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Youth Alcohol Use and Its Harms

Case Study in the Community of Sherbrooke

May 2018

Project partner



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Executive Summary

In 2016, when the two universities in Sherbrooke (Bishop's University and Université de Sherbrooke) joined the Postsecondary Education Partnership – Alcohol Harms (PEP-AH) program, the members of the board of directors of Sherbrooke Ville en santé decided to create a committee to evaluate the extent of the issue of excessive alcohol consumption among Sherbrooke youth. The committee was primarily focused on identifying municipal initiatives that would, once implemented, reduce alcohol-related harm among youth in the community.

This report presents an overview of the consumption habits of Sherbrooke youth, alcohol-related health problems, including emergency room admissions for acute alcohol intoxication, as well as alcohol-related crime (assault, mischief, disorderly conduct and impaired driving). The report also presents a brief portrait of the physical and economic availability of alcohol in Sherbrooke. This assessment is based on regional survey data, governmental data sources (i.e., Statistics Canada, the Uniform Crime Reporting Survey, the Société de l'assurance automobile du Québec and the Régie des alcools, des courses et des jeux). Hospital and police data as well as information provided by Sherbrooke's post-secondary institutions were also consulted.

The assessment reveals that hospital admissions for alcohol-related medical emergencies are both frequent and serious, particularly among young adults but also among minors. A joint analysis of hospital files and crime indicators shows that in the Sherbrooke community the excessive use of alcohol and its negative consequences occur on specific occasions, during specific times of the year, at particular events and in particular places.

The production of this analysis allowed the committee to identify a number of initiatives that will be taken into consideration. The initiatives fall into four distinct categories.

Clinical Health Services

- Establish a procedure to guarantee that every young person who goes to the emergency room for severe alcohol intoxication has a meeting conducted with motivational interview techniques.
- Refer these cases to the regional rehabilitation institution, the Centre Jean-Patrice Chiasson / Maison Saint-Georges,¹ which offers specialized addiction and mental health services. The centre will then contact these youth and offer them a follow-up 48 hours after their discharge from the hospital.
- Refer the most complex cases to a psychologist.
- Create a safety net for these youth by trying to convince them of the importance of informing their family members or friends of their hospitalization for a medical emergency related to their excessive alcohol consumption.

¹ The Centre Jean-Patrice Chiasson / Maison Saint-Georges is the institution designated by the Ministère de la santé et des services sociaux in the Estrie region to offer rehabilitation and social integration services to people who require such services because of an addiction. It is also the institution designated by the Agence de développement de réseaux locaux de services de santé et de services sociaux in the Estrie region to offer rehabilitation and social integration services to people who require such services because of mental health issues.



Information and Education

- Explore the possibility of developing a mobile application for self-help interventions with immediate feedback. The application would ask youth about their expectations and intentions of drinking during high-risk events like prom and the graduation after-party, the Fête du Lac des Nations or initiation activities during college or university orientation weeks. Depending on their answers, the participants would receive immediate personalized feedback, including advice and suggestions for protective behaviours (e.g., drinking water, eating, avoiding drinking games, planning how they are going to get home).
- Develop a communication strategy for the general public based on the highlights of the analysis.

Community Action

- Create temporary, mobile support spaces in specific places during the most problematic weeks. These safe support spaces would offer a friendly place during specific events where young people who have drunk too much could sit, catch their breath, drink water and have something to eat. Street outreach workers could also be on hand to offer support, chat and, if necessary, call emergency services.

Alcohol Availability

- Energize the local economy and reduce alcohol-related harm by challenging the microbreweries in Sherbrooke to brew a beer with a maximum alcohol content of 3.5% that could be offered exclusively during events that have been identified as high risk.

Conclusion

This report is a case study that provides an interesting example and course of action for any Canadian municipality seeking to reduce alcohol-related harm among community youth and to support its post-secondary institutions in their efforts to do the same. This project was conducted in collaboration with the Réseau québécois de villes et villages en santé, which was one of the main factors contributing to its success. The project is meant as encouragement for the other cities, towns and villages that are also part of the Canadian Healthy Communities Network.



Introduction

The Postsecondary Education Partnership — Alcohol Harms (PEP-AH) is a group of Canadian CEGEPs, colleges and universities that work in partnership with the Canadian Centre on Substance Use and Addiction (CCSA) and Universities Canada. The goal of this partnership is to study and more fully understand the drinking culture on campuses. PEP-AH works to facilitate the adoption of best practices for reducing alcohol-related harm among students. In Sherbrooke, both Bishop's University and Université de Sherbrooke are members of PEP-AH.

In 2016, CCSA representatives met with Sherbrooke mayor Bernard Sévigny and the members of the board of directors of Sherbrooke Ville en santé.² CCSA explained that even though the universities in the region were deeply engaged in reducing alcohol-related harm among their students, they would still need active support and collaboration from the municipality to achieve their goal. The issue of excessive alcohol use among students is not confined to the geographical limits of campuses. Students buy alcohol in businesses in the city, and they go to local pubs and bars.

They use municipal services when they drink, such as public transportation or sometimes emergency and health services.

Faced with these facts, the members of the Ville en santé board of directors decided to endorse a proposal to create a committee with the goal of identifying and developing municipal initiatives to support the post-secondary institutions in their efforts. A committee was formed, made up of administrators and students from CEGEPs and universities, healthcare professionals and representatives from public health, the police, the City and CCSA. The first meeting took place in the fall of 2016.

