Canadian Substance Use Costs and Harms
2007-2020

Presentation to CAPE Community of Practice
Emily Biggar, CCSA
Adam Sherk, CISUR
Presentation Objectives

• Discuss the history and objectives of *Canadian Substance Use Costs and Harms*

• Share key trends in costs and harms uniquely attributable to alcohol, tobacco, and other substances between 2007-2020

• Especially highlight costs and harms caused by alcohol in Canada

• Highlight alcohol policy considerations
Key Messages

• In 2020, substance use cost $49 billion and led to the loss of over 200 lives each day

• Alcohol and tobacco, two legal substances, account for the most costs and harms — but trends for these two substances have diverged

• Harms due to opioids have risen in step with the increasingly toxic unregulated drug supply

• Costs have increased the most for stimulants like methamphetamine
Project Background
Background
Background

2018:

Canadian Substance Use Costs and Harms
2007–2014

2020:

Canadian Substance Use Costs and Harms
2015–2017
Background

Canadian Substance Use Costs and Harms Scientific Working Group

Canadian Centre on Substance Use and Addiction (CCSA)

Pam Kent, PhD, Principal Investigator
Interim Director, Research, CCSA

Emily Biggar, MPH
Aisha Giwa, PhD
Raadiya Malam, MPH
Nolan McGreer, B.A.
Doris Payer, PhD
Anat Ziv, PhD

Canadian Institute for Substance Use Research (CISUR)

Tim Stockwell, PhD, Principal Investigator
Past Director, CISUR
Professor, University of Victoria

John Dorocicz, MASc
Adam Sherk, PhD
Samuel Churchill, MSc
Jinhui Zhao, PhD
Substance Categories

Note: CNS = Central Nervous System.
Cost Categories

- Healthcare Related Costs
- Lost Productivity Costs
- Criminal Justice
- Other Direct Costs
Some health conditions and events are 100% attributable to SU (i.e., poisonings, impaired driving charges) while others are only partially attributable (i.e., colorectal cancer, homicide)

Attributable fraction (AF) approach:
- Identify the condition (or event or indicator) attributable to SU
- Determine the relationship between the extent of exposure and the indicator
- Identify prevalence of exposure in the general population
- Combine information to obtain SU-related AFs
Strengths to our Approach

• Collaborated with a large, diverse team (12 members)
  – Subject Matter Experts, Knowledge Brokers, Communications Advisor
• Applied current, internationally agreed upon methods to develop our estimates
• Relied on multiple robust data sources to achieve estimates:
  – All available surveys of SU in Canada
  – Canadian federal offender survey (34,000+ offenders)
  – National healthcare data
• Incorporated suggestions and feedback from previous releases.
Cost Categories
Healthcare Costs

- Hospital Stays
  - Day Surgery
  - Physician Costs
  - Prescription Drugs
  - Substance Use Treatment
- Emergency Department Visits
- NEW: Paramedic services
Lost Productivity Costs
Criminal Justice Costs
Other Direct Costs

- NEW: Social Assistance Programs
- Employee Assistance Programs
- Research and Prevention
- Fire Damage
- Motor Vehicle Damage
- Worker’s Compensation
- Workplace Drug Testing

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Findings
Substance use cost $49 billion in 2020

Overall costs (in billions) and percentage of total overall costs attributable to substance use in Canada by cost type, 2020

- **$10.0** (20%)
- **$13.4** (27%)
- **$22.4** (46%)

Costs by category:
- Healthcare
- Lost Productivity
- Criminal Justice
- Other Direct
Per-person costs are highest in territories

Per-person costs attributable to substance use by province and territory, 2020

<table>
<thead>
<tr>
<th>Province/Territory</th>
<th>Per-person Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newfoundland &amp; Labrador</td>
<td>$1,598</td>
</tr>
<tr>
<td>Prince Edward Island</td>
<td>$1,737</td>
</tr>
<tr>
<td>Nova Scotia</td>
<td>$1,494</td>
</tr>
<tr>
<td>New Brunswick</td>
<td>$1,311</td>
</tr>
<tr>
<td>Ontario</td>
<td>$1,234</td>
</tr>
<tr>
<td>Manitoba</td>
<td>$1,384</td>
</tr>
<tr>
<td>Saskatchewan</td>
<td>$1,567</td>
</tr>
<tr>
<td>Alberta</td>
<td>$1,638</td>
</tr>
<tr>
<td>British Columbia</td>
<td>$1,450</td>
</tr>
<tr>
<td>Northwest Territories</td>
<td>$5,080</td>
</tr>
<tr>
<td>Nunavut</td>
<td>$7,284</td>
</tr>
<tr>
<td>Canada</td>
<td>$1,291</td>
</tr>
</tbody>
</table>

