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Advancing knowledge on cannabis policy using evidence from North America

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For decades, drug policy campaigners around the world blamed the United States of America (USA) for the lack of change in international drug policy. The USA was seen as the most powerful supporter of the prohibitionist interpretation of the UN drug conventions, and as one its strictest domestic enforcers. The picture of the USA as chief architect of prohibition may always have been limiting (Collins, in press). It ignored, for example, the wave of decriminalisation that was implemented in many US states in the 1970s (Pacula et al., 2005; MacCoun and Reuter, 2001) as well as state efforts to make cannabis available for medicinal purposes in the 1990s and 2000s (Pacula and Smart, 2017; Hall and Pacula, 2003). It has been decisively challenged by more recent developments. The decisions by the electorates of Colorado and Washington to legalise the sale of cannabis for recreational use in November 2012 went further than the many states that had already permitted sale for medical purposes. These were followed by similar votes in two more states (Oregon and Alaska) and the District of Columbia in November 2014, and then four more states (California, Massachusetts, Maine and Nevada) in November 2016. Today, more than 20% of U.S. population lives in a jurisdiction that has legalized cannabis for recreational purposes.

Policy reform regarding recreational cannabis has not been limited to jurisdictions within the USA, however.   Uruguay successfully passed a law in 2013, allowing residents 18 years and older to either grow cannabis on their own, join a collective, or purchase from pharmacies (Kilmer and Pacula, 2016) and in 2016 the new Canadian government's announced its intention to legalize cannabis as well (Task Force on Cannabis Regulation and Legalization, 2016).

It was in this context that the International Society for the Study of Drug Policy (ISSDP) co-hosted a meeting with the Marron Institute at NYU in New York City in April 2016. For the Marron Institute, this was the *Cannabis Science and Policy Summit*. It incorporated the ISSDP's regional meeting on cannabis policy in the Americas. The papers published in this issue are mostly selected from those presented at the meeting, as well as relevant papers presented at the ISSDP's 10th annual conference in Sydney. They focus on cannabis policy in North America, although we do also include a viewpoint on medical ganja in Jamaica (Jones, this issue) and legal cannabis in Uruguay (Kilmer and Cerda, this issue).

One of the main aims of the ISSDP is to improve the use of evidence in drug policy. We know how difficult this can be (Stevens & Ritter, 2013). Evidence is rarely imported directly into policy in a linear fashion. The 'enlightenment' function of evidence may be blocked by the barriers that prevent policy makers from accessing evidence (Ritter, 2009), or by systematic distortion in the political uses of the research base (Stevens, 2011). Nevertheless, we believe that high quality research is the best way to inform public debate about the process, outcome and impacts of different drug policies.

This must start from a thorough understanding of what the effects of a drug – both positive and negative – can be. Drs. Susan Weiss, Katia Howlett and Ruben Baler's (this issue) article "Building Smart Cannabis Policy from the Science Up" offers readers an overview of the current state of knowledge on the harms and medical benefits of the complex mix of compounds contained within the cannabis plant. They focus on the mechanisms by which the known compounds can exert their effects on the body, through the endocannabinoid system, the neurological system, and executive functions of the brain. This provides a strong biological basis for understanding the potential therapeutic benefits and harms associated with particular strains of the cannabis plant, which contain different mixes of these compounds. It is within the context of this biological science related to the cannabis compounds that they then review the knowledge related to therapeutic benefits, acute effects, addiction, psychosis and impacts on the developing brain.

In his article "Recognizing and Regulating Cannabis as a Temptation Good" Jonathan Caulkins (this issue) makes a provocative statement, explaining that perhaps the biggest impact of this cannabis legalization experiment that is being conducted today is not the savings from black markets or criminal justice, nor it is the health harms associated with use, but rather the hours of intoxication that will result. He argues that we can make use of experiences in the regulation of 'temptation goods' (e.g. alcohol). A common assumption is that most cannabis users do not use problematically, so that any increases in use that follow legalization will be largely non-problematic. Caulkins suggests, in direct contrast, that most cannabis is used by people who use it a lot, spending much of their time intoxicated. Caulkins' informed speculation on the potential effects provide a necessary note of caution alongside more celebratory commentaries on cannabis legalization that have appeared elsewhere. Wayne Hall (this issue) specifically addresses the adverse health effects of cannabis. He notes that comparisons with those of alcohol may be misleading, especially due to our lack of knowledge on effects of long-term cannabis use. Hall notes that the relatively regulatory framework that the USA and other countries have adopted for alcohol may not be the best model for dealing with cannabis.

