

Monitoring Cannabis Use and Harms in Ontario: Identifying potential indicators

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Outline

- Context
- Assessment
- Indicators
- Data sources
- Data gaps

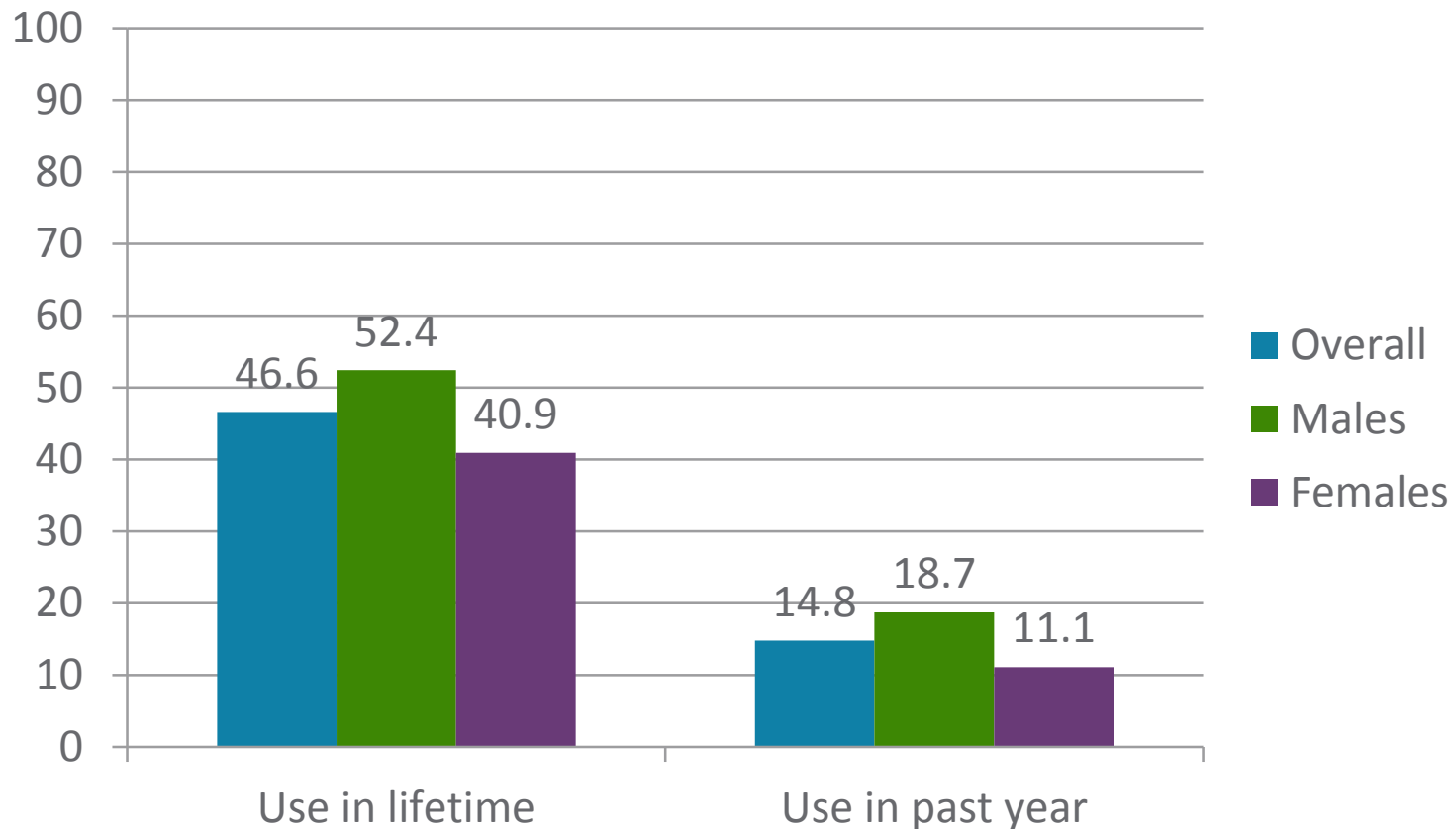


Context

- Cannabis has medical uses, but is also associated with adverse health effects
- Canada legalized non-medical cannabis on Oct. 17, 2018
- There may be changes to cannabis use and its associated harms after legalization
- Important to monitor relevant indicators to assess net impact of legalization on health, inform efforts to mitigate harms and enhance benefits
- Identify priority indicators, data sources, gaps in data

