Alcohol Harm in Canada

Examining Hospitalizations Entirely Caused by Alcohol and Strategies to Reduce Alcohol Harm

Canadian Institute for Health Information
Institut canadien d'information sur la santé

Production of this document is made possible by financial contributions from Health Canada and provincial and territorial governments. The views expressed herein do not necessarily represent the views of Health Canada or any provincial or territorial government.

Unless otherwise indicated, this product uses data provided by Canada's provinces and territories.

Canadian Institute for Health Information
495 Richmond Road, Suite 600
Ottawa, Ontario K2A 4H6

Phone: 613-241-7860
Fax: 613-241-8120
www.cihi.ca
copyright@cihi.ca

ISBN 978-1-77109-617-1 (PDF)

How to cite this document:
Canadian Institute for Health Information. *Alcohol Harm in Canada: Examining Hospitalizations Entirely Caused by Alcohol and Strategies to Reduce Alcohol Harm*. Ottawa, ON: CIHI; 2017.

Cette publication est aussi disponible en français sous le titre *Méfaits de l'alcool au Canada : hospitalisations entièrement attribuables à l'alcool et stratégies de réduction des méfaits*.
ISBN 978-1-77109-618-8 (PDF)

Table of contents

Acknowledgements

The Canadian Institute for Health Information (CIHI) wishes to thank the individuals from the 13 provinces and territories who provided policy information, retail data and validation to inform the results for this report. CIHI would also like to acknowledge and thank the following individuals for their expert review of this report:

- Monica Bull, Mental Health and Addictions Consultant, Department of Health and Community Services, Government of Newfoundland and Labrador
- Kristianne Dechant, Manager, Communications and Research, Liquor and Gaming Authority of Manitoba
- Norman Giesbrecht, Emeritus Scientist, Institute for Mental Health Policy Research, Centre for Addiction and Mental Health
- David MacDonald, Senior Health Analyst, Department of Health and Social Services, Government of the Northwest Territories
- Opal McInnis, Community Mental Health Specialist, Mental Health and Addictions, Department of Health, Government of Nunavut
- Catherine Paradis, Senior Research and Policy Analyst, Canadian Centre on Substance Abuse
- Tim Stockwell, Director, Centre for Addictions Research of BC
- Gerald Thomas, Director, Alcohol and Gambling Policy, British Columbia Ministry of Health
- Ashley Wettlaufer, Research Coordinator, Centre for Addiction and Mental Health

Please note that the analyses and conclusions in the present document do not necessarily reflect those of the individuals or organizations mentioned above.

Production of this analysis involved many people throughout CIHI. Special thanks go to the Canadian Population Health Initiative and the Indicator Research and Development teams for their contributions to this report.

Summary

The health and social harms of alcohol use are a serious and growing concern, both in Canada and worldwide. Alcohol was the third leading risk factor for death and disability globally in 2010, up from sixth in 1990.[1] The economic costs of alcohol-related harm in Canada are estimated to have been more than $14 billion in 2002.[2] Approximately $3.3 billion of that was direct health care costs, of which hospitalizations due in full or in part to alcohol accounted for the majority. Hospitalizations can be used as an indicator to monitor the burden of alcohol harm over time.[2]

In Canada, provinces and territories are responsible for regulating alcohol licensing, control and distribution with the aim of maximizing social and economic benefits while minimizing the health and social harms of alcohol use. Although the relationship between alcohol consumption and harm is complex, alcohol policies and strategies that aim to reduce consumption and risky drinking behaviours have proven effective in reducing harm. Evidence-informed policies and strategies targeting alcohol consumption are wide ranging; this report focuses on pricing; control systems; physical availability; and screening, brief intervention and referral. These policies and strategies were selected for the following reasons: they fall within the responsibility of provincial/territorial policy-makers; there is strong evidence that they can reduce the harms and costs of alcohol; and they show a high degree of variability across the provinces and territories.

This report provides an overview of Canada-wide variations in alcohol consumption (including sales and heavy drinking) and alcohol harm (via the indicator Hospitalizations Entirely Caused by Alcohol). It also provides a snapshot of the variations across jurisdictions in alcohol policies and strategies. Data collected by Statistics Canada and the Canadian Institute for Health Information (CIHI) and information from provincial and territorial ministries and agencies were used for this report.

By bringing together data from a range of sources along with a summary of current policies and strategies, we aim to identify policy and practice gaps, as well as population subgroups that may require greater attention due to higher susceptibility to alcohol harm. Moreover, newly available information on hospitalizations for alcohol provides a starting point for monitoring both the burden of alcohol on health systems and the effects of alcohol policies and strategies on alcohol harm.

The main findings of this report include the following:

- **There are more hospitalizations for alcohol than for heart attacks.** In 2015–2016, there were about 77,000 hospitalizations entirely caused by alcohol compared with about 75,000 for heart attacks.
- **Sales and heavy drinking rates differ among jurisdictions.** For example, Newfoundland and Labrador, Quebec, Yukon and the Northwest Territories had higher-than-average rates of both alcohol sales and heavy drinking (defined as having 5 or more drinks for men and 4 or more drinks for women on 1 occasion at least once a month over a 1-year period).[3]
- **Hospitalization rates vary widely.** Provinces in the east generally have lower rates for the indicator Hospitalizations Entirely Caused by Alcohol than those in the west, and the territories have higher hospitalization rates than the provinces, on average. Moreover, there are substantial regional (within-province) variations in the indicator results, with high rates seen in several northern and remote regions.
- **Rates differ by sex, income and age.** Overall, males have higher heavy drinking and hospitalization rates than females. However, among children and youth age 10 to 19, girls have higher rates for Hospitalizations Entirely Caused by Alcohol than boys. Those living in the lowest-income neighbourhoods have higher rates of hospitalizations than those living in the highest-income neighbourhoods.
- **Alcohol policies and interventions vary across Canada.** Evidence-informed policies and interventions to reduce harm include strengthening controls on the price and availability of alcohol, and implementing comprehensive provincial strategies for managing alcohol consumption and harm.
- **More research and analysis is needed on policies and interventions.** In the health sector, focusing on prevention and implementing screening, brief intervention and referrals may help to reduce alcohol harm, particularly among high-risk populations. Partnership and engagement across sectors is likely needed to adopt the full range of policies to reduce alcohol consumption and harm.

Introduction

Why is alcohol harm an important issue?

Drinking alcohol is a part of Canadian culture: almost 80% of Canadians drink,[4] and most drink moderately.[5, 6] Still, alcohol harm — the negative consequences of alcohol consumption — is a serious and growing health concern and a leading cause of injury and death in Canada.[1] From 1990 to 2010, alcohol increased from the sixth to the third leading risk factor for death and disability globally.[1, 7]

There are numerous health, social and economic impacts of alcohol consumption. The Canadian Centre on Substance Abuse published *Canada's Low-Risk Alcohol Drinking Guidelines* to advise Canadians on how to reduce long-term health risks, which include chronic illnesses such as cancer, liver cirrhosis, diabetes and cardiovascular disease (see Box 1).[i, 11, 12] A recent study estimated that there were 5,082 alcohol-attributable deaths in 2015 in Canada.[13]

Box 1: *Canada's Low-Risk Alcohol Drinking Guidelines*

These guidelines advise Canadians on how to minimize their risk for alcohol-related harm through safe drinking limits. To reduce long-term health risks

- Women should not exceed 10 drinks a week, with no more than 2 drinks a day on most days; and
- Men should not exceed 15 drinks a week, with no more than 3 drinks a day on most days.

The guidelines also recommend zero alcohol consumption in situations such as driving a vehicle and for individuals such as women who are pregnant or planning to be pregnant. It is also recommended that the uptake of drinking by youth be delayed and be consistent with local legal drinking age laws. For more information, please read *Canada's Low-Risk Alcohol Drinking Guidelines*.

i. Other organizations, including the Canadian Cancer Society, Cancer Care Ontario, the World Cancer Research Fund International and the American Institute for Cancer Research, recommend even lower alcohol limits: 1 drink a day for women and 2 drinks a day for men.[8–10]

Harmful drinking, which includes drinking patterns that cause health problems,[14] can also have broader social implications such as unemployment, absenteeism and crime. The impact on people other than the drinker is substantial: these include injuries related to assault, workplace incidents, motor vehicle collisions, family disruption, violence, abuse and lost income.[15, 16]

The economic costs of alcohol consumption are also significant.[2] In 2002, the overall cost (e.g., law enforcement, prevention and research, lost productivity) of alcohol-related harm in Canada exceeded $14 billion — $3.3 billion of which was directly related to health care.[ii, 2] Hospitalizations due to alcohol can be costly to health care systems. In 2014–2015, the average cost per hospitalization entirely caused by alcohol (see Box 2) was estimated to be $8,100[17] — higher than the cost of the average hospital stay ($5,800).[18] The higher cost of hospitalizations entirely caused by alcohol is mainly due to longer lengths of stay: an average of 11 days in hospital,[19] compared with 7 days for all hospitalizations.[20]

ii. Updated estimates of the economic costs of alcohol consumption are under development by the Centre for Addictions Research of BC.

Box 2: What are hospitalizations entirely caused by alcohol?

Information on hospital discharges can be used as a proxy for alcohol harm in the community and the burden it imposes on health systems. In this report, hospitalizations entirely caused by alcohol are hospital stays for the treatment of conditions considered to be wholly (100%) caused by the harmful consumption of alcohol.[21] The table below lists the most common conditions contributing to hospitalizations entirely caused by alcohol in 2015–2016 in Canada. For more detailed information, please see the technical notes for the indicator Hospitalizations Entirely Caused by Alcohol in CIHI's Indicator Library.

Nearly **3 out of 4 hospitalizations** entirely caused by alcohol are due to mental and behavioural disorders, such as alcohol dependence and intoxication

(Source: CIHI, 2015)

Table 1 Top conditions entirely caused by alcohol, Canada, 2015–2016

Mental health conditions (percentage of hospitalizations)	Physical conditions (percentage of hospitalizations)
Chronic alcohol use disorder (24%)	Alcohol-induced cirrhosis of liver (13%)
Alcohol withdrawal (23%)	Alcohol-induced acute pancreatitis (6%)
Harmful alcohol use (18%)	Alcohol-induced hepatitis (4%)
Alcohol intoxication (9%)	Alcohol-induced hepatic failure (4%)
Alcohol withdrawal delirium (5%)	Toxic effects of alcohol (3%)

Note
More than one of these conditions can be attributed to each hospitalization.

Data from alcohol-related National Health Service hospital admissions in England showed that 100% alcohol-attributable conditions made up approximately 30% of all hospitalizations associated with alcohol consumption;[22] the remainder of the hospitalizations were for partially alcohol-attributable conditions (e.g., cancer, motor vehicle traffic injuries, heart disease). Even as the tip of the iceberg of alcohol harm, hospitalizations entirely caused by alcohol exceeded hospitalizations for heart attacks in 2015–2016 in Canada.

