

# Module 5

## The Role and Impact of Alcohol in Canada

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## **Introduction**

Alcohol use is common in Canadian society. Many people drink alcohol in social settings and alone for various reasons. It is important to understand the effects of different patterns of alcohol consumption, to be familiar with standard drink measures, and to understand Canada's Low-Risk Alcohol Drinking guidelines. This module will look at alcohol use in Canadian society and explore trends, as well as risk and protective factors. An in-depth look at young people's experiences with alcohol will also be presented.

## **Drinking: A Norm?**

In North American and Canadian society, alcohol is legally and culturally acceptable for everyday use and for celebrations. In media advertising and entertainment, alcohol is shown as a beverage that will do no harm. It is promoted as a means of being popular, sexy, fun, athletic, and social. Alcohol has become a norm in society.

In Canada, the sale of alcohol is regulated by provincial governments. Alcohol is the most commonly used psychoactive substance in Canada and in Saskatchewan (Canadian Centre on Substance Use and Addiction (CCSA), 2019; Saskatchewan Ministry of Health, 2009). According to the 2017 Canadian Tobacco, Alcohol and Drugs Survey (CTADS), 78.4% of Saskatchewan residents (aged 15 years and over) reported using alcohol in the past 12 months (Health Canada, 2017). The national average is 78.2% (Health Canada, 2017). Society's acceptance of alcohol can lead to relaxed attitudes about drinking and little attention is paid to its possible negative outcomes. Alcohol is linked to almost every part of socializing and those who choose not to drink are often pressured and questioned as to their reasons. The availability and acceptance of alcohol can make it less likely that people will look at their own drinking habits.

## **How Does Alcohol Work?**

When a person drinks, the stomach and small intestine absorb the alcohol. The stomach and small intestine then spread the alcohol to the entire body. This happens quickly because alcohol molecules are very tiny and can dissolve in water (Educ'alcool, 2019; Paton, 2005).

The rate at which alcohol is absorbed in the stomach and intestines depends on how much food a person has eaten. If the stomach is empty, the alcohol will pass into the bloodstream right away and a person will feel its effects more quickly (Educ'alcool, 2019; Paton, 2005). If the stomach is full, it will take longer.

Once alcohol is in the bloodstream, it travels through the body to different organs. It goes quickly to the organs with many blood vessels, such as the brain, the lungs, and the liver (Educ'alcool, 2019; Paton, 2005).

The effects in the brain are seen first (Educ'alcool, 2019). It can change a person's judgement, attention span, memory, and reaction time. It also slows down muscle movement and speech (Educ'alcool, 2019).

The amount of alcohol circulating in the bloodstream is called the blood alcohol concentration (BAC) (National Institute on Alcohol Abuse and Alcoholism (NIAAA), 2015). The more alcohol a person drinks, the higher his BAC, and the more drunk that person will become (Butt et al., 2011).

Other things that affect the BAC include:

- how quickly a person drinks (Butt et al., 2011)
- having food in the stomach (Educ'alcool, 2019; Paton, 2005)
- a person's body size (Paton, 2005)
- age (Educ'alcool, 2019; Paton, 2005)
- genetics (Butt et al., 2011)
- sex (male or female) (Educ'alcool, 2019; Paton, 2005)

When too much alcohol is used, a person gets drunk. This can lead to a greater chance of alcohol-related harms. In extreme cases, more drinking can lead to alcohol poisoning and death (Paton, 2005; Public Health Agency of Canada [PHAC], 2016).

### **Why do People Drink?**

There are many reasons for alcohol use:

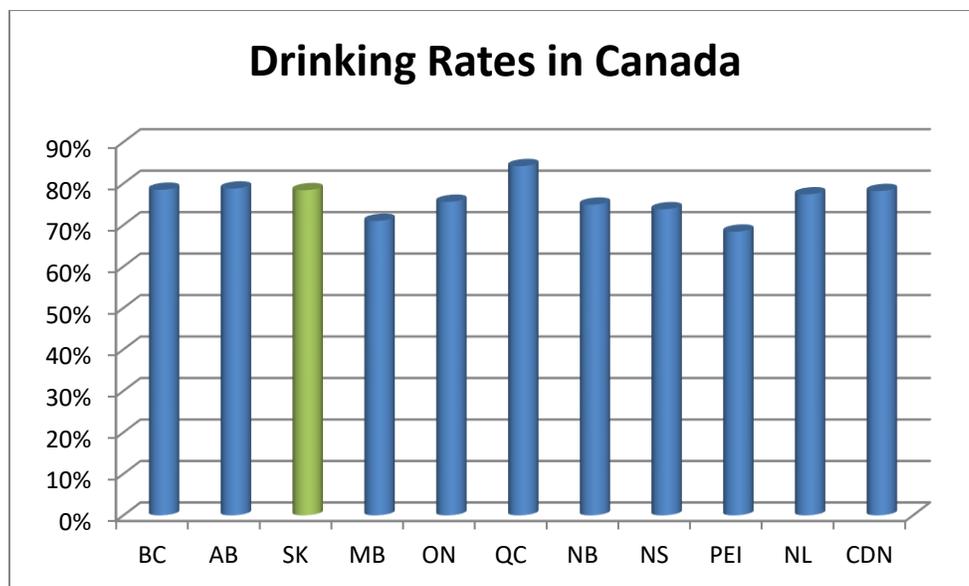
- Socialize with friends, family, and work colleagues (PHAC, 2016; Britton & Bell, 2015)
- Accompany meals (Butt et al., 2011)
- Form new friendships and strengthen existing ones (PHAC, 2016)
- Be social, and have positive social experiences (PHAC, 2016)
- Be part of a cultural tradition (PHAC, 2016)
- Have a positive mood, and positive mental well-being (PHAC, 2016)
- Reduce and deal with stress (PHAC, 2018)
- Improve mental health (Meister, Barker, & Flores Pajot, 2018; PHAC, 2018)
- Have fun (PHAC, 2018)
- Celebrate, feel sophisticated, and feel good (PHAC, 2018)
- Enjoy the tastes and how it makes them feel (PHAC, 2018)
- Be happy and celebrate something (PHAC, 2016)
- Deal with peer pressure or wanting to fit in (Meister et al., 2018)
- Deal with sad feelings (negative emotions) (PHAC, 2018)
- Get drunk (Meister et al., 2018)
- Numb painful memories or trauma (PHAC, 2016)
- Dependence on alcohol (NIAAA, 2000)
- Substance use disorder (PHAC, 2018)
- Role models (parents, other adults, and older brothers and sisters) pass on risky drinking patterns to the next generation (PHAC, 2016)

- Coping method for emotional problems, stress, or weight loss (Intersections of Mental Health Perspectives in Addictions Research Training, n.d.)
- Opportunity to bond with friends, relieve boredom, or improve their sense of self (Intersections of Mental Health Perspectives in Addictions Research Training, n.d.)
- Influence of ads for alcohol (online, television, or in magazines and on billboards) (PHAC, 2016)
- Sporting events sponsored by alcohol companies (Dupree, Magill, & Apodaca, 2016; PHAC, 2016)

### Drinking Rates in Canada

Figure 5.1 shows the estimated percentage of Canadians, 15 years of age and older, who consumed alcohol in the previous year (2017).

Figure 5.1: Drinking Rates in Canada



Source: Canadian Tobacco, Alcohol and Drugs (CTADS) Survey [2017]  
(Health Canada, 2017)

### Creation of the Canadian Low-Risk Alcohol Drinking Guidelines

Since alcohol is very common in Canada, the Canadian Low-Risk Alcohol Drinking Guidelines (LRDG) were created in 2011. The LRDG were commissioned by the National Alcohol Strategy Advisory Committee of Canada and led by the Canadian Centre on Substance Use and Addiction (CCSA).

In order to reduce short-term and long-term health risks, and promote a culture of moderation, the guidelines defined a standard drink of alcohol and made recommendations for

There is no pattern of alcohol consumption that has zero risk of harm.

Masters, 2003

maximum amounts of alcohol use per day and week. The guidelines were not created to encourage the use of alcohol. The guidelines are also not a goal for weekly drinking. The guidelines can help someone who chooses to drink to decide “when, where, why, and how” (CCSA, 2018a).

There is no pattern of alcohol consumption that has zero risk of harm (Masters, 2003). The risk of harm is greatly increased for people who regularly exceed drinking guidelines. However, research has found that even with low-risk drinking, the known health benefits may only be relevant from middle age onwards (PHAC, 2016). This is not so for young people as there are no health benefits of using alcohol for young people (Butt et al., 2011; PHAC, 2016). Low-risk drinking guidelines do not apply to women who are pregnant or trying to conceive. No amount of alcohol has been proven to be safe in pregnancy (Butt et al., 2011).

### **Reasons for Recommended Limits**

The daily recommended amounts for low-risk drinking are based on (Walsh, Bondy & Rehm, 1998):

- the risk of the immediate and short-term (acute) consequences from drinking more than two standard drinks per day
- the increased tolerance level that comes from regular consumption

Non-drinking days per week can prevent alcohol use becoming a habit (Ashley et al., 1994; Butt et al., 2011; NIAAA, n.d.). Differences in a person’s body weight, body composition, and metabolism may make lower levels of consumption appropriate for some people (Ashley et al., 1994).

Acute consequences from increased alcohol consumption include (Babor et al., 2003; Dawson, Grant, Stinson & Chou, 2004; Kelly & Masterman, 2008; Room, Bondy & Ferris, 1995):

- alcohol poisoning or hangover
- injury or death from automobile crashes, violence, or suicide
- poor school or work performance, negative reputation, or decreased quality of relationships with others
- sexual or physical assault
- risky sexual behaviours such as unprotected, unplanned, or unwanted sexual experiences, or multiple partners, which can result in unplanned pregnancy, sexually transmitted infections, and fetal alcohol exposure

The weekly limits for low-risk drinking are based on the potential long-term health effects from heavier drinking. These effects may include cardiovascular disease, liver cirrhosis, depression, and alcohol dependence (Babor et al., 2003).