Context

Per cent of Canadians aged 15+ who have used cannabis, CTADS 2017



From: Canadian Tobacco, Alcohol and Drugs (CTADS) Survey: 2017 detailed tables. Government of Canada. Accessed 16/11/2018 from <https://www.canada.ca/en/health-canada/services/canadian-tobacco-alcohol-drugs-survey/2017-summary/2017-detailed-tables.html>

Assessment

National level

- Canadian Cannabis Survey (CCS)
- National Cannabis Survey (NCS)
- Canadian Tobacco, Alcohol and Drugs Survey (CTADS)
- Canadian Student Tobacco, Alcohol and Drugs Survey (CSTADS)

Provincial level

- Ontario Student Drug Use and Health Survey (OSDUHS)
- Centre for Addiction and Mental Health (CAMH) Monitor

Municipal level

- Some public health units doing their own surveys on cannabis

Assessment

Public Health Ontario

1. Scan the academic and grey literature
2. Collect feedback from public health units
3. Scan data sources



Indicators

Cannabis use

- E.g., population surveys, prescriptions for medical cannabis

Cannabis harms

- E.g., hospitalizations, drug treatment admissions, motor vehicle collisions, criminal justice outcomes

Cannabis benefits

- E.g., reduced use of other substances (alcohol, medications, etc.)

Other jurisdictions that legalized non-medical cannabis

- Uruguay
- 10 U.S. states + D.C.: Colorado, Washington, Alaska, Oregon, California, Massachusetts, Maine, Nevada, Vermont, Michigan, D.C.

Indicators

Ten indicators identified by Fischer et al.

1. Cannabis use prevalence
2. Patterns of use
3. Modes of use
4. Cannabis potency
5. Cannabis product sourcing
6. Cannabis-impaired driving and injuries
7. Hospitalizations (including poisonings)
8. Cannabis use disorders
9. Other psychoactive substance use
10. Cannabis-related 'harm-to-others'



From: Fischer B, Russell C, Rehm J, Leece P. Assessing the public health impact of cannabis legalization in Canada: core outcome indicators towards an 'index' for monitoring and evaluation. *Journal of Public Health*. 2018; 1-10

Indicators

- B.C. Centre on Substance Use:
Guidelines for Public Health and Safety Metrics to Evaluate the Potential Harms and Benefits of Cannabis Regulation in Canada
 - Lake S, Kerr T, Werb D, Haines-Saah R, Fischer B, Thomas G, Walsh Z, Ware MA, Wood E, Milloy M-J
- 28 priority indicators in five categories^a
 1. Public Safety
 2. Cannabis Use Trends
 3. Other Substance Use Trends
 4. Cardio-Respiratory Health
 5. Mental Health and Cognition

