



Canadian Substance Use Costs and Harms

2007–2014

Report in Short



Canadian Centre
on Substance Use
and Addiction



University
of Victoria

Canadian Institute for
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CSUCH Canadian Substance Use Costs and Harms

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Executive Summary

In 2014, the cost of substance use (SU) in Canada was \$38.4 billion— or approximately \$1,100 spent for every Canadian regardless of age.¹ This report presents the estimates of the costs of SU in Canada from 2007 to 2014 using the most reliable, up-to-date data sources and methods according to the following categories:

- Cost type (healthcare costs, lost productivity costs, criminal justice costs and other direct costs);
- Substance; and
- Province and territory.

The ability to track costs and trends in harms uniquely caused by specific types of substance will be a valuable asset to federal, provincial and territorial efforts aimed at reducing these harms. A better understanding of the societal costs associated with different substances can help inform policy decision making and resource allocation for law enforcement, and prevention, treatment and harm reduction services.

Overall Costs of Substance Use



In 2014:

- Almost 70% of the total costs were due to alcohol and tobacco.
- The four substances associated with the largest costs were (in order):
 - Alcohol, contributing \$14.6 billion or 38.1% of the total costs;
 - Tobacco, contributing \$12.0 billion or 31.2% of the total costs;
 - Opioids, contributing \$3.5 billion or 9.1% of the total costs; and
 - Cannabis, contributing \$2.8 billion or 7.3% of the total costs.
- The distribution across the cost types was (in order):
 - Lost productivity, contributing \$15.7 billion or 40.8% of the total costs;
 - Healthcare costs, contributing \$11.1 billion or 29.0% of the total costs;
 - Criminal justice, contributing \$9.0 billion or 23.3% of the total costs; and
 - Other direct costs, contributing \$2.7 billion or 7.0% of the total costs.
- Per-person costs from SU were highest in the three territories.

¹ At the time of this report, the Canadian Institute for Health Information (CIHI) had not been granted permission to provide hospitalization data to the research team. Because of this, all per-person estimates do not include costs associated with inpatient hospitalization, day surgery and emergency department costs in the province of Quebec. It is expected that this led to an underestimation of approximately \$750M, or 2% of total cost. All estimates as well as per-person estimates should be considered conservative by this margin.



Between 2007 and 2014:^{2,3}

- The per-person costs associated with SU increased 5.5% from \$1,025 per person in 2007 to approximately \$1,081 in 2014.
- The per-person costs associated with alcohol use increased 11.6% from \$369 per person in 2007 to \$412 per person in 2014.
- Per-person costs increased 19.1% for cannabis (\$67 to \$79) and 6.8% for tobacco (\$315 to \$337).
- Per-person costs decreased by 24.6% for cocaine (\$84 to \$63) and by 17.9% for other substances (\$20 to \$16).



Healthcare-related Costs

Healthcare-related costs include inpatient hospitalizations, day surgery treatment episodes, emergency department presentations, specialist treatment for SU disorders, the costs of physician time and prescription drug costs.

In 2014:

- SU-related healthcare costs amounted to \$11.1 billion or \$345 per person in Canada.⁴
- Alcohol and tobacco use contributed over 90% of costs.
- After alcohol and tobacco, opioids cost the healthcare system the third-highest amount at \$313 million (2.8%).
- Over 90% of all healthcare-related costs were contributed by inpatient hospital care (26.3%), physician time (36.1%) and prescription drug costs (27.7%).
- Contributing to these costs were the 255,600 hospitalizations attributable to SU, of which 145,800 (57.0%) were from tobacco and 87,900 (34.4%) from alcohol.
- Per-person healthcare costs from SU were highest in the three territories, reflecting especially high rates of alcohol and tobacco use.

Between 2007 and 2014:

- Costs associated with SU-related health care increased 14.8% from \$273 per person in 2007 to \$313 in 2014.⁵
- Alcohol-related healthcare costs increased 25.9% from \$95 to \$119 per person.
- Cannabis-related healthcare costs increased 27.9% from \$5 to \$6 per person.
- Opioid-related healthcare costs increased 22.2% from \$7 to \$9 per person.

²Throughout this report, costs for all years are presented in 2014 Canadian dollars.

³All per-person estimates in this report are calculated using the entire population of Canada by year.

⁴Only some healthcare-related data were available for Quebec. This per-person healthcare cost was calculated without Quebec.

⁵Only some healthcare-related data were available for Quebec. These national per-person trend estimates include Quebec and therefore differ from the \$345 indicated above.



Lost Productivity Costs

Estimates of SU-related lost productivity costs were based on the lost value of work due to premature mortality, long-term disability and short-term disability (absenteeism and impaired job performance).