Occasional heavy drinking can increase the risk of many alcohol-related health problems (see **Table 5.2**). The amounts of alcohol provided in the guidelines are only considered low-risk if an individual follows both the daily and weekly amounts. Increased risk comes when a person drinks more than either the single-day limits or the weekly limits. The highest risk comes when an individual exceeds both of these limits (NIAAA, 2010). With high-risk binge or heavy drinking patterns, any potential benefits of alcohol

use are outweighed by the risks of injury, health problems, birth defects, or alcohol-use disorders (e.g., alcohol dependence, alcohol abuse, or alcohol withdrawal).

### Standard Drink Size in Canada

A **standard drink** has 13.6 g or .48 ounces of **ethanol** (pure alcohol) (Centre for Addictions and Mental Health [CAMH], 2012). **Figure 5.2** shows the approximate measures of different types of alcoholic beverages that equal a standard drink. Although the volume of each beverage is different, they all have the same amount of alcohol because of the concentration of ethanol in them. To learn how much pure alcohol is in a drink, multiply the size (in ounces) of the drink by the percentage of alcohol (e.g., for wine, 5 oz. x 12% alcohol content = 0.6 oz of pure alcohol).

**Figure 5.2: Standard Drink Measures for Different Types of Alcohol (CAMH, 2012)**



### Canada's Low-Risk Alcohol Drinking Guidelines

1. If using alcohol, long-term risks can be reduced:
  - Women
    - Between zero and two standard drinks per day
    - Between zero and 10 drinks a week (maximum)
  - Men
    - Between zero and three standard drinks per day
    - Between zero and 15 drinks a week (maximum)
2. If using alcohol, short-term risks can be reduced. To reduce short-term risks of injury and harm:
  - Women
    - No more than 3 standard drinks in one day while staying within weekly limits
  - Men
    - No more than 4 standard drinks in one day while staying within weekly limits

3. For youth, the guidelines recommend:
  - delay drinking alcohol for as long as possible, since alcohol can harm the way the body and brain develop
  - talk to their parents about drinking
  - drink under parental guidance
  - drink no more than one to two drinks at a time
  - never drink more than one to two times per week
  - between ages of late teens to age of 24, never exceed the daily and weekly guidelines for men and women
  
4. The guidelines recommend not using alcohol when:
  - driving a vehicle or using machinery
  - taking medicine or other drugs that can interact with alcohol
  - doing any kind of dangerous physical activity
  - living with mental or physical health problems
  - living with alcohol dependence
  - **pregnant, planning to be pregnant**, and during breastfeeding
  - responsible for the safety of others
  - making important decisions

(CCSA, 2018a)

Understanding Canada's Low-Risk Alcohol Drinking guidelines

<https://www.youtube.com/channel/UCzBRdSNWdEtEKAnw1vcAPvQ>

Created by  
Middlesex-London Health Unit

Different countries may have different guidelines for low-risk drinking and/or a standard drink measure. This can be confusing for the general public and researchers trying to generalize conclusions from different countries. It can also complicate messages from the media. For example, the United States has the same standard drink size as Canada. However, the American guidelines allow men to drink up to two standard drinks per day and women up to one standard drink per day (U.S. Department of Health and Human Services & U.S. Department of Agriculture, 2015).

### **Impact of Alcohol Consumption**

The perceived benefits and risks with alcohol use have been widely studied by researchers. Alcohol is both a teratogen (environmental substance that interferes with the normal development of the fetus) and a carcinogen (causes cancer). Alcohol can impact health, function, and behaviour.

**Table 5.1: Impact of Alcohol Consumption at Low vs. Increased Levels**

<b>Dose-Dependent Health Effects</b>			
<b>Direct Effects</b>	<b>Disease and Conditions</b>	<b>Functions and Systems</b>	<b>Behaviour</b>
Risky drinking can cause: <ul style="list-style-type: none"> <li>• Alcohol use disorders</li> <li>• Amnesia</li> <li>• Memory loss and blackouts</li> <li>• Delirium due to severe form of withdrawal</li> <li>• Fetal Alcohol Spectrum Disorder (FASD)</li> </ul>	Other drug use disorders: <ul style="list-style-type: none"> <li>• Brain damage</li> <li>• Liver disease</li> <li>• Various cancers</li> <li>• Pancreatitis</li> <li>• Mental health disorders</li> <li>• Suicide</li> <li>• Stomach ulcers</li> <li>• Hypertension</li> <li>• Cardiovascular disease</li> <li>• Diabetes</li> <li>• Sexually transmitted infections</li> <li>• Stroke</li> </ul>	Drinking alcohol affects the following systems: <ul style="list-style-type: none"> <li>• Immune</li> <li>• Stress</li> <li>• Memory, cognition</li> <li>• Digestion</li> <li>• Heart, blood, lungs</li> <li>• Brain</li> <li>• Hormones</li> <li>• Muscles</li> <li>• Fertility</li> <li>• Skin</li> <li>• Development</li> </ul>	Risky drinking can lead to: <ul style="list-style-type: none"> <li>• Risky behaviour</li> <li>• Impulsivity</li> <li>• Violence</li> <li>• Injury</li> <li>• Poor memory</li> <li>• Impaired decision-making</li> <li>• Lack of coordination</li> <li>• Poor academic performance</li> <li>• Impaired social and occupational functioning</li> </ul>

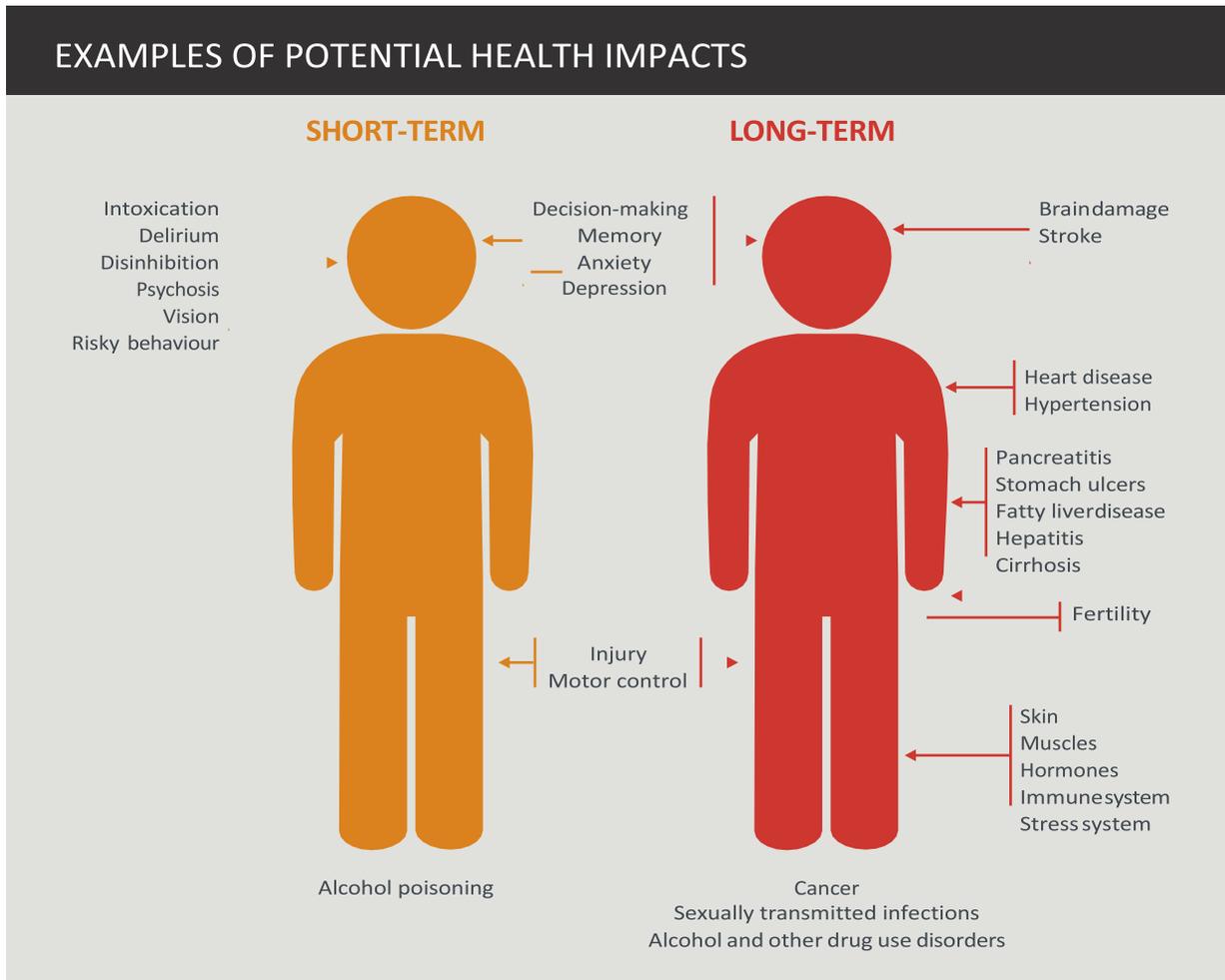
**Source: The Chief Public Health Officer's Report on the State of Public Health in Canada 2015: Consumption in Canada (PHAC, 2016)**

Alcohol use is also associated with greater risk of injury from:

- reduced brain functioning
- impaired physical coordination and performance
- increased risk-taking behaviour

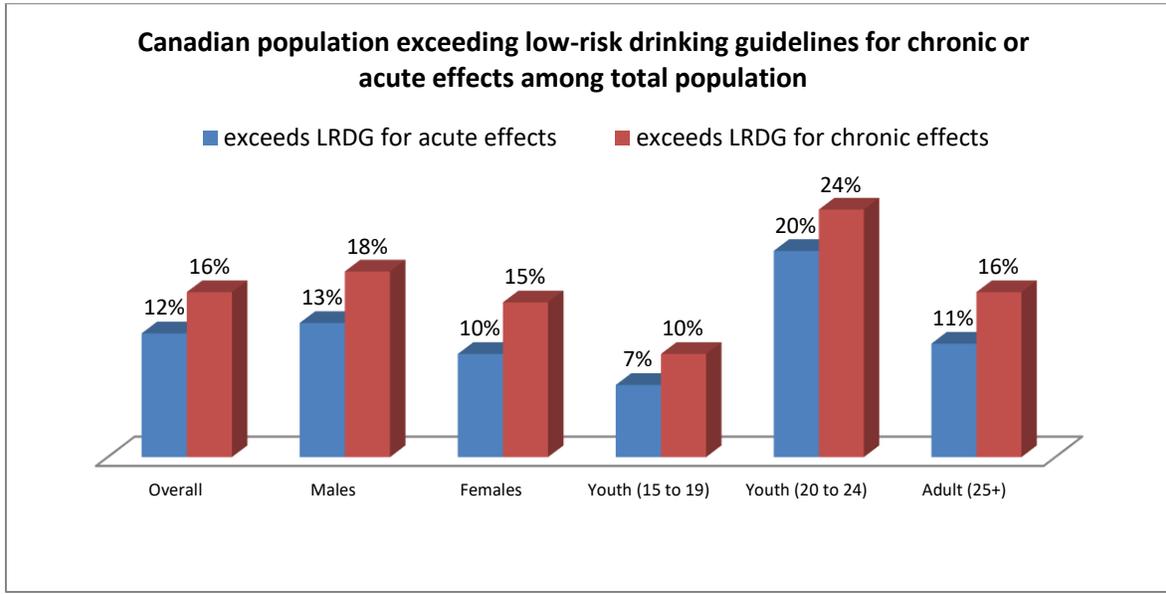
For each of these risk factors, the risk increases as the level of consumption increases (Koelega, 1995; NIAAA, 2000).

**Figure 5.3: Potential Short-term and Long-term Impacts of Alcohol**



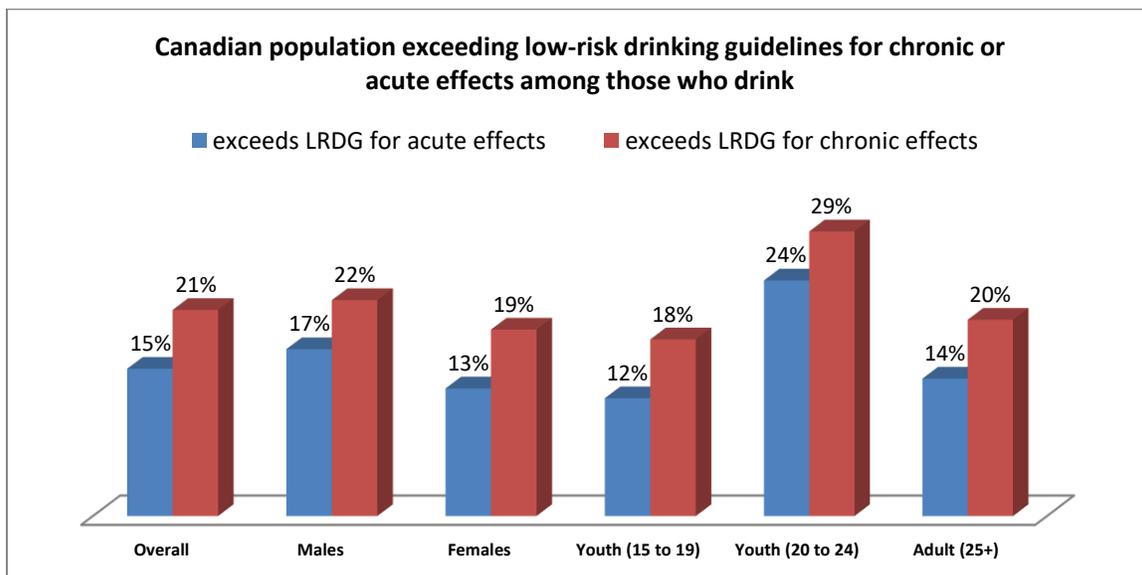
**Source: The Chief Public Health Officer's Report on the State of Public Health in Canada 2015: alcohol consumption in Canada (PHAC, 2016)**

**Figure 5.4: Percentage of the Canadian Population Exceeding Low-risk Drinking Guidelines for Chronic or Acute Effects Among Total Population**



Source: Canadian Tobacco, Alcohol and Drugs Survey (CTADS) 2017 (Health Canada, 2017)

**Figure 5.5: Percentage of the Canadian Population Exceeding Low-risk Drinking Guidelines for Chronic or Acute Effects Among Those who Drink**



Source: Canadian Tobacco, Alcohol and Drugs Survey (CTADS) 2017 (Health Canada, 2017)

### **Overestimation, Overconsumption, and Underestimation**

Drinks are not always in their original packaging so it is important to know what makes a standard drink. For example, when drinking in their homes, people may pour up to two times more than a standard drink per serving (Stockwell & Honig, 1990).

White et al. (2003) found that college students overestimated the amount of alcohol they should pour for a standard drink by up to 80%. They also found that the amount poured depended on the size of the cup. The larger the cup, the more alcohol was poured. The type of alcohol also affected the amount poured; pouring spirits and beer resulted in higher overestimation than for wine.

In a study on the alcohol content of drinks in restaurants and bars, Kerr et al. (2008) found that the average wine drink contained 43% more alcohol than a standard drink. The average draught beer contained 22% more alcohol. The same study also found that the average shot equalled one standard drink, but mixed spirit drinks had 42% more alcohol than a standard drink.

Another dimension of overestimation is the perception of other peoples' alcohol consumption. Studies have reported that college students often overestimate how much their peers drink, which puts them at risk of frequent risky drinking and alcohol-related problems (Ecker, Cohen, & Buckner, 2017; Lewis et al., 2011).

In order to make an informed choice about alcohol consumption, consumers need to be aware of the alcohol content of their drink. They also should be able to accurately measure a standard drink. It has been shown from self-report studies that people underestimate their own consumption by as much as 40% to 60%. This can lead to negative short-term and long-term consequences (Ammar et al., 2009; PHAC, 2016; Stockwell, Zhao, & Thomas, 2009). In a study by Stockwell et al. (2014):

- both males and females under-reported their drinking to the same extent
- people aged 45 years and younger underestimated their drinking more than older adults
- people who drank at low-risk levels (based on the LRDG) underestimated their drinking to a greater degree compared with medium- and high-risk drinkers.

Alcohol is used in many cultural and social settings. Some people think a drink can be good for their health. Evidence suggests that the benefits from drinking alcohol are not relevant for all individuals, at all ages, or in all situations (PHAC, 2016). The potential benefits are dose-dependent (effects change when the amount of the drug changes) and apply only to certain diseases, conditions, situations, and segment of the population (PHAC, 2018). For young people, however, there are no health benefits to using alcohol (Butt et al., 2011). The potential health benefits from alcohol do not begin until middle age (PHAC, 2016).

### **Cost of Alcohol Use**

In 2018, the World Health Organization (WHO) reported that more than half (57%) of the global population aged 15 years and over did **not** use alcohol in the previous 12 months. Even with a majority

of people not drinking, alcohol contributed to 5.3% of all deaths in the world. This equals six deaths every minute (WHO, 2018a; WHO, 2018b).

Countries with more wealth had more people who used alcohol. High-income countries had the highest alcohol per capita consumption (APC) and the highest prevalence of heavy episodic drinking among drinkers (WHO, 2018b).

Worldwide, more than a quarter (27%) of all 15 to 19-year-olds are current drinkers. Rates of current drinking are highest among 15 to 19-year-olds in Europe (44%), followed by the Americas (38%), and the Western Pacific (38%) (WHO, 2018c). School surveys indicate that, in many countries, alcohol use starts before the age of 15 with very small differences between boys and girls (WHO, 2018c).

Worldwide, harmful use of alcohol causes:

- 100% of alcohol use disorders
- 18% of suicides
- 18% of interpersonal violence
- 27% of traffic injuries
- 48% of liver cirrhosis
- 5% of breast cancer

(World Health Organization, 2018b)

In Canada, a country with more wealth, alcohol use contributed to an estimated 5.8% of deaths in men and 0.6% of deaths in women in 2017 (Institute for Health Metrics and Evaluation, n.d.). In 2015-2016, there were 77,000 hospitalizations due to conditions caused entirely by alcohol consumption (CIHI, 2017a). Out of the ten Canadian provinces, Saskatchewan reported the second highest rate of hospitalizations caused entirely by alcohol (CIHI, 2017a).

In women, the rate of alcohol-related hospitalizations and deaths is increasing faster than the rate for hospitalizations and death for men. For women, the rate of deaths from causes linked directly to alcohol has increased by 26% since 2001. The rate of deaths from causes linked directly to alcohol increased by 5% over the same period for men (CIHI, 2018).