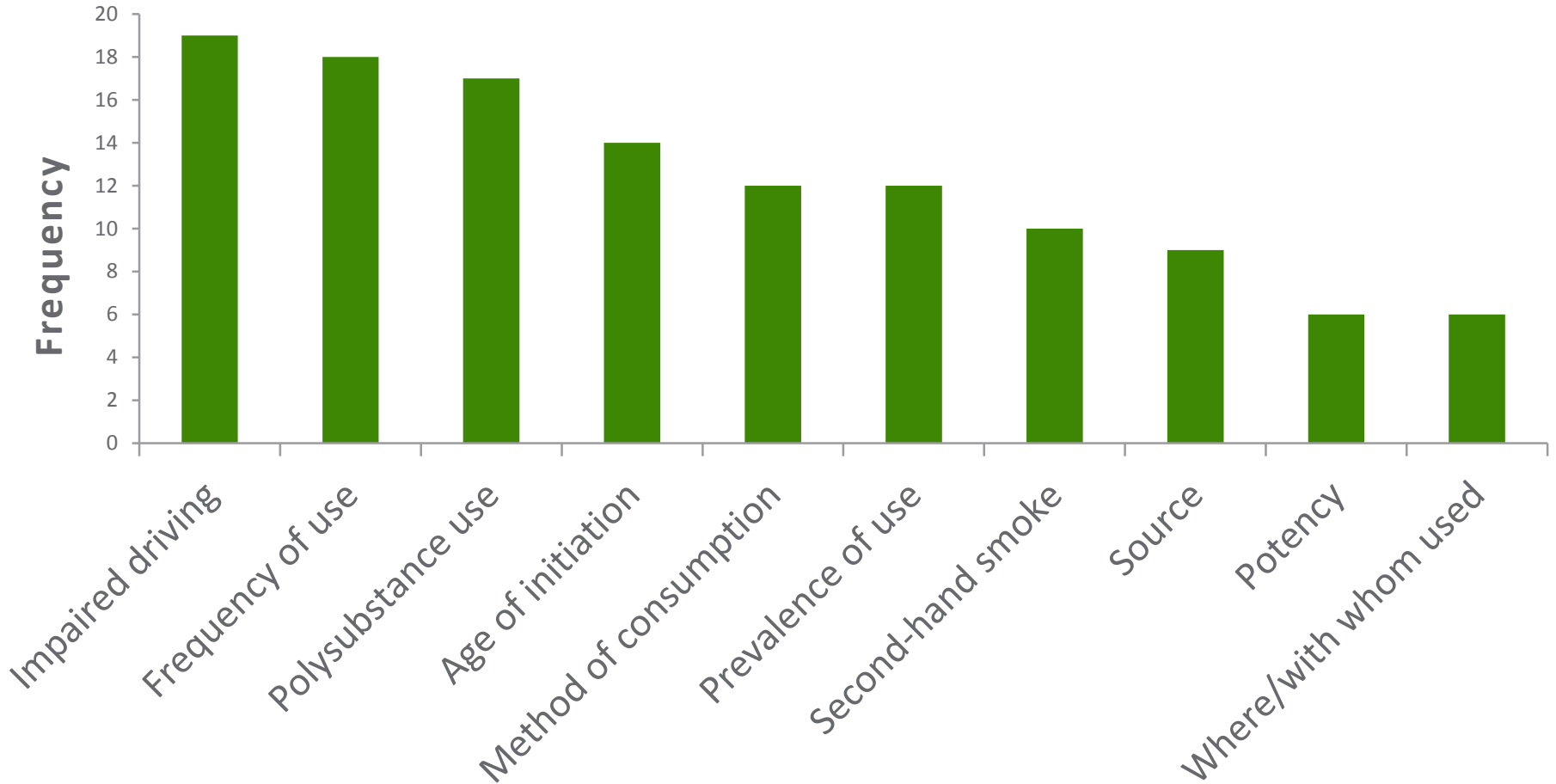
^aFull list of 28 indicators available at end of slide deck

Indicators

Questions to audience at TOPHC 2018

1. What indicators are highest priority / you most wish you had to measure cannabis USE?
2. What indicators are highest priority / you most wish you had to measure cannabis HARMS?
3. How would your organization use these indicators?

