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Coordinating cannabis data collection globally: Policy implications

Harmonizing global data collection on cannabis use is vital, as laws and policies are rapidly evolving. A similar need exists for measurement of medical cannabis use which, at least in the United States, occurs outside medical systems and medical record-keeping—ultimately putting patients at risk.

Lorenzetti *et al*. propose a hierarchical framework of increasing complexity for assessing cannabis use in diverse populations and settings [1]. It is meant to address one of the challenges that many countries are now facing around cannabis: rapidly evolving laws and policies, as well as rapidly evolving products and use patterns. This important step towards harmonizing data collection on a global level will facilitate the ability of different countries (or States) to learn from each other as they implement distinct approaches towards cannabis decriminalization or legalization—with the caveat that cultural, geographic, socio-economic status and other factors also strongly influence outcomes even when policies are identical.

At the same time, there is an urgent need to develop or adapt standards to measure cannabis consumption for medical use. Medical use has been increasing in the United States and continues to garner strong public support [2], despite there being no US Food and Drug Administration (FDA)-approved whole-plant cannabis product for any medical condition. Regulation of cannabis for medical purposes in the United States is currently a patchwork, with widely varying State laws (at odds with those on the Federal level) and few clinical data to inform treatment recommendations. Some states have legalized cannabis products with low delta-9-tetrahydrocannabinol (THC) and high cannabidiol (CBD) content for limited medical uses, while others have broad policies allowing even high-THC cannabis to be used in a range of products and conditions. Most products available at medical dispensaries do not differ in their THC content from those available for adult recreational use [3]. A majority of medical cannabis users report using it to treat pain.

In the United States, physicians and other approved providers (which also vary by State) are not permitted to 'prescribe' cannabis to their patients; instead, they provide a recommendation and patients can purchase the products from dispensaries (or they may grow their own), often following the advice of 'budtenders' with no medical qualifications. As recently as a few years ago, many budtenders in Colorado recommended cannabis to pregnant women for nausea without appropriate cautions or even suggestions that the women consult with their physicians first [4]. Physician providers who know their patients' medical histories and understand the risks as well as possible benefits of available cannabis products exist, but they are the exceptions.

Clinical trials are needed to determine efficacy, dosing, risks, etc. of cannabis and cannabinoids, but these will take time. Unfortunately, because cannabis use is not tracked within our current medical record-keeping systems and its medicinal use generally occurs outside the health-care system, we cannot acquire information on who is using what products, for what conditions, what the outcomes are and how cannabis interacts with other medicinal products or other substance use. It is a missed opportunity.

Appropriate measures are needed to track cannabis product preferences (e.g. cannabinoid mixtures and other non-cannabinoid constituents), routes of administration (oral, transcutaneous, smoked, other), patterns of use (daily, multiple times daily, as needed), doses consumed and impact on symptoms. This would provide needed information on clinical benefits; whether tolerance develops and leads to dose escalation; drug interactions that could preclude use or require dosing adjustments; and adverse effects in different populations, including addiction risk.

Patients are at risk when their physicians do not know what drugs they are using. The current lack of information-gathering on cannabis also allows rumor and anecdote to guide self-medication—sometimes resulting in patients foregoing life-saving evidence-based treatments (for example, in the treatment of opioid use disorders). It is also likely that some of the health consequences of chronic use will only become apparent over time, as was the case with hyperemesis, links to suicidal behavior and vulnerability to other infections [5–8]. Without accurate tracking and measurement, we will not be able to identify or adequately address these or understand the risk/benefit ratios for patients with different disorders.

The current consensus proposal for cannabis measurement is an important first step, which we applaud. Indeed, in support of harmonization, the National Institute on Drug Abuse (NIDA) now requires that its grantees use standard units of THC (5 mg) to quantify the levels of THC exposure in their study participants, and similar requirements have been adopted by other research institutes at National Institutes of Health (NIH) —see NOT-DA-21-049 [9]. We hope that, together with the future directions delineated in the paper by Lorenzetti *et al*.,

we can proceed to tackle the even more complex issues of a growing medical cannabis industry and learn from other countries that may be in a strong position to acquire data on medical cannabis use and products more systematically.

DECLARATION OF INTERESTS

S.R.B.W. has stock ownership in Merck and General Electric; N.D.V. has no conflicts of interest.

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We need convincing data to support a public health approach to cannabis regulation

Agreed measures of cannabis use and impacts are essential in evaluating regulatory change and supporting policy decisions driven by public health evidence. A shared understanding of measures also responds to the call for greater collaboration and coordination in cannabis research. The iCannToolkit provides a collaborative foundation that can be expanded to additional domains and to address emerging and context-specific data needs.

The article by Lorenzetti *et al.* highlights the challenges posed by the lack of agreed minimum standards for quantifying cannabis use or dosage [1]. It also demonstrates a collaborative approach to reach agreement on measures, with the potential for expansion to support a more comprehensive understanding of the impacts of cannabis regulation.

Canada's regulated retail cannabis market launched in October 2018, joining only Uruguay and a handful of US states that had previously legalized non-medical sales and use. Canada's Cannabis Act sets