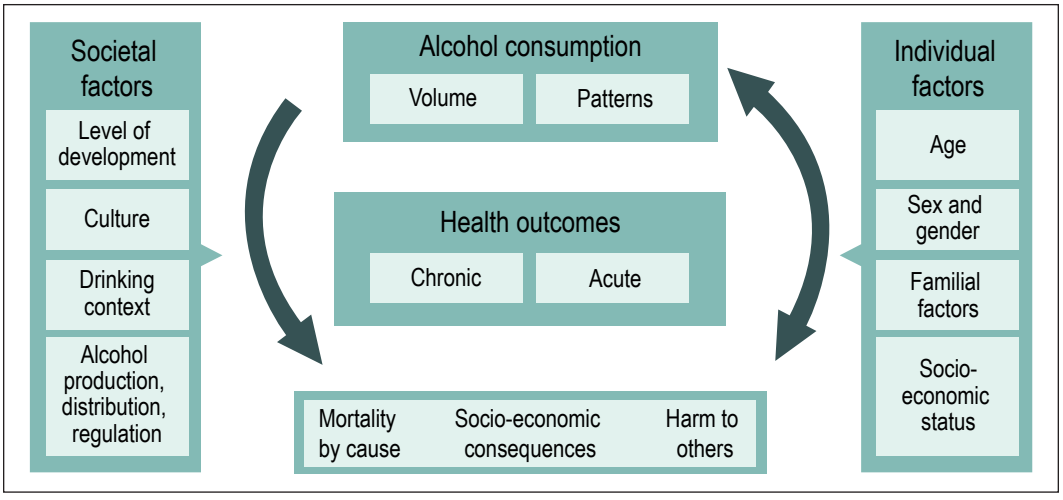
Understanding alcohol harm in Canada

To shed light on the current state of alcohol harm in Canada, this report provides an overview of provincial/territorial patterns of consumption, results for the indicator Hospitalizations Entirely Caused by Alcohol and a selection of alcohol policies and strategies. The relationships between consumption and harm are complex, as shown in Figure 1. These relationships are influenced by individual, cultural and social factors, by the approaches that governments take to regulate the consumption and accessibility of alcohol, and by the availability of services and programs to prevent or reduce harm among populations at risk. Provincial and territorial liquor control boards and commissions, as well as the alcohol industry, play a role, alongside government, in reducing risks associated with drinking alcohol.[1]

Evidence has shown that a comprehensive strategy aimed at reducing alcohol consumption (including risky and harmful drinking) can help to reduce alcohol harm.[5, 23, 24] A comprehensive alcohol strategy includes approaches at the population level (that reach everyone) and the individual level (that target high-risk drinkers).[25] Population-level policies generally aim to prevent risky and harmful drinking, and they rely on reducing the amount of alcohol consumed.[15, 26–28] Individual-level strategies like alcohol screening, brief intervention and referral (SBIR) focus on specific populations and risky behaviours, and on drinking patterns, products or settings where the potential for harm is elevated.[29–31]

We can learn from a comprehensive tobacco control strategy that has been effective in reducing smoking prevalence and lung cancer mortality in Canada.[32] This strategy has also had the effect of changing cultural norms around the social acceptability of smoking; such a cultural change would be needed to sustain a long-term reduction in alcohol harm.[25]

Figure 1 Conceptual framework of the harm caused by alcohol



Source
Adapted from World Health Organization, *Global Status Report on Alcohol and Health 2014* with the permission of the publisher.

Methods

This report uses the following sources to examine alcohol consumption, hospitalizations entirely caused by alcohol and the presence of policies and strategies. Additional details are provided in Appendix A.

- Statistics Canada data was used to describe alcohol consumption, including sales and heavy drinking.
- CIHI data was used to calculate the indicator Hospitalizations Entirely Caused by Alcohol. These hospitalization rates were disaggregated by sex, urban and rural/remote location, and neighbourhood income to identify populations that are vulnerable to hospitalizations entirely caused by alcohol.
- Existing alcohol policies and strategies were identified and validated by provincial and territorial ministries responsible for alcohol distribution, regulation, prevention and treatment. This report focuses on pricing, control systems, physical availability and SBIR because these fall within the responsibility of provincial/territorial policy-makers, there is strong evidence that they can reduce the harms and costs of alcohol and they show a high degree of variability across the provinces and territories.

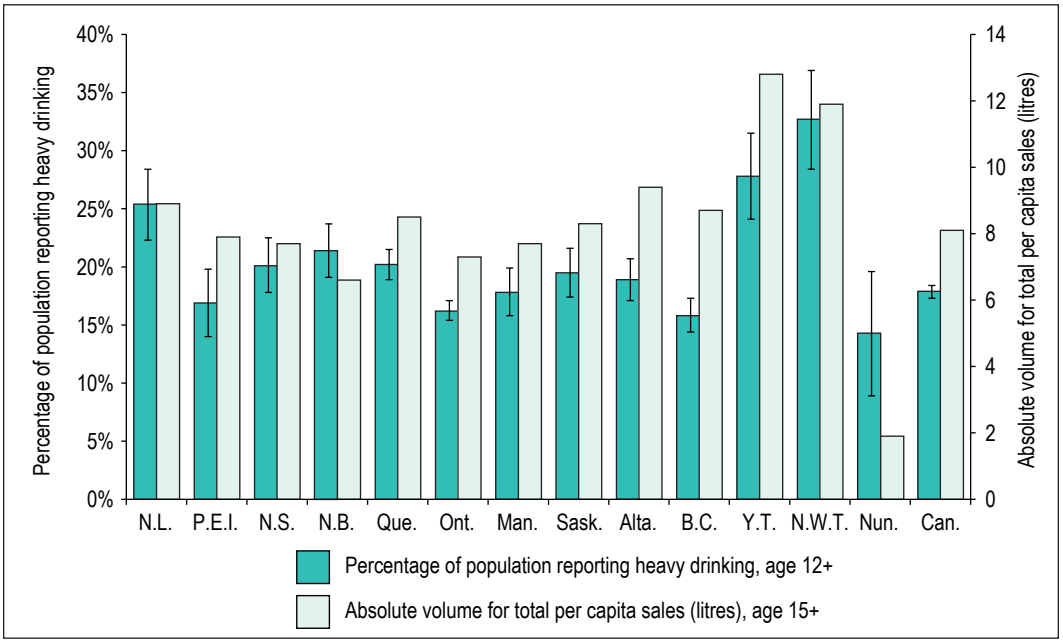
Results

How do alcohol sales and heavy drinking vary across Canada?

Provinces and territories with higher sales also had higher prevalence of heavy drinking on average

There is large variation in alcohol consumption and drinking patterns globally, as well as within countries and between drinkers.[33] Figure 2 shows that in Canada, heavy drinking — 5 or more drinks for men and 4 or more drinks for women on 1 occasion at least once a month over a 1-year period — was self-reported by 18% of people age 12 and older. The percentage of heavy drinking ranged from 14% in Nunavut to 33% in the Northwest Territories. On average, the provinces and territories with greater alcohol sales also had higher prevalence of heavy drinking. In 2014, alcohol sales and rates of heavy drinking were higher in Newfoundland and Labrador, Quebec, Yukon and the Northwest Territories than for Canada overall.

Figure 2 Heavy drinking (self-report) and alcohol sales (absolute volume for total per capita sales), by province/territory, 2014



Notes

Absolute volume for total per capita sales (litres) is calculated for the population age 15 and older in Statistics Canada's CANSIM Table 183-0023.

A liquor restriction structure exists in Nunavut, ranging from standard access to total exclusion. While there is access to 2 warehouses for the purchase of alcohol, out-of-territory purchases and acquisitions, illegal trade and bootlegged alcohol have an influence on the consumption of alcohol not captured by sales data. Per capita sales also exclude quantities derived from import permits.

Sources

Statistics Canada. Table 183-0023: Sales and per capita sales of alcoholic beverages by liquor authorities and other retail outlets, by value, volume, and absolute volume, annual. CANSIM (database). Accessed April 7, 2017.

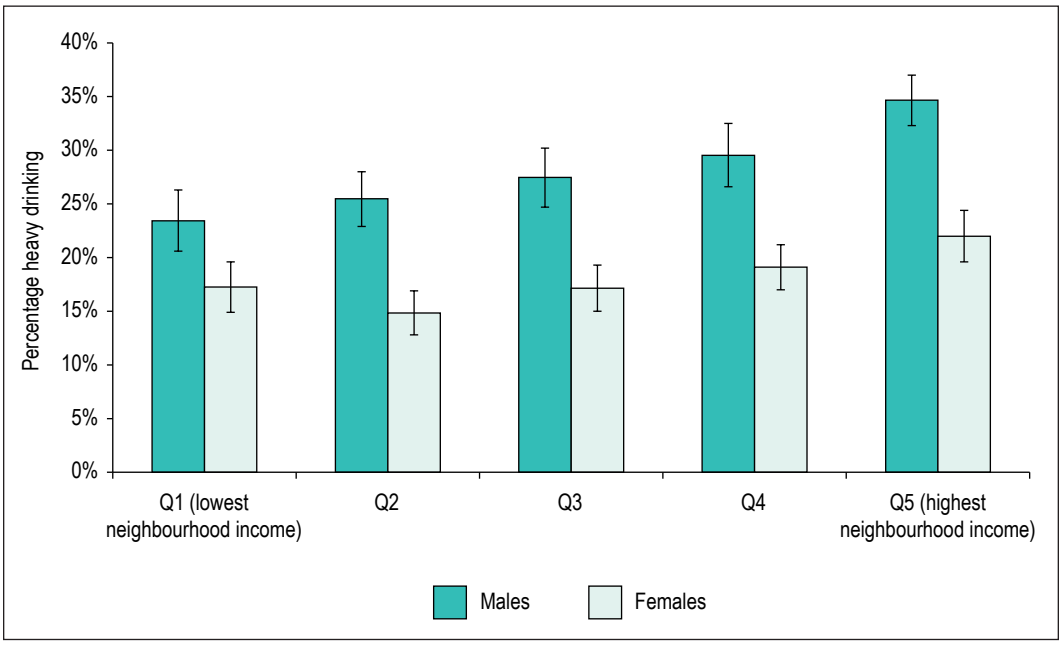
Statistics Canada. Table 105-0501: Health indicator profile, annual estimates, by age group and sex, Canada, provinces, territories, health regions (2013 boundaries) and peer groups, occasional. CANSIM (database). Accessed April 7, 2017.

Heavy drinking differs for males and females, by income and across the lifespan

Heavy drinking is more prevalent for males than females. Data from the Canadian Community Health Survey (CCHS) suggests that heavy drinking occurs more frequently among men than women and among individuals age 20 to 34 than other age groups (data not shown).

As shown in Figure 3, heavy drinking follows an income gradient, with the highest rates of heavy drinking observed among men in higher-income groups. A similar pattern was observed for women; however, the differences were not significant.

Figure 3 Percentage of heavy drinking, by income quintile and sex, 2014



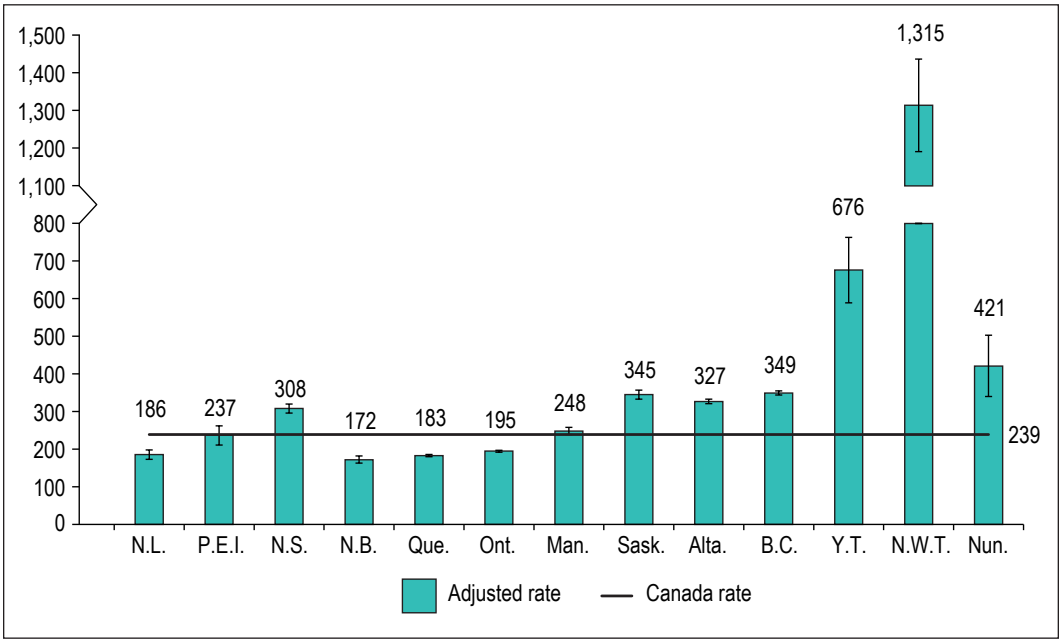
Notes
Income quintiles are based on self-reported adjusted household income from the 2014 CCHS.
Confidence limits are calculated using coefficients of variation provided as part of Statistics Canada's 2014 Public Use Microdata File. While the CCHS is representative of 98% of the Canadian community-dwelling population, there are some notable exclusions, such as people living on reserves.
Source
Statistics Canada. Canadian Community Health Survey Public Use Microdata File. 2013–2014 (82M0013X2016001).
All computations, use and interpretation of this data are entirely those of the Canadian Institute for Health Information.