Most Frequently Reported Use Indicators



^bAdditional detail provided at end of slide deck

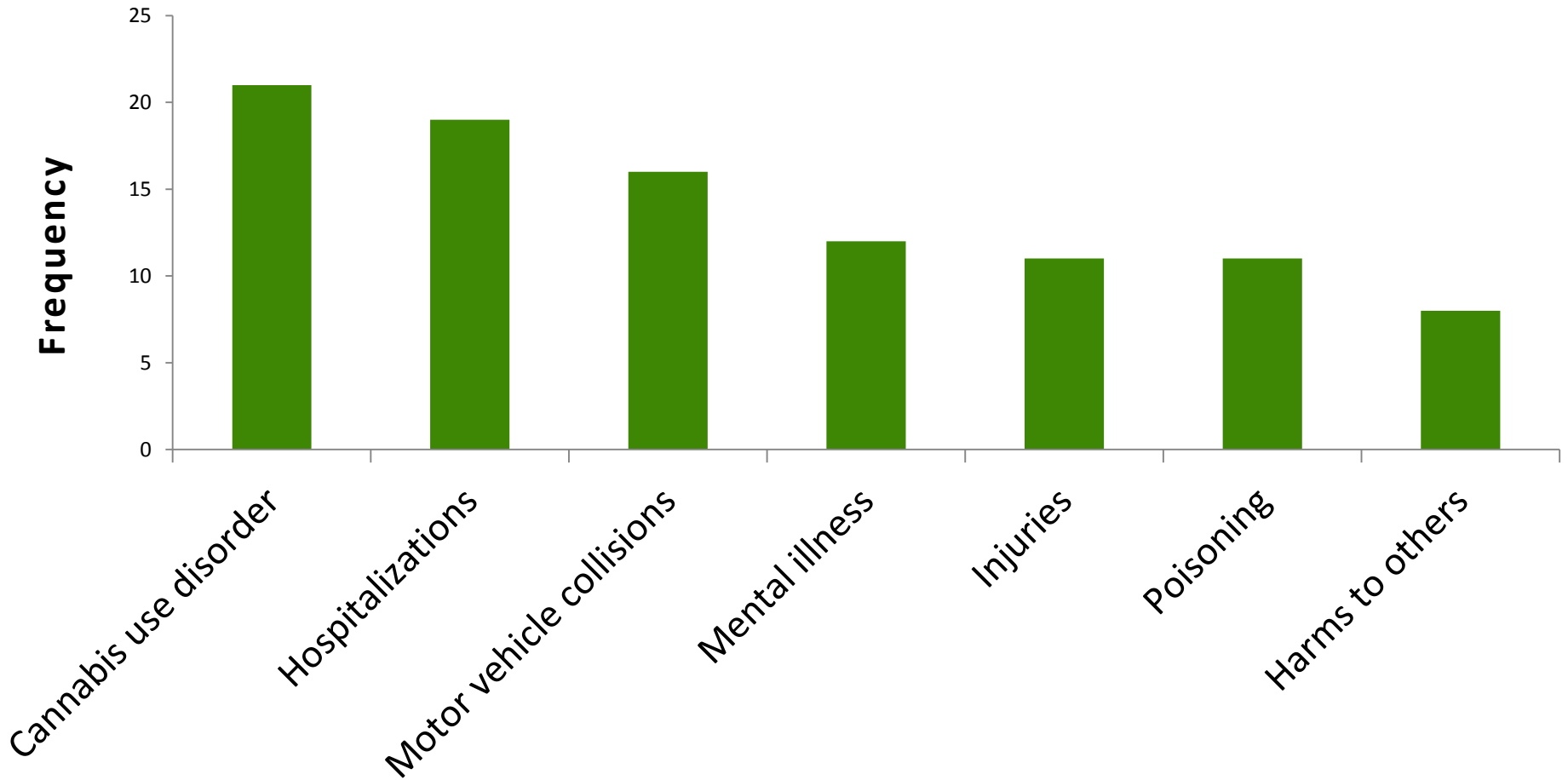
Indicators

Top Ranked Cannabis Use Indicators

Ranking	Use Indicator
1	Age of initiation
2	Prevalence of use
3	Frequency of use
4	Impaired driving
5	Polysubstance use