### **Alcohol Harm Paradox**

People with low income have higher levels of alcohol-related health problems than people with high incomes even though they are using the same amount of alcohol (Bellis et al., 2016). This is called the Alcohol Harm Paradox. **Figure 5.6** shows the alcohol harm paradox in Canada and possible reasons for the paradox.

Figure 5.6: The Alcohol Harm Paradox



Source: Canadian Institute for Health Information (2017b)

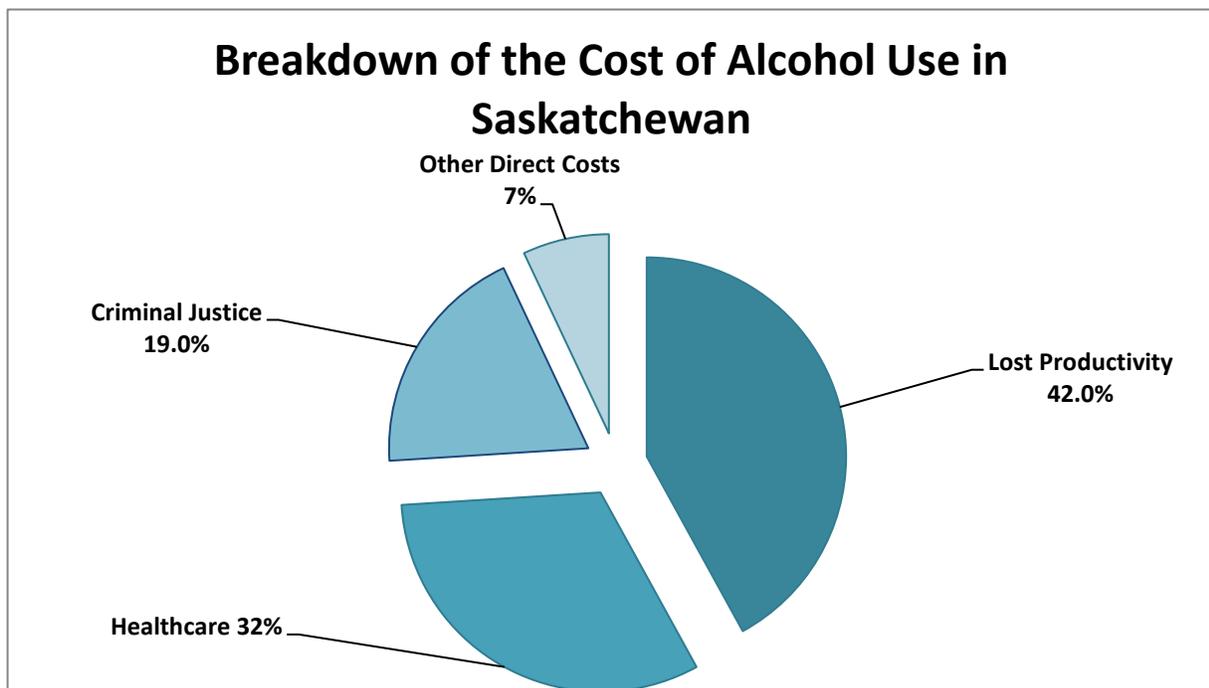
### Economic Costs of Alcohol Use

Alcohol use impacts the economy. In 2014, the economic costs due to alcohol use in Canada were estimated to be \$14.6 billion (\$412 per person). This is 38% of the overall costs of substance abuse in Canada (Canadian Substance Use Costs and Harms Scientific Working Group [CSUCH] 2018a). These costs are due to:

- lost productivity (loss of work, revenue, production) due to illness and premature death (\$5.9 billion)
- direct health care (\$4.2 billion)
- criminal justice (\$3.1 billion)
- research and prevention, fire, and motor vehicle damage (\$1.3 billion)

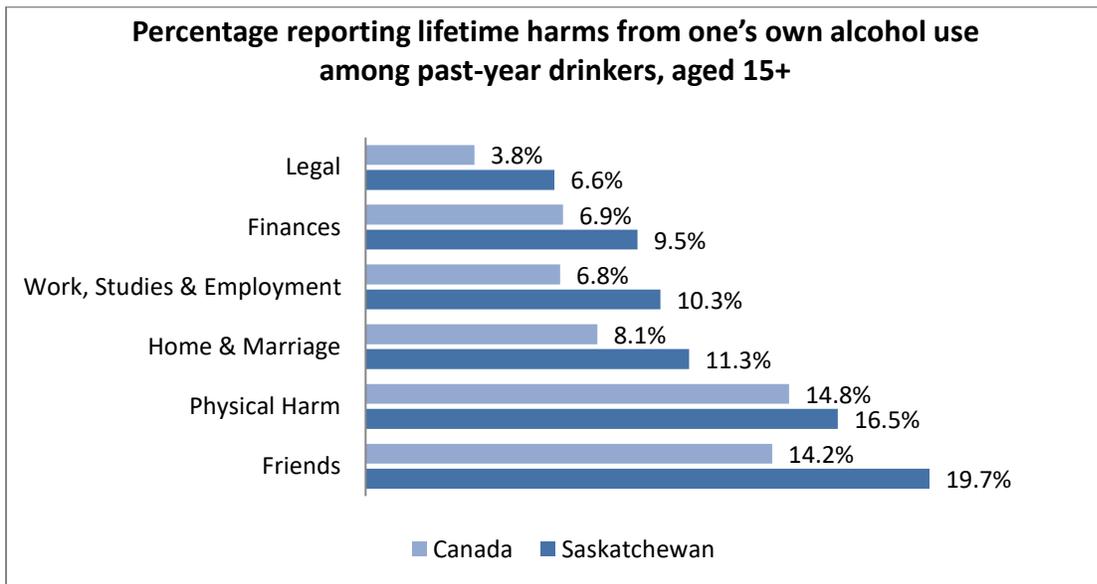
In Saskatchewan, the economic cost due to alcohol was \$563 million (\$502.33 per person). **Figure 5.7** shows the breakdown of this cost (CSUCH, 2018b).

**Figure 5.7: Cost Attributable to Alcohol Use in Saskatchewan**



Source: Canadian Substance Use Costs and Harms Scientific Working Group (2018a, 2018b)

**Figure 5.8: Alcohol-related Harms in Canada and Saskatchewan by Per Cent**



**Source: Canadian Addictions Survey (2004)**

#### **Harms Related to Someone Else's Drinking**

CADUMS (2012) reports that one in seven (14.2%) of Canadians aged 15 years and older experienced at least one of four harms in the previous 12 months as a result of another person's drinking. The four types of harms experienced included:

- being verbally abused
- feeling threatened
- being emotionally hurt or neglected
- being physically hurt

Of the four types of harm, verbal abuse (8.9%) ranked highest, followed by being emotionally hurt or neglected (7.1%) and feeling threatened (6.3%), while being physically hurt was experienced by 2.2% of the population (CADUMS, 2012).

#### **Psychological Impacts of Alcohol Use**

People who report low levels of drinking experienced psychological benefits such as:

- better subjective health
- mood enhancement
- stress reduction
- increased sociability
- improved mental health
- better long-term cognitive functioning

(Marchand et al., 2003; National Institute on Alcohol Abuse and Alcoholism [NIAAA], 2000)

It is very important to remember that heavy drinkers and abstainers did not report these benefits (Ashley et al., 1994).

Research shows that people who use alcohol to relieve stress are more likely to abuse alcohol and develop alcohol dependence or addiction. These people are at a higher risk of developing mental disorders such as affective and anxiety disorders (Kessler et al. 1996; NIAAA, 2000). This may become cyclical, as some people with mental disorders may turn to alcohol to cope with their illness.

### Terms for Alcohol Use

There are a lot of terms used to describe ways of drinking. Some of the terms, particularly for challenges with alcohol, raise stigma and can make it more difficult to talk about alcohol use or ask for help. Language is changing around some of these terms (CCSA, 2017). **Figure 5.9** shows words that can promote stigma and other words that can be used to help remove stigma.

**Figure 5.9: Changing the Language of Addiction**

**STIGMA IS ONE OF THE BIGGEST BARRIERS TO TREATMENT AND RECOVERY FOR SUBSTANCE USE DISORDERS TODAY. OFTEN THE LANGUAGE WE USE CONTRIBUTES TO STIGMA.**  
THERE ARE A LOT OF STIGMATIZING WORDS THAT ARE COMMON IN OUR DAY-TO-DAY LANGUAGE.

WHAT YOU SAY	VS	WHAT PEOPLE HEAR
ABUSER DRUG HABIT ADDICT DRUG USER		IT'S MY FAULT IT'S MY CHOICE THERE'S NO HOPE I'M A CRIMINAL

BY CHOOSING ALTERNATE LANGUAGE, YOU CAN HELP BREAK DOWN THE NEGATIVE STEREOTYPE ASSOCIATED WITH SUBSTANCE USE DISORDER.

INSTEAD OF	TRY
ABUSER, ADDICT DRUG HABIT FORMER/REFORMED ADDICT	PERSON WITH A SUBSTANCE USE DISORDER REGULAR SUBSTANCE USE, SUBSTANCE USE DISORDER PERSON IN RECOVERY/LONG-TERM RECOVERY

THINK BEFORE YOU SPEAK. HELP REMOVE THE STIGMA.

JOIN THE CONVERSATION  
#WORDSMATTER

Canadian Centre on Substance Use and Addiction  
Evidence. Engagement. Impact.  
© Canadian Centre on Substance Use and Addiction 2017

Source: Canadian Centre on Substance Use and Addiction (2017)

The following are some currently used terms, including recommended alternatives for terms considered stigmatizing.

#### Non-Drinker and Social Drinker

Some people do not drink alcohol while other people may drink once-in-awhile with friends or when having a meal. It may be part of their social life (Healthline, 2019).