How do hospitalizations entirely caused by alcohol vary across the country?

In 2015–2016, approximately 56,600 Canadians were hospitalized with a condition entirely caused by alcohol. Of these people, 21% had 2 or more hospitalizations entirely caused by alcohol that year. In total, there were about 77,000 hospitalizations, which was 212 a day, on average. This compares with about 75,000 hospitalizations for heart attack (an average of 205 a day) in the same year.

In 2015–2016, the overall age-standardized rate for the indicator Hospitalizations Entirely Caused by Alcohol was 239 per 100,000. As shown in Figure 4, the territories had higher rates than the provinces, on average. With the exception of Nova Scotia, provinces in the east had lower rates on average than those in the west. Geographic variations may reflect differences in the prevalence of harmful drinking, in the organization and delivery of care, as well as in the availability of services and supports for people at risk of alcohol harm in the community.[34]

Figure 4 Age-standardized rates for Hospitalizations Entirely Caused by Alcohol per 100,000 population age 10+, by province/territory, 2015–2016



Note
Age-standardized to the 2011 Canadian standard population.
Sources
Hospital Morbidity Database, Discharge Abstract Database, National Ambulatory Care Reporting System and Ontario Mental Health Reporting System, 2015–2016, Canadian Institute for Health Information; population estimates, 2015, Statistics Canada.

Box 3: Regional variations in results for Hospitalizations Entirely Caused by Alcohol

While provincial and territorial rates for the indicator Hospitalizations Entirely Caused by Alcohol ranged from 172 per 100,000 in New Brunswick to 1,315 per 100,000 in the Northwest Territories, differences were even more substantial at the regional level. In 2015–2016, age-adjusted rates for Hospitalizations Entirely Caused by Alcohol ranged from 111 per 100,000 population in the Central Local Health Integration Network in Ontario to 3,126 per 100,000 population in Nunavik Health Region in Quebec. Provincial, territorial and regional results are available in CIHI's Your Health System.

In addition, Canadians living in rural and remote areas had higher rates for Hospitalizations Entirely Caused by Alcohol than their urban counterparts (see Appendix B). Higher rates of hospitalizations in rural and remote areas may be explained in part by fewer community treatment options being available.

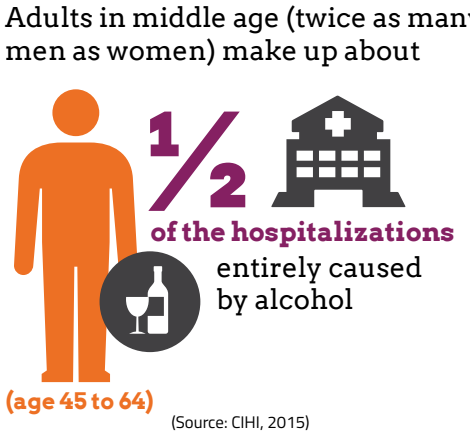
The relationship between alcohol sales, heavy drinking and hospitalizations is complex

In some cases, alcohol sales and heavy drinking follow the same pattern as rates of hospitalizations. For instance, the Northwest Territories and Yukon have higher-than-average rates of hospitalizations, as well as high rates of heavy drinking and sales (see Figure 2). Similarly, British Columbia had the highest provincial rate for Hospitalizations Entirely Caused by Alcohol and higher-than-average sales. Alberta also had a high rate of hospitalizations, along with relatively high sales and heavy drinking. However, in Quebec, hospitalizations were low, on average, but heavy drinking and sales were both higher than the Canadian average.

In order to better understand alcohol harm within the provinces and territories, it will be important for future work to consider the regional variations within the provinces and territories. These variations should be examined alongside the differences and trends over time in the organization and delivery of treatment for alcohol harm. Taken together, this information could provide insight into the extent to which the delivery of services in the community is meeting the needs of individuals at risk of alcohol harm.

Males age 20+ are more likely to be hospitalized for conditions entirely caused by alcohol than females

Rates of hospitalizations entirely caused by alcohol also differed by sex and age, as shown in Figure 5. See Box 4 for detailed results on children and youth. From age 20 onward, males had higher rates for Hospitalizations Entirely Caused by Alcohol than females, with rates for both sexes peaking in mid-life. The higher rates in mid-life are likely related in part to long-term cumulative exposure to alcohol.[33] Females had the lowest rates in late life, while males had the lowest rates in early life.



(Source: CIHI, 2015)

The sex differences in hospitalizations mirror those found in drinking patterns, where there is a significantly higher prevalence of self-reported heavy drinking among men than women (as shown in Figure 3). This sex difference among adults is consistent with previous international studies.[35, 36]

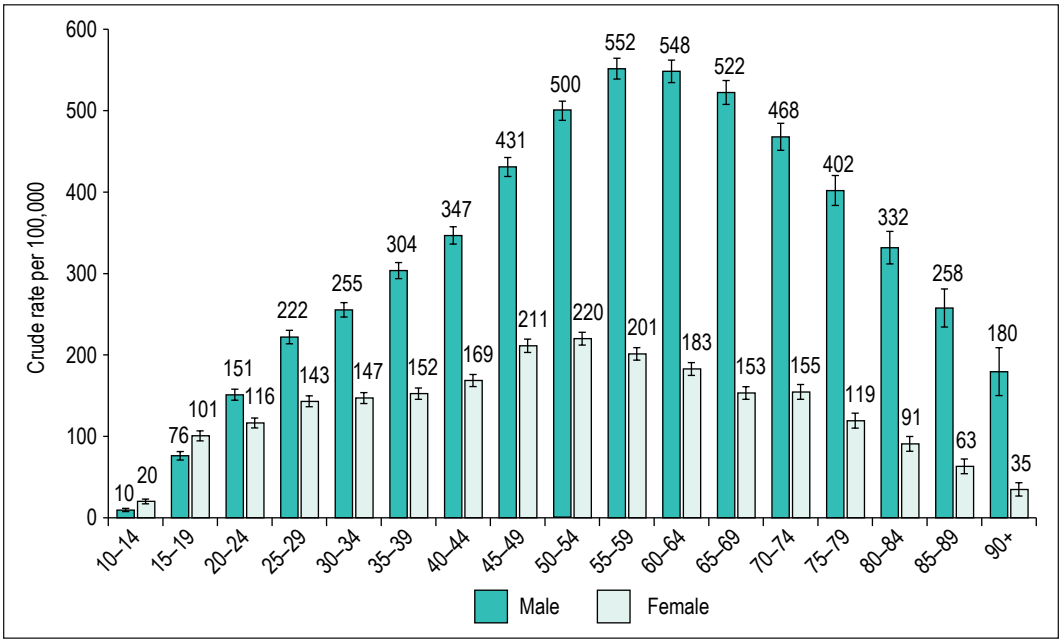
Box 4: Hospitalizations entirely caused by alcohol among children and youth

Our results show that young people make up a very small proportion of the total alcohol hospitalizations in Canada (Figure 5). Still, 6 children and youth age 10 to 19 were hospitalized each day (on average) due to alcohol in 2015–2016. Thus not only are children and youth drinking alcohol below most of the provincial/territorial legal age drinking laws, but many are engaging in harmful drinking that results in hospitalization.

The most common diagnoses for hospitalizations entirely caused by alcohol for children and youth age 10 to 19 were harmful alcohol use and alcohol intoxication (results not shown). Girls age 10 to 19 are more frequently hospitalized for alcohol than boys in this age group; this is the only period throughout the lifespan where hospitalizations entirely caused by alcohol among females outnumber those among males (see Figure 5).

Prevention efforts focused on young Canadians have the potential to reduce both short- and long-term risks of alcohol harm. Youth warrant attention in harm reduction and prevention strategies as they are at increased risk of negative experiences from alcohol compared with adults.[37] Those who binge drink are more likely to engage in a variety of high-risk behaviours, such as riding with an intoxicated driver, or using drugs or alcohol before sexual intercourse.[38]

Figure 5 Crude rates for Hospitalizations Entirely Caused by Alcohol per 100,000 population age 10+, by age group and sex, 2015–2016



Sources
Hospital Morbidity Database, Discharge Abstract Database, National Ambulatory Care Reporting System and Ontario Mental Health Reporting System, 2015–2016, Canadian Institute for Health Information; population estimates, 2015, Statistics Canada.

Hospitalizations entirely caused by alcohol are higher among people residing in lower-income neighbourhoods

Compared with people living in the highest-income neighbourhoods, those living in the lowest-income neighbourhoods had higher rates for the indicator Hospitalizations Entirely Caused by Alcohol. Specifically, rates of hospitalizations for the lowest-income neighbourhoods were 2.5 times higher than for the highest-income neighbourhoods in Canada overall (see Appendix B for provincial results). This pattern is consistent with that found in a previous study.[39] Harm is more common among those in lower-income groups, who typically drink less than those in high-income groups: this is known as the alcohol harm paradox (see Box 5).

Box 5: The alcohol harm paradox

In this report, we found that low income was associated with a lower prevalence of heavy drinking yet significantly higher rates for Hospitalizations Entirely Caused by Alcohol.

This finding is consistent with the literature: people of higher socio-economic status (SES) consume similar or greater amounts of alcohol than people of lower SES, but people of lower SES bear a disproportionate burden of alcohol harm.[36, 40, 41]

This alcohol harm paradox may relate to greater susceptibility to the consequences associated with living with lower income, including higher stress levels, fewer social support networks, fewer resources to cope and other risk factors such as poorer diet and physical inactivity.[27, 42, 43] In addition, exposure to unsafe drinking settings, beverage choice and frequency of binge drinking may help explain the alcohol harm paradox.[43]

How do alcohol policies and strategies vary across the country?

Alcohol consumption and related health outcomes are affected by individual- and societal-level factors, including policies and strategies put in place by governments to regulate the distribution of alcohol and policies and programs for addressing harms (see Figure 1 and Table A1 in Appendix A). In this section, we first present variations in population-level policies regulating the availability and accessibility of alcohol: control systems, physical availability and pricing of alcohol. We then look at an individual-level strategy: alcohol screening, brief intervention and referral (SBIR) to reduce harm among high- or at-risk individuals.

Alcohol can be sold in a range of locations, including restaurants and government-run liquor stores. These are referred to as off-premise locations, on-premise locations and off-sales.

- Off-premise locations: Licensed retail outlets or stores (e.g., government-run liquor stores, private retail stores, convenience stores) that sell alcoholic beverages for consumption off the site of sale (e.g., at home)
- On-premise locations: Licensed facilities (generally restaurants, pubs, bars and cafes) that sell alcoholic beverages for consumption at the site of the sale
- Off-sales: The sale of alcohol from licensed on-premise locations, such as restaurants and bars, for off-premise consumption (e.g., at home)

Alcohol control system

Policy

The alcohol control system is the mechanism by which provinces and territories regulate the sale and distribution of alcohol. The alcohol control system policy examined was the following:

- Off-premise government-owned alcohol retailers as a percentage of total alcohol retailers.[iii]

Evidence: Greater government control is associated with lower alcohol consumption and harm

Government control over the alcohol retail environment can reduce alcohol consumption and, consequently, alcohol harm.[15, 44, 45] When government monopolies are dismantled and the level of privatization increases, there is an increase in alcohol sales per capita,[5, 46] consumption and harm.[44, 47–50] For example, in British Columbia, the increase in privatization (and retail alcohol density) was associated with an increase in alcohol-related mortality.[51]

Canada-wide results: Government ownership of alcohol retail stores varies

Figure 6 shows that there is a large variation in the extent of government ownership of alcohol retail stores across Canada, ranging from 0% in Alberta and the Northwest Territories to 100% in Nunavut and Yukon.

