

Alcohol

Key Points

- Alcohol is by far the most common drug used by Canadians.
- At least 20% of drinkers consume above *Canada's Low-Risk Alcohol Drinking Guidelines*.
- The use and risky use of alcohol by underage and young adults appears to be declining.
- In Canada, there were around 77,000 hospitalizations entirely caused by alcohol in 2015–2016, compared to 75,000 hospitalizations for heart attacks in the same year.
- In 2002, alcohol was responsible for 4,258 deaths in Canada, representing 1.9% of all deaths.

Introduction

Beverage alcohol is a legal drug with wide popularity across Canada. Alcohol comes in a variety of colours and consistencies, ranging from clear (e.g., vodka, gin) to dark brown (e.g., stout or dark lager beer). Although it is most often consumed orally in liquid form, alcohol is sometimes available as a solid (e.g., gelatin shots, absorbed in fruit) and can also be inhaled as a vapour. Common terms for alcohol include booze, cold one, juice, hooch, vino and moonshine.

In November 2011, the Canadian federal, provincial and territorial health ministers launched *Canada's Low-Risk Alcohol Drinking Guidelines* (LRDG), consisting of five guidelines and a series of tips to help Canadians reduce their chronic alcohol-related harm. The guidelines were developed against a backdrop of a 14% increase in per capita alcohol consumption since 1996, and different guidelines existed across various provinces and territories. There was also a rapid growing scientific literature that identified both significant risks and some possible benefits from low levels of alcohol consumption. The guidelines recommend that women should take no more than two drinks a day, 10 per week, and men should take no more than three drinks a day, 15 per week. To reduce their risk for acute alcohol-related harm, women should not exceed three drinks and men should not exceed four drinks on any single occasion.¹

Those guidelines were developed against a backdrop of meta-analyses and systematic reviews showing that low levels of alcohol use is associated with health benefits resulting in lower risks of illness and premature death, notably from ischemic heart disease, ischemic stroke and diabetes. However, higher levels of alcohol use are a significant risk factor for numerous chronic health conditions, such as heart disease, cirrhosis of the liver and several types of cancers, as well as acute problems such as injuries, violence and suicide.

The most recent comprehensive cost study, conducted in 2002, estimated the total cost of alcohol-related harm to Canadians to be \$14.6 billion per year.² This figure includes the following annual costs:

- \$7.1 billion in lost productivity due to disability and premature death
- \$3.3 billion for direct health care costs
- \$3.1 billion for direct enforcement costs



Effects of Alcohol Use

- **Short term:** Intoxication, memory loss and blackouts, injury, violence, accidents, spousal abuse, suicide, alcohol toxicity (overdose), death.^{3,4,5,6}
- **Long term:** Alcohol dependence, increased risk of several types of cancer (e.g., cancers of the mouth, throat, liver, breast and digestive track), learning and memory problems, mental health (e.g. depression, anxiety), social problems (e.g. lost productivity, unemployment, family problems), diabetes, cirrhosis, pancreatitis, low birth weight, fetal alcohol spectrum disorder (FASD).^{3,7}

Legal Status of Alcohol in Canada

Alcohol is a legal, regulated substance in Canada. The provincial and territorial governments maintain wholesale monopolies on the distribution of alcohol and, with the exception of Alberta, are also the leading retailers of alcohol. All jurisdictions have statutes prohibiting the sale of alcohol to minors (age 17 and under in Alberta, Manitoba and Quebec; age 18 and under elsewhere in Canada) and laws prohibiting sale to those who are visibly intoxicated. Driving while impaired by alcohol (i.e., with a blood alcohol content [BAC] equal to or greater than 80 mg/dL) is prohibited under federal law. Most provincial jurisdictions also have administrative sanctions (e.g., 24-hour roadside suspension of license) for drivers with a BAC equal to or greater than 50 mg/dL, and all but one Canadian jurisdiction (Nunavut) has zero alcohol tolerance provisions for young or novice drivers.⁸

How Canadians Drink

Past Year Use of Alcohol in Canada

- **General population (age 15+):** According to data collected from the 2015 Canadian Tobacco, Alcohol and Drugs Survey (CTADS),* 76.9% of Canadians aged 15 and over reported drinking alcohol at least once in the last year. This level has remained relatively stable since 2010 (77.0%).^{9, 10, 11, 12, 13}
- **Gender:** According to CTADS, in 2015 a higher proportion of males compared to females reported past-year alcohol use (81.3% vs. 72.7%). From 2008 to 2015, past-year drinking has remained constant with approximately 81% of men and 73% of women reporting drinking alcohol at least once in the past year.
- **Students (grades 7–12):** Data from the 2014–2015 Canadian Student Tobacco, Alcohol and Drug Survey (CSTADS) indicate that the overall prevalence of alcohol use in the past 12 months among students (grades 7–12) is 39.5%. This rate is similar for males (39.0%) and females (40.0%). Among underage drinkers, the average age at drinking onset is 13.5 years old. It is nearly identical for boys (13.3 years) than for girls (13.6 years).
- **Young Adults (18/19 – 24):** The prevalence of past-year drinking among young-adults aged 18/19 to 24 was 82.8%, and for adults age 25 or older it was 77.8%. The highest rate of drinking for males was among those aged 25 to 34 (91.4%) and for females, was among those aged 17/18 to 24 (81.4%) (Figures 1 and 2).^{†9}