Note: Per-person costs for Quebec and Yukon could not be calculated.
Findings, with a focus on alcohol
In Canada, in 2022:

- Alcohol users: 24,500,000 (63%)
- Alcohol nonusers: 14,300,000 (37%)

StatsCan: 8.10 litres ethanol per person 15+

Total magnitude of the alcohol drug supply:

16,943,733,183 Canadian standard drinks (CSD) per year

Statistics Canada alcohol per capita, WHO unrecorded alcohol estimates and population estimates accessed 10-Mar-2023
Total magnitude of the alcohol supply:

17,000,000,000 CSD per year / 24,500,000 alcohol users

694 Canadian standard drinks (CSDs) per alcohol user

= 13.3 CSD per alcohol user per week
694 Canadian standard drinks (CSDs) per alcohol user
= 13.3 CSD per alcohol user per week

For population to reach top of low-risk use zone (2 SD/wk):
- 85% reduction in the magnitude of supply

For population to reach top of moderate-risk (6 CSD/wk):
- 57% reduction in the magnitude of supply
Alcohol and tobacco account for most costs

63% of the cost of substance use in Canada in billions, 2020

Alcohol: $19.7
Tobacco: $11.2

Cost breakdown:
- Healthcare
- Lost Productivity
- Criminal Justice
- Other Direct

Substances:
- Alcohol
- Tobacco
- Cannabis
- Opioids
- Other CNS Depressants
- Cocaine
- Other CNS Stimulants
- Other substances
Costs of alcohol use have grown, while costs of tobacco use have decreased

Per-person costs attributable to substance use in Canada by substance, 2007-2020
Opioids, alcohol are responsible for most productive years of life lost

Note: Excludes deaths in Yukon Territory (year 2017 to 2020 only).
Alcohol is responsible for the most hospital stays

- Alcohol caused 117,871 inpatient stays at a cost of $1.63BB
- Tobacco caused 116,027 stays at a cost of $1.37BB
Alcohol is responsible for the most hospital stays

- Over 50% of alcohol-caused hospital stays were for unintentional injuries
Alcohol is responsible for the most ED visits

- Alcohol caused 652,000 ED visits at a cost of $235.5MM
Alcohol accounted for the greatest criminal justice costs

Criminal justice costs (in billions) attributable to substance use in Canada by substance and offence category, 2020

Alcohol: $4.0
Cannabis: $1.1
Opioids: $1.1
Other CNS depressants: $0.3
Cocaine: $2.4
Other CNS stimulants: $0.9
Other substances: $0.1

50%
Which categories drive alcohol-caused costs?

<table>
<thead>
<tr>
<th>Rank</th>
<th>Section</th>
<th>Chapter</th>
<th>Cost (millions)</th>
<th>Percent of total alcohol cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Lost productivity</td>
<td>Premature deaths</td>
<td>$4,641</td>
<td>23.6%</td>
</tr>
<tr>
<td>2</td>
<td>Criminal justice</td>
<td>Policing costs</td>
<td>$2,180</td>
<td>11.1%</td>
</tr>
<tr>
<td>3</td>
<td>Healthcare</td>
<td>Physicians</td>
<td>$1,935</td>
<td>9.8%</td>
</tr>
<tr>
<td>4</td>
<td>Healthcare</td>
<td>Prescription drugs</td>
<td>$1,817</td>
<td>9.2%</td>
</tr>
<tr>
<td>5</td>
<td>Lost productivity</td>
<td>Short-term disability</td>
<td>$1,737</td>
<td>8.8%</td>
</tr>
</tbody>
</table>
Summary and Policy Considerations
Key Messages

• In 2020, substance use cost $49 billion and led to the loss of over 200 lives each day.

• Alcohol and tobacco, two legal substances, account for the most costs and harms in Canada

• Clear divergence in alcohol and tobacco harms are likely due, at least partially, to the differing policy and regulatory treatment of these two substances
Policy Considerations

• Reduce harms of alcohol use by applying lessons learned from Canada’s public health response to tobacco.
  – E.g. alcohol labelling, Canada’s Guidance on Alcohol and Health

• Consider implementing a coordinated, step-wise, policy strategy towards reducing the magnitude of Canada’s alcohol supply while supporting dependent users
  – Staged, coordinated deployment of a suite of evidence-based alcohol policies, such as: health and warning labelling & education programs, harm reduction services, availability & advertising restrictions and minimum unit pricing
Next Steps

- Released CSUCH 2007-2020 in March 2023
- Medium to long term, continue to update with new years of data, new cost types, enhanced methods