^cAdditional detail provided at end of slide deck

Most Frequently Reported Harms Indicators



^dAdditional detail provided at end of slide deck

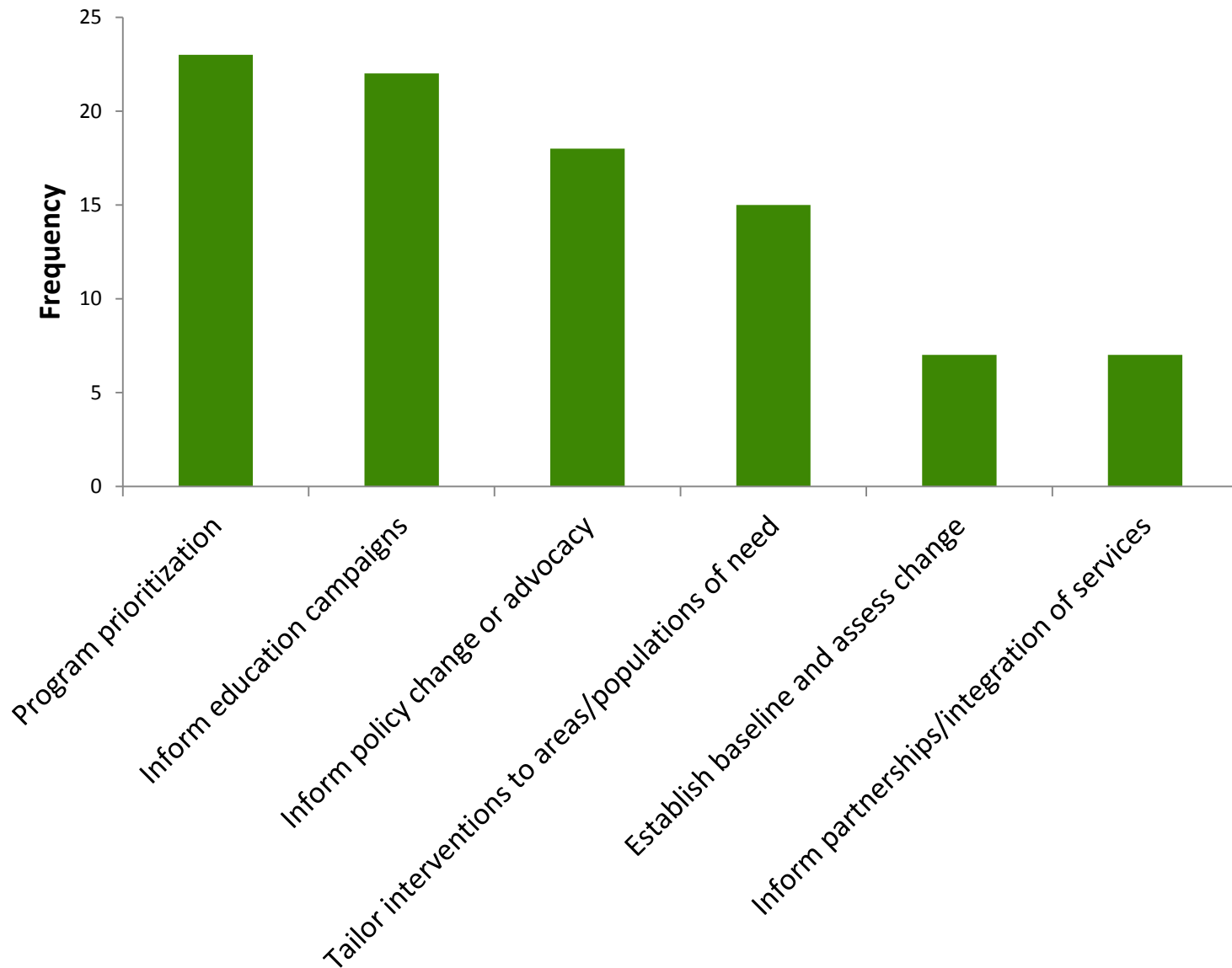
Indicators

Top Ranked Cannabis Harms Indicators

Ranking	Harm Indicator
1	Motor vehicle collisions
2	Emergency department visits
3	Hospitalizations
4	Cannabis use disorder
5	Mental illness