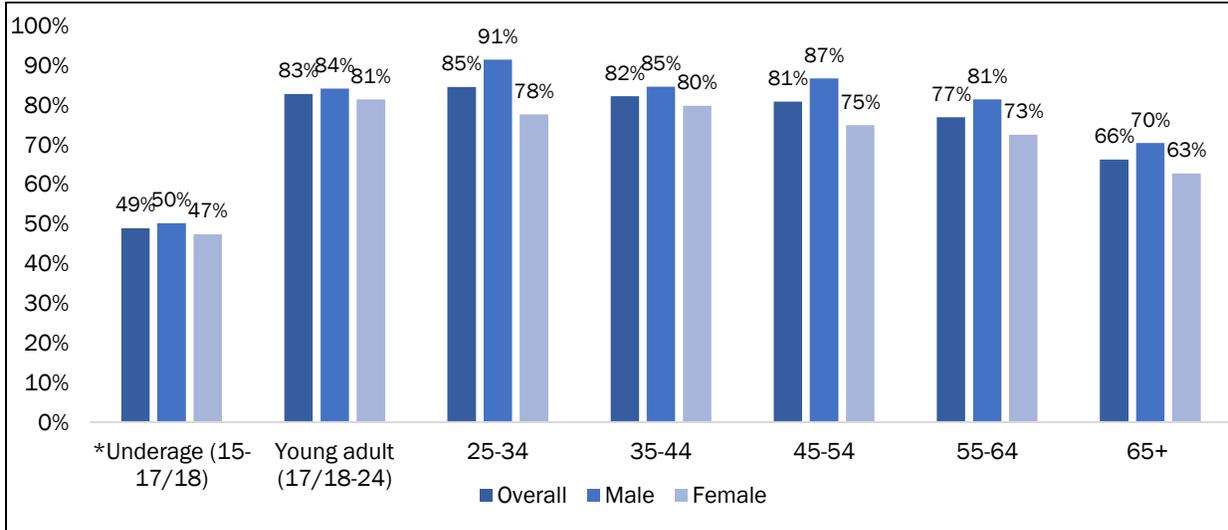
* CTADS excludes residents of the Yukon, Northwest Territories and Nunavut in its analyses.

† This analysis is based on the Statistics Canada microdata file. All computations, use and interpretation of these data are entirely those of the Canadian Centre on Substance Use and Addiction.



- **Older Adults (age 65+):** According to CTADS, in 2015 66.2% of older adults reported drinking in the past year, 70.4% of males and 62.7% of females.†

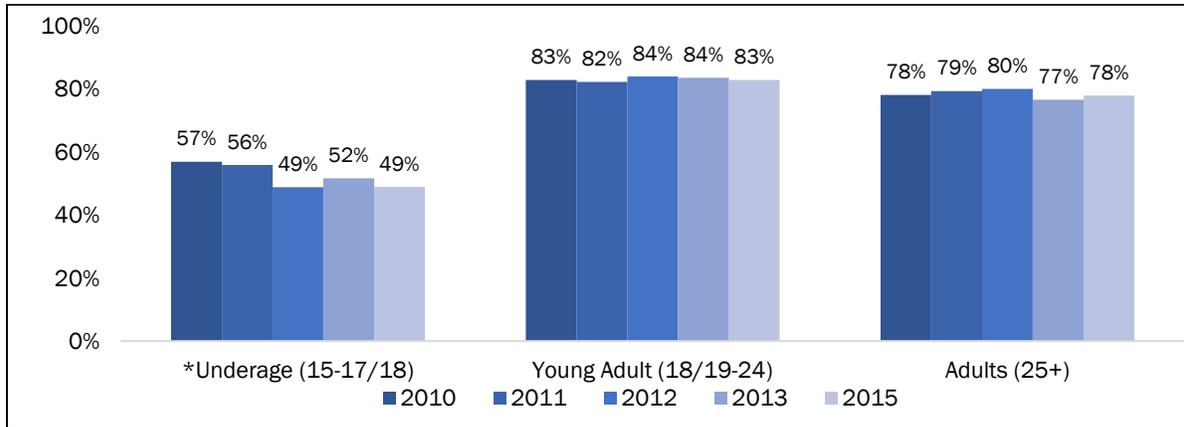
Figure 1: Self-reported past-year alcohol use among Canadians by age category (2015)†



Source: CTADS 2015

Note: Underage in Alberta, Manitoba and Quebec is 17 years old, in the rest of provinces and territories it is 18 years old.

Figure 2: Prevalence of self-reported past-year alcohol use among Canadians by age category (2010–2015)†



Source: CADUMS 2010-2012, CTADS 2015

Note: Underage in Alberta, Manitoba and Quebec is 18 years old; in the rest of the provinces and territories it is 19 years old. Because of methodological differences between CADUMS and CTADS, comparisons of prevalence estimates between CADUMS (2008–2012) and CTADS (2013–2015) data should be made with caution.