#### Habitual

Drinking alcohol can become a habit for people. Some people drink more often than the recommended levels (CCSA, 2018a).

#### Risky Drinking

Risky drinking (often referred to as binge drinking or heavy drinking) can impact the health, well-being, and behaviour of an individual in a dose-dependent manner, leading to both the short- and long-term consequences. Such effects include:

- direct effects (e.g., alcohol use disorder (AUD), FASD, amnesia, memory loss, and black outs)
- disease and conditions (e.g., diabetes, cancer, brain damage, liver disease, cardiovascular disease, mental health disorders)
- behaviour (e.g., violence, lack of coordination, impaired decision-making, impaired social and occupational functioning)

(PHAC, 2018)

#### Alcohol Abuse

People who abuse alcohol may not be dependent on alcohol but they can have family, work, or school problems because of their drinking. Their drinking may lead to risky behaviour and they may use poor judgement (National Institute on Drug Abuse, 2018).

#### Alcohol Dependence, Problematic Substance Use, Addiction

People can become dependent on alcohol – where they feel they need it. The terms dependence or addiction are often used.

Addiction is a physical need that is hard to control. A person builds up a tolerance, and it takes more and more alcohol to feel the same effects. People who have an alcohol addiction go through physical and mental problems when they don't have something to drink. This is called withdrawal (National Institute on Drug Abuse, 2018). The word addict or addiction can make it sound like there is no hope; the terms substance use disorder and problematic substance use are now often used (CCSA, 2017; Health Canada, 2019).

#### Alcohol Use Disorder, Substance Use Disorder

Problem drinking that becomes severe is medically diagnosed as “alcohol use disorder” (AUD) (National Institute on Alcohol Abuse and Alcoholism (NIAAA), n.d). “Alcohol use disorder is a chronic relapsing

brain disease characterized by compulsive alcohol use, loss of control over alcohol intake, and a negative emotional state when not using” (NIAAA, n.d).

Alcohol use disorder often becomes socially harmful. The person does anything to get and use alcohol. It begins to interfere with relationships, work, school, and other parts of the person’s life (NIAAA, n.d.).

### **Heavy Drinking, Binge Drinking, Intoxication, and Their Effects**

Low levels of alcohol consumption can increase the risk of trauma, injury, or physical harm (e.g., hangover, unprotected sex). These risks are greatly increased with heavy drinking and binge drinking. In addition to impacting the individual directly, they can also affect their families, social networks, and even strangers in many ways.

Harms that can occur from drinking include the following:

- Getting drunk, throwing up (PHAC, 2016)
- Memory loss, blackouts (Butt et al., 2011; Caudwell, Mullan, & Hagger, 2016; White & Hingson, 2014)
- Alcohol overdose, poisoning, death (PHAC, 2016)
- Social/relationship troubles (arguing, fighting) (Anderson, 2007)
- Violence (Health Canada, 2017)
- Family problems (Anderson, 2007)
- Crime (Meister et al., 2018)
- Murder (PHAC, 2016)
- Regretful behaviour (Meister et al., 2018)
- Abuse (WHO, 2018b)
- Car crashes (Butt et al., 2011; Caudwell et al., 2016; Health Canada, 2017; White & Hingson, 2014)
- Unplanned sex (Canadian Centre on Substance Abuse, 2014; PHAC, 2016)
- Unwanted sex (PHAC, 2016)
- Unprotected sex (PHAC, 2016)
- Unplanned pregnancies (Anderson, 2007)
- Greater risk of getting a sexually transmitted infection (STI) from unprotected sex (Anderson, 2007)
- Mental health issues, like addictions, depression, suicide (PHAC, 2016)
- Injuries (Butt et al., 2011; Caudwell et al., 2016; White & Hingson, 2014)
- Getting arrested and having legal problems, like DUIs, losing one’s driver’s license (American Addiction Centres, n.d.)
- Using other drugs (Johns Hopkins Bloomberg School of Public Health, 2018)

**Risky drinking (also known as binge drinking or heavy drinking)** is the consumption of at least 5 drinks for males or 4 drinks for females, in one single occasion at least once a month in the past year (PHAC, 2016). The Canadian Low-Risk Alcohol Drinking Guidelines recommends ten drinks a week for women, with no more than two drinks a day on most days, 15 drinks a week for men, with no more than three drinks a day, to reduce long-term health risks (CCSA, 2018a).

Research has shown that risky drinking occurs more among young people (PHAC, 2018), and these patterns have many short-term and long-term health consequences.

### **Men's Alcohol Use**

Generally, males start to drink earlier than females (PHAC, 2018). Males in all age groups drink more than women (Butt et al., 2011). However, women are catching up in their drinking. Males also do more risky drinking than females (PHAC, 2018). More males than females drink in patterns that exceeded the low-risk alcohol drinking guidelines (Health Canada, 2017).

Men drink more for positive effects and social aspects than women (PHAC, 2018). Males' reasons for alcohol use are tied to bonding with friends, relieving boredom, or enhancing their sense of self (Intersections of Mental Health Perspectives in Addictions Research Training, 2015).

Some of the issues related to male alcohol use are:

- Among drivers in fatal motor-vehicle traffic crashes, men are approximately 1.5 times as likely as women to have been over the legal limit (National Highway Traffic Safety Administration, 2016).
- Men have a higher risk colorectal cancer (PHAC, 2016).
- Males age 20 and older are more likely to be hospitalized for conditions entirely caused by alcohol than females (Canadian Institute for Health Information (CIHI), 2017a).
- Men have much higher rates of emergency department visits related to alcohol (Myran et al., 2019).
- Men have higher rates of alcohol-related deaths than women (Centres for Disease Control and Prevention, 2013; Xu et al., 2018).
- Risky drinking is commonly involved in sexual assault (Abbey, 2002).
- Alcohol use by men increases the chances of having unprotected sex, sex with multiple partners, or sex with a partner at risk for sexually transmitted infections (Nolen-Hoeksema, 2004).
- Alcohol use can cause impotence and infertility (Adler, 1992; Emanuele & Emanuele, 1998).
- Risky drinking increases violence and the risk of physically assaulting another person (Scott, Schafer, & Greenfield, 1999).
- Men are more likely to die by suicide, and more likely to have been drinking before they died (Hayward, Zubrick, & Silburn, 1992; May et al., 2002; Suokas, Suominen, & Lönnqvist, 2005).

### **Considerations for Women in Relation to Low-Risk Drinking**

Women have lower recommended daily and weekly alcohol limits than men because:

- on average, women weigh less than men and have less body water, making them reach higher blood alcohol levels when they consume the same amount of alcohol as men
- women have more body fat, causing alcohol to be absorbed more slowly and the effects of alcohol taking longer to wear off
- women have lower levels of the enzymes that break down alcohol, which makes alcohol remain in a woman's body longer
- women are more susceptible to alcohol-related heart disease and the risk of stroke is at least two times the risk for men when they exceed the limits in the LRDG

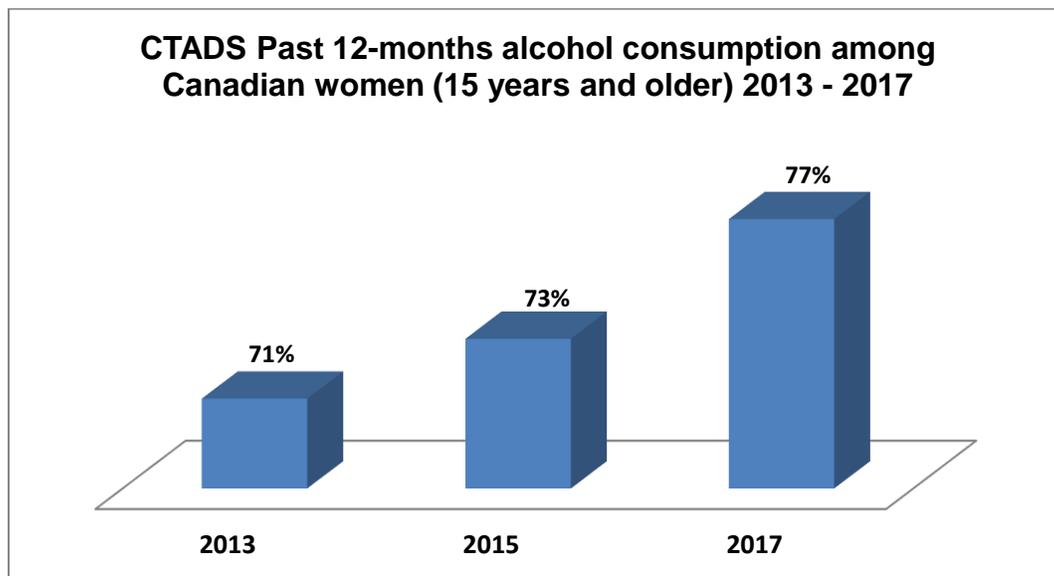
(Canadian Centre on Substance Abuse, 2014; NIAAA, 2010)

### Women's Alcohol Use

In Canada, some women exceed the low-risk drinking guidelines, with 15% exceeding the LRDG for chronic (long-term) effects, and 10% exceeding the LRDG for acute (short-term) effects (Health Canada, 2017). In Saskatchewan, 11% and 9.5% of the total population exceed the LRDG for chronic and acute effects respectively (Health Canada, 2017).