^eAdditional detail provided at end of slide deck

Practical Applications of Indicators



^fAdditional detail provided at end of slide deck

Data Sources - Use

- CAMH Monitor
- Canadian Cannabis Survey (CCS)
- National Cannabis Survey (NCS)
- Canadian Community Health Survey (CCHS)
- Canadian Tobacco Alcohol and Drugs Survey (CTADS)
- Canadian Students Tobacco, Alcohol, and Drugs Survey (CSTADS)
- Ontario Student Drug Use and Health Survey (OSDUHS)



Data Sources - Use

Cannabis use priority indicators	Data sources with priority indicators of cannabis use						
	CAMH Monitor	CCHS	CCS	NCS	CTADS	CSTADS	OSDUHS
Impaired driving	✓	✓	✓	✓	✓	✓	✓
Frequency of use	✓	✓	✓	✓	✓	✓	✓
Polysubstance use	✓	✓	✓		✓	✓	✓
Age of initiation	✓		✓		✓	✓	✓
Method of use	✓		✓	✓	✓	✓	✓
Prevalence of use	✓	✓	✓	✓	✓	✓	✓

Data Sources

Surveys with potential for PHU-level data

- CCHS (also has LHIN level data)
- OSDUHS, if oversample purchased
- Rapid Risk Factor Surveillance System (RRFSS), if purchased

Data Sources - Harms

- Poison Centres
- CAMH Monitor
- Discharge Abstract Database (DAD)
- National Ambulatory Care Reporting System (NACRS)
- Drug and Alcohol Treatment Information System (DATIS)
- Ministry of Transportation Ontario (MTO) Roadside Survey
- Hospital Mental Health Database (HMHDB)
- Ontario Mental Health Reporting System (OMHRS)



Data Sources - Harms

Cannabis harms priority indicators	Data sources that capture priority indicators of cannabis-related harms							
	Poison Centres	CAMH Monitor	MTO	DATIS	DAD	NACRS	HMHDB	OMHRS
Cannabis use disorder				✓	✓	✓		
Hospitalizations					✓		✓	✓
Motor vehicle collisions			✓					
Mental health outcomes		✓					✓	✓
Injuries					✓	✓		
Poisoning	✓				✓	✓		
Emergency department visits						✓		

Data Gaps

Gaps identified by the Federal/Provincial/Territorial Cannabis Data Working Group

- Indigenous populations
- Impact of public education initiatives
- Impact on maternal/fetal health
- Problematic use and treatment

Discussion

- What are the top priority indicators for your organization?
- What do you think are the most important data gaps?
- What would be some helpful supports for your work?



Questions?



For More Information About This Presentation, Contact:

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Ontario

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de promotion de la santé**

Additional Information

^aGuidelines for Public Health and Safety Metrics to Evaluate the Potential Harms and Benefits of Cannabis Regulation in Canada

- Cannabis Use Trends
 - Cannabis use initiation among youth
 - Cannabis use rates among youth
 - Cannabis use disorder
 - Unregulated cannabis product use
 - Cannabis use among expectant and breastfeeding mothers
 - Trends in cannabis use products and practices
 - Cannabis-related health care utilization
 - Cannabis-related poison center calls
 - Cannabis-attributable burden of disease
- Other Substance Use Trends
 - Opioid use and use disorders
 - Fatal and non-fatal drug overdoses
 - Illicit stimulant use and use disorders
 - Alcohol use and use disorders
 - Tobacco use and use disorders
- Public Safety
 - Cannabis-impaired driving
 - Cannabis-related motor vehicle injuries and fatalities
 - All-cause motor vehicle injuries and fatalities
 - Alcohol-impaired driving
 - Alcohol-related motor vehicle injuries and fatalities
 - Dating and intimate partner violence
 - Cannabis-related workplace injuries
 - Violent and property crime
- Cardio-Respiratory Health
 - Respiratory problems incl. COPD and lung cancer
 - Cardiovascular problems including MI, cardiac arrest, ischemic stroke
- Mental Health and Cognition
 - Psychosis and psychotic disorders
 - Depression and anxiety
 - Attempted and completed suicide
 - Cognitive functioning and educational achievement among youth