Youth Drinking

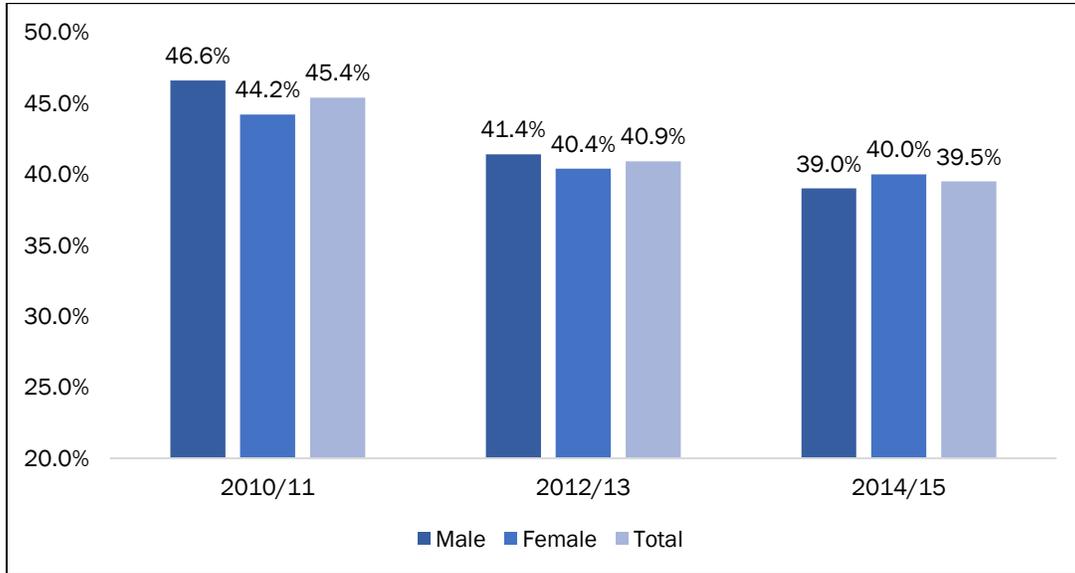
Underage Drinking

Alcohol use and heavy drinking in the underage population has been declining over the last few years, and this trend has been observed internationally.¹⁴ Data from the 2014–2015 CSTADS indicate that among drinkers, the average age at drinking onset is 13.5 years old. It is nearly identical for boys (13.3 years) as for girls (13.6 years).



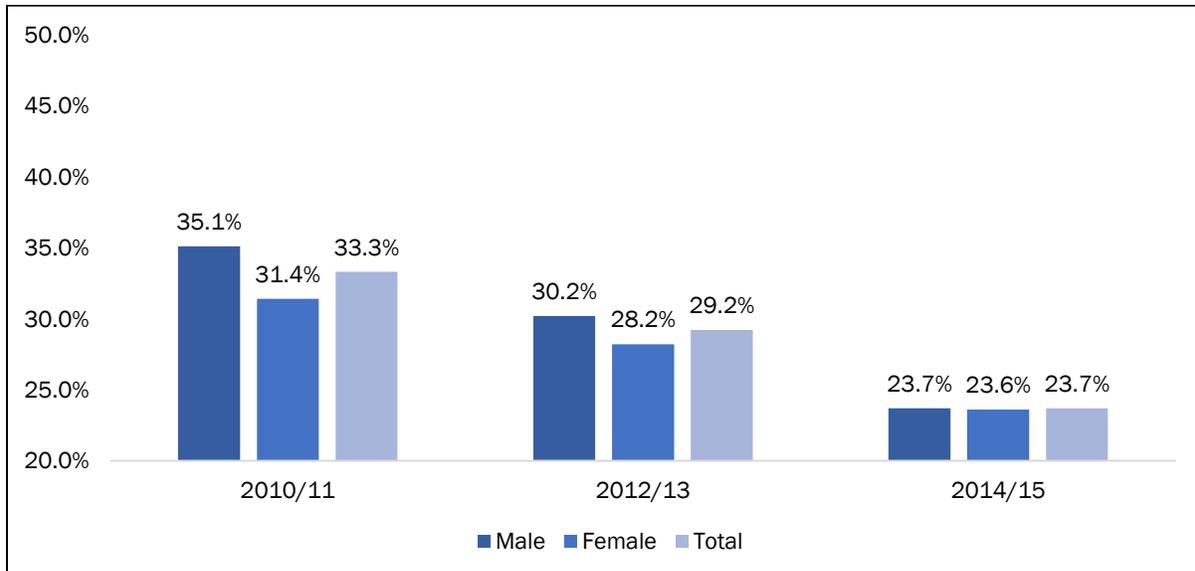
The overall prevalence of alcohol use in the past 12 months among students (grades 7–12) for 2014–2015 is 39.5%. This rate is similar for males (39.0%) and females (40.0%) (Figure 3). Prevalence of past-year alcohol use increases substantially with each grade level, from an estimated 19.6% among students in grade 7–9 to 58.3% among those in grade 10–12. Overall, 23.7% of students grade 7–12 reported drinking five or more drinks on one occasion in the past year in 2014–2015, including 23.7% of males and 23.6% of females (Figure 4).¹⁵

Figure 3: Prevalence of self-reported past-year alcohol use among grades 7–12 in Canada (2015)



Source: CSTADS, 2014–2015

Figure 4: Prevalence of self-reported past-year drinking five or more drinks on one occasion among grades 7–12 in Canada (2015)



Source: CSTADS, 2014–2015



Post-secondary Students' Drinking

The most current Canadian data on post-secondary student drinking is captured by the National College Health Assessment Spring 2016 survey, which is drawn from a convenience sample of 43,780 students in 41 post-secondary institutions in Canada, and therefore not representative of all post-secondary students in Canada, indicated that 69.3% of students reported any use of alcohol within the last 30 days preceding the survey (70.2% of females and 68.1% of males).

Among college and university drinkers, about 35% reported having five or more drinks of alcohol at a sitting over the last two weeks. A higher proportion of males (38.8%) than females (33.5%) reported this risky drinking. The average reported number of drinks consumed is 4.47 for men and 3.64 for females.¹⁶

