn a profit.

As documented by Al-Hamdani et al. (2020), however, cannabis use can wreak havoc on vulnerable populations. Legalized cannabis may impact heavy users struggling with cannabis use disorder or teens who may experience adverse cognitive outcomes due to cannabis usage (Caulkins et al., 2016; Lubman et al., 2015; Richter et al., 2016). Pregnant women represent a particularly vulnerable segment, as cannabis usage during pregnancy can lead to serious complications (e.g., lower birth weights, preterm delivery) (Fergusson et al., 2002). This problem is compounded by recent self-reports of increasing cannabis usage among pregnant women (Young-Wolff et al., 2019).

We agree that these vulnerable groups and others should be protected via access limitations, education, and, in particular, warning labels. However, we differ significantly with Al-Hamdani et al. (2020) on the specific implementation of warning labels that they recommend. Enlarged warnings (larger than any branding, prominent upper front panel) in conjunction with plain packaging emphasizes danger, while significantly limiting space for product information that would allow consumers to make accurate product comparisons. Such an approach would over-emphasize the potential consequences of cannabis consumption, while underemphasizing the potential benefits. Indeed, Canadian law currently does not require mandatory warnings on alcohol packaging (Government of Canada, 2021). The warning label rules advocated by Al-Hamdani, if implemented, would convey the impression among consumers that alcohol (free of warnings) is safer than cannabis (packaged with prominent warnings), when in fact there is abundant evidence that the opposite is true (Sellman, 2020). In short, a demarketing approach would create information asymmetry in the marketplace that would not foster optimal consumer choices, and worse, potentially mislead consumers.

Kees et al. (2020), in their comprehensive review of cannabis policy, counsel that any responsible cannabis regulatory approach should include mechanisms to protect vulnerable populations. These include packaging materials that warn users about potential harms, make clear whether cannabis products contain amounts of THC sufficient to induce mental alterations for most users, and provide strength, dosage, and other user information. Given the potential harm to some users that completely unrestricted cannabis distribution and marketing can cause, we endorse these recommendations, and are eager to see additional research from marketing policy makers to inform a science-based approach to cannabis labeling and warning regulation. We especially support large-scale federally funded studies that can more definitively answer many of the questions surrounding the benefits and dangers of cannabis usage.

As mentioned, cannabis—unlike tobacco—offers an array of benefits that are more than merely speculative. There is substantial and conclusive evidence that medical cannabis helps many patients. There are clear economic, societal, environmental, and recreational benefits associated with legalization, as outlined here, that make strict demarketing inappropriate. These benefits, as well as the harms, should be reflected in its regulation. Prohibition should not be replaced with severely restricted demarketing, but rather a science-based regulatory scheme that balances the interests of all who might be affected by legalized cannabis, including vulnerable groups as well as manufacturers, distributors, and retailers of cannabis products that are competing in this emerging industry.

A model for balanced regulation already exists. Alcohol regulations recognize responsible adult use. Distribution policies limit sales to adult consumers through specially licensed venues, typically with restricted operating hours/days and specific sales protocols. Marketing regulations allow for branding, promotional imagery, and advertising, while including industry standards against targeting underage consumers and relevant warnings in the United States (e.g., pregnant women should not consume alcohol; alcohol impairs your ability to drive a car). Such policies provide consumers with access and information that shape their choices to use or forgo the product. Public health education (e.g., designated driver campaign) and legal implications (e.g., fines for driving under the influence) further encourage and enforce responsible usage. Overall, the alcohol industry focuses on responsible consumption among legal users, which seems appropriate for the growing cannabis industry considering its potential benefits and harms.

Accordingly, as a counterpoint to Al-Hamdani et al. (2020) and consistent with the guidelines set forth by Kees et al. (2020), we recommend that warning labels should not be the only information provided to consumers on the exterior of retail cannabis containers. Of course, warning labels must be prominent to effectively communicate risks to consumers, but color coding or other prominent indicators of THC content are also critical additional elements, as is information regarding CBD amounts per serving and typical dosing information. Finally, and perhaps most importantly, branding information and other product characteristics communicate valuable information to consumers and should be allowed on at least 50% of package exteriors, enabling cannabis industry firms to participate in the dialogue with consumers and differentiate their product from those of their competitors.

Of course, these proposals are just a starting point, as additional research is needed to establish many of the parameters of safe cannabis use. In some ways, as with many products, sales and distribution precedes knowledge regarding product harms and benefits. As such, an approach is called for that respects all stakeholders, including the vulnerable, consumers, and industry participants. Regulations will need to evolve as cannabis legalization grows, particularly since current state regulations are inconsistent and often conflict with federal laws. Given these dynamics, we suggest that states look to the alcohol market for additional insights in crafting their policies. Evidence from decades of alcohol regulation suggests that warning labels by themselves do not measurably reduce risky alcohol consumption, but can affect behavior when part of a larger program aimed at education related to dangerous uses and vulnerable users (Andrews, 1995; Parliament of Australia, 2012; Thomas et al., 2014). Thus, to the extent possible, cannabis warning labels should be part of a multipronged approach to regulation that balances the interests of medical users, recreational users and vulnerable populations with industry participants. Such an approach will afford access and personal choice while simultaneously encouraging responsible usage by consumers and fair competition among firms.

## ENDNOTES

- <sup>1</sup> Alaska, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, Florida, Hawaii, Illinois, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Dakota, Utah, Vermont, Virginia, Washington, West Virginia, District of Columbia, Guam, Puerto Rico, U.S. Virgin Islands.
- <sup>2</sup> Alaska, Arizona, California, Colorado, Illinois, Maine, Massachusetts, Michigan, Montana, Nevada, New Jersey, Oregon, South Dakota, Vermont, Washington, District of Columbia, Guam, Northern Mariana Islands.
- <sup>3</sup> Alabama, Georgia, Kentucky, Indiana, Iowa, North Carolina, South Carolina, Tennessee, Texas, Wisconsin, Wyoming.
- <sup>4</sup> Idaho, Kansas, Nebraska, American Samoa.
- <sup>5</sup> Unfortunately, precise data on cannabis sales are difficult to find due to inconsistent reporting requirements from the various states and territories that license retail sales. But estimates from multiple sources relying on official state publications are able to make reasonable ranged estimates (Boyd, 2020).

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