The committee made two major decisions at this first meeting. In the spirit of community, the committee members decided to focus on all youth aged 16 to 24 and not just those who attend a post-secondary institution. The committee then had some questions before deciding on the preventative measures they would pursue: How big of an issue is excessive alcohol use in Sherbrooke? Are there contexts that particularly encourage excessive drinking? What are the most common types of harm? Are there sub-groups that are at higher risk? The committee decided that its first task would be to identify trends by providing data on drinking among youth and its consequences in the community.

This report will first present the methodology adopted to produce this assessment. The second section of the document will report the results. The final section will identify preventative measures that could be implemented. In short, this document is a case study that could serve as a guide for other Canadian municipalities seeking to reduce alcohol-related harm among community youth and to support its post-secondary institutions in their efforts to do the same.

Sherbrooke

With two universities and four colleges, Sherbrooke is a major student city in Quebec. More than 20% of the population is in school and about 17% is in post-secondary institutions. Close to 15% of the population is between 15 and 24 years old (Sherbrooke Innopole, 2018).

² See www.ville.sherbrooke.qc.ca/sous-site/sherbrooke-ville-en-sante/accueil/ (in French only).



Making an Assessment at the Community Level

While the association between alcohol use and its many resulting harms is a well-documented phenomenon, drinking habits and the consequences of drinking differ from one community to another. In Canada, large variations have been observed between provinces (Paradis, Demers, & Picard, 2010) and regions (Educ'alcool, 2017). As a result, in the context of a project to develop local preventative measures, it is essential to properly identify drinking habits and alcohol-related harms in the specific community. Local data must be the basis for effective preventative measures.

Analysis Framework

The committee experts based their assessment on the PEP-AH framework (Figure 1). This framework gives a schematic overview of the relationships among the contextual elements of alcohol use among post-secondary students in order to achieve the goal of reducing harm caused by alcohol. It creates coherent links between the outcomes (activities and programs) and the anticipated results in the short, medium and long term. The framework contains elements representing the five strategic considerations of PEP-AH: 1) health promotion, prevention and education; 2) campus services; 3) availability and marketing; 4) pricing of alcohol; and 5) community action.

Community Indicators of Youth Alcohol Use and Its Harms

Working from the PEP-AH framework and its five strategic areas, the committee experts created a list of indicators and identified a set of community data to be collected for an overview of alcohol use and its harms among Sherbrooke youth. The committee also decided to follow, wherever possible,³ the recommendations of Canadian researchers who have recently identified measures often used in community research activities (Flynn & Wells, 2014). These measures deal with drinking habits, the social, health and legal consequences of drinking as well as the physical and economic availability of alcohol. These measures therefore fit perfectly into the PEP-AH framework while putting particular emphasis on strategic area 5, community action.

To get an assessment that was better adapted to the project objectives, measures specific to post-secondary environments were added to the list of indicators. Moreover, while the context of the project requires the overview to include a description of the policies, activities and programs developed and implemented on campus, the committee members ensured that the indicators remained general in order to respect the central values of PEP-AH, including respect for institutional confidentiality and the commitment to not use data to pit institutions against one another or make negative comparisons.⁴

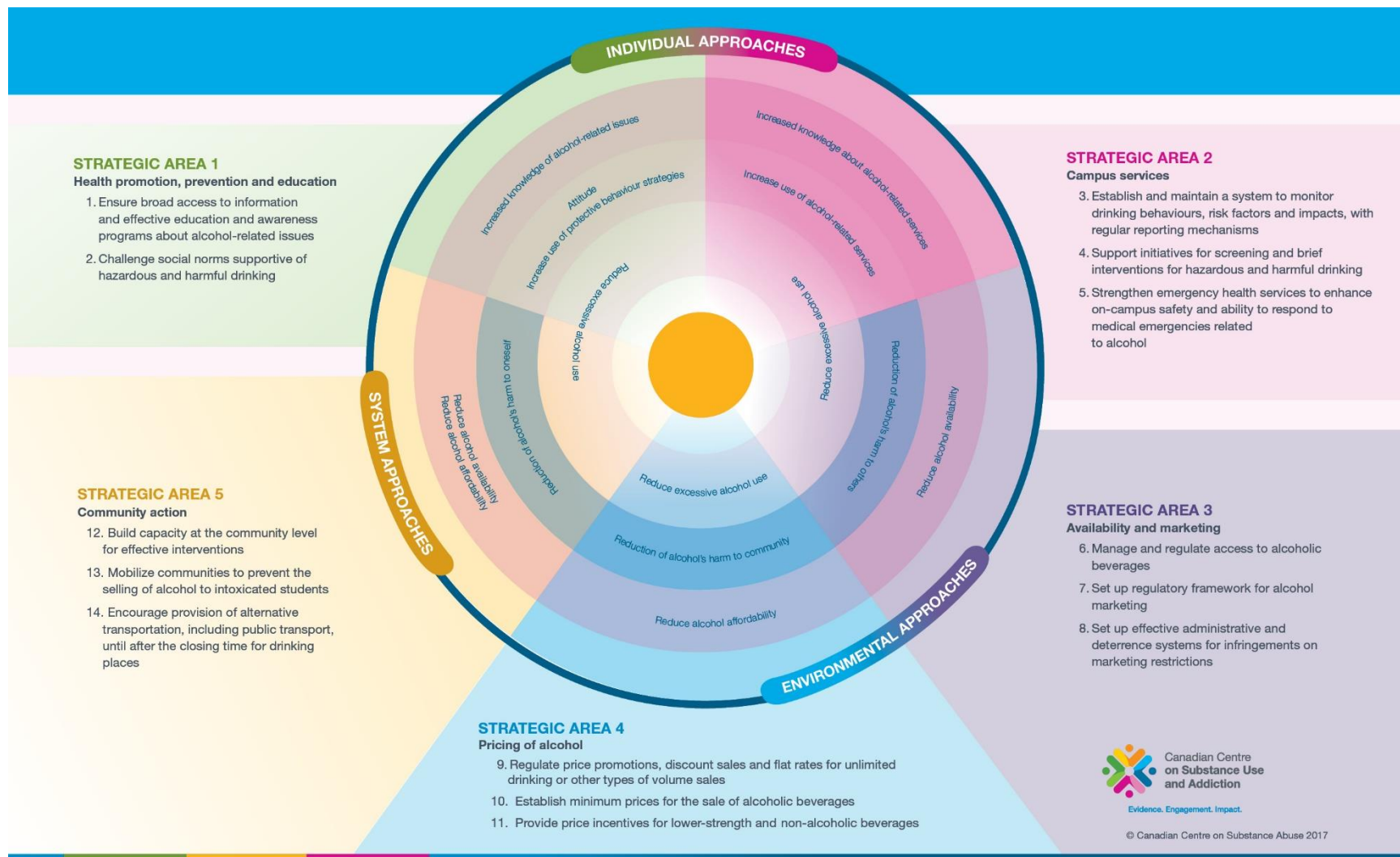
The final list of indicators is presented in Appendix 1.