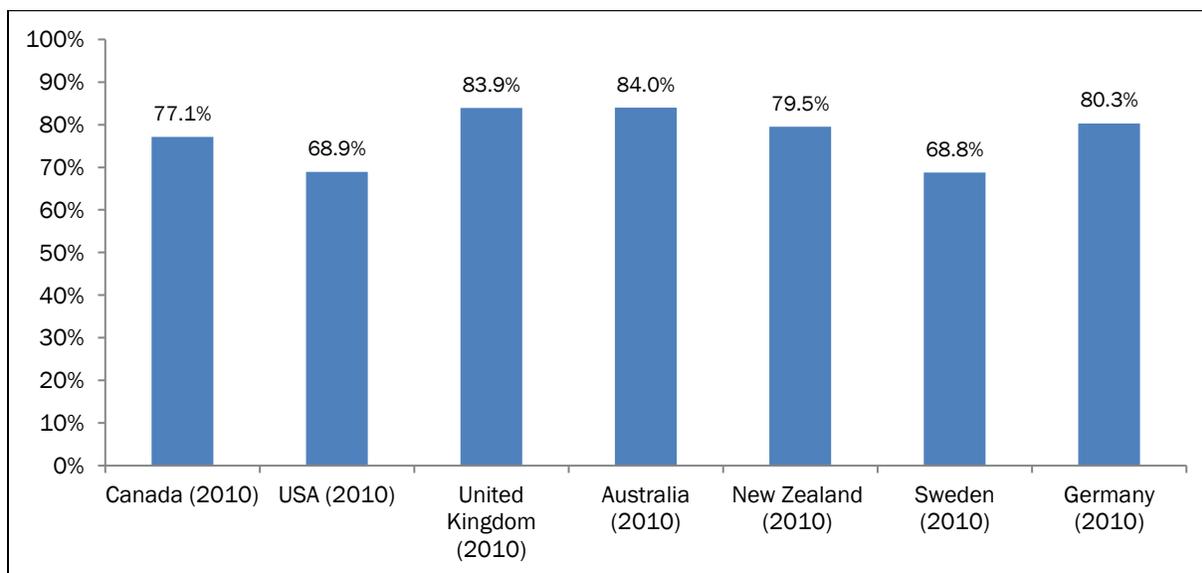
Provincial Comparison

Prevalence of alcohol use varies across provinces. In 2015, the province with the lowest prevalence of past-year alcohol use was Prince Edward Island at 73.0%, while Quebec had the highest prevalence at 82.1%. (The territories are not captured in this data.) Prevalence of alcohol use does not directly relate to absolute per capita consumption (see subsection on Volume of Alcohol Consumed), nor to patterns of drinking (see subsection on Drinking Patterns).

International Comparison

Data from the World Health Organization's Global Health Observatory shows that while the prevalence of past-year use of alcohol in Canada in 2010 (77.1%) is lower than that reported in Australia (84.0%), the United Kingdom (83.9%), New Zealand (79.5%) and Germany (80.3%), it is higher than that reported in the United States (68.9%) and Sweden (68.8%) (Figure 5).¹⁷

Figure 5: Prevalence of self-reported past-year alcohol use among the general population age 15 and over by country



Source: World Health Organization, Global Health Observatory Data Repository, 2014



Ranking Among Top Five Substances

According to CTADS 2015, 76.9% of the general population age 15 and over reported consuming alcohol in the past year, 71.8% of youth age 15–24 and 48.9% of underage Canadians, making it the leading substance used by Canadians by a wide margin (see Table 1). In comparison with cannabis, Canadians are six times more likely to have consumed alcohol than cannabis in the past year (76.9% vs. 12.3%).⁹

Table 1: Top five substances used in the past year by Canadians †

	#1	#2	#3	#4	#5
General Population (15 and over)	Alcohol (76.9%)	Cannabis (12.3%)	Cocaine/Crack Hallucinogens & Salvia (1.2%)	Ecstasy (0.7%)	Pharmaceuticals to get high‡ (0.5%)*
Youth (15–24)	Alcohol (71.8%)	Cannabis (25.5%)	Cocaine/Crack (3.5%)*	Ecstasy (3.4%)*	Hallucinogens & Salvia (2.7%)*
Adults (25 and over)	Alcohol (77.8%)	Cannabis (9.9%)	Hallucinogens & Salvia (0.9%)*	Cocaine/Crack (0.8%)*	Pharmaceuticals to get high (0.3%)*

Source: CTADS, 2015

Note: Figures identified with an asterisk (*) should be interpreted with caution because of the small sample size.

Volume of Alcohol Consumed

Alcohol per Capita Consumption

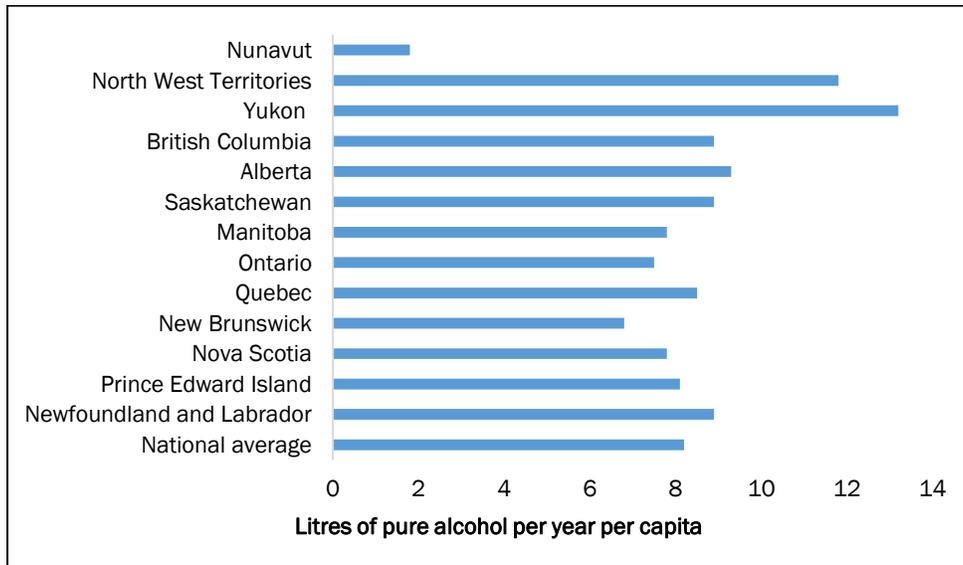
The most recent *Control and Sale of Alcoholic Beverages* report shows that in 2015–2016 individuals 15 years of age and over drank an average of 8.2 litres of pure alcohol per year, representing \$733.8 per capita sales per year.¹⁸ There are important variations in the total recorded per capita alcohol consumption among the provinces and territories. The highest per capita consumption level in the territories is in the Yukon (13.2 L per capita sales), while the lowest consumption level is in Nunavut (1.8 L per capita sales). For the provinces, the highest per capita consumption level is in Alberta (9.3 L per capita sales), while the lowest consumption level is in New Brunswick (6.8 L per capita sales) (Figure 6).