Off-sales — which are permitted in Quebec, Manitoba, Saskatchewan, Alberta, British Columbia, Yukon and the Northwest Territories — are not included in the calculation of government ownership. In Yukon, private retail is entirely via off-sales licences provided to 85 restaurants and bars. In Saskatchewan, there are 450 off-sales permits, compared with 75 public and 194 private retail outlets. In Quebec, restaurants and bars with permits can sell alcoholic beverages with a meal for takeout or delivery (except draught beer or spirits).

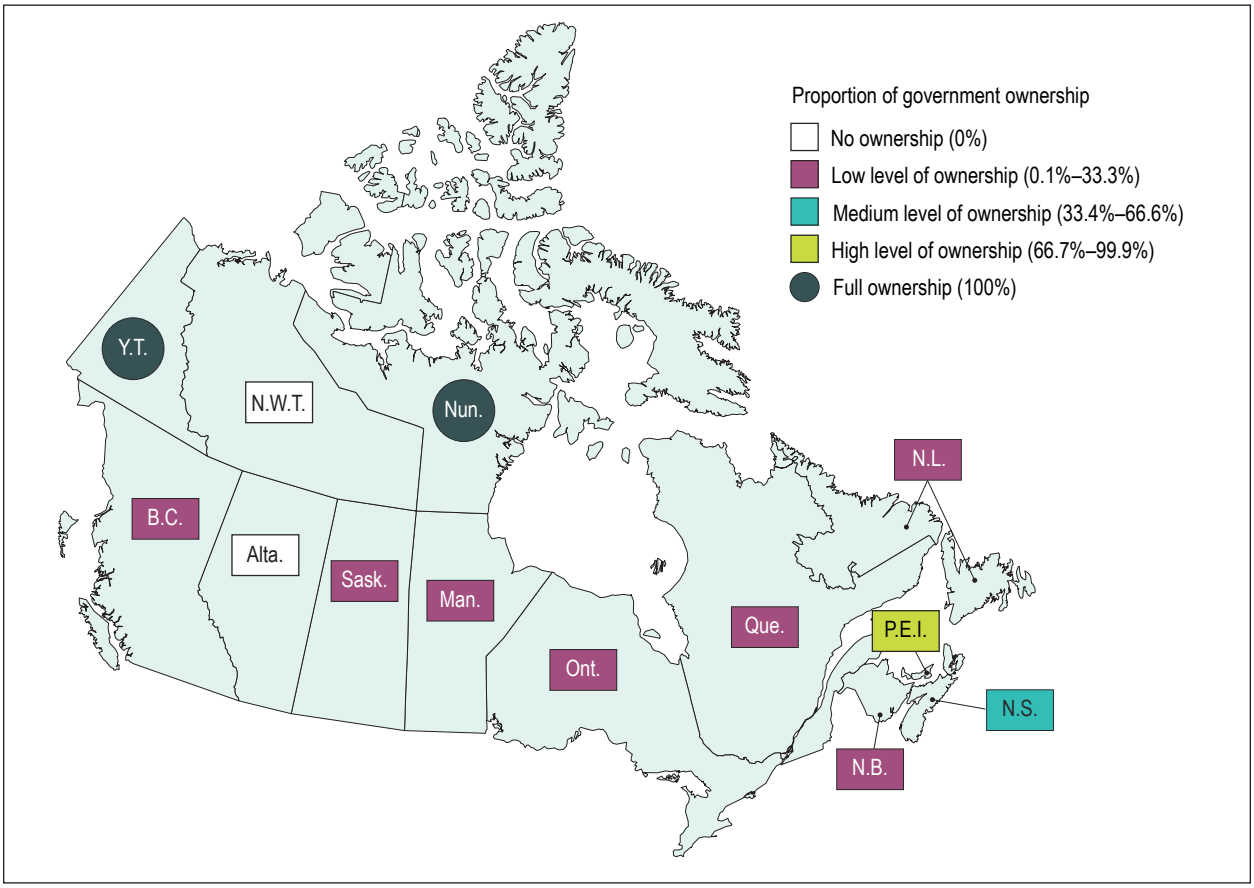
It is also important to note that the extent of government ownership of the alcohol retail system does not consider the volume of sales that occur in public versus private retail stores. In some jurisdictions, the proportion of government ownership might be low, but these retail stores may be responsible for a large percentage of total sales.[52–54]

Some provinces with a higher proportion of government-owned stores, such as Prince Edward Island and Nova Scotia, had lower-than-average consumption. However, for the most part, provinces and territories with high government control did not have lower hospitalization rates, on average. For example, Nunavut has 100% government ownership alongside high rates of hospitalizations entirely caused by alcohol. In Nunavut, the issue of alcohol is recognized

iii. Total alcohol retailers include both government-owned and private retailers. Agency stores, off-premise licensees and independent contractors are considered private. Off-sales are excluded.

as complex; therefore, the government is exploring a range of harm reduction policies that include increasing availability to licensed alcohol to promote responsible consumption and to reduce the use of bootlegged alcohol.[55, 56]

Figure 6 Proportion of government ownership of alcohol retail stores (excluding off-sales), by province/territory, 2016



Note
Off-sales are not included in the calculation of government ownership.
Sources
Publicly available policy documents and data provided by provinces and territories during validation.

Physical availability

Policy

Physical availability regulations include setting hours of operation and putting in measures to reduce the number of off-premise (e.g., retail stores) and on-premise (e.g., restaurants, bars) locations where alcohol is sold. The physical availability policies examined were the following:

- Maximum operating hours for off-premise locations; and
- The number of off-premise alcohol retailers per 100,000 population (excluding off-sales).

Evidence: Hours and density matter

Evidence shows that restricting the physical availability of alcohol by regulating the times when alcohol can be sold and limiting outlet density may decrease alcohol harm at the population level.[5, 33, 57] Increasing the hours of sale by greater than 2 hours has been shown to be related to increases in alcohol-related harms, such as an 11% relative increase in traffic injury crashes and a 20% relative increase in weekend emergency department admissions.[58]

Government ownership, as described in the previous section, is closely related to physical availability. Previous research has shown that provinces and territories where the government owned the majority of alcohol retail stores also had both fewer hours of operation and fewer retail outlets.[26, 46]

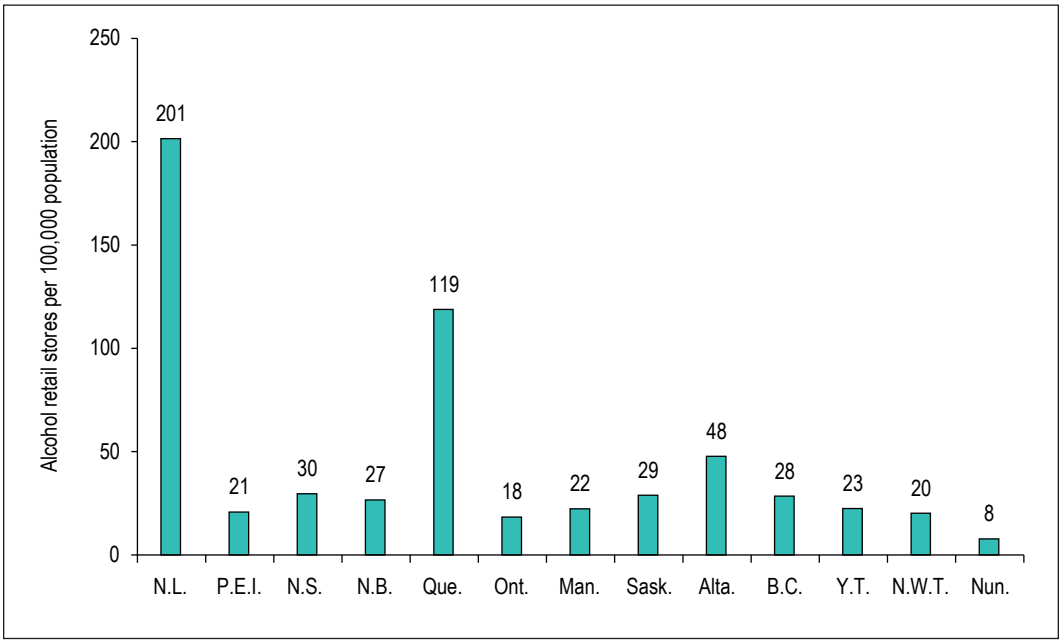
Canada-wide results: Availability of alcohol varies across the country

Figure 7 shows that there is a large variation in the density of alcohol retail stores across the country. In most cases, the provinces and territories with lower proportions of government-owned alcohol retail stores (i.e., Newfoundland and Labrador, Quebec, Saskatchewan, Alberta) had more alcohol retail stores per 100,000 inhabitants; this finding is consistent with a previous study from British Columbia.[46]

The maximum regulated sale hours for alcohol retailers (i.e., off-premise sales) varied widely across the country (see Table B3 in Appendix B). In Yukon, the retail purchase of alcohol is limited to 10 hours in a 24-hour period, compared with 18.5 and 19 hours in Manitoba and Saskatchewan, respectively.

The relationship between the availability of alcohol and results for Hospitalizations Entirely Caused by Alcohol generally does not follow the expected pattern. For example, Newfoundland and Labrador and Quebec have high alcohol retail density and low rates of hospitalizations entirely caused by alcohol. This may be because the current analyses focus on a single indicator of density and a single point in time, and therefore do not capture changes over time in alcohol policies more broadly and other cultural or historical factors influencing alcohol consumption and harm.

Figure 7 Alcohol retail density per 100,000 population (excluding off-sales), by province/territory, 2016



Notes

Calculated based on the number of alcohol retail stores (including liquor and agency stores and private retailers) in 2016 and 2015 population estimates for individuals age 15 and older. Off-sales are not included in the calculation of alcohol retail density. The number of stores does not take into account the size of the store or the volume of sales.

In Nunavut, liquor must be ordered from 1 of 2 warehouses controlled by the Nunavut Liquor Commission or imported from outside of the territory. These 2 warehouses were used for the calculation of alcohol retail density.

Sources

Publicly available policy documents and data provided by provinces and territories during validation; population estimates, 2015, Statistics Canada.

Pricing

Policy

Pricing policies aim to make alcohol less affordable. There are a number of pricing policy options available, such as minimum pricing, pricing on alcohol content, restricting discounts and taxation.[33, 59] Minimum prices are the lowest price at which alcohol can be sold. Adjusting the cost of alcohol to inflation ensures that alcohol does not become cheaper than other goods over time. Adjusting the cost of alcohol based on alcohol content promotes the consumption of lower-strength products because these products are the most affordable.

The alcohol pricing policies examined were the following:

- Minimum pricing for off-premise and on-premise locations;
- Minimum alcohol prices indexed to inflation; and
- Minimum alcohol prices adjusted for percentage of alcohol content.

Evidence: Increasing the price of alcohol reduces harm

Alcohol pricing policies are the most effective and cost-effective method of reducing alcohol consumption and alcohol harm.[5, 15, 57, 59–61] Pricing policies that reduce the affordability of inexpensive alcohol have been found to be more effective at decreasing consumption among heavy or harmful drinkers than among those who are light to moderate drinkers.[33, 62] A systematic review and meta-analysis found that a 10% increase in alcohol price led to a 4.4% reduction in alcohol consumption.[63] In Canada, 2 studies[64, 65] found that a 10% increase in minimum alcohol price led to a 3% and 8% reduction in alcohol consumption in British Columbia and Saskatchewan, respectively.