³ Some of the recommendations do not apply to the Quebec context or the existing data collection system in the province, particularly with respect to indicators of alcohol-related crime.

⁴ This project is carried out in connection with PEP-AH. Not all of the post-secondary institutions in Sherbrooke are members of PEP-AH, but Bishop's University and Université de Sherbrooke are. As a result, we thought it necessary that the values of PEP-AH, as stipulated in the Commitment Agreement, be respected. The PEP-AH Commitment Agreement is presented in Appendix 2.



Figure 1. Postsecondary Education Partnership – Alcohol Harms Framework





Methods

The data sources listed below were used to conduct an analysis of alcohol use, the legal and health consequences of drinking, and the physical and economic availability of alcohol in the community. Further information can be found in Appendix 1.

- Regional data from national public health surveys was used to describe alcohol use among youth.
- Data used to analyze the health consequences came from the records of youth admitted to one of the emergency departments of the Centre hospitalier universitaire de Sherbrooke (CHUS) for a problem caused by alcohol. Beyond rates of prevalence, the data allowed for detailed descriptions of the most severe cases of intoxication in certain youth, that is, the different ways they presented, their clinical and biological characteristics upon admission and the care they received.
- In the documentation of community indicators of alcohol-related harms, motor vehicle accidents were a significant form of trauma. The database of the Société de l'assurance automobile du Québec was consulted to document these accidents.
- With respect to legal consequences, data from the Uniform Crime Reporting Survey was used to create an overview of alcohol-related crime among youth in Sherbrooke. Statistics and operational data provided by the Service de police de la Ville de Sherbrooke were also used to document the number of offences for disorderly conduct in public places related to alcohol use.
- It is also essential to measure the availability of alcohol in the community, as the price of alcohol and its accessibility are determining factors in alcohol use and its harms. In the context of this project, availability was evaluated in terms of commercial access based on government data from the Régie des alcools, des courses et des jeux and Statistics Canada.
- Finally, it should be noted that during the project, the committee had access to administrative data from post-secondary institutions about student drinking habits, the health and legal problems they can face and the availability of alcohol on campus. By mutual agreement with the committee, the institutions agreed to share this data as long as the presentation of the results preserved institutional confidentiality.



Results

Indicators of Alcohol Use

Regional data does not identify the average age at which Sherbrooke youth drink alcohol for the first time. It seems, however, that they start early. According to data from the Quebec Health Survey of High School Students (QSHSS), 80.6% of senior high school students from the Commission scolaire de la région de Sherbrooke say they have already consumed alcohol. More specifically, 68.7% of students in Secondary III and 90.3% of students in Secondary V report having drunk alcoholic beverages in the last twelve months. In other words, at least 9 in 10 Sherbrooke youth drink before reaching legal age. Among post-secondary students, the prevalence of alcohol consumption in the last year reaches 93.2%.

The frequency of drinking among youth increases with age. In Secondary III, 10.3% of students drink alcohol at least once a week, which rises to 13.8% in Secondary IV and 24.4% in Secondary V. At the post-secondary level, nearly a third (30.5%) of students drink on a weekly basis, and 5.3% say they drink at least three times a week.