† This analysis is based on the Statistics Canada microdata file. All computations, use and interpretation of these data are entirely that of the Canadian Centre on Substance Use and Addiction.

‡ This category includes any pharmaceutical such as pain relievers, sedatives and stimulants.



Figure 6: Per capita consumption of alcohol by Canadian jurisdiction (2015–2016)



Source: CANSIM table 183-0023

Most Consumed Alcoholic Beverages

According to the *Control and Sale of Alcoholic Beverages* report, in 2015–2016, 41.5% of the absolute value for total per capita sales in Canada was consumed in the form of beer, followed by 31.6% of wine, 23.1% in spirits and 3.8% in ciders, coolers and other refreshment beverages. Liquor stores, agencies and other retail outlets sold 2,286 million litres of beer, equivalent to 229.5 bottles of beer per person over the legal drinking age in Canada (1 bottle = 341 ml, 5% alcohol content).^{18,19}

Drinking Patterns

Low-Risk Alcohol Drinking Guidelines

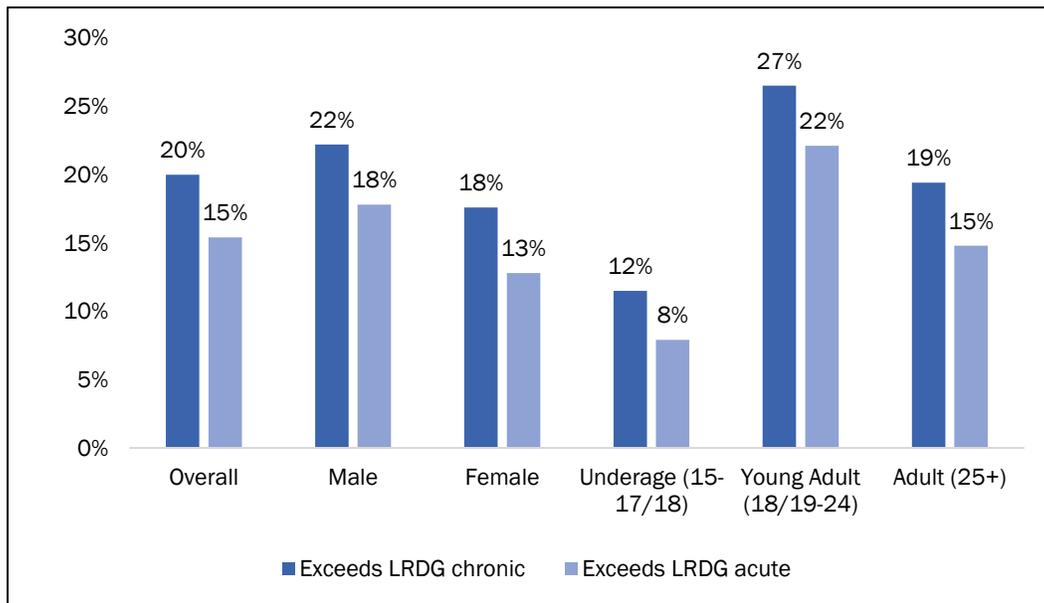
In 2015, among the general population (age 15+) who consumed alcohol in the past 12 months, 20% (15.2% of the total population) exceeded the LRDGs for chronic effects. That is, they exceeded the guideline of no more than 10 drinks a week for women, with no more than two drinks a day most days, and 15 drinks a week for men, with no more than three drinks a day most days. In the same period, 15.4% (11.7% of the total population) exceeded the LRDGs for acute effects. That is, they exceeded the guideline of no more than three drinks (for women) or four drinks (for men) on any single occasion.⁹ Across provinces, Newfoundland and Labrador has the highest proportion of drinkers exceeding the LRDGs for both chronic (27.8% or 20.3% of the total population) and acute effects (21.5% or 15.7% of the total population). At the other end of the spectrum, Alberta has the lowest proportion of drinkers exceeding the LRDGs for chronic effects (16.9% or 12.9% of the total population), while New Brunswick has the lowest proportion of drinkers exceeding the LRDGs for acute effects (13.2% or 9.8% of the total population).

Canadian men are more likely than women to exceed the LRDGs for both types of effects. The LRDGs were exceeded by young adults (age 18/19–24) at higher rates for both chronic and acute harms (26.5% and 22.1%, respectively) than among underage drinkers (11.5% and 7.9%, respectively) and adults over the age of 25 (19.4% and 14.8%, respectively) (Figure 7).



An important limitation to these proportions is that they are based exclusively on the alcohol consumption of current drinkers in the previous seven days. Current drinkers who did not drink in the week preceding the survey are automatically considered as not exceeding the LRDGs, so the numbers of people exceeding the LRDG could be underestimated. In fact, using a different methodology, some researchers have estimated that more than a quarter (27.3%) of Canadian drinkers could be exceeding the guidelines for chronic effects and more than a third (38.6%) could be exceeding the guideline for acute effects.²⁰

Figure 7: Percentage of the Canadian population exceeding low-risk drinking guidelines for chronic or acute related harm (2015)[†]



Source: CTADS 2015

Note: Based on alcohol consumption in the previous 7 days. Underage drinking varied by province = 15–17 years in Alberta, Manitoba and Quebec, 15-18 years elsewhere in Canada