Canada-wide results: Alcohol pricing policies vary

Most jurisdictions legislate minimum alcohol prices (see Table 2). However, most provinces do not index the minimum prices of all alcoholic beverage types to inflation, and even fewer provinces adjust their minimum prices for alcohol content. 4 provinces — Nova Scotia, New Brunswick, Ontario and Manitoba — index minimum prices for all types of alcohol to inflation and have lower levels of alcohol consumption (see Figure 2). New Brunswick and Ontario also have the lowest average rates for Hospitalizations Entirely Caused by Alcohol (see Figure 4).

Table 2 Alcohol minimum pricing policies, by province/territory, 2016

Minimum pricing policy for all beverage types (beer, wine, spirits)	N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Nun.
Off premise	Y	Y	Y	Y	N*	Y	Y	Y	N	Y	N	N	N
On premise	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	N	N	N
Indexed to inflation	N	N	Y	Y	N*	Y	Y	N	N	N	N	N	N
Adjusted for percentage of alcohol content	Y	N	Y	Y	N	Y	N	Y	N	N	N	N	N

Note

* Quebec has minimum prices for beer that are indexed to inflation but not for wine and spirits.

Sources

Publicly available policy documents and validation with provinces and territories.

Screening, brief intervention and referral

Strategy

Alcohol SBIR is an individual-level strategy to reduce alcohol-related harm in individuals at risk (e.g., dependent or harmful drinkers) by coordinating early intervention and treatment services.[29, 31] Screening is typically conducted by a clinician to identify individuals with risky (or harmful) drinking patterns or current alcohol problems that may benefit from further counselling or referral to treatment.[30] Brief interventions are short counselling sessions that provide information to increase motivation among or teach behaviour change skills to low- and moderate-risk drinkers, with the aim of reducing alcohol consumption and related harm.[29, 66] Individuals who exhibit more serious signs of harmful alcohol use are referred to a level of care beyond the scope of brief interventions.[29]

Evidence: SBIR is effective and cost-effective

Evidence shows that the process of SBIR is effective in reducing harmful levels of drinking and alcohol-related harm in primary care and emergency care settings.[30, 67] Furthermore, brief interventions in primary care settings were found to be effective in addressing hazardous and harmful drinking among middle-aged male drinkers.[31]

SBIR is a cost-effective approach for addressing hazardous and harmful drinking.[15, 28] It also substantially reduces hospitalization costs, with an estimated $4 return for every $1 invested.[68]

Canada-wide results: Most provinces and territories have strategies that include SBIR

More than half of the provinces and territories have SBIR included in an alcohol or mental health and addictions strategy (see Appendix C). It is interesting to note, however, that fewer than 1 in 4 Canadians reported having spoken to their health provider about alcohol in the past 2 years (see Box 6).[69] Similarly, previous studies have found that many practitioners have yet to adopt SBIR into their practice.[26, 30, 31] It has been suggested that time constraints and a lack of training and resources may be limiting uptake or adoption,[30, 31] as well as challenges with adopting preventive approaches in health care settings more generally.[30]

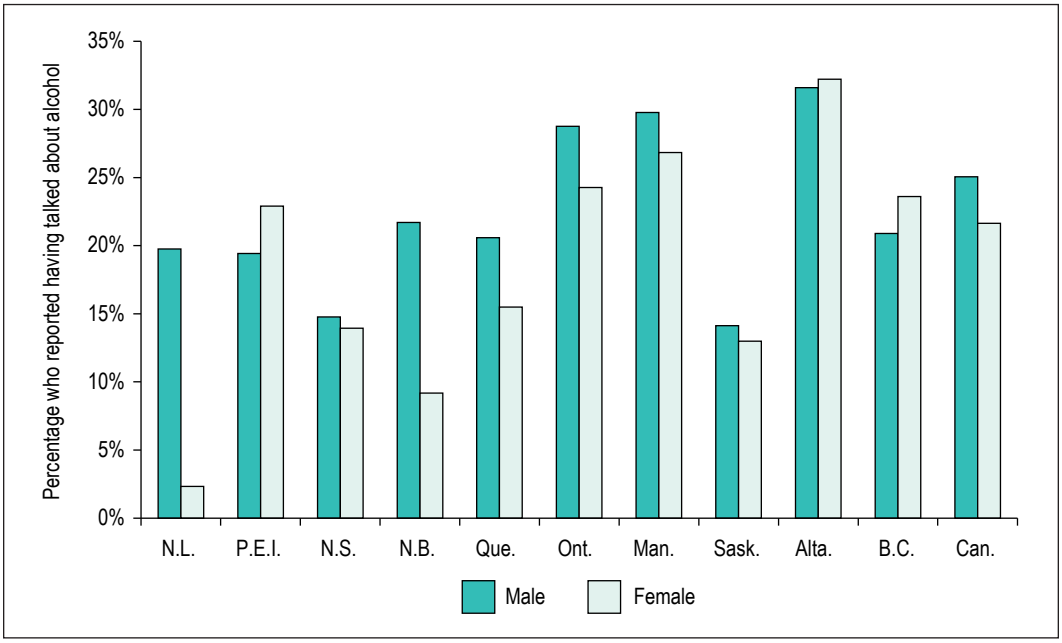
The alcohol strategies in Nova Scotia, Manitoba, Alberta and Nunavut include priority areas such as health promotion and education, control of alcohol availability and access to prevention services and treatment. In Nova Scotia, Manitoba and Alberta, the alcohol strategies also promote alcohol SBIR. Prince Edward Island, New Brunswick and Ontario all have mental health and addictions strategies in place, but these do not include any explicit reference to alcohol SBIR.

Box 6: Are health practitioners asking Canadians about their alcohol use?

As of 2004, The Commonwealth Fund conducts annual surveys to collect health care–related data from patients and providers in a number of developed countries.[iv] In The Commonwealth Fund's 2016 International Health Policy Survey, Canadians age 18 and older were asked "During the past 2 years, have you and your doctor or other clinical staff at the place you usually go to for care talked about alcohol use?"

Figure 8 shows that 25% of males and 22% of females reported having talked about alcohol use with a health care provider in the past 2 years. For both males and females, Alberta had the highest reported rates of talking about alcohol use with a care provider.[69]

Figure 8 Percentage of Canadians in 2016 who reported having talked about alcohol use with a health care practitioner in the past 2 years, by province



Note
The total sample size in Canada was 4,567. The 3 territories are not reported separately due to small sample sizes (6 respondents in total), but they are included in the Canadian average.

Source
Canadian Institute for Health Information. *How Canada Compares: Results From the Commonwealth Fund's 2016 International Health Policy Survey of Adults in 11 Countries*. 2017.

iv. For more information about The Commonwealth Fund surveys, visit CIHI's website.

Looking forward

Measurement for improvement

CIHI's new indicator Hospitalizations Entirely Caused by Alcohol provides a Canada-wide comparable baseline measure of alcohol harm that is available at provincial, territorial and regional levels in Your Health System. Understanding the variations in this indicator can help identify the most vulnerable populations and can inform decisions regarding the allocation of resources for prevention, management and treatment to improve health outcomes.[70] Furthermore, monitoring changes in hospitalizations over time will help provide insight into the effectiveness of prevention and treatment approaches, as well as broader alcohol policies and strategies for reducing alcohol harm.

As one indicator of alcohol harm, information on hospitalizations provides some insight into the impact of alcohol on health systems. However, we know that the impact of alcohol on health systems is broader than the inpatient and day surgery care that is captured using this indicator. There are several other complementary indicators that could be included in a comprehensive alcohol harm monitoring strategy. Examples, as seen in Scotland,[71] include measures of emergency department visits due to alcohol, hospitalizations that are related in part to alcohol, motor vehicle traffic injuries and deaths from drinking and driving, and deaths caused by alcohol.[2, 36, 72, 73] Indicators of broader alcohol-related harm, such as crime and unemployment, could also be considered for a more complete picture of the burden of alcohol.[27, 71, 74]

Health system role

Each interaction with the health system represents an opportunity to intervene to reduce future harm. Possible approaches to prevent harm include providing alcohol-specific resources (e.g., staff) dedicated to managing alcohol harm in the hospital and community.[75–77] SBIR can be effective in reducing harmful levels of drinking and alcohol-related harm in primary care and emergency care,[30, 67] in particular among middle-aged, male drinkers.[31] To facilitate the promotion and uptake of SBIR, the College of Family Physicians of Canada and the Canadian Centre on Substance Abuse have developed a clinical guide that incorporates *Canada's Low-Risk Alcohol Drinking Guidelines*.

Connecting alcohol policy and harm reduction

In looking at the Canada-wide variations, the relationships between consumption, hospitalizations and policies are complex. Provincial hospitalization rates are highest in Saskatchewan and British Columbia, where all 4 minimum pricing policies are not in place, government ownership is low and the density of alcohol retail varies. High rates of hospitalizations are also seen in the 3 territories, where the minimum pricing policies are not in place but government ownership and the number of alcohol retail stores vary considerably. At the same time, in Quebec, average rates of hospitalizations entirely caused by alcohol are low, but supply and sales are higher than the average for Canada. Understanding the impact of policies on consumption and alcohol harm will require some analysis of changes over time (e.g., as part of the forthcoming study to update Giesbrecht et al. 2013). We may be able to better understand these relationships by taking a closer look at the communities and populations most at risk of experiencing harm.

Ongoing changes to alcohol policies across Canada support the need for continued monitoring of alcohol harm. For example, Ontario and Saskatchewan are currently increasing the number of private alcohol retailers.[78, 79] British Columbia is also increasing the physical availability of alcohol by taking a number of measures, including increasing licenses for on-premise consumption and the number of private alcohol retailers.[80] In Nunavut, the first alcohol retail store is scheduled to open in 2017.[81] In Quebec, the provincial liquor board reduced the price of wine in 2016 to be more competitive with Ontario's lower prices.[82]

Equity and intersectoral approaches

Given our findings of elevated rates for the indicator Hospitalizations Entirely Caused by Alcohol in lower-income neighbourhoods and in rural and northern regions, alcohol policy development and evaluation could consider impacts on equity. For example, pricing policies have been shown to reduce hospitalizations among low-income populations.[83] Minimum pricing also reduces the availability of the least expensive alcohol often favoured by risky drinkers.[5, 65] For those with severe alcohol dependence and housing instability, managed alcohol programs (i.e., interventions in shelters/supportive housing settings that minimize harm by stabilizing alcohol intake) have demonstrated effectiveness for reducing alcohol-related harm.[84–86]

An evidence-informed approach to reducing alcohol harm involves collaboration across sectors[25, 50] while recognizing trade-offs among revenue, public interest, and potential health and social harms.[87] Several jurisdictions have worked across sectors to develop alcohol strategies that incorporate effective policy levers and strategies to prevent and reduce harm (see appendices A and C).

Conclusion

This report provides new results of one important measure of alcohol harm, Hospitalizations Entirely Caused by Alcohol, and identifies some of the populations at greater risk (e.g., lower-income groups, youth, middle-aged men, rural and remote populations, several northern regions). Furthermore, the data and analysis of policies and strategies to reduce harm at the provincial and territorial level — including variations in approaches to regulating pricing, control, physical availability and SBIR — suggest that opportunities exist to strengthen the alcohol policy landscape. In future, new approaches to measure sales at the individual level and drinking patterns among populations not currently included in ongoing health surveys (e.g., people living on reserves) along with complementary measures of alcohol harm could help inform alcohol policy and interventions across Canada. The information presented here can be used as a starting point to monitor and understand the burden of alcohol on individuals and health systems.

Appendix A: Methods

Data analysis

This report provides an overview of Canada-wide variations in alcohol sales, heavy drinking and results for Hospitalizations Entirely Caused by Alcohol.

Alcohol sales

Alcohol sales data is commonly used to measure consumption, since survey data is known to significantly underestimate alcohol use.[88, 89] In this report, alcohol sales were estimated using 2014–2015 data on alcohol sales from liquor authorities and other retail outlets.[90] This information is reported as the absolute volume of pure alcohol sold per capita and presented provincially and territorially.