There is little data on the number of drinks youth usually consume in a single session. The only data available indicates that 42% of students at the post-secondary level consume at least four drinks per occasion. Population data also shows that when youth drink, they tend to do so excessively. According to the QSHSS, from 48.8% of students (in Secondary III) to 76.3% of students (in Secondary V) say they have had five or more drinks on a single occasion at least once in the last twelve months. The 2014–2015 Enquête de santé populationnelle estrienne indicates that nearly half (45.5%) of youth aged 18 to 24 in the region reported having drunk five or more units of alcohol on the same occasion at least once a month in the last twelve months.

Finally, the QSHSS allows for students in the Commission scolaire de la région de Sherbrooke to be sorted out according to the problematic alcohol and drug use indicator. In 2010–2011, between 5.8% of students in Secondary III and 10% of students in Secondary V reported at-risk use or an emerging problem requiring light intervention; between 5.2% (Secondary III) and 7.6% (Secondary V) of youth reported problematic use requiring specialized intervention.

Indicators of Alcohol-related Health Problems

On post-secondary campuses, emergency interventions by internal medical services are required for alcohol-related accidents or incidents relatively often. In 2016–2017, support services teams performed about three interventions per month. Campus authorities had to call 9-1-1 about once a month to help a student involved in an alcohol-related accident or incident.

Severe Alcohol Intoxication

From 2012 to 2017, among the whole population of youth in Sherbrooke, 855 consultations took place at the CHUS emergency department to treat 790 patients (see inset below). This means that every two days, a young person aged 12 to 24 presented at CHUS for an alcohol-related medical emergency. On the whole, 56% (480) were men; the average age was 19.7 for men and 19.5 for women; and the youngest patient was 12 years old. The blood alcohol content measured in 569 of the 855 patients averaged 208.8 mg/dL; one in ten (9.7%) had a blood alcohol content over 300 mg/dL.



Three-quarters (75%) of youth who presented at emergency had consumed beverages with a high alcohol content (spirits or mixed drinks made with spirits), and 71% of youth had consumed alcohol only, that is, they had not ingested both alcohol and illegal drugs. The place where the youth had been drinking was identified in 60% of cases and varied according to age. A third of adolescents aged 12 to 17 (or 35%) reported having consumed alcohol in a private home, while 41% of young adults aged 18 to 24 reported that they often drank in bars. On the whole, most of the

young people (29%) who presented at emergency did so on Saturday night and the majority (76%) arrived in an ambulance. Several adolescents consulted for alcohol intoxication at the end of the school year (graduation after-party or the Fête du Lac des Nations). Among those aged 18 to 24, there were more emergency consultations during the last week of August, which corresponds to the start of the school year and initiations. Visits to emergency were also more numerous in the last week of October, during Halloween parties.

During triage at emergency, a quarter of young patients were declared level 1 or 2 priorities, indicating that their lives were in danger. An altered state of consciousness was observed in 68% of patients, of whom 8% were in a severe coma (≤ 8 on the Glasgow coma scale). Nearly 10% of youth had to be hospitalized for more than 24 hours, and 5% had to be intubated, put on a ventilator or admitted to intensive care. Over half of youth (57%) were also suffering from complications such as a coma, head injury or hypothermia.

Finally, the results of the study seem to indicate that alcohol intoxication among youth is too often downplayed. Barely 40% of patients were offered a follow-up with a physician or psychosocial worker; 52% were offered counselling on alcohol harms at emergency. The parents or friends of the patient were informed in only 59% of cases. Figure 2 presents the main results of the study.

Severe Alcohol Intoxication in Youth

A retrospective study was directed by Dr. Claude Cyr in the two CHUS emergency departments analyzing all alcohol-related visits by adolescents (aged 12 to 17) and young adults (aged 18 to 24) in the period from January 1, 2012, to January 1, 2017. Once the study was approved by the human research ethics committee at CHUS, the data were collected from medical records. All alcohol-related consultations were analyzed, including acute alcohol intoxication (loss of consciousness, vomiting, convulsions, etc.), alcohol-related injuries (car accidents, falls, accidental collisions with or into an object, etc.) and assault (physical and sexual). The consumption of alcohol was verified and confirmed by the patient or a third party, or by a positive blood alcohol content test. The patients' demographic information was also analyzed, as well as the immediate context of the alcohol use leading to the consultation, the means of transportation to emergency, the co-ingestion of illegal drugs, prescription drugs or other substances, laboratory data, clinical outcomes and the type of follow-up offered.



Figure 2 : Infographic of the study conducted at the Centre hospitalier universitaire de Sherbrooke





Alcohol-related Motor Vehicle Accidents

Motor vehicle accidents remain one of the main causes of death among youth, but it was not possible to collect data specific to the Estrie region or the city of Sherbrooke. In 2010, data from the Société de l'assurance automobile du Québec for the whole population of Quebec indicated that alcohol was involved in 204 of the 840 collisions (24%) causing serious injury in young drivers aged 25 and under. The proportion increased to 40% (269/659) in 2011, and fell back to 26% (177/684) in 2012.

In 2010, 40% of the 55 young drivers under 25 who were killed—and whose blood alcohol content was tested—had alcohol in their bloodstream ($n = 22$). In 2014, the number of young drivers who were killed dropped to 31, but the proportion with alcohol in their bloodstream remained stable at 42% ($n = 13$).

Indicators of Alcohol-related Crime

Internal security services are regularly called on post-secondary campuses for alcohol-related problems. In 2016–2017, about 11 interventions per month were recorded for non-medical incidents. In very rare cases, the Service de police de la Ville de Sherbrooke had to intervene.