Additional Information

- b. The 10 most frequently reported indicators on cannabis use are highlighted in Figure 1. Less frequently reported indicators (i.e., those with frequencies of five or less) included purpose of use (including medical use), use during pregnancy, perceptions about use, quantity used, and interpersonal impact.
- c. Highlights the cannabis use indicators that were ranked the highest by participants.
- d. The 7 most frequently reported indicators are highlighted in Figure 2. Less frequently reported indicators (i.e., those with frequencies of less than 5) included emergency department visits, harms (undefined), harm to the developing brain, cancer, causality, harms to children, impairment, low birth weight, respiratory health, school performance and youth justice
- e. Highlights the potential indicators on cannabis-related harms indicators that were ranked the highest by participants. 'Emergency department visits' didn't appear on previous slide because it wasn't among most mentioned indicators, but those who did mention it ranked it highly
- f. Participants were asked to list potential uses for cannabis surveillance data. The six most frequently reported applications for indicators are highlighted in Figure 3. Less frequently reported applications (i.e., those with frequencies less than 5) included improving treatment/treatment access, informing harm reduction, centralizing monitoring and resources, identifying issues, informing enforcement, and measuring reach of resources.

Additional Information

- American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5), American Psychiatric Association, Arlington 2013.
- Cannabis use disorder — DSM-5 diagnostic criteria for cannabis use disorder are as follows [3]:
- A. A problematic pattern of cannabis use leading to clinically significant impairment or distress, as manifested by at least two of the following, occurring within a 12-month period:
 1. Cannabis is often taken in larger amounts or over a longer period than was intended.
 2. There is a persistent desire or unsuccessful efforts to cut down or control cannabis use.
 3. A great deal of time is spent in activities necessary to obtain cannabis, use cannabis, or recover from its effects.
 4. Craving, or a strong desire or urge to use cannabis.
 5. Recurrent cannabis use resulting in a failure to fulfill major role obligations at work, school, or home.
 6. Continued cannabis use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of cannabis.
 7. Important social, occupational, or recreational activities are given up or reduced because of cannabis use.
 8. Recurrent cannabis use in situations in which it is physically hazardous.
 9. Cannabis use is continued despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by cannabis.
 10. Tolerance, as defined by either of the following:
 - a. A need for markedly increased amounts of cannabis to achieve intoxication or desired effect.
 - b. Markedly diminished effect with continued use of the same amount of cannabis.
 11. Withdrawal, as manifested by either of the following:
 - a. The characteristic withdrawal syndrome for cannabis. (See "Cannabis withdrawal: Epidemiology, pathogenesis, clinical manifestations, course, assessment, and diagnosis".)
 - b. Cannabis (or a closely related substance) is taken to relieve or avoid withdrawal symptoms.

Additional Information

Specifiers – Specify if:

- In early remission
- In sustained remission
- In a controlled environment

Severity – Specify current severity:

- Mild – Presence of two to three symptoms
- Moderate – Presence of four to five symptoms
- Severe – Presence of six or more symptoms

Additional Information

Data source	Reason not included
CCHS -Optional Drug Module	Not an ongoing survey
CCHS -Mental Health and Well-being	Not an ongoing survey
Centre for Forensic Services Toxicology – Chief Coroner of Ontario, Ministry of Community Safety and Correctional Services	Data reported combines cannabis with other drugs (except alcohol)
Ontario Health Study (OHS)	Not available yet
Canadian Health Survey on Children and Youth (CHSCY)	Not available yet
Canadian Drug Use Monitoring Survey (CADUMS)	No longer running