Heavy drinking

Drinking patterns are important to assess because harmful drinking can be associated with increased risk of injury, violence, alcohol poisoning, emergency department visits and hospitalizations.[27] This report examined patterns of heavy drinking across Canada.

Heavy drinking was defined as consuming 5 or more drinks for men and 4 or more drinks for women on 1 occasion at least once a month over a 1-year period.[34, 91] Heavy drinking and binge drinking (defined as consuming 5 or more drinks for men and 4 or more drinks for women within about 2 hours)[92] are commonly used measures to describe drinking patterns. They are used because of the increased risk of health and social harm associated with these patterns and consumption levels.[34, 93] Other aspects of alcohol consumption that are important to capture include the types of alcohol consumed[94] and the circumstances in which people drink alcohol (e.g., what, when, where, with whom, how much, how often).[33, 95] The focus of this report is on heavy drinking because the currently available measures of binge drinking capture the majority of the population: based on the Centers for Disease Control and Prevention's definition, 64% of Canadians would be considered to have engaged in binge drinking (data not shown).

Heavy drinking estimates were obtained from Statistics Canada's 2014 CCHS at provincial and territorial levels (CANSIM Table 105-0501) and are available on an annual basis. Heavy drinking estimates are also available at the regional, provincial and territorial levels as part of CIHI's Your Health System. Differences in heavy drinking patterns between males and females across income quintiles were obtained using the Public Use Microdata File for the 2014 CCHS. While the CCHS is representative of 98% of the Canadian community-dwelling population, there are some notable exclusions, such as people living on reserves.

Hospitalizations entirely caused by alcohol

Hospitalizations entirely caused by alcohol were defined as hospital stays for the treatment of conditions wholly (100%) caused by alcohol (see Box 2). Data from 2015–2016 was used to calculate age-standardized rates for the indicator Hospitalizations Entirely Caused by Alcohol per 100,000 population age 10 and older. The indicator captures hospitalizations in general and psychiatric facilities, including day surgery settings. Visits to emergency departments that did not result in admission to hospital are not captured.

More information on the calculation of the **Hospitalizations Entirely Caused by Alcohol** indicator can be found in CIHI's Indicator Library. The indicator results will be reported on a regular basis at the regional, provincial/territorial and national levels in Your Health System (both In Brief and In Depth) and the Health Indicators e-Publication.

Policy analysis

To examine variations in alcohol policies and strategies across the country, an environmental scan of published literature and publicly available documentation from provincial and territorial ministries was conducted in 2016. Table A1 summarizes effective policies identified in recent national and international reports.[5, 27, 87] The 2013 report *Strategies to Reduce Alcohol-Related Harms and Costs in Canada: A Comparison of Provincial Policies* informed the current analyses. A second iteration of this report is forthcoming.

Table A1 Effective alcohol policies and strategies

Policy approach	Rationale	Sample policy levers	Mandate
Control systems	Restrict alcohol sales and distribution to reduce the availability of alcohol	Private versus government-controlled retail system	Province/territory
Physical availability	Limit access to and the supply of alcohol to reduce consumption	Regulating outlet density and hours of sale	Province/territory
Pricing	Increase the cost of alcohol to reduce its consumption	Minimum pricing regulations, taxation	Province/territory
Screening, brief intervention and referrals (SBIR)	Identify and influence individuals with risky drinking behaviours	SBIR component reflected in provincial/territorial strategy, practice guidelines/position papers and fee codes for implementing SBIR	Province/territory
Drinking and driving countermeasures	Deter drinking and driving to reduce alcohol-related collisions and harm	Licensing suspensions	Province/territory
		Blood alcohol concentration limits	Federal
Minimum legal drinking age	Reduce alcohol use and harm among underage youth	Legal drinking age legislation and enforcement	Province/territory
Server and management training	Reduce underage drinking and over-service to intoxicated individuals	Program status, quality and enforcement	Province/territory
Marketing and advertising	Limit exposure to alcohol marketing and advertising by regulating type of content, and placement and number of advertisements in circulation	Marketing regulations and enforcement	Province/territory
		Canadian Radio-television and Telecommunications Commission *Code for Broadcast Advertising of Alcoholic Beverages*	Federal
Warning labels and signs	Raise public awareness to reinforce risks associated with alcohol consumption	Warning labels on alcohol containers	Federal

Note
While not reflected in the table, municipal governments, non-governmental organizations and industry can also play active roles in supporting alcohol policy and strategy.
Source
Compiled by the authors.

To inform the selection of policies and strategies to include in this report, the following criteria were considered:

- Inclusion of both population- and individual-level strategies;
- Evidence of impact on alcohol consumption and alcohol harm;
- Responsibility of provincial/territorial policy-makers; and
- Degree of variability across provinces and territories.

Based on the findings from the literature review and the application of the criteria above, the population-level alcohol policies highlighted in the report include the control system, physical availability and pricing. The individual-level strategy that is reviewed in the report is SBIR.

Information regarding each policy and strategy was collected from documents found on ministry and agency websites. Examples of documents reviewed include strategies, reports, legislation and regulations. Information was then validated for accuracy in 2016–2017 by ministry and agency stakeholders (i.e., health, finance, liquor board) who were responsible for the policy or strategy. The level or extent of implementation of the policies and strategies analyzed was out of scope for this report.

Appendix B: Supplementary data tables

Table B1 Age-adjusted rates for Hospitalizations Entirely Caused by Alcohol per 100,000 population age 10+, by province and neighbourhood income quintile, 2015–2016

Province	Q1 (lowest neighbourhood income)	Q2	Q3	Q4	Q5 (highest neighbourhood income)
N.L.	227.1	209	159.7	140.5	193.2
P.E.I.	430.1	252	166.2	205.7	189.7
N.S.	431.2	371.2	263.7	275	262.9
N.B.	270.4	197.8	141.6	135	95.7
Que.	301.4	213.4	158.7	144.4	127.5
Ont.	322.5	213.7	177.6	152.9	147.2
Man.	566.2	244.4	196	175	179.2
Sask.	862.7	351.5	298.8	184.7	241.2
Alta.	673.7	343.3	282.8	230.1	176.7
B.C.	540.2	354.1	291.2	244	240.9
Canada	410.6	257.3	207.3	177.9	166.2

Note

Rates of hospitalizations were not reported by income level for the territories due to small populations and limitations in deriving income quintiles based on postal codes in rural and remote areas.

Sources

Hospital Morbidity Database, Discharge Abstract Database, National Ambulatory Care Reporting System and Ontario Mental Health Reporting System, 2015–2016, Canadian Institute for Health Information; population estimates, 2015, and Postal Code Conversion File Plus, version 6C, Statistics Canada.

Table B2 Age-adjusted rates for Hospitalizations Entirely Caused by Alcohol per 100,000 population age 10+, by province and by urban and rural/remote location, 2015–2016

Province	Urban	Rural/remote
N.L.	211	164.9
P.E.I.	202.6	298.4
N.S.	293.1	356.3
N.B.	172.9	149.3
Que.	164.6	268.7
Ont.	187.8	256
Man.	205.9	383
Sask.	285.6	493
Alta.	280.3	515.9
B.C.	307.2	489.6

Note

Urban is defined as Statistical Area Classification (SAC) types 1, 2 and 3. Rural/remote is defined as SAC types 4, 5, 6, 7 and 8.

Sources

Hospital Morbidity Database, Discharge Abstract Database, National Ambulatory Care Reporting System and Ontario Mental Health Reporting System, 2015–2016, Canadian Institute for Health Information; population estimates, 2015, and Postal Code Conversion File Plus, version 6C, Statistics Canada.

Table B3 Maximum regulated hours to purchase alcohol off premise, by province/territory, 2016

Province/territory	Maximum regulated hours open to purchase alcohol off premise
N.L.	17
P.E.I.	13
N.S.	12
N.B.	18
Que.	15
Ont.	14
Man.	18.5
Sask.	19
Alta.	16
B.C.	14
Y.T.	10
N.W.T.	11
Nun.	0*

Note

* There are currently no liquor retail stores in Nunavut. Liquor must be ordered from 1 of 2 warehouses controlled by the Nunavut Liquor Commission or imported from outside of the territory.

Sources

Provincial/territorial liquor boards, 2016.

Appendix C: SBIR in strategies

Table C1 Inclusion of screening, brief intervention and referral in an alcohol or mental health and addictions strategy, by province/territory

Province/ territory	Alcohol or mental health and addictions strategy	Developed by ministry/agency	Inclusion of SBIR
N.L.	*Towards Recovery: A Vision for a Renewed Mental Health and Addictions System for Newfoundland and Labrador*, 2017[96]	Department of Health and Community Services	Yes
P.E.I.	*Prince Edward Island 2016–2026 Mental Health and Addiction Strategy: Moving Forward Together*, 2016[97]	Department of Health and Wellness	No
N.S.	*Provincial Alcohol Strategy: Changing the Culture of Alcohol Use in Nova Scotia*, 2007[98]	Department of Health Promotion and Protection, Addiction Services	Yes
N.B.	*The Action Plan for Mental Health in New Brunswick 2011–18*, 2011[99]	Department of Health	No
Que.	*Unis dans l'action, programme-services dépendance*, 2007[100]	Ministère de la Santé et des Services sociaux	Yes
Ont.	*Open Minds, Healthy Minds: Ontario's Comprehensive Mental Health and Addictions Strategy*, 2011[101]	Ministry of Health and Long-Term Care	No
Man.	*Manitoba's Strategy to Reduce Alcohol-Related Harms*, 2014[102]	Ministry of Healthy Living and Seniors	Yes
Sask.	*Working Together for Change: A 10-Year Mental Health and Addictions Action Plan for Saskatchewan*, 2014[103]	Ministry of Health	Yes
Alta.	*Alberta Alcohol Strategy*, 2008[104]	Alberta Health; Alberta Health Services; Alberta Gaming and Liquor Commission	Yes
B.C.	*Healthy Minds, Healthy People: A Ten-Year Plan to Address Mental Health and Substance Use in British Columbia*, 2010[105]	Ministry of Health Services; Ministry of Children and Family Development	Yes
Y.T.	*Forward Together: Yukon Mental Wellness Strategy 2016–2026*, 2016[106]	Department of Health and Social Services	Yes
N.W.T.	*Mind and Spirit: Promoting Mental Health and Addictions Recovery in the Northwest Territories — Strategic Framework 2016–2021*, 2016[107]	Department of Health and Social Services	Yes
Nun.	*Taking Steps to Reduce Alcohol-Related Harm in Nunavut*, 2016[56]	Department of Finance; Department of Health; Department of Family Services; Department of Justice	No

Appendix D: Text alternative for figures

Figure 1 Conceptual framework of the harm caused by alcohol

This figure shows the complex relationships between alcohol consumption and harm. Alcohol consumption includes volume and patterns. Health outcomes include chronic and acute outcomes, such as mortality by cause, socio-economic consequences and harms to others. The framework has 4 societal factors: the level of development; culture; drinking context; and alcohol production, distribution and regulation. The framework also has 4 individual factors: age, sex and gender, familial factors and socio-economic status. These social and individual factors affect alcohol consumption and harm.

Source
Adapted from World Health Organization, *Global Status Report on Alcohol and Health 2014* with the permission of the publisher.