As Caulkins and Hall both make clear, we need to think about the potential effects of cannabis use and policy on specific groups within the broader population. The article by M.J. Milloy et al (this issue) looks at a particularly interesting group for drug policy; people who use drugs and are HIV positive. If cannabis use hinders anti-retroviral treatment for these people, then it would have a knock-on effect in increasing subsequent infections, morbidity and mortality. However, the article shows that it is not possible to detect such an effect among HIV positive people who use drugs in Vancouver. As Milloy et al. state, this is reassuring, given the imminent legalization of cannabis in Canada.

Many of the remaining articles in the issue focus on drawing policy lessons from the experiences and hurdles encountered by the first movers in this space. For example, Carnevale and colleagues (this issue) use the Colorado and Washington experience to offer recommendations for jurisdictions considering adopting a commercial, for-profit system with respect to (1) cultivation, production and processing; (2) sale, consumption and possession; (3) taxes and finance, (4) public health and safety; and (5) governance. In both states regulations that were initially adopted related to these issues continued to evolve as the policy got implemented. They recommend that states and other jurisdictions begin by adopting relatively restrictive regulatory approaches that can be subsequently loosened should they prove unnecessary or overly restrictive. History has demonstrated that it is much easier to loosen a tight market than to tighten a loose one.

In another article, Subritzky, Pettigrew and Lenton (this issue) get into the weeds by discussing a specific area of growing public safety concern in Colorado; the application of pesticides and plant

growth regulators used in the cultivation of legal cannabis. They review the literature examining the chemical residue found on plant material typically smoked, and raise awareness of a study showing that the pesticide levels in concentrated cannabis products (waxes and edibles) are actually ten times higher than those found on the flower heads of the cannabis plants themselves. Apparently, the cannabinoid extracting process that creates high THC products actually intensifies the levels of pesticides in the processed products, and these concentrated products are not currently being tested for pesticides by regulators. They note that standardization of cannabis testing protocols in the United States has been a major challenge, given the variation between state and federal laws, issues of intellectual property in methods used to test products, and the complex naturally occurring chemical constituents of the various strains of the plant. This article in particular provides highly valuable information for other jurisdictions interested in carefully thinking through all the details involved in developing product safety regulation and the technological needs and guidelines necessary to guarantee product safety.

In "From Toques to Tokes: Two Challenges Facing Nationwide Legalization of Cannabis in Canada" , Dr. Daniel Bear (this issue) discusses two major hurdles that current Canadian Task force will have to grapple with in its efforts to design a legal cannabis system within Canada. The first is an issue that applies to all countries considering cannabis legalization, and that is the restrictions imposed by UN drug control treaties related to cannabis legalization. The second hurdle is specific to the Canadian situation, and relates to the complexities of the interprovincial trade policies that have already impeded the selling of beer and wine between provinces in Canada. This article is a valuable reminder that cannabis is not considered by government bureaucracies as "just another good", even if that is how the populist sees it.

Dr. Julia Dickey argues that we must pay attention to local implementation of these policies in evaluating them. In most of the U.S. states that have passed legal cannabis, local jurisdictions are given the authority to decide if they would like to allow cannabis sales within their communities and under what conditions. Therefore, even if a state passes a law, it does not imply uniform access to cannabis across the state. Dr. Dilley and her colleagues demonstrate that as of June 2016 (four years after legalization in Washington and two years after stores opened in some areas), 30% of Washington state's population lived in places that had temporarily or permanently banned retail sales. Moreover, she notes how these laws continue to change over time, suggesting that evaluations looking at state aggregated data may not necessarily reflect the variability in local experiences caused by differences in whether and how these policies get implemented.

Despite such difficulties, the articles collected in this issue demonstrate that it possible to apply rigorous analytical and empirical methods to develop knowledge on the effect of cannabis policy. The article by Grbic et al. (this issue) reminds us that evidence is not sufficient on its own to produce policy. A wide range of different types of knowledge and motivation also play a role. As Dr. Keith Humphreys noted at the ISSDP's annual conference in 2009, values have a legitimate role in drug policy decisions (Humphreys, 2009; Humphreys & Piot, 2012). The lesson we take from Grbic et al's article, and from our work and discussions with colleagues in the field, is that the production and dissemination of sound evidence is a vital part of the democratic process of policy construction. Researchers have a duty to produce evidence that is methodologically sound and to make it available to the public for use in public deliberation.