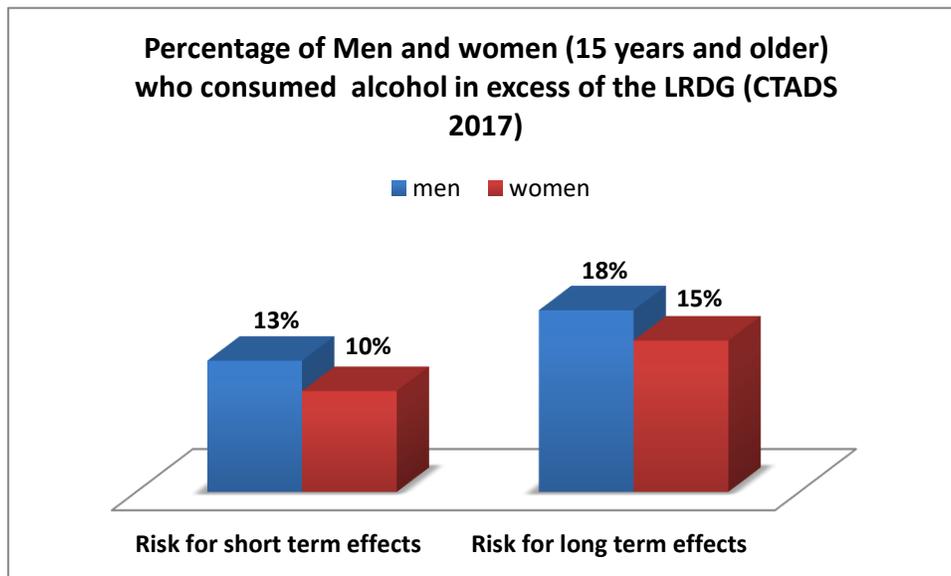
In 2002, an increase in the rates of females' alcohol use was identified as a serious concern (Wechlser et al., 2002). Females between the ages of 15 and 19 had the most rapidly rising rates and *exceeded* males in alcohol use (Canadian Centre on Substance Abuse, 2004). Between 2004 and 2012, rates of past year alcohol use in females aged 15 years and older ranged between 73% and 77% (CADUMS, 2012). Similarly, recent statistics show that 77% of women aged 15 years and older reported drinking at least once in the past year in 2017. In 2015, 73% reported drinking at least once in the past year (Health Canada, 2017; Health Canada, 2015). In 2017, among females who drank in the past year, 15% exceeded the low-risk alcohol drinking guidelines for chronic effects. In 2015, 13% used alcohol in amount greater than the LRDG (see Figure 5.11) (Health Canada, 2017; Health Canada, 2015). In terms of binge drinking, research shows that there has been consistent rise in binge drinking since 1996 among both male and females in Canada (Bulloch et al., 2016).

**Figure 5.10: Percentage of Women Aged 15 and Older who Drank in the Past 12 Months**



**Source: Canadian Tobacco, Alcohol and Drugs Survey [CTADS 2013-2017] (Health Canada, 2013; Health Canada, 2015; Health Canada, 2017)**

**Figure 5.11: Percentage of Men and Women (15 years and older) who Consumed Alcohol in Excess of the Low-Risk Drinking Guidelines in the Year Prior to 2017**



**Source: 2017 Canadian Tobacco, Alcohol and Drugs Survey [CTADS] (Health Canada, 2017)**

The Canadian Addictions Survey identified that women’s **frequency of consumption** (how often alcohol was consumed) depended on factors, such as age and economic status (Canadian Executive Council on Addictions, 2008).

The **quantity of consumption** for women was affected by:

- age: quantity decreased significantly with age, with a significant drop at the ages 25 to 34
- education: for both genders, the prevalence of drinking increased as education levels increased
- economic status: quantity increased with economic status
- marital status: quantity decreased in married or partnered women

(Canadian Executive Council on Addictions, 2008)

Alcohol is the most commonly used substance among females in Canada (Health Canada, 2017). A larger percentage of women have used alcohol (89%) than cannabis (41%) in their lifetime (Health Canada, 2017). Women’s alcohol use, prevention, and risk factors are discussed further in **Module 6: Prevention of FASD**.

### **Alcohol and Pregnancy**

Alcohol is also the most common teratogen used by women during pregnancy. Alcohol is called a **neurobehavioural teratogen** because it can impact the developing brain, which can then impact or result in changes in behaviour. One of the major effects that can occur in a baby prenatally exposed to alcohol is Fetal Alcohol Spectrum Disorder (FASD). FASD is a diagnostic term that describes the range of

effects that can occur in the brain and body of an individual who was prenatally exposed to alcohol (Canada FASD Research Network, 2019; Cook et al., 2016).

FASD is lifelong. Individuals with FASD will experience some degree of challenges in their daily living, and need support with motor skills, physical health, learning, memory, attention, communication, emotional regulation, and social skills to reach their full potential (Canada FASD Research Network, 2019).

The harm done by maternal alcohol use and exposure to other teratogens is not always straightforward. There are many factors that determine the resulting impact to the fetus. These factors include:

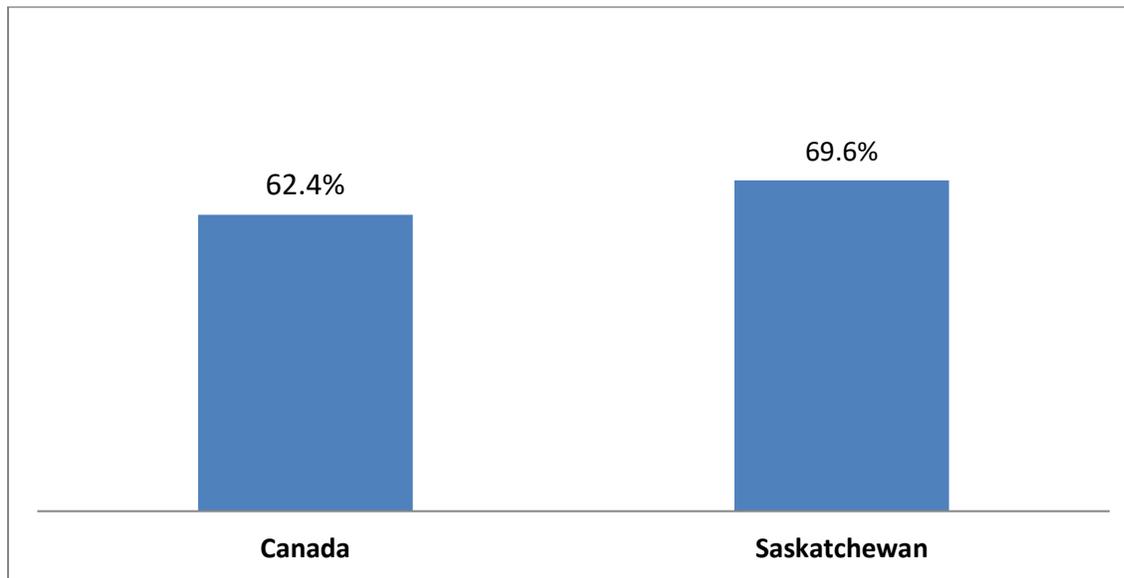
- the dose or amount of exposure
- the genetic makeup of the mother, developing baby, and father
- time of exposure
- frequency and pattern of consumption
- health and nutritional status

(PHAC, 2009)

Stratton, Howe, and Battaglia (1996) suggest that of all the abused substances (including cocaine, heroin, and marijuana), maternal alcohol use during pregnancy produces the most serious neurobehavioural effects in the fetus. There is no known safe amount of alcohol use during pregnancy, so it is best for a woman not to drink while pregnant or planning to become pregnant to prevent harm to herself and her unborn baby.

Research has shown that most women usually stop drinking once they find out that they are pregnant (PHAC, 2009; Pryor et al., 2017). According to the 2009 Canadian Maternity Experiences Survey, in the three months before pregnancy, 62.4% report drinking alcohol. In Saskatchewan, the reported rate is slightly higher at 69.6% (PHAC, 2009). In Canada, 10.5% of Canadian women reported that they used alcohol in pregnancy, and in Saskatchewan, 5.3% of Saskatchewan women reported alcohol use in pregnancy (PHAC, 2009).

**Figure 5.12: Women Who Drink in the Three Months before Pregnancy**



Source: 2009 Canadian Maternity Experiences survey (PHAC, 2009)

More information on alcohol and pregnancy is found in **Module 2: Overview of FASD**.

### **Alcohol and Breastfeeding**

When a nursing mother uses alcohol, the alcohol can reduce milk production and not as much milk is available for the baby (Poole & Wolfson, 2020). The alcohol also goes into her breast milk. The amount of alcohol the baby receives depends on how much alcohol is in the mother's bloodstream when she breastfeeds. The baby cannot process alcohol as well as her mother and may be negatively impacted by the alcohol (Poole & Wolfson, 2020).

Alcohol and breastfeeding does not cause FASD but some studies have shown the baby may experience effects on growth, motor development, sleep patterns, and short-term intellectual development (Poole & Wolfson, 2020). Other studies show low level use does not impact the baby's feeding, sleeping, or development (Poole & Wolfson, 2020). More research is needed. The safest choice is to not use alcohol when breastfeeding. A partner can support a mother by stopping or reducing alcohol use with her (BestStart, 2020).

Having an occasional drink is not a reason to stop breastfeeding. The authors suggest that if women are going to drink, they drink very moderately and plan to use alcohol immediately after breastfeeding, not before (Poole & Wolfson, 2020). This exposes the baby to the least amount of alcohol.

There are guidelines a nursing mother can use which can protect her baby if she has an occasional drink (harm reduction). Wait at least two hours or longer (per standard drink) before breastfeeding (Canadian Centre on Substance Abuse, 2014). For example, if a woman has two standard drinks, she should wait at least four hours or longer before breastfeeding her child (Canadian Centre on Substance Abuse, 2014).

