
ALCOHOL OUTLETS IN GREY BRUCE SUMMARY REPORT

2017



Grey Bruce Health Unit

Prepared by:

Sarah Milne, Health Promoter

Acknowledgements

Thank you to Grey and Bruce Counties for supporting their staff Jody McEachern, Philly Markowitz and Justin Kraemer and to the Alcohol and Gaming Corporation of Ontario's Craig Landry for participating in the development of the database and GIS map of alcohol availability in the fall 2016.

Health Promoter Sarah Milne drafted this report with the support of Lynda Bumstead, Program Manager. Special thanks to Tim Duivesteyn, Paige Mackie, Allison Murray, Lina Scherazy, Alys Shewfelt and Jason Wepler for their editing skills.

Recommended citation:

Grey Bruce Health Unit. Alcohol Outlet Density Report in Grey Bruce. Owen Sound: Author; 2017.

Contents

Purpose	4
Background	4
Objectives	5
Methodology.....	5
Definitions.....	6
Off-premise Outlet Categories.....	6
On-premise Outlet Categories	7
Results.....	8
Summary	9
Discussion.....	11
Recommendations	12
Conclusions.....	12
3	
References	15

Purpose

The purpose of this summary report is to provide an overview of physical availability of alcohol by identifying the different types and the geographic locations of on-premise and off-premise outlets in Grey Bruce. The process of mapping alcohol outlets creates a baseline picture of alcohol availability and access in our region and will allow for the measure of the number of outlets and outlet density changes over time.

Background

Alcohol outlet density is the number of locations where alcohol is legally available to purchase either by geographic area or population. Over the past decade, Ontario has experienced an overall decline in rates of binge drinking and drinking in excess of the low-risk drinking guidelines (Public Health Agency of Canada, 2016). Despite the decline, the Grey Bruce rate of exceeding either of the low-risk drinking guideline components (daily/weekly limits and special occasion limits) is 20% higher than the Ontario rate, with 51% of the population exceeding the guidelines (Grey Bruce Health Unit, 2013). Regular heavy drinking of alcohol is far more prevalent in our community with individuals who drink heavily at least monthly making up 26% of our population (Grey Bruce Health Unit, 2015).

Regular heavy alcohol consumption has negative impacts on the health and safety of a community with direct links to crime, injury, violence, impaired driving, fetal alcohol spectrum disorder, mental health and chronic disease (CAMH Health Promotion Resource Centre, 2013). It is estimated that there would be approximately 4,600 fewer alcohol related deaths if all Canadians drank within the recommended guidelines (Educ'alccol, 2007). The total direct and indirect health care costs in Canada are estimated to be \$14.6 billion, which translate to a cost of approximately \$460 on average per person in Ontario attributable to alcohol (Rehm, et al., 2006).

In 2012, Grey Bruce Health Unit's (GBHU) *Reducing Alcohol-Related Harms* position paper provided guidance for the work related to alcohol use prevention in our region and outlined recommendations including policies to address the issues surrounding alcohol use in Grey Bruce (Barclay, 2012). One of these recommendations was to control the physical and legal availability of alcohol. The policy recommendations are based on the 2004 World Health Organization recommendations which are further supported by current work on alcohol outlet density in the last decade (Campbell, et al., 2009; Popova, Giesbrecht, & Bekmuradov, 2009; Babor, Caetano, & Casswell, 2010). More recently, work supporting the control of alcohol availability involving the health unit and municipal partners involved the creation of a *Municipal Alcohol Policy* template. The template was used to update current municipal and county policies to reflect provincial and national policy best practices related to alcohol (