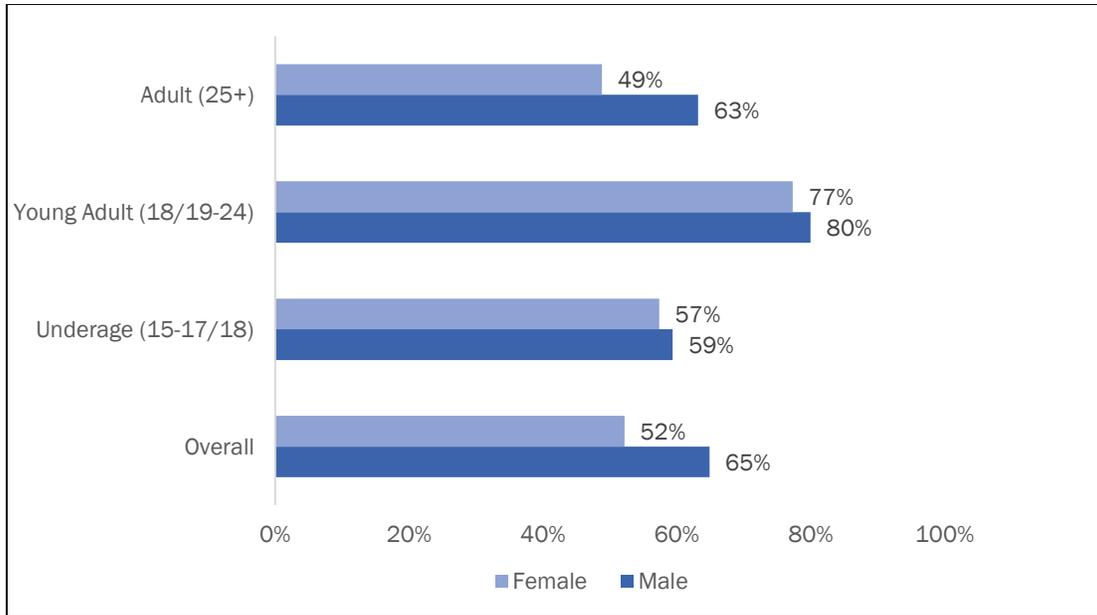
Heavy Drinking

Heavy drinking is a measure of alcohol consumption that refers to males who reported having five or more drinks or women who reported having four or more drinks on one occasion, at least once a month in the past year.¹ According to the 2014 Canadian Community Health Survey (CCHS), 24.4% of Canadians report heavy drinking at least once a month in the previous year. Across provinces, this prevalence varies from 22.1% in British Columbia to 33.6% in Newfoundland and Labrador. The reported percentage in the territories is 39.1%. In 2015, 65.1% of males reported having five or more drinks in one occasion at least once in the past year, compared to 52.2% of females who reported having four or more drinks in one occasion at least once in the past year.⁹ Male and female young adults (age 18/19 to 24) are more likely to report heavy drinking than adults over the age of 25 (80.0% vs. 62.7% for males and 77.3% vs. 48.8% for females) (Figure 8).

[†] This analysis is based on the Statistics Canada microdata file. All computations, use and interpretation of these data are entirely that of the Canadian Centre on Substance Use and Addiction.



Figure 8: Percentage of Canadians who are classified as heavy drinkers (2015)[†]



Source: CTADS 2015

Drinking and Driving

Driving after Consuming Alcohol

According to CADUMS 2012, 8.2% of respondents in 2012 reported driving within an hour after consuming two or more drinks in the past year; this prevalence has not changed substantially from 2008 through 2012.^{11,12,13} Based on a 2016 national public opinion poll, 21.6% of respondents admitted having driven after consuming any amount of alcohol in the past 30 days, including below the legal limit. In addition, 4.6% admitted they had driven when they thought they were over the legal limit.¹⁵ Almost one-third (30.4%) of respondents who admitted to driving when they thought they were over the legal limit reported doing most of their drinking at the home of a friend or relative. Others reported that they did most of their drinking in a restaurant (21.6%), at a bar (19.8%) or at a party (16.8%).²¹

Incidents for Criminal Drinking and Driving

Impaired driving is one of the most frequent criminal offences and is among the leading criminal causes of death in Canada. In 2015, the rate of impaired driving incidents was reported to be 72,039 impaired driving incidents (201 incidents per 100,000 population), which is the lowest rate since 1986. Almost all police-reported impaired driving incidents continued to involve alcohol in 2016 (96%), while a small proportion involved drugs (4%).²² Almost half (47%) of alcohol-impaired driving incidents occurred on weekends in 2015.²³

[†] This analysis is based on the Statistics Canada Microdata file. All computations, use and interpretation of these data are entirely that of the Canadian Centre on Substance Use and Addiction.



Deaths Caused by Drinking Drivers

In 2016, police reported 100 incidents of impaired driving causing death and 541 causing bodily harm. These figures are down from 2012 when 137 incidents causing deaths were reported and 729 causing bodily harm.²³

CCSA's Topic Summary on [Impaired Driving in Canada](#) provides a comprehensive summary of all statistics related to impaired driving in Canada.²⁴

Mortality and Morbidity

Chronic Diseases

Twenty-five chronic disease and condition codes in the International Classification of Disease 10 are entirely attributable to alcohol use. Alcohol plays a contributing role in the risk of developing certain chronic diseases such as diabetes, colon cancer, ischemic cardiovascular diseases and liver cirrhosis.²⁵

Alcohol use is among the top three leading risk factors for death from cancer worldwide.²⁶ It is estimated that 3.6% of all cancer are attributable to alcohol drinking.²⁷ A causal link has been established between alcohol drinking and cancers of the oral cavity, pharynx, esophagus, colon, rectum, liver, larynx and breast.²⁸ According to data from the Canadian Cancer Registry, new cancer cases have been increasing from 507.5 (per 100,000 population) in 2009 to 523.9 in 2013. From these, it is estimated that 67.4 (per 100,000 population) are new cases of breast cancer, 64.1 colon and rectum cancers, and 12.5 total oral cavity cancers.^{§,29}

In 2013, the age specific mortality rate for colon cancer and diabetes was 24 and 20 per 100,000, respectively, and for cirrhosis it was double for men, than for women (11.2 vs 5.7) (Table 2).