## Concurrent Alcohol and Drug Use

Alcohol use is often accompanied by the use of other drugs, such as tobacco, cannabis, illicit drugs, or prescription drugs. The use of two or more substances is referred to as **poly-substance use**, or multi-drug use. This can be especially dangerous because of the interactive effects that the drugs may have on the individual. The most widely used legal drug that is used with alcohol is tobacco (Drobes, 2002). People who drink alcohol are more likely to smoke, and those who smoke are more likely to drink alcohol. Furthermore, those who consume larger amounts of alcohol tend to smoke more cigarettes (Drobes, 2002; Substance Abuse and Mental Health Services Administration [SAMHSA], 2014).

When tobacco or other drugs are taken together with alcohol, there is an increase in possible physical (e.g., cancer or cardiovascular disease), personal, and social problems. Combining certain prescription drugs and alcohol can often be far more dangerous than using each on its own. There is also **cross-tolerance** between these two substances, meaning that one drug has the ability to reduce the effects of the other drug (Drobes, 2002).

This is also true of illicit drugs (i.e., those that are not legally permitted for use such as heroin, cocaine, etc.). Higher levels of alcohol use or binge drinking were associated with an increased concurrent use of illicit drugs. Results from the U.S. National Survey on Drug Use and Health in 2013 showed that 33.7% of heavy drinkers aged 12 or older were also current illicit drug users, while persons who were not current alcohol users were less likely to have used illicit drugs (SAMHSA, 2014).

In the National Survey on Drug Use and Health by the Office of Applied Studies (2008), it was found that 5.6% of alcohol users used illicit drugs concurrently (during or within two hours) of drinking (SAMHSA, 2009). The most frequent illicit drug used was marijuana. As with tobacco, higher levels of alcohol use or binge drinking were associated with an increased concurrent use of illicit drugs. This research was done before legalization of cannabis in Canada. Cannabis is still currently illegal for youth under 19 (in Saskatchewan).

## Cannabis

Cannabis (also known as weed, marijuana, hashish, hash, and pot) is commonly used in Canada (Canadian Tobacco, Alcohol, and Drugs Survey [CTADS], 2015). Rates of cannabis use are generally higher among young people. According to the CTADS (2015), cannabis use was more common among youth aged 15 to 19 (21% of those surveyed used cannabis) and young adults aged 20 to 24 (30% of those surveyed used cannabis), compared to adults aged 25 or older (10% of those surveyed used cannabis).

Past-year cannabis use was more prevalent among males (15% of those surveyed) than females (10% of those surveyed) (CTADS, 2015). However, while the prevalence of cannabis use among males did not change between 2013 and 2015, it increased among females from 7% in 2013 to 10% in 2015 (CTADS, 2015).

Cannabis is produced from the Cannabis sativa plant and can be smoked, inhaled as a vapour, ingested in foods or drinks, and consumed through oil preparations. Cannabis contains hundreds of chemicals. The most researched of these is tetrahydrocannabinol (THC). Tetrahydrocannabinol (THC) is the compound in cannabis with psychoactive properties (i.e., the thing that makes people feel “high”). THC levels in cannabis products depend on several factors, including the part of the plant that is used and the process used to remove and manufacture the plant product. The highest THC levels are found in hash oil, followed by hashish (resin), and marijuana (dried leaves/flowers) (Jaques et al., 2014). Cannabidiol (CBD) is another chemical in cannabis. Unlike THC, it does not make people feel “high”.

In general, using cannabis can cause feelings of euphoria (“being high”), followed by relaxation, and an increase in appetite. Negative short-term effects of cannabis use may include a rapid, strong, or irregular heartbeat; anxiety; and sedation (Hill & Reed, 2013). Cannabis use also acutely affects one’s cognition, attention, memory, decision-making, and psychomotor functioning (Broyd et al., 2016). Long-term effects of frequent cannabis use may include problems with the immune system, lungs, and airways; as well as deficits in memory, attention, learning, and problem-solving.

Frequent cannabis use may also increase the risk of depression and anxiety (Government of Saskatchewan, 2018). Further, with cannabis use, one can become psychologically and physiologically dependent on the drug (Government of Saskatchewan, 2018).

As a result of its legalization on October 17, 2018, some Canadians may believe that cannabis is safe to use, which could contribute to higher rates of usage. There is research to suggest that cannabis is not a harmless drug. It is important that all Canadians, including women in their childbearing years, have access to evidence-based information about the potential harms of cannabis use.

### **Youth and Alcohol Use**

“Youth” are defined as persons between the ages of 15 and 24 (National Alcohol Strategy Working Group, 2007). Risky drinking can impact youth in many ways such as:

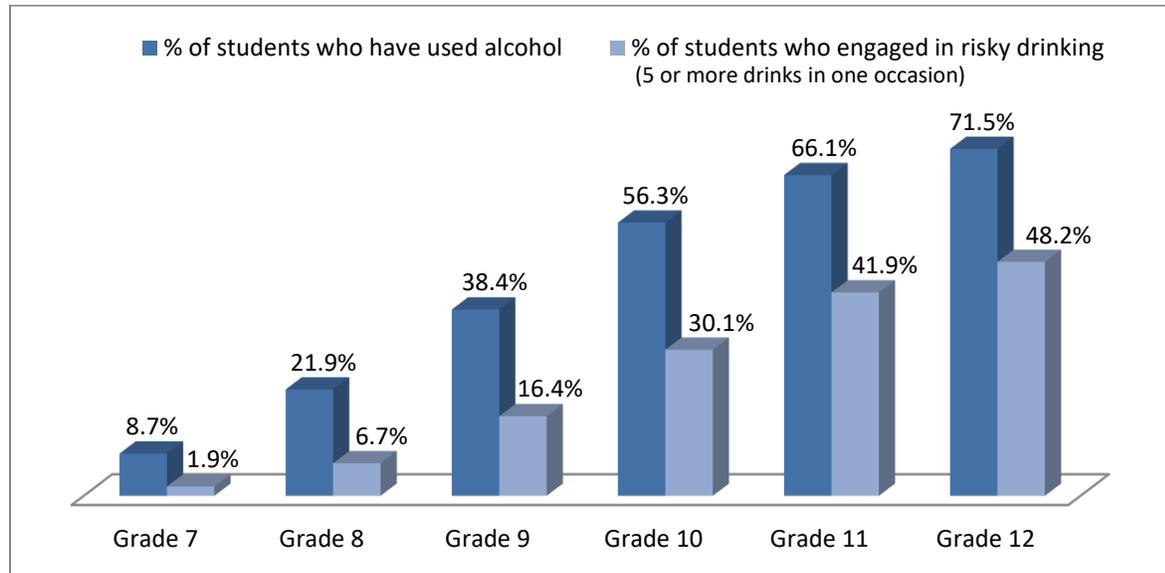
- memory loss
- sexual coercion and assaults
- unsafe sex
- risk of sexually transmitted infections
- alcohol toxicity
- motor vehicle crashes
- suicide
- self-harm
- substance use disorders
- learning and memory issues
- poor academic performance
- increased risk of school dropout
- unemployment
- social isolation
- depression
- mental health disorders
- increased risk for certain chronic diseases

(PHAC, 2018; Stewart et al., 2005)

Some young people start drinking as early as 8 to 12 years old. In Canada, the average age of youth trying their first drink of alcohol is 13 years and for engaging in high-risk drinking is 14.5 years (Health Canada, 2018). It is important to note that youth drinking patterns vary between countries, societies,

social groups, age groups, and time periods. The Organisation for Economic Co-operation and Development (OECD) comparisons show that heavy episodic drinking has been increasing among youth in Canada compared to countries like England and Ireland (Sassi, 2015). In Saskatchewan and in Canada, alcohol is also the most abused of all legal and illegal substances in both youth and adult populations (Health Canada, 2018).

**Figure 5.13: Past 12-month use of Alcohol Among Canadian Students From Grades 7-12 (Canadian Students Tobacco, Alcohol and Drugs Survey (CSTADS), 2016-17)**



**Source: Canadian Students Tobacco, Alcohol and Drugs Survey (CSTADS), 2016-17 (Health Canada, 2018)**

According to the 2016/2017 Canadian Student Tobacco, Alcohol and Drugs Survey (CSTADS), Saskatchewan has the highest rate of youth engaged in risky drinking in Canada (Health Canada, 2018). Adlaf et al. (2000) determined that the frequency and amount that Canadian high school students drink has increased significantly since the 1990s. Those who begin drinking at younger ages are seen to drink heavily more frequently than those who start later (National Alcohol Strategy Working Group, 2007).

### Common Youth Drinking Patterns

Risky drinking (also known as binge drinking or high-risk drinking) is a very common drinking pattern among youth. The 2016/17 Canadian Students Tobacco, Alcohol and Drugs Survey shows that 44% of Canadian youth reported using alcohol in the last year. This was a slight increase from 40% in 2014/15. 24.2% engaged in risky drinking (Health Canada, 2018). A 2019 survey of Saskatchewan high school students also found that, on average, 30% of Saskatchewan students in grades 7 to 12 consumed alcohol at least once in the past month, while 19% of them reported heavy drinking within the same time period (Saskatchewan Alliance for Youth and Community Wellbeing (SAYCW), 2019).

Research has found that young people drink less frequently than adults; however, youth tend to drink more at each occasion (National Alcohol Strategy Working Group, 2007). Certain subpopulations also report varying rates of heavy drinking. For instance, Indigenous youth living off reserve report higher rates of heavy drinking compared with non-Indigenous youth (PHAC, 2017).

The infographic below (Figure 5.14) from CCSA provides information on youth.