In 2014:

- Lost productivity costs attributable to SU in 2014 were \$15.7 billion.
- Lost productivity costs attributable to SU were approximately \$441 per person.
- Costs associated with the use of legally available substances, alcohol and tobacco, were estimated to contribute just over 75% of all lost productivity costs associated with SU.
- Contributing to these costs were 20,715 SU attributable deaths among those of working age (age < 65) and 284,324 productive years of life lost, with alcohol being the leading cause of lost productivity.

Between 2007 and 2014:

- Overall per-person lost productivity costs increased approximately 8.4% from \$406 in 2007 to \$441 in 2014.
- The largest increase in per-person lost productivity costs were associated with opioids, which increased 20.6% from \$43 per person in 2007 to \$52 per person in 2014. This increase is likely due to the increasing number of premature deaths related to opioid use.



Criminal Justice Costs

Criminal justice costs include those associated with police work, courts and corrections. Included in our calculations are expenditures for criminal offences that are 100% attributable to SU (i.e., impaired driving and drug-related offences that fall under the *Controlled Drugs and Substances Act* [CDSA]) and criminal offences partially attributable to SU (i.e., violent offences such as homicide or assault, and non-violent offences such as theft or arson).

In 2014:

- Almost \$9 billion was spent on criminal justice associated with SU, which amounts to \$252 for every Canadian.
- 43% of partially attributable crimes (i.e., excluding impaired driving and crimes defined under the CDSA) would not have occurred if the perpetrator had not been under the influence of or seeking alcohol or other drugs.
- Almost 20% of all violent crime would not have occurred if the perpetrator was not under the influence of or seeking alcohol.
- Alcohol was responsible for the greatest costs to the criminal justice system at \$3.2 billion or 35.2% of all criminal justice costs.
- Cocaine was responsible for the second-highest SU-related crime costs (\$1.9 billion or 20.8%). Only 11% of this cost was associated with violations of the CDSA (e.g., trafficking, possession), while the other 89% were associated with other violent and non-violent crimes.
- Cannabis was responsible for the third-highest SU-related crime costs (\$1.8 billion or 19.7%), of which 60% of costs were associated with violations of the CDSA.



Between 2007 and 2014:

- Criminal justice costs decreased 6.1% from approximately \$269 per person in 2007 to about \$252 per person in 2014.
- Despite an overall decrease in crime incidents, charges and incarcerations, criminal justice spending associated with alcohol increased 6.0% (from \$84 to \$89 per person) and cannabis increased by 27.4% (from \$39 to \$50 per person).



Other Direct Costs

Other direct costs include estimates for SU-related expenditures across several distinct categories including research and prevention, fire damage, motor vehicle damage and workplace costs not already covered in lost productivity (e.g., employee assistance programs, drug testing programs and administrative costs associated with workers' compensation).

In 2014:

- These other direct costs contributed approximately \$2.7 billion to the total SU-related cost. This amount was the equivalent of \$75 per Canadian.
- Alcohol accounted for 50% of other direct costs, followed by cannabis at about 18%.
- Almost \$1.7 billion was spent on damage to motor vehicles as a result of SU-related collisions.
- Damage to property due to SU-associated fires amounted to \$590 million.

Implications

The Canadian Substance Use Costs and Harms Working Group suggests that these estimates provide a valuable baseline for Canada as major changes and challenges relating to patterns of SU and associated harms are under way. At the time of writing, cannabis is soon to be legalized and it will be seen whether rates of use and harms increase. Rates of cannabis use and harms are far lower than those for alcohol and tobacco and in 2014 were slightly lower than those for opioid drugs.

The year of focus, 2014, is at the very beginning of the current alarming rise in opioid overdose events in Canada. It can be expected that the associated economic costs of opioid use will increase — probably quite substantially. Canadian jurisdictions such as British Columbia and Ontario have substantially loosened restrictions on the sale of alcohol since 2014, which suggests there could be increasing alcohol-attributable harms in future estimates. There could, however, be countervailing trends depending on the extent to which increased cannabis use might substitute for the use of alcohol.

In relation to tobacco use, there is increasing evidence that electronic cigarettes have been taking market share and there are grounds for supposing they will be substantially less harmful than smoked tobacco. It will be important to monitor the extent to which individuals who currently smoke are switching to these products and how new cohorts of young people will elect to smoke tobacco versus vaping electronic cigarettes. However, recent Canadian data indicates trends of decreased use of tobacco alongside increased use of electronic cigarettes by youth.

It will be important to monitor trends in all these major categories of SU in Canada and their related harms and costs over the years ahead. This work provides a foundation that can be built upon as more data sources become available. The estimates presented in this report will be updated annually as a support to decision makers, policy advisors and researchers.