The study of severe alcohol intoxication also uncovered criminal issues related to alcohol. Among the 855 cases of youth admitted to emergency between 2012 and 2017 with an alcohol-related issue, 10% had been involved in a fight and a small proportion of patients (1%) had been sexually assaulted. Further, 9.4% of young patients were accompanied by police officers when they arrived at the hospital.

Assault

Data from the Ministère de la sécurité publique indicate the number of assaults recorded for all youth aged 16 to 24. The data includes simple level 1 assault (pushing, slapping or punching a person or uttering threats toward them) or level 2 assault (committed with a weapon or causing bodily harm), as well as level 3 aggravated assault (that can cause injury, mutilation or disfigurement or that endangers the life of the victim). In the municipality of Sherbrooke, the number of these types of assault remained stable between 2006 and 2014, from 128 incidents in 2010, to 163 in 2014. In 2015, the number of recorded assaults dropped to 112. An analysis of the data on assault over a 10-year period, from 2006 to 2015 ($n = 1394$), shows that these problems vary according to the time of year. The data therefore revealed peaks in assault at the beginning of summer, in June ($n = 143$ in total), and in the fall, in September ($n = 137$) and October ($n = 137$).

Mischief

A person commits mischief when they deliberately break or damage another person's property. This type of crime, which is often used to describe acts of vandalism, is usually associated with childhood, adolescence and early adulthood (Ouimet, 2005). In Sherbrooke, according to data from the Uniform Crime Reporting Survey, close to a thousand acts of mischief were committed every year from 2006 to 2009. This number dropped regularly starting in 2010 to reach its lowest level in 2015, with 596 recorded offences—a rate of 36.6 for every 10,000 residents. While it is not possible to determine how many acts of mischief were committed by youth, a previous analysis of criminal data in Quebec revealed that close to half (44%) of mischief suspects were under 18 and the majority were 15 or 16 years old (Ouimet, 2005).

The compilation of data on mischief in the last 10 years for the whole population of Sherbrooke shows that the majority of these incidents take place in May ($n = 856$ in total) and August ($n = 833$).



These seasonal results coincide with larger trends seen in crime analyses, according to which May is generally the month in which the highest number of crimes is recorded (Ouimet, 2005).

Disorderly Conduct

The Service de police de la Ville de Sherbrooke keeps statistics on disorderly conduct in public places related to alcohol use with respect to the following three municipal offences: i) possessing an alcoholic beverage in a public place; ii) being drunk or intoxicated in a public place; and iii) consuming alcohol in a public place. Within the four areas of the city most frequented by young people for drinking, the data show that from the start of 2015⁵ to November 2017, 489 tickets were issued to young people aged 16 to 24 at the time of the event.

Impaired Driving

Between 2010 and 2015, from 203 (2011) to 250 (2012) people were charged with impaired driving in the municipality of Sherbrooke. Of this number, only a few rare cases concerned minors, from one (2013 and 2015) to five (2011) per year.

Indicators of the Availability of Alcohol

In 2017, there were 350 active alcohol permits in grocery stores, convenience stores, restaurants, bars, breweries, taverns and clubs in Sherbrooke, in addition to the seven outlets of the Société des alcools du Québec.

The Four Loko Case

In the fall of 2017, there was a lot of media coverage of the phenomenon of alcoholic beverages with high doses of sugar. Beverages like Four Loko and FCKD UP, with 11.9% alcohol content, are sold in 568-mL cans for about \$3.50. This means that these beverages are sold at \$0.83 per standard alcohol unit, while the reference price recommended by researchers who study alcohol is \$1.71 per standard unit in today's dollars (National Alcohol Strategy Advisory Committee, 2015). According to Radio-Canada in Sherbrooke, many convenience stores observed the popularity of these products, specifically among youth and students. In Quebec between 2016 and 2017, the volume of sales of products with at least 11% alcohol increased by 319% (April et al., 2018).

Measures to reduce accessibility to alcohol, in particular economic accessibility, are very effective in preventing alcohol-related problems (Babor et al., 2003; Thomas, 2012). While consumers in general are sensitive to the price of alcoholic beverages, this is even truer of heavy drinkers (i.e., those with an alcohol dependence and young people). In Quebec, including Sherbrooke and the region of Estrie, the price of alcohol has not risen as quickly as the consumer price index (CPI). Between 2008 and 2016, there was a 10.4% price increase for all alcoholic beverages, compared to a 12.5% increase for the CPI. The price of alcoholic beverages purchased in stores increased by only 5.2%. In other words, alcohol purchased in stores was

relatively cheaper in 2016 than in 2008. Moreover, the data indicate that beverages purchased to be consumed in licensed establishments increased in price more quickly than the CPI. This data must be interpreted with caution, as it is possible they do not represent the reality in Sherbrooke, where bars are in fierce competition to obtain and keep the student clientele.

University campuses in the region also sell alcoholic beverages. According to the Canadian recommendations issued in 2017, no alcohol purchased for consumption on site should be sold at

⁵ The computerized system was implemented gradually at the start of 2015. Data for 2015 do not include tickets issued before the system was implemented.



less than \$3.42 per standard alcohol unit (Thomas, 2012). None of the institutions in the region follow this recommendation.