Table 2. Mortality rate by chronic disease and gender in Canada (2013)

Cause of death	Total	Males	Females
Colon and rectum cancer	24.0	25.8	22.3
Liver cirrhosis	8.4	11.2	5.7
Hypertension	4.3	3.3	5.4
Diabetes	20.0	21.7	18.4

Data source: CANSIM table 102-0551

Note: Age-specific mortality rate per 100,000 population

According to the CCHS 2012, 3.2% of the general population reported alcohol abuse or dependence in the past year, including 1.7% of females and 4.7% of males.³⁰

Hospital Costs and Healthcare Impacts of Alcohol Use

Hospitalizations Entirely Caused by Alcohol

In 2015–2016 approximately 56,600 Canadians were hospitalized with a condition entirely caused by alcohol **. Of these people, 21% had two or more hospitalizations entirely caused by alcohol that

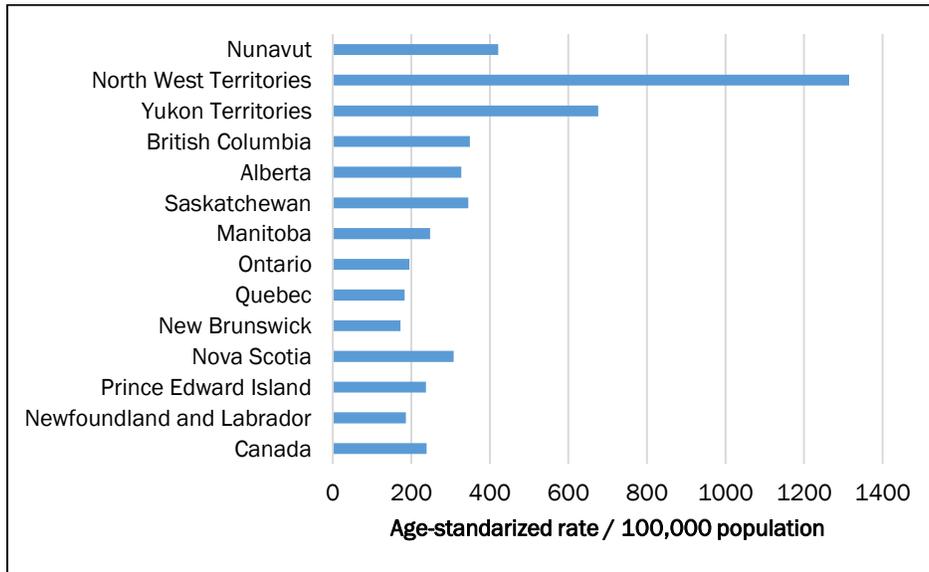
§ Total oral cavities include lip, tongue, salivary gland, floor of mouth, gum and other mouth, nasopharynx, oropharynx, hypopharynx and pharynx.

** Hospitalizations entirely caused by alcohol are hospital stays for the treatment of conditions considered to be wholly caused by the harmful consumption of alcohol. The most common conditions contributing to hospitalizations entirely caused by alcohol in 2015–2016 in Canada



year, which means that in total there were about 77,000 wholly attributable alcohol hospitalizations. The overall age-standardized rate for the indicator “hospitalizations entirely caused by alcohol” was 239 per 100,000, with provincial estimates varying from 172 per 100,000 in New Brunswick to 1,315 per 100,000 in Northwest Territories (Figure 9).³¹

Figure 9: Number of hospitalizations entirely caused by alcohol by Canadian jurisdiction (2015)



Source: Canadian Institute for Health Information, Health Indicators Interactive Tool 2015

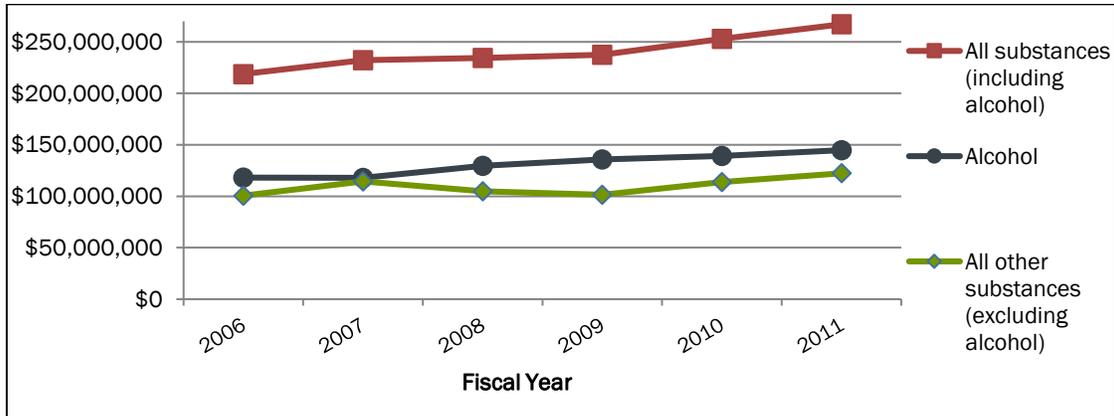
Hospitalizations Related to Mental Health Conditions

In 2011, alcohol was responsible for the greatest use of hospital resources among substance use disorders in terms of number of stays, days stayed and cost. The cost associated with hospitalizations for those with a primary diagnosis of alcohol-related disorder increased by over 15% between 2006 and 2011. These costs were greater than those for all other substance use disorders taken together (Figure 10).³²

are chronic alcohol use disorder, alcohol-induced cirrhosis of liver, alcohol withdrawal, alcohol-induced acute pancreatitis, harmful alcohol use, alcohol-induced hepatitis, alcohol intoxication, alcohol-induced hepatic failure, alcohol withdrawal delirium and toxic effects of alcohol.