Figure 2 Heavy drinking (self-report) and alcohol sales (absolute volume for total per capita sales), by province/territory, 2014

Province/territory	Percentage of population reporting heavy drinking, age 12+	Absolute volume for total per capita sales (litres), age 15+
Newfoundland and Labrador	25.4	8.9
Prince Edward Island	16.9	7.9
Nova Scotia	20.1	7.7
New Brunswick	21.4	6.6
Quebec	20.2	8.5
Ontario	16.2	7.3
Manitoba	17.8	7.7
Saskatchewan	19.5	8.3
Alberta	18.9	9.4
British Columbia	15.8	8.7
Yukon	27.8	12.8
Northwest Territories	32.7	11.9
Nunavut	14.3	1.9
Canada	17.9	8.1

Notes
Absolute volume for total per capita sales (litres) is calculated for the population age 15 and older only in Statistics Canada's CANSIM Table 183-0023.
A liquor restriction structure exists in Nunavut, ranging from standard access to total exclusion. While there is access to 2 warehouses for the purchase of alcohol, out-of-territory purchases and acquisitions, illegal trade and bootlegged alcohol have an influence on the consumption of alcohol not captured by sales data. Per capita sales also exclude quantities derived from import permits.
Sources
Statistics Canada. Table 183-0023: Sales and per capita sales of alcoholic beverages by liquor authorities and other retail outlets, by value, volume, and absolute volume, annual. CANSIM (database). Accessed April 7, 2017.
Statistics Canada. Table 105-0501: Health indicator profile, annual estimates, by age group and sex, Canada, provinces, territories, health regions (2013 boundaries) and peer groups, occasional. CANSIM (database). Accessed April 7, 2017.

Figure 3 Percentage of heavy drinking, by income quintile and sex, 2014

Males have a higher percentage of heavy drinking than females in all income quintiles.
The percentage of heavy drinking among males increases as income increases.
The percentage of heavy drinking among females is lowest in Q2 and highest in Q5.

Notes
Income quintiles are based on self-reported adjusted household income from the 2014 CCHS.
Confidence limits are calculated using coefficients of variation provided as part of Statistics Canada's 2014 Public Use Microdata File. While the CCHS is representative of 98% of the Canadian community-dwelling population, there are some notable exclusions, such as people living on reserves.
Source
Statistics Canada. Canadian Community Health Survey Public Use Microdata File. 2013–2014 (82M0013X2016001).
All computations, use and interpretation of this data are entirely those of the Canadian Institute for Health Information.

Figure 4 Age-standardized rates for Hospitalizations Entirely Caused by Alcohol per 100,000 population age 10+, by province/territory, 2015–2016

Province/territory	Age-standardized rate	Lower limit of confidence interval	Upper limit of confidence interval
Newfoundland and Labrador	186	173	198
Prince Edward Island	237	211	262
Nova Scotia	308	296	320
New Brunswick	172	163	182
Quebec	183	180	186
Ontario	195	192	197
Manitoba	248	239	258
Saskatchewan	345	333	357
Alberta	327	321	333
British Columbia	349	344	355
Yukon	676	589	763
Northwest Territories	1,315	1,192	1,438
Nunavut	421	340	503
Canada	239	237	240

Note
Age-standardized to the 2011 Canadian standard population.
Sources
Hospital Morbidity Database, Discharge Abstract Database, National Ambulatory Care Reporting System and Ontario Mental Health Reporting System, 2015–2016, Canadian Institute for Health Information; population estimates, 2015, Statistics Canada.

Figure 5 Crude rates for Hospitalizations Entirely Caused by Alcohol per 100,000 population age 10+, by age group and sex, 2015–2016

The rates increased with age, with a peak in middle age for both males (between age 50 and 54) and females (age 55 to 59). From age 20 onward, males had higher rates of hospitalizations than females.

Age	Crude hospitalization rate for males	Crude hospitalization rate for females
10–14	9.6	20.1
15–19	76.1	100.6
20–24	151.2	116.4
25–29	222.0	143.1
30–34	255.4	147.1
35–39	303.6	152.5
40–44	346.8	168.6
45–49	430.9	211.3
50–54	499.9	220.0
55–59	551.7	201.3
60–64	548.3	182.7
65–69	522.4	153.3
70–74	467.9	154.6
75–79	402.0	119.3
80–84	331.8	90.8
85–89	257.7	63.2
90+	179.5	34.9

Sources
Hospital Morbidity Database, Discharge Abstract Database, National Ambulatory Care Reporting System and Ontario Mental Health Reporting System, 2015–2016, Canadian Institute for Health Information; population estimates, 2015, Statistics Canada.

Figure 6 Proportion of government ownership of alcohol retail stores (excluding off-sales), by province/territory, 2016

Province/territory	Government ownership of alcohol retail stores (%)
Newfoundland and Labrador	Low (0.1% to 33.3%)
Prince Edward Island	High (66.7% to 99.9%)
Nova Scotia	Medium (33.4% to 66.6%)
New Brunswick	Low (0.1% to 33.3%)
Quebec	Low (0.1% to 33.3%)
Ontario	Low (0.1% to 33.3%)
Manitoba	Low (0.1% to 33.3%)
Saskatchewan	Low (0.1% to 33.3%)
Alberta	No ownership (0%)
British Columbia	Low (0.1% to 33.3%)
Yukon	Full ownership (100%)
Northwest Territories	No ownership (0%)
Nunavut	Full ownership (100%)

Note
Off-sales are not included in the calculation of government ownership.
Sources
Publicly available policy documents and data provided by provinces and territories during validation.

Figure 7 Alcohol retail density per 100,000 population (excluding off-sales), by province/territory, 2016

Province/territory	Alcohol retail stores per 100,000 population
Newfoundland and Labrador	201
Prince Edward Island	21
Nova Scotia	30
New Brunswick	27
Quebec	119
Ontario	18
Manitoba	22
Saskatchewan	29
Alberta	48
British Columbia	28
Yukon	23
Northwest Territories	20
Nunavut	8

Notes

Calculated based on the number of alcohol retail stores (including liquor and agency stores and private retailers) in 2016 and 2015 population estimates for individuals age 15 and older. Off-sales are not included in the calculation of alcohol retail density. The number of stores does not take into account the size of the store or the volume of sales.

In Nunavut, liquor must be ordered from 1 of 2 warehouses controlled by the Nunavut Liquor Commission or imported from outside of the territory. These 2 warehouses were used for the calculation of alcohol retail density.

Sources

Publicly available policy documents and data provided by provinces and territories during validation; population estimates, 2015, Statistics Canada.

Figure 8 Percentage of Canadians in 2016 who reported having talked about alcohol use with a health care practitioner in the past 2 years, by province

Province	Proportion of males	Proportion of females
Newfoundland and Labrador	20	2
Prince Edward Island	19	23
Nova Scotia	15	14
New Brunswick	22	9
Quebec	21	16
Ontario	29	24
Manitoba	30	27
Saskatchewan	14	13
Alberta	32	32
British Columbia	21	24
Canada	25	22

Note

The total sample size in Canada was 4,567. The 3 territories are not reported separately due to small sample sizes (6 respondents in total), but they are included in the Canadian average.

Source

Canadian Institute for Health Information. *How Canada Compares: Results From the Commonwealth Fund's 2016 International Health Policy Survey of Adults in 11 Countries*. 2017.

References

1. Public Health Agency of Canada. *The Chief Public Health Officer's Report on the State of Public Health in Canada, 2015: Alcohol Consumption in Canada*. 2016.

2. Rehm J, Baliunas D, Brochu S, et al. *The Cost of Substance Abuse in Canada 2002*. 2006.

3. Centers for Disease Control and Prevention. Alcohol and public health: Fact sheets — Binge drinking. Accessed April 3, 2017.

4. Statistics Canada. Canadian Tobacco Alcohol and Drugs (CTADS): Table 15. Alcohol indicators, by age group and sex, 2015. Accessed April 3, 2017.

5. Giesbrecht N, Wettlaufer A, April N, et al. *Strategies to Reduce Alcohol-Related Harms and Costs in Canada: A Comparison of Provincial Policies*. 2013.

6. Health Canada. Alcohol. Accessed April 3, 2017.

7. Lim S, Vos T, Flaxman A, et al. A comparative risk assessment of burden of disease and injury attributable to 67 risk factors and risk factor clusters in 21 regions, 1990–2010: A systematic analysis for the Global Burden of Disease Study 2010. *The Lancet*. December 2012.

8. Canadian Cancer Society. Alcohol: Our recommendation. Accessed April 3, 2017.

9. Cancer Care Ontario. Alcohol and cancer. Accessed April 3, 2017.

10. World Cancer Research Fund and American Institute for Cancer Research. *Food, Nutrition, Physical Activity, and the Prevention of Cancer: A Global Perspective*. 2007.

11. Canadian Centre on Substance Abuse. *Canada's Low-Risk Alcohol Drinking Guidelines*. 2013.

12. Rehm J, Mathers C, Popova S, Thavorncharoensap M, Teerawattananon Y, Patra J. Global burden of disease and injury and economic cost attributable to alcohol use and alcohol-use disorders. *The Lancet*. June 2009.

13. Institute for Health Metrics and Evaluation. GBD compare data visualization. Accessed April 3, 2017.

14. O'Flynn N. Harmful drinking and alcohol dependence: Advice from recent NICE guidelines. *The British Journal of General Practice*. December 2011.

15. Anderson P, Chisholm D, Fuhr DC. Effectiveness and cost-effectiveness of policies and programmes to reduce the harm caused by alcohol. *The Lancet*. 2009.

16. World Health Organization. *WHO Expert Committee on Problems Related to Alcohol Consumption: Second Report*. 2007.

17. Canadian Institute for Health Information. Canadian MIS Database. 2017.

18. Canadian Institute for Health Information. National Health Expenditure Database. 2016.

19. Canadian Institute for Health Information. Unpublished data. 2017.

20. Canadian Institute for Health Information. Quick Stats: DAD/HMDB hospitalization rate, average length of stay, top 10 high-volume inpatient hospitalizations and surgeries, and hospital-based newborn rate, 2014–2015. Accessed April 3, 2017.

21. Rehm J, Baliunas D, Borges GL, et al. The relation between different dimensions of alcohol consumption and burden of disease: An overview. *Addiction.* May 2010.

22. Public Health England. Local alcohol profiles for England. Accessed April 3, 2017.

23. Public Health England. *The Public Health Burden of Alcohol and the Effectiveness and Cost-Effectiveness of Alcohol Control Policies: An Evidence Review*. 2016.

24. Paradis C. Canada's National Alcohol Strategy: It's time to assess progress. *Canadian Journal of Program Evaluation*. 2016.

25. Canadian Centre on Substance Abuse. *Reducing Alcohol-Related Harm in Canada: Toward a Culture of Moderation*. 2007.

26. Babor T. *Alcohol: No Ordinary Commodity* — A summary of the second edition. *Addiction*. March 2010.

27. World Health Organization. *Global Status Report on Alcohol and Health 2014*. 2014.

28. Chisholm D, Rehm J, Van Ommeren M, Monteiro M. Reducing the global burden of hazardous alcohol use: A comparative cost-effectiveness analysis. *Journal of Studies on Alcohol*. November 2004.

29. Babor T, McRee B, Kassebaum P, Grimaldi P, Ahmed K, Bray J. Screening, brief intervention, and referral to treatment (SBIRT): Toward a public health approach to the management of substance abuse. In: Saitz R, Galanter M, eds. *Alcohol/Drug Screening and Brief Intervention: Advances in Evidence-Based Practice: Part I*. 2007.

30. Anderson P, Aromaa S, Rosenbloom D, Enos G. *Screening and Brief Intervention: Making a Public Health Difference*. 2008.

31. O'Donnell A, Anderson P, Newbury-Birch D, et al. The impact of brief alcohol interventions in primary healthcare: A systematic review of reviews. *Alcohol and Alcoholism*. 2014.

32. Canadian Institute for Health Information. *How Canada Compares: Results From The Commonwealth Fund's 2016 International Health Policy Survey of Adults in 11 Countries*. 2017.

33. Gilmore W, Chikritzhs T, Stockwell T, Jernigan D, Naimi T, Gilmore I. Alcohol: Taking a population perspective. *Nature Reviews Gastroenterology & Hepatology*. May 2016.

34. Canadian Centre on Substance Abuse. *Levels and Patterns of Alcohol Use in Canada: Alcohol Price Policy Series, Report 1 of 3*. 2012.

35. Slade T, Chapman C, Swift W, Keyes K, Tonks Z, Teesson M. Birth cohort trends in the global epidemiology of alcohol use and alcohol-related harms in men and women: Systematic review and metaregression. *British Medical Journal Open*. October 2016.