The collection of data on social access to alcohol was beyond the scope of this report. However, the data on prevalence presented in the first section of results clearly show that access to alcohol is excessively easy for minors in the region.

Going Forward: Preventative Measures

The data collected and presented in this report give a broad outline of the issue of alcohol use among youth in Sherbrooke. It shows in particular that hospital admissions for alcohol-related medical emergencies are frequent and serious, particularly among young adults, but also among minors. The joint analysis of hospital records and crime indicators demonstrates that in the Sherbrooke community, excessive alcohol consumption and its negative consequences occur on specific occasions, at specific times of the year, during particular events and in specific places.

A variety of preventative measures was identified based on the observations in this report and on many discussions among the committee members, all with the goal of reducing alcohol-related harm among youth in Sherbrooke. No final decision has been made yet with respect to the initiatives that will be chosen and implemented. In a next step, it will be interesting to consult the scientific literature to verify if some of these preventive measures have been evaluated and to consider which seem the most promising. Potential partners must also be identified and met with. Nonetheless, through the production of this assessment, the committee identified a certain number of initiatives that could be studied, which fall into four distinct categories: clinical health services, information and education, community actions and alcohol availability. They are briefly described below.

Clinical Health Services

Emergency room consultations for alcohol intoxication are opportunities to get young people and their parents or guardians thinking about their alcohol use (Pianca, Sordi, Hartmann, & von Diemen, 2017). The analysis of hospital records revealed that an emergency room consultation took place every two days in Sherbrooke. A meeting was organized with the emergency doctors at CHUS, who agreed to prioritize the following actions going forward:

- Establish a procedure to guarantee that every young person who goes to the emergency room for severe alcohol intoxication has a meeting conducted with motivational interview techniques.
- Refer these cases to the regional rehabilitation institution, the Centre Jean-Patrice Chiasson / Maison Saint-Georges, which offers specialized addiction and mental health services. The centre will contact these youth and offer them a follow-up 48 hours after their discharge from the hospital.
- Refer the most complex cases to a psychologist.
- Create a safety net around these youth by trying to convince them of the importance of informing their family members or friends of their admission to the hospital for a medical emergency related to their excessive use of alcohol.

Information and Education

The majority (75%) of youth in Sherbrooke admitted to emergency services for an alcohol-related medical issue had drunk highly alcoholic beverages. This observation demonstrates the importance of informing youth of the high alcohol content of spirits and premixed drinks. They need to be aware



of the risk of consuming more alcohol than what is recommended in low-risk drinking guidelines and of the risk of severe alcohol intoxication from drinking products with high alcohol contents. Two types of initiatives were suggested to raise awareness of this issue among youth, their parents and the whole community.

Mobile Application for Intervention with Feedback

Certain online prevention programs that would contain personalized comments from information gathered directly from youth could be an effective way to increase knowledge about alcohol and to reduce alcohol use in the short and medium term (Cunningham, Kypri, & McCambridge, 2011; Newton, Teesson, Vogl, & Andrews, 2010; Newton, Vogl, Teesson, & Andrews, 2009; Walters, Vader, & Harris, 2007).

The members of the committee plan to explore the possibility of developing a mobile application for self-help interventions with immediate feedback. The idea is to develop, in collaboration with university student associations, an application that would ask youth about their expectations and intentions of drinking during high-risk events like prom and the graduation after-party, the Fête du Lac des Nations or initiation activities during college or university orientation weeks. Depending on their answers, the participants would receive immediate personalized feedback, including advice and suggestions for protective behaviours (e.g., drinking water, eating, avoiding drinking games, planning how they are going to get home). The mobile application could be promoted and distributed by student associations in post-secondary institutions and by nurses in high schools.

General Public Awareness Campaign

After more than 18 months of work, the committee members feel it is important to communicate to the Sherbrooke population that the main local actors in education, health and safety are concerned by the issue of excessive alcohol use among youth and are seeking solutions. A well-documented phenomenon in work psychology, as well as in preventative medicine, shows that people tend to change their behaviour when they know they are being observed—this is known as the Hawthorne effect (Chen, Vander Weg, Hofmann, & Reisinger, 2015). It is possible that simply sharing the committee's work with the population will lead to a reduction in alcohol-related harm.

The committee plans to develop a communication strategy for the general public focused on key findings gleaned from the assessment. The campaign could run at specific times of the year with a series of articles in the local paper as well as radio and television interviews with people who had participated in the project. These public service announcements could, for example, inform parents of the popularity and dangers of beverages high in sugar and alcohol as well as the negative consequences most often associated with the consumption of these products. Another idea would be to offer young drinkers tips and tricks for fun nights that do not involve trips to the emergency room or the police station.

Community Actions

Safe Support Spaces

Canadian campuses have recently been creating post-alcohol support spaces or “drunk tanks.” These spaces allow students to sober up in a safe environment without fear of judgment.⁶ They also aim to

⁶ See www.ctvnews.ca/canada/drunk-tanks-canadian-universities-offer-safe-places-to-sober-up-1.3774426 and www.ualgary.ca/utoday/issue/2017-12-15/post-alcohol-support-space-opening-soon.



provide care and support and give attention to youth who do not need medical assistance, but are still too intoxicated to return home alone safely. Bishop's University and Université de Sherbrooke have each developed their own version of these sites and have reserved support areas during events that have previously been identified as being associated with excessive drinking and alcohol abuse (e.g., Halloween, Oktoberfest, St. Patrick's Day).