The uses that will be made of evidence on cannabis policy in the Americas has been called into question by the result of the US presidential election in November 2016. At the April meeting, Caulkins suggested that the spread of cannabis legalization across the USA was 'inevitable'. A state with a neighbour that legalizes cannabis will experience much the same harms (e.g. from residents

using cannabis purchased in the neighbouring states), but little of the benefit (e.g. from tax revenue). So, in Schelling-esque style (Schelling, 1978), the often-displayed map of US states is bound to show the spread of legalization from state to state, even if no central power has directed this to happen. In his discussant's response, Dr. Robert MacCoun argued that the spread of legalization is indeed 'evitable'. The previous spread of decriminalization in the 1970s was halted by political developments that few would have predicted at the time. The election of President Trump represents another largely unpredicted event. The Trump administration has provided no indication of its enthusiasm for or tolerance of the current state experimentation with legal cannabis, and the appointment of Sen Jeff Sessions as Attorney General provides no additional insight. So it is remains unclear as to whether the United States will continue down its current path, or experience some intense internal conflict. Only time will tell.

We would like to close this editorial by thanking all the participants in the 2016 meeting, and especially Mark Kleiman and the team at BOTEC who put so much work into the event. Kleiman opened the event by declaring the Marron Institute's agnosticism on the issue of cannabis legalisation, which is shared by the ISSDP. In the closing session, Peter Reuter (founding President of ISSDP) reminded us that it will take many years until we have a convincing picture of the effects of recent policy changes. We invite our readers – and future contributors to this journal and to events of the ISSDP – to continue the efforts to expand the scope of our knowledge on these topics, even if we cannot expect this knowledge to have a direct and decisive impact on policy in the short run.

References

Hall, W. and R.L. Pacula. (2003). *Cannabis Use and Dependence: Public Health and Public Policy.* Melbourne, Australia: Cambridge University Press.

Humphreys, K. (2009). Presentation: One flew over the is-ought gap: Why many academics underestimate the influence of science on U.S. drug policy. *3rd Annual Conference of the International Society for the Study of Drug Policy*. Vienna: ISSDP.

Humphreys, K., & Piot, P. (2012). Scientific evidence alone is not sufficient basis for health policy. *BMJ*, *344*, e1316. http://doi.org/10.1136/bmj.e1316

Kilmer B and RL Pacula (Forthcoming). "Greening the Black Market: Understanding and Learning from the Diversification of Cannabis Supply Laws" *Addiction*.

MacCoun, R. and Reuter, P. (2001). *Drug War Heresies: Learning from Other Vices, Times and Places,* Cambridge: Cambridge University Press.

Pacula, R.L., MacCoun, R., Reuter, P., Chriqui, J., Kilmer, B., Harris, K., Paoli, L. and Schäfer, C., 2005. What does it mean to decriminalize marijuana? A cross-national empirical examination. In *Substance Use: Individual Behaviour, Social Interactions, Markets and Politics* (pp. 347-369). Emerald Group Publishing Limited.

Pacula RL and R Smart (2017). Effects of Changes in Marijuana Laws on Marijuana Use and Disorders: Medical Marijuana and Marijuana Legalization, *Annual Review of Clinical Psychology*. 13(1) DOI: 10.1146/annurev-clinpsy-032816-045128.

Ritter, A. (2009). How do drug policy makers access research evidence? *International Journal of Drug Policy*, *20*(1), 70–75.

Schelling, T. C. (1978). *Micromotives and Macrobehavior*. New York: Norton.

Stevens, A. (2011). *Drugs, Crime and Public Health: The Political Economy of Drug Policy*. Abingdon: Routledge.

Stevens, A., & Ritter, A. (2013). How can and do empirical studies influence drug policies? Narratives and complexity in the use of evidence in policy making. *Drugs: Education, Prevention, and Policy*, *20*(3), 169–174.

Task Force on Cannabis Regulation and Legalization. (2016). *Framework for the Legalization and Regulation of Cannabis in Canada: the Final Report of the Task Force on*. Ottawa: Health Canada.