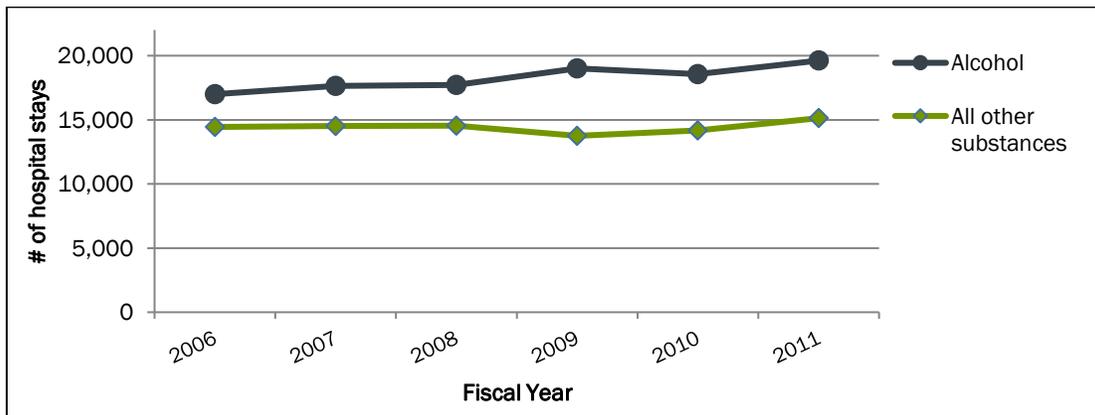
Figure 10: Cost associated with hospitalizations for those with a primary diagnosis of mental and behavioral disorder due to use of alcohol versus all other substances excluding alcohol



Source: CCSA, *The Impact of Substance Use Disorders on Hospital Use*, 2014

The number of hospital stays for those with an alcohol-related disorder increased over 15% from 2006 to 2011 (Figure 11) whereas the number of all hospital stays attributable to substances other than alcohol increased at a rate of approximately 5%, one-third the increase of alcohol-related disorders. These numbers only account for the small proportion of Canadians admitted to a hospital bed with the primary diagnosis of a substance use disorder requiring treatment for severe and direct harms associated with substance use, such as acute intoxication, convulsions or withdrawal symptoms.³¹

Figure 11: Number of all hospital stays with primary diagnosis of mental and behavioural disorder due to use of alcohol compared to all other substances



Note: Number of stays for all other substances, excluding alcohol, includes all disorder categories (cocaine, opioids, cannabinoids, other stimulants, sedatives or hypnotics, hallucinogens and volatile solvents), as well as the category “undetermined substance use disorder” and “tobacco.”

Source: CCSA, *The Impact of Substance Use Disorders on Hospital Use*, 2014

Treatment Services

According to a National Treatment Indicators report, in 2013–2014, alcohol was the most common substance used in the past 12 months by clients of publicly funded treatment centres.³³ In Alberta, Saskatchewan and Ontario, clients between the ages of 25 and 34 had the highest past-year prevalence of alcohol use, followed by cannabis. In both Ontario and Nova Scotia, jurisdictions that submitted data on the primary substance for which treatment was sought, alcohol was implicated in



the greatest proportion of treatment episodes. It was suggested that alcohol is not only the most commonly used substance among the treatment seeking population, but it is also the most commonly reported substance for which treatment is sought.^{32,33}

Pan-Canadian Investments and Initiatives

Reducing alcohol-related harms and addressing FASD are both identified as priorities in the *National Framework for Action to Reduce the Harms Associated with Alcohol, Other Drugs and Substances in Canada*.³⁴ The National Alcohol Strategy (NAS) was created in 2007 in a process led by the Canadian Centre on Substance Use and Addiction, Health Canada and the Alberta Alcohol and Drug Abuse Commission to address the harms from alcohol. Since then, three provinces (Nova Scotia, Manitoba and Alberta) have developed alcohol strategies and at least one other province (Ontario) is in the process of developing one. British Columbia has a provincial approach to alcohol policy.

A number of resources to support the implementation of the NAS recommendations have been developed since its adoption. For example:

- The LRDGs, which provide the cornerstone for undertaking a variety of health promotion, prevention and education initiatives, have been developed for Canadians and have been tailored for specific populations (youth, women) and issues (cancer, chronic illnesses).
- The NAS Advisory Committee reached consensus on standard drink labelling and education guidelines and documented them.³⁵
- A comprehensive alcohol screening, brief intervention and referral resource has been available since 2012.^{††}
- A comprehensive set of recommendations for social reference pricing for alcohol sold from off-premise retail outlets (liquor stores) was released by the NAS Advisory Committee in 2015.³⁶ The Canadian Postsecondary Education Partnership – Alcohol Harms (PEP-AH) officially launched in June 2017.^{‡‡} PEP-AH is a network of universities and colleges from across Canada that have partnered with the Canadian Centre on Substance Use and Addiction to support nation-wide campus efforts to reduce the harms related to alcohol consumption.

Additional Resources

- [Low-Risk Alcohol Drinking Guidelines](#)
- [Women and Alcohol](#) (LRDG summary)
- [Alcohol and Youth](#) (LRDG summary)
- [Cancer and Alcohol](#) (LRDG summary)
- [Impaired Driving in Canada](#)
- [Short-term Administrative Sanctions for Alcohol and Drug Use by Drivers](#)

†† Available at www.sbir-diba.ca.

‡‡ See www.pepah.ca for more information.



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