Given data identifying the Fête du Lac des Nations and outings in bars during initiation activities as high-risk events in Sherbrooke for intoxication and assault, the committee members imagined creating temporary, mobile support spaces in specific places during the most problematic weeks. In the spirit of community fridge projects that, on a small scale, allow people to take what they need,⁷ the safe support area would be set up during specific occasions to offer youth who have drunk too much a friendly



place to sit, catch their breath, drink water and have something to eat. With the collaboration of university students, who would be responsible for designing the space, the chairs could be placed in a circle and bottled water and food could be offered. Street outreach workers could also be on hand to offer support and chat and, when necessary, call emergency services.

Alcohol Availability

Energizing the Local Economy and Offering a Showcase for Microbreweries

A recent experimental study conducted among young university students showed that participants who drank a 3.8% beer became less drunk than those who had a 5.3% beer, but that most enjoyed drinking either beer equally. Only half of the students were able to correctly guess which beer had the higher alcohol content (Segal & Stockwell, 2009). The committee members imagined having only low-alcohol products served during the Fête du Lac des Nations and certain initiation activities. One committee member put forward the idea to give the microbreweries in Sherbrooke a challenge to brew a beer with a maximum alcohol content of 3.5% and hold a contest in which the participating microbreweries would win exclusive rights to sell beer during targeted events. In addition to reducing excessive alcohol consumption, this kind of initiative would encourage and enliven the local economy.

⁷ See ici.radio-canada.ca/nouvelle/766842/frigo-communautaire-sherbrooke-libre-service-collectif-centre-ville-wellington-sud-alimentaire.



Conclusion

This case study provides an interesting example and course of action for any other Canadian municipality seeking to reduce alcohol-related harm among the youth of its community and to support its post-secondary institutions in their efforts to do the same.

It was found to be constructive to begin the project by producing an assessment of drinking among youth and its consequences in the community. First, the results helped better to define the issue and identify the contexts conducive to excessive drinking on which local stakeholders could take action. Second, the data collection allowed for the establishment of a starting point from which it will be possible to measure the benefits of the preventative measures eventually chosen and implemented.

It should be noted that one of the main contributing factors to this project's success was the collaboration with the Réseau québécois de villes et villages en santé. The mission underlying its work is what makes the Réseau unique: *to bring together the vital forces of a community, lead them to work together, consult citizens and encourage them to prioritize their needs*. This collaboration can serve as encouragement for the other cities, towns and villages that are also part of the Canadian Healthy Communities Network.⁸

⁸ There are strong community networks in Canada, particularly in British Columbia (BC Healthy Communities), Ontario (Ontario Healthy Communities Coalition), Quebec (Réseau québécois de villes et villages en santé) and New Brunswick (Mouvement acadien des communautés en santé du Nouveau-Brunswick).



Appendix 1: List of Alcohol-related Community Indicators

Indicators of alcohol consumption		Reference for indicator	Data source	Notes	Data type
I. 1.1 ⁹	Consumption per capita	Flynn & Wells, 2014	NOT AVAILABLE for youth		
I. 1.2	Age of first drink	Flynn & Wells, 2014	NO DATA AVAILABLE		
I. 1.3	Prevalence of consumption	Flynn & Wells, 2014	<ul style="list-style-type: none"> Québec Health Survey of High School Students (QSHSS) Administrative data from post-secondary institutions 		Self-reported
I. 1.4	Frequency of consumption	Flynn & Wells, 2014	<ul style="list-style-type: none"> QSHSS Administrative data from post-secondary institutions 		Self-reported
I. 1.5	Usual number of drinks per occasion	Flynn & Wells, 2014	<ul style="list-style-type: none"> Administrative data from post-secondary institutions 		Self-reported
I. 1.6	Frequency of excessive consumption	Flynn & Wells, 2014	<ul style="list-style-type: none"> Enquête de santé populationnelle estrienne 		Self-reported
I. 1.7	Maximum number of drinks consumed per occasion	Flynn & Wells, 2014	NOT AVAILABLE for youth		
I. 1.8	Negative consequences related to alcohol	PEP-AH	<ul style="list-style-type: none"> QSHSS 		Self-reported
I. 1.9	Prevalence of protective behavioural strategies (PBS)	PEP-AH	NO DATA AVAILABLE		
Indicators of alcohol-related health problems		Reference for indicator	Data source	Notes	Presentation categories
I. 3.1	Alcohol-related visits to emergency	Flynn & Wells, 2014	<ul style="list-style-type: none"> Medical archives from the Centre hospitalier universitaire de Sherbrooke (CHUS) 		Administrative
I. 3.2	Alcohol-related hospitalizations	Flynn & Wells, 2014	<ul style="list-style-type: none"> Medical archives from CHUS 		Administrative
I. 3.3	Alcohol-related deaths	Flynn & Wells, 2014	NO DATA ACCESSIBLE		
I. 3.4	Alcohol-related motor vehicle accidents	Flynn & Wells, 2014	<ul style="list-style-type: none"> Société de l'assurance automobile du Québec 		Administrative
I. 3.5	Alcohol-related road deaths	Flynn & Wells, 2014	<ul style="list-style-type: none"> Société de l'assurance automobile du Québec 		Administrative
I. 3.6	Emergency medical services interventions on campus for alcohol-related accidents or incidents	PEP-AH	<ul style="list-style-type: none"> Administrative data from post-secondary institutions 		Administrative
I. 3.7	Calls to 9-1-1 for alcohol-related accidents or incidents	PEP-AH	<ul style="list-style-type: none"> Administrative data from post-secondary institutions 		Administrative

⁹ The indicators in red are those for which no data is currently available or accessible from Sherbrooke to produce a community analysis.