36. Currie CA, Davies A, Ariti C, Bardsley M. *Alcohol-Specific Activity in Hospitals in England*. 2015.

37. Adlaf EM, Begin P, Sawka E. *Canadian Addiction Survey: A National Survey of Canadians' Use of Alcohol and Other Drugs: Prevalence of Use and Related Harms*. 2005.

38. Miller JW, Naimi TS, Brewer RD, Jones SE. Binge drinking and associated health risk behaviors among high school students. *Pediatrics*. 2007.

39. Canadian Institute for Health Information. *Trends in Income-Related Health Inequalities in Canada*. 2015.

40. Collins S. Associations between socioeconomic factors and alcohol outcomes. *Alcohol Research*. 2016.

41. Lewer D, Meier P, Beard E, Boniface S, Kaner E. Unravelling the alcohol harm paradox: A population-based study of social gradients across very heavy drinking thresholds. *BioMed Central Public Health*. July 2016.

42. Loring B. *Alcohol and Inequities: Guidance for Addressing Inequities in Alcohol-Related Harm*. 2014.

43. Alcohol Research UK. *Understanding the Alcohol Harm Paradox in Order to Focus the Development of Interventions*. 2015.

44. Hahn RA, Middleton JC, Elder R, et al. Effects of alcohol retail privatization on excessive alcohol consumption and related harms: A community guide systematic review. *American Journal of Preventive Medicine*. April 2012.

45. Holder H, Agardh E, Hogberg P, et al. *Alcohol Monopoly and Public Health: Potential Effects of Privatization of the Swedish Alcohol Retail Monopoly*. 2008.

46. Stockwell T, Zhao J, Macdonald S, Pakula B, Gruenewald P, Holder H. Changes in per capita alcohol sales during the partial privatization of British Columbia's retail alcohol monopoly 2003–2008: A multi-level local area analysis. *Addiction*. November 2009.

47. Room R. *The Effects of Nordic Alcohol Policies: What Happens to Drinking and Harm When Alcohol Controls Change?*. 2002.

48. Campbell CA, Hahn RA, Elder R, et al. The effectiveness of limiting alcohol outlet density as a means of reducing excessive alcohol consumption and alcohol-related harms. *American Journal of Preventive Medicine*. December 2009.

49. Community Preventive Services Task Force. Recommendations on privatization of alcohol retail sales and prevention of excessive alcohol consumption and related harms. *American Journal of Preventive Medicine*. April 2012.

50. Martineau F, Tyner E, Lorenc T, Petticrew M, Lock K. Population-level interventions to reduce alcohol-related harm: An overview of systematic reviews. *Preventive Medicine*. October 2013.

51. Stockwell T, Zhao J, Macdonald S, et al. Impact on alcohol-related mortality of a rapid rise in the density of private liquor outlets in British Columbia: A local area multi-level analysis. *Addiction*. 2011.

52. British Columbia Liquor Distribution Branch. *BC Liquor Distribution Branch: 2014/15 Annual Service Plan Report*. 2014.

53. Alcool NB Liquor. *Annual Report 2015–2016*. 2016.

54. Liquor Control Board of Ontario. *Maximizing Value: LCBO Annual Report 2015–16*. 2016.

55. Nunavut *Liquor Act* Review Task Force. *A New Approach: Halting the Harm*. 2012.

56. Government of Nunavut. *Taking Steps to Reduce Alcohol-Related Harm in Nunavut*. 2016.

57. Fitzgerald N, Angus C. *Four Nations: How Evidence-Based Are Alcohol Policies and Programmes Across the UK?*. 2015.

58. Hahn R, Kuzara J, Elder R, et al. Effectiveness of policies restricting hours of alcohol sales in preventing excessive alcohol consumption and related harms. *American Journal of Preventive Medicine*. December 2010.

59. Xu X, Chaloupka F. The effects of prices on alcohol use and its consequences. *Alcohol Research & Health*. March 2011.

60. Osterberg E. *What Are the Most Effective and Cost-Effective Interventions in Alcohol Control?*. 2004.

61. Burton R, Henn C, Lavoie D, et al. A rapid evidence review of the effectiveness and cost-effectiveness of alcohol control policies: An English perspective. *The Lancet*. December 2016.

62. Meier PS, Holmes J, Angus C, Ally AK, Meng Y, Brennan A. Estimated effects of different alcohol taxation and price policies on health inequalities: A mathematical modelling study. *Public Library of Science Medicine*. February 2016.

63. Wagenaar AC, Salois MJ, Komro KA. Effects of beverage alcohol price and tax levels on drinking: A meta-analysis of 1,003 estimates from 112 studies. *Addiction*. February 2009.

64. Stockwell T, Auld MC, Zhao J, Martin G. Does minimum pricing reduce alcohol consumption? The experience of a Canadian province. *Addiction*. 2011.

65. Stockwell T, Zhao J, Giesbrecht N, Macdonald S, Thomas G, Wettlaufer A. The raising of minimum alcohol prices in Saskatchewan, Canada: Impacts on consumption and implications for public health. *American Journal of Public Health*. October 2012.

66. Kaner E, Dickinson H, Beyer F, et al. The effectiveness of brief alcohol interventions in primary care settings: A systematic review. *Drug and Alcohol Review*. May 2009.

67. Whitlock EP, Polen MR, Green CA, Orleans T, Klein J. Behavioral counseling interventions in primary care to reduce risky/harmful alcohol use by adults: A summary of the evidence for the U.S. Preventive Services Task Force. *Annals of Internal Medicine*. April 2004.

68. Gentilello L, Ebel B, Wickizer T, Salkever D, Rivara F. Alcohol interventions for trauma patients treated in emergency departments and hospitals: A cost benefit analysis. *Annals of Surgery*. April 2005.

69. Canadian Institute for Health Information. *How Canada Compares: Results From The Commonwealth Fund's 2016 International Health Policy Survey of Adults in 11 Countries*. 2017.

70. Young M, Jesseman R. *The Impact of Substance Use Disorders on Hospital Use: Technical Report*. 2014.

71. NHS Health Scotland. *Monitoring and Evaluating Scotland's Alcohol Strategy: Final Annual Report*. 2017.

72. Centre for Addictions Research of BC. BC Alcohol and Other Drug (AOD) monitoring project. Accessed April 3, 2017.

73. Traffic Injury Research Foundation of Canada. *Alcohol-Crash Problem in Canada: 2010*. 2013.

74. Mongan D, Long J. Overview of alcohol consumption, alcohol-related harm and alcohol policy in Ireland. *Drugnet Ireland*. 2016.

75. National Institute for Health and Care Excellence. Alcohol-use disorders: Prevention. 2010.

76. National Institute for Health and Care Excellence. Services for the identification and treatment of hazardous drinking, harmful drinking and alcohol dependence in children, young people and adults: Commissioning guide. 2011.

77. Public Health England. *Alcohol Care in England's Hospitals: An Opportunity Not to Be Wasted*. 2014.

78. Government of Ontario. Beer, wine and cider sales in grocery stores. Accessed April 3, 2017.

79. Saskatchewan Liquor and Gaming Authority. RFP open for first five retail liquor store permits. Accessed April 3, 2017.

80. Ministry of Small Business and Red Tape Reduction. New modern liquor laws come into effect. Accessed April 3, 2017.

81. Canadian Broadcasting Corporation News. Nunavut on track to open Iqaluit beer and wine store in 2017. Accessed April 3, 2017.

82. Société des alcools du Québec. *Information Bulletin: Additional 40¢ Price Reduction on 1,600 Wines*. 2017.

83. Zhao J, Stockwell T. *The Impacts of Minimum Alcohol Pricing on Alcohol Attributable Morbidity in Regions of British Colombia, Canada With Low, Medium and High Mean Household Income*. 2016.

84. Podymow T, Turnbull J, Coyle D, Yetisir E, Wells G. Shelter-based managed alcohol administration to chronically homeless people addicted to alcohol. *Canadian Medical Association Journal*. 2006.

85. Vallance K, Stockwell T, Pauly B, et al. Do managed alcohol programs change patterns of alcohol consumption and reduce related harm? A pilot study. *Harm Reduction Journal*. May 2016.

86. Pauly B, Stockwell T, Chow C, et al. *Towards Alcohol Harm Reduction: Preliminary Results From an Evaluation of a Canadian Managed Alcohol Program*. 2013.

87. OECD. *Health at a Glance 2015: OECD Indicators*. 2015.

88. World Health Organization. *International Guide for Monitoring Alcohol Consumption and Related Harm*. 2000.

89. Stockwell T, Zhao J, Greenfield T, Li J, Livingston M, Meng Y. Estimating under- and over-reporting of drinking in national surveys of alcohol consumption: Identification of consistent biases across four English-speaking countries. *Addiction*. 2016.

90. Statistics Canada. Table 183-0023: Sales and per capita sales of alcoholic beverages by liquor authorities and other retail outlets, by value, volume, and absolute volume, annual. Accessed April 3, 2017.

91. Statistics Canada. Heavy drinking, by age group and sex. 2016.

92. National Institute on Alcohol Abuse and Alcoholism. *NIAAA Newsletter: Winter 2004*. 2004.

93. Flanagan G. *Balancing Convenience With Social Responsibility: Liquor Regulation in Manitoba*. 2016.

94. Paradis C, Demers A, Picard E. Alcohol consumption: A different kind of Canadian mosaic. *Canadian Journal of Public Health*. July 2010.

95. Stimson G. Drinking in context: A collective responsibility. *ICAP Reviews*. November 2006.

96. All-Party Committee on Mental Health and Addictions. *Towards Recovery: A Vision for a Renewed Mental Health and Addictions System for Newfoundland and Labrador*. 2017.

97. Prince Edward Island Department of Health and Wellness. *Prince Edward Island 2016–2026 Mental Health and Addiction Strategy: Moving Forward Together*. 2016.

98. Nova Scotia Department of Health Promotion and Protection Addiction Services. *Changing the Culture of Alcohol Use in Nova Scotia*. 2007.

99. New Brunswick Department of Health. *The Action Plan for Mental Health in New Brunswick 2011–18*. 2011.

100. Ministère de la Santé et des Services sociaux. *Unis dans l'action : programme-services dépendance*. 2007.

101. Ontario Ministry of Health and Long-Term Care. *Open Minds, Healthy Minds: Ontario's Comprehensive Mental Health and Addictions Strategy*. 2011.

102. Manitoba Ministry of Healthy Living and Seniors. *Manitoba's Strategy to Reduce Alcohol-Related Harms*. 2016.

103. Saskatchewan Ministry of Health. *Working Together for Change: A 10 Year Mental Health and Addictions Action Plan for Saskatchewan*. 2014.

104. Alberta Health Services, Alberta Gaming and Liquor Commission. *Alberta Alcohol Strategy*. 2008.

105. British Columbia Ministry of Health Services, Ministry of Children and Family Development. *Healthy Minds, Healthy People: A Ten-Year Plan to Address Mental Health and Substance Use in British Columbia*. 2010.

106. Yukon Department of Health and Social Services. *Forward Together: Yukon Mental Wellness Strategy 2016–2026*. 2016.

107. Government of Northwest Territories. *Mind and Spirit: Promoting Mental Health and Addictions Recovery in the Northwest Territories — Strategic Framework 2016–2021*. 2016.

media@cihi.ca

CIHI Ottawa
495 Richmond Road
Suite 600
Ottawa, Ont.
K2A 4H6
613-241-7860

CIHI Toronto
4110 Yonge Street
Suite 300
Toronto, Ont.
M2P 2B7
416-481-2002

CIHI Victoria
880 Douglas Street
Suite 600
Victoria, B.C.
V8W 2B7
250-220-4100

CIHI Montréal
1010 Sherbrooke Street West
Suite 602
Montréal, Que.
H3A 2R7
514-842-2226

cihi.ca

15124-0417