Of the 45 metrics identified, Canada currently collects data to calculate about seven, some partial information on a further 17, and little to no data on the remaining 21 metrics.

BACKGROUND

Cannabis and its byproducts are the most widely used illegal narcotic substances in the world; according to rough estimates, worldwide there were 125 million users and suppliers of cannabis products in 2011 (Caulkins et al, 2012). Canada has one of the highest prevalence rates of cannabis use in the world; over forty per cent of Canadians have used cannabis as a drug during their lifetimes, and between 10.2% (Health Canada, 2012) and 12.2% per cent have used it in the year preceding the survey, 2011 (Rotermann and Langlois, 2015).

Canada is currently proceeding to legalize the non-medical use of cannabis. In light of the possible shift in cannabis policy regime, it is essential to discuss the baseline metrics that need to be measured before and after any shift in policy in order to understand whether the policy has had the intended impact on the Canadian population.

METHOD

A thorough literature review and examination of the performance metrics that can be applied to cannabis regimes was conducted. The literature that was considered for examination consisted of academic published material, documents originating from governments and law enforcement agencies in Canada and internationally, and grey literature such as newspaper articles, online magazines, and non-academic discussion pieces in Organization for Economic Co-operation and Development (OECD) countries. An attempt was made to discuss the availability and quality of data that was available in Canada to assess each of the performance metrics. Where data or proxy measures were not available for a particular metric, the authors offered a discussion of the importance to collect the data directly, as well as possible methods to do so.

FINDINGS

The cannabis performance metrics may be classified into four categories: 1) public safety; 2) public health; 3) economics; and 4) children and youth.

Some of the metrics discussed in the paper are more precise, or operationalized, than others. Some can be implemented and measured through surveys, interviews, police records, or various databases. Other metrics are more general in their nature and should be regarded by policy makers as policy-research issues to consider exploring through directed projects. Finally, there are several metrics identified in the paper that are not currently being measured at all, and yet are important points of discussion. Of the approximately 45 types of metrics identified in this paper, Canada currently collects data to calculate about seven, some partial information on a further 17, and little to no data on the remaining 21 metrics. Table 1 below provides an overview of the metrics discussed in the paper. The full table is found in appendix at the end of the paper; it can be used as a reference guide to all the metrics discussed throughout the paper, and how they could be measured.

A number of governments and organizations could share the burden of collecting the data required to calculate the metrics discussed in this paper. Regardless who chooses to collect what information, collaboration should be fostered on the complex issue of measuring the performance of the cannabis policy regime.
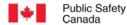
Public Safety Canada   Sécurité publique Canada

Canada

Table 1: Summary of Cannabis Performance Metrics

	Class of Metric	Measured in Canada?
Public safety	Usage Trends	Partially
	Method of Consumption	No
	Police-Reported Incidents and Charges (Adult)	Partially
	Outcomes of Police-reported Offences (Adult)	Yes
	Illegal Production and Cultivation	Partially
	Police Calls for Service	No
	Potency	Partially
	Crime around Dispensaries	No (some studies in U.S.)
	Crop Eradication	No (some studies in U.S.)
	Grow-ops as Fire Hazard	No
	Organized Crime	No
	Probation Infractions and Parole Violations	No
	Diversion to Other Jurisdictions	No (some studies in U.S.)
	Transfer Using Parcel Services	No (Some studies in U.S.)
	Exportation across Borders	No (Some studies in U.S.)
	Extraction Explosions and Injuries	No (Some studies in U.S.)
	Traffic Accidents and DUID	Yes
	Testing Information and Law Enforcement Training	Yes
Public Health	Medical Marijuana Industry	Partially
	Use of Other Licit and Illicit Drugs	No (some studies in U.S.)
	Overdose	No
	Emergency Room Visits and Hospital Treatment Admissions	Yes
	Issues of Dependency and Abuse of Cannabis	Yes
	Treatment Admissions	Partially
	Respiratory Effects Smoking Cannabis	Partially
	Cancer	Partially
	Cardiovascular Health	Partially
	Pregnancy and Reproductive Health	Partially
	Mental Health	Partially
	Athletic Performance	Partially
	Healthcare Costs	Partially
Economics	Value of Electricity Used by Grow-Ops	Partially
	Market Origin	Very limited
	Sharing and Sale by Users	No
	Pricing	Partially
	Economic Impact of Legalization	No (some studies in U.S.)
	Real Estate Market	No (some studies in U.S.)
	Impact on Productivity	No (some studies in U.S.)
	Environmental Impact	Very limited
	Grow-op Technology	No (some studies in U.S.)
Juveniles and Youth	Usage trends among Youth	Partially
	Police-Reported Incidents and Charges (Youth)	Yes
	Youth Court	Yes
	School Performance	No (some studies in U.S.)
	Homeless Youth	Partially

Collection of data to develop metrics is expensive and would require both initial and continuous funding. Funds generated from any changes in cannabis policy regimes, for example from sales taxes in scenarios where the non-medical use of cannabis might be legalized, could be continuously reinvested not only into harm reduction and public education, but also into the continuous collection of data on metrics of the types identified in this paper. Considering how little data currently is collected regarding many of these suggested metrics, there is a great opportunity to make high quality research and evaluation an important part of the cannabis policy in the future.

SOURCES

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