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1. Hall W, Lynskey M. *World Psychiatry* 2020;19:179-86.
2. Fischer B, Russell C, Rehm J et al. *J Public Health* 2019;41:412-21.
3. Imtiaz S, Kurdyak P, Samokhvalov AV et al. *CMAJ Open* 2018;6:E495-501.

4. Manthey J, Kalke J, Rehm J et al. *F1000Research* 2020;9:201.
5. Campbell DT. *Am Psychol* 1969;24:409-29.
6. Rehm J, Elton-Marshall T, Sornpaisarn B et al. *Int J Drug Policy* 2019;74:47-51.
7. Owrn K. One year in, legal Canadian pot fails to match the hype. *Bloomberg*, October 15, 2019.
8. Robertson K. How not to legalize weed. *Maclean's*, October 17, 2019.

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Being thoughtful about cannabis legalization and social equity

Hall and Lynskey¹ highlight several outcomes featured in cannabis policy debates and correctly note that they will be shaped by the type of legalization that is implemented. Their excellent review of the emerging evidence about how the commercial approach influences health outcomes will hopefully inform future debates in the US and elsewhere.

A related outcome increasingly receiving attention in these debates is whether cannabis legalization can be used to promote social equity and help communities of color that have been and still are disproportionately affected by prohibition. Indeed, at a time when some in the US are discussing reparations and how to acknowledge and address the fact that the country's economy was heavily built on slavery, this is a particularly salient issue to consider.

Cannabis arrests have dropped dramatically in legalization states, although in some places they were already falling before the policy change^{2,3}. Overall, fewer people of color are being arrested for cannabis in legalization states, but this does not mean that legalization will eliminate racial and ethnic disparities in cannabis arrests³.

Having a criminal record has implications for health and economic well-being and, in the US, there are additional consequences associated with having a drug offense on one's criminal record⁴. For example, in some places a cannabis offense can make it harder to access public housing or work in the newly legal industry. While the early efforts to legalize cannabis in the US did not directly address expunging criminal records, jurisdictions soon began to make it easier for individuals to clear these cannabis offenses from their records⁵. Some

places have gone further by automatically expunging these offenses.

Beyond issues surrounding criminalization, an increasing number of US jurisdictions are implementing social equity programs which give preferences for business licenses to people from communities disproportionately affected by cannabis prohibition⁵. Some of these programs also provide technical assistance for those who are new to the process of starting and growing a business. There are also some efforts to directly target cannabis tax revenues to support these communities. For example, one Chicago suburb (Evanston) recently announced that it plans to set aside some of its cannabis tax revenues to help fund its new local reparations program for African Americans.

While it is too early to evaluate the effectiveness of these efforts, their utility must be considered in the context of the economic realities of cannabis legalization, especially as they are unfolding in the US. In theory, there are multiple reasons why legalization will push down cannabis production and distribution costs, which can in turn influence prices^{5,6}. First, legalization reduces the risk of arrest for sellers, which decreases the risk premium they must be paid. Second, the "structural consequences of illegality" create inefficiencies that will no longer exist in a legal market⁷. Third, firms can take advantage of increasing economies of scale if large producers are allowed. Fourth, with legalization it will be easier for producers and processors to benefit from improvements in technology. With declining costs in a competitive market, we would expect prices to decline.

Large declines in cannabis prices can

affect revenues for governments and businesses, which can in turn affect efforts to promote social equity. If cannabis taxes are set as a function of its price (e.g., Washington applies a 37% excise tax on retail purchases) and the price declines, so will the tax revenue available for social equity programs (although this could be offset by an increase in total cannabis sales). Price declines can also make it harder for small businesses to stay competitive with larger firms. Thus, giving a license preference to a small business that does not have much of a chance in a lightly-regulated commercial market could be counterproductive. It might make some people worse off than if they invested their money elsewhere.

This is not a theoretical concern. Hall and Lynskey note that cannabis prices are already falling in places that have legalized. Further, in early legalization states such as Washington, there are reports of small cannabis businesses closing down or being bought out at a steep discount by larger firms⁸.

While an increasing number of US states are creating commercial cannabis regimes, this activity remains illegal under federal law. Among other consequences, federal prohibition is preventing some of the largest corporations, including alcohol and tobacco companies, from getting involved in the industry. US federal legalization could cause cannabis prices to bottom out, especially if imports are allowed and Amazon can deliver. This will make it even harder for small businesses to compete.

But there are many approaches to legalization^{5,6}. Hall and Lynskey mention a few, including a government monopoly on cannabis production and sales. Govern-

ment stores could play an important role in promoting social equity if the revenues are thoughtfully allocated. Since the government would set the price instead of the market, this could prevent the large price declines. Further, this approach would allow the government to keep the revenue instead of having it go to profit-maximizing firms. If a certain percentage of these revenues were allocated to evidence-based programs to build wealth for historically affected individuals, this might help improve economic conditions.