	Indicators for alcohol-related crime	Reference for indicator	Data source	Notes	Presentation categories
I. 4.1	Calls to police department for assault	Flynn & Wells, 2014	• Uniform Crime Reporting Survey (UCR) at the MSP. Codes		Administrative
I. 4.2	Calls to 9-1-1 for alcohol-related injuries	Flynn & Wells, 2014	NO DATA AVAILABLE		
I. 4.3	Arrests for impaired driving	Flynn & Wells, 2014	• Uniform Crime Reporting Survey (UCR) (CANSIM table 252-0076;)		Administrative
I. 4.4	Incidents of public drunkenness and disorderly conduct	Flynn & Wells, 2014	• Statistics and operational data of the Service de police de la Ville de Sherbrooke (Incident codes 5.6.2; 5.6.2-1 and 5.6.2-2)		Administrative
I. 4.5	Incidents of vandalism (property damage, graffiti, vehicles)	Flynn & Wells, 2014	• Uniform Crime Reporting Survey (UCR) at the MSP. Codes 21701 to 21711. • For minors (aged 12 to 17), Uniform Crime Reporting Survey (UCR) (CANSIM table 252-0076; code 0250)		Administrative
I. 4.6	Proportion of alcohol-related arrests among total number of arrests	Flynn & Wells, 2014	NO DATA AVAILABLE		
I. 4.7	Calls to campus security services for alcohol-related accidents or incidents	PEP-AH	• Administrative data from post-secondary institutions		Administrative
I. 4.8	Calls made by campus security services to SPS police assistance for alcohol-related assaults or incidents	PEP-AH	• Administrative data from post-secondary institutions		Administrative
	Indicators of availability of alcohol	Reference for indicator	Data source	Notes	Presentation categories
I. 2.1	Number of alcohol permits	Flynn & Wells, 2014	• Régie des alcools, des courses et des jeux		Administrative
I. 2.2	Number of SAQ branches	Flynn & Wells, 2014	• Société des alcools du Québec website		Administrative
I. 2.3	Density of alcohol points of sale	Flynn & Wells, 2014	NO DATA AVAILABLE		
I. 2.4	Excise tax on alcohol	Flynn & Wells, 2014	• Canada Revenue Agency. Excise Act		Administrative
I. 2.5	Consumer price index in general and for alcoholic beverages	Flynn & Wells, 2014	• Consumer price index (CANSIM table 326-0020)		Administrative
I. 2.6	Number of alcohol permits issued on campus	PEP-AH	NO DATA AVAILABLE		
I. 2.7	Number of points of sale of alcohol on campus	PEP-AH	NO DATA AVAILABLE		
I. 2.8	Sales prices of alcohol products on campus	PEP-AH	• Administrative data from post-secondary institutions		Administrative
I. 2.9	Hours of alcohol sales on campus	PEP-AH	NO DATA AVAILABLE		



Appendix 2: PEP-AH Commitment Agreement

Mission

To maximize the positive development, success and general wellbeing of students, PEP-AH aims to reduce harms related to alcohol consumption at Canadian universities and colleges. PEP-AH is proposing an evidence-based approach, common indicators, and an open sharing of strategies and results. PEP-AH will offer its members and partners knowledge and experience to reduce alcohol-related harms at universities and colleges across the country.

Vision

Colleges and universities are identified as communities where serious harms related to alcohol consumption do not happen. Students can expect to join a learning environment that does not encourage excessive use of alcohol.

Values

1. We ensure that students will not only be partners in all aspects of PEP-AH, from planning to the implementation of programs, but will be champions and leaders.
2. We respect student privacy and confidentiality.
3. We respect institutional confidentiality. We do not use data in ways that pit one institution against another or create negative comparison.
4. We are committed to developing, implementing and sharing new strategies and initiatives, even those that are not successful, in order to more quickly find the ones that do work.
5. We measure results to learn from our collective experiences.
6. We work with partners who can help us achieve our vision.

Membership

As PEP-AH moves forward and becomes more operational, member institutions might be asked to contribute a small membership fee to, for example, hire a part-time support person, cover administrative cost or develop a common initiative. The fee is estimated to be between \$500 to \$1,000.

Partnerships

PEP-AH will include partnerships with organizations that share similar mission and values. Such partners could include Universities Canada, Canadian Association of College and University Student Services, Canadian Centre on Substance Use and Addiction, Colleges and Institutes Canada, and regional and national student associations.



By signing this form, I support PEP-AH's mission and commit our institution to participate in the partnership's efforts to reduce harms related to alcohol consumption on Canadian campuses.

Signature of Chancellor, University
President, Rector or Provost:

Organization:

Date :



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