Figure 5.14: Youth Alcohol Intoxication



Source: Youth Alcohol Intoxication [Infographic] (CCSA, 2018b)

## Effects of Alcohol on Adolescent Brains and Bodies

Alcohol can harm all parts of the developing brain. The human brain continues to mature throughout adolescence and well into a person's twenties (Lebel et al., 2008; Sowell et al., 1999; Tamnes et al., 2017). In particular, the prefrontal cortex of the teen brain is under rapid development. This part of the brain is the control centre for making decisions, understanding and using what we learn, and problem-solving. With all the changes happening in the brain during this time, alcohol use can affect brain function, thinking, and behaviour (Bava & Tapert, 2010; Patton & Viner, 2007), as well as attention, learning, and memory (Bava & Tapert, 2010).

When people start drinking early, they are more likely to get hurt by their alcohol use than if they wait until they are older. Teens who start to drink at a young age often have a higher chance of developing problems with alcohol, such as becoming dependent or addicted (PHAC, 2016; PHAC, 2018). They can also develop learning and memory problems, and have a higher chance of developing certain chronic diseases (PHAC, 2018). For more information on the changes that occur in the brain during adolescence with and without alcohol use, see **Module 4: Brain Anatomy, Development, and Function**.

Adolescence is also a time of increased vulnerability to mental disorders and physical trauma. Due to a tendency to have difficulty controlling behaviour and emotions, as well as engaging in risk-taking, sensation-seeking, or reckless behaviour, morbidity and mortality rates also increase during adolescence (Dahl, 2004).

Alcohol can affect other parts of the adolescent's body, just as it does in adults (see **Figure 5.3**). Early alcohol initiation is also associated with greater sexual risk-taking (e.g., unprotected sexual intercourse, multiple sexual partners, being drunk or high during sexual intercourse, and/or pregnancy); academic and/or employment problems; other substance abuse; criminal, violent and/or delinquent behaviour; and higher risk of developing alcohol use disorders (Committee on Substance Abuse, 2010).

## Risk Factors for Youth Alcohol Use

There are many factors that play a part in adolescent drinking similar to those in adults (see section "Why do People Drink?"). The earlier the alcohol use begins, the greater the risk of adverse effects (Brown & Tapert, 2004). Besides biological and behavioural factors (e.g., feeling invincible, impulsive behaviour, decreased sensitivity to effects of alcohol, etc.), social influences and genetic vulnerabilities can contribute to adolescent drinking behaviours. These influences can also interact with high-risk environments, such as:

- marketing
- stressful life events
- childhood maltreatment
- family violence
- unstable housing
- family income
- poor social support
- peer-influence (e.g., substance-using friends)
- lower parental monitoring

(Chartier, Hesselbrock, & Hesselbrock, 2010; PHAC, 2018)

Societal and cultural factors, such as the widespread use of alcohol in adult social settings, can also increase the risk of adolescent drinking (Canadian Centre on Substance Abuse, 2007). It appears that young people have a “general lack of perception, among youth, of harms due to alcohol” (PHAC, 2018).

Some subgroups of young people seem to be at a higher risk for substance use and related problems. These include:

- homeless and street-involved youth
- youth in the justice system
- youth living with co-occurring mental health problems
- youth with a history of trauma
- Indigenous youth
- LGBTQ youth

(PHAC, 2018)

Young people have different degrees of knowledge about the risks associated with drinking alcohol. This lack of knowledge can increase the potential of harm for youth because they may not realize the dangers of their actions. There is a lack of perception of alcohol’s harms.

### **Youth, Alcohol, and Pregnancy**

Engaging in unprotected sexual activities is a risk factor that has been strongly linked to the use of alcohol, tobacco, and other drugs (Canadian Pediatric Society, 2006; PHAC 2016). In relation to FASD, one of the risks of unprotected sexual activities is pregnancy.

Adolescents may engage in high-risk sexual behaviour (e.g., inconsistent contraception use or multiple partners) for many reasons, including lack of knowledge, peer pressure, lack of planning, and substance use (Battles & Weiner, 2002). These high-risk sexual behaviours can result in pregnancy (Kirby, 2007). Contraception use is not always consistent in this population, and may be due to:

- difficulty in accessing contraception (e.g., cost, embarrassment)
- lack of anonymity, or needing parental consent
- reluctance about introducing contraception with partners

Adolescent pregnancy is also called teen pregnancy. It is defined as a girl becoming pregnant in the period between the onset of puberty (generally around age 12) and age 20 (American Pregnancy Association, n.d.). Adolescent pregnancy occurs as a result of consensual or non-consensual unprotected sexual activity. Most adolescent pregnancies are unplanned. With young women, ages 15 to 19, it has been found that approximately 75% of the pregnancies were unplanned (Finer & Zolna, 2016). Although pregnancies among Canadian youth have decreased, rates are still fairly high, as shown in **Table 5.2**. In Saskatchewan, youth fertility rates (number of live births born per 1,000 population) have been much higher than national averages (see **Table 5.2**).

**Table 5.2: Fertility Rates Among Canadian and Saskatchewan Adolescents (15 to 19 years) 2012 to 2016**

	Canada	Saskatchewan
2012	11.9 per 1,000	33.0 per 1,000
2013	11.0 per 1,000	29.0 per 1,000
2014	10.2 per 1,000	28.2 per 1,000
2015	9.4 per 1,000	24.9 per 1,000
2016	8.4 per 1,000	23.7 per 1,000

**Source: (Provencher et al., 2018)**

Adolescent pregnancy is not easy to detect and may go unnoticed for several months. Menstrual irregularities present in early adolescence, as well as fear, shame, social situations, and lack of sexual health information can all play a role in the late detection of pregnancy in youth (Canadian Pediatric Society, 2006). As adolescence is also a high-risk time for alcohol use, and many pregnancies during this time are unintended, the risk of alcohol use during early pregnancy increases.

In Canada, adolescent pregnancy rates are highest in populations that have the lowest socioeconomic status (Ordolis, 2007). Although social stigma may not be high depending on cultural values placed on infants and pregnancy, in general, young women are still faced with a variety of challenges, including poverty, homelessness, substance use, illness, lack of nutrition, and lower education levels (Kirmayer, Brass & Tail, 2000).

**Risk factors** that increase the risk of adolescent pregnancy include:

- having experienced child abuse (Anda et al., 2002; Boyer & Fine, 1992; Noll, Shenk, & Putnam, 2008)
- living in poverty (First Steps Housing Project, 2006; Furstenberg, Brooks-Gunn & Morgan, 1987; Meade, Kershaw & Ickovics, 2008; Moore et al., 1993; Sullivan, 1993)
- poor academic experiences or lack of education (Fergusson & Woodward, 1999; Fletcher et al., 2008; Manlove, Ryan, & Franzetta, 2006)
- psychological factors (e.g., developmental or early life issues) (Benoit, 1997)
- a preference for early childbearing (e.g., cultural or familial preferences) (Geronimus, 2003; Meade, Kershaw, & Ickovics, 2008; Merrick, 1995; Montgomery-Anderson, 2003; Palacios & Kennedy, 2010)
- familial factors (e.g., single-parent household) (Meade, Kershaw, & Ickovics, 2008)
- early onset of puberty (Belsky et al., 2010; Rotermann, 2008)
- relationship factors (e.g., peer pressure, older partner) (Noll et al., 2008; Wakhisi et al., 2011)
- difficulty accessing health services (e.g., fear of disclosure, lack of familiarity with system) (Ralph & Brindis, 2010; Wakhisi et al., 2011)
- rapid repeat pregnancy (this is a risk among adolescent mothers that may lead to subsequent adolescent pregnancies) (Crittenden et al., 2009; Rigsby, Macones, & Driscoll, 1998; Zhu, 2005)

**Protective factors** relating to adolescent pregnancy include:

- **positive parent-child relationship** (Commendador, 2010; Deptula, Henry, & Schoeny, 2010; McNeely et al., 2002; Miller, Forehand, & Kotchick, 1999; Miller & Whitaker, 2001; Quinlivan et al., 2003; Ramirez-Valles, Zimmerman & Newcomb, 1998; Roche et al., 2005)
- **education (e.g., sexual health education, educational aspirations)** (Fergusson & Woodward, 1999; Kapinus & Gorman, 2004; Thornberry, Smith, & Howard, 1997)
- **religion (e.g., religious beliefs, church attendance, participation in religious activities)** (Bearman & Bruckner, 2001; Galambos & Tilton-Weaver, 1998; Langille & Curtis, 2002; Ovadia & Moore, 2010; Rostosky et al., 2004; Whitehead, Wilcox, & Rostosky, 2001)

As mentioned earlier, a 2019 survey of Saskatchewan high school students found that, on average, 30% of Saskatchewan students in grades 7 to 12 consumed alcohol at least once in the past month, while 19% of them reported heavy drinking within the same time period (Saskatchewan Alliance for Youth and Community Wellbeing (SAYCW), 2019).

**Conclusion**

Alcohol is a norm in Canadian society, and low-level drinking can be found in all adult Canadian demographics. However, there are also dangerous drinking patterns that occur in these populations and, therefore, people should be aware of the potential consequences of alcohol use.

Although alcohol can have some benefits, for some populations, at low levels of consumption, any level of drinking is not without certain risks. At higher levels, it can have dangerous outcomes and can lead to alcohol abuse or dependence. It is important to avoid drinking when pregnant or if there is the possibility to become pregnant. Drinking should also be avoided if someone has other relevant health or legal factors, and otherwise, limit drinking to the low-risk drinking levels, and avoid heavy drinking or binge drinking patterns. It is also important to be able to understand the amount of alcohol contained in a standard drink to avoid overconsumption.

Dangerous drinking patterns are especially prevalent in youth and therefore, it is important to educate them on the risks of alcohol consumption and the danger of risky drinking patterns.

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