There could be other social equity and public health advantages to the government monopoly approach. In addition to stabilizing prices and revenues, it would be easier to limit the types of products and control marketing in the US with this approach versus the commercial model⁶. Further, liquor stores tend to concentrate in minority communities and there is some evidence suggesting that this is happening with cannabis outlets⁹. Thoughtful siting of

state-operated retail stores could avoid this type of predatory concentration.

Of course, it is possible to both give license preferences and set aside tax revenues for programs supporting social equity; they are not mutually exclusive. But given declining prices and the dominance of the for-profit commercial model in US policy discussions, it is unclear whether license preferences will ultimately have the desired effect.

We applaud the public servants who have worked hard to implement social equity programs in places that have legalized cannabis. Our hope is that jurisdictions considering alternatives to cannabis supply prohibition and seeking to improve social equity outcomes – and public health – not limit their discussions to the “for-profit with license preference” model. We encourage these jurisdictions to consider the pros and cons of various legalization options as well as use the growing evidence about the economics of legalization to implement an ap-

proach that is most likely to succeed in its social and economic goals.

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1. Hall W, Lynskey M. *World Psychiatry* 2020;19:179-86.
2. Pardo BP, Kilmer B, Pacula RL. Monitoring and evaluating changes in cannabis policies: insights from the Americas. Lisbon: European Monitoring Centre for Drugs and Drug Addiction, 2020.
3. Firth CL, Maher JE, Dilley JA et al. *Subst Use Misuse* 2019;54:1582-7.
4. Iguchi MY, Bell J, Ramchand RN et al. *J Health Care Poor Underserved* 2005;16:48-56.
5. Kilmer B. *Am J Drug Alcohol Abuse* 2019;45:664-72.
6. Caulkins JP, Kilmer B, Kleiman MA et al. Considering marijuana legalization: insights for Vermont and other jurisdictions. Santa Monica: RAND, 2015.
7. Reuter P. *Disorganized crime. The economics of the visible hand*. Cambridge: MIT Press, 1983.
8. Kleiman MAR, Hampsher SC, Davenport S et al. Interviews with cannabis licensees in Washington State. Cambridge: BOTEC, 2018.
9. Shi Y, Meseck K, Jankowska MM. *J Addict* 2016; 2016:7193740.

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The effects of recreational cannabis legalization might depend upon the policy model

Since 2012, when Colorado and Washington State started the path to legalize cannabis for recreational purposes, the trend has been growing. Uruguay became in 2013 the first country to legalize the whole process: from production to distribution, commercialization and consumption. Canada followed suit in 2018. By January 2020, eleven states in the US, Uruguay and Canada have legal access to recreational cannabis for adults, and other countries have started the legalization process or the discussion about it, as is the case of Luxembourg and New Zealand.

Each of these experiences of legalizing cannabis is different from the others¹. Legalization in the US and Canada has followed a deeply commercial model, while legalization in Uruguay is heavily regulated and controlled by the government². Even in Canada, there are significant differences in the set of rules that each province has opted to follow while legalizing. For example, in some Canadian territories

the minimum age for use is 18 years, while in others it is 21.

The features of each legalization policy model might have a different impact on the expected outcomes. Some regulatory policies might increase certain legalization adverse effects, while decreasing other negative impacts. For example, the Uruguayan cannabis legislation forbids the selling of cannabis edibles, which might reduce intoxications among minors but increases the percentage of users that smoke cannabis.

So, it is important to compare the effects of the different models of cannabis legalization and not assume that all the experiences will produce the same results. In other words, it is important to take advantage of the existing variance of policy design. The way in which you regulate might lead to different effects on public health and the other objectives that the policy is designed for³.

Hall and Lynskey's paper⁴ mentions several ways to assess the public health impact

of legalizing recreational cannabis use, on the basis of the US experience. The authors provide a very significant contribution to the emerging debate on the importance of reaching an agreement on a group of indicators to be monitored, possibly aggregating them in an index to measure their overall impact on public health⁵.

They also recommend that the evaluation looks at outcomes in the short run but also in the long term. For example, they point out that legalization might “enable more adults to use cannabis for a longer period of their lives”. It will be necessary to keep track of the impact of this prolonged use on car crash fatalities and injuries, as well as on emergency department attendances related to cannabis consumption. The authors also call the attention to the possibility that cannabis legalization becomes a federal national policy in the US, which will reduce cannabis prices, because cannabis industry will try to enhance profits by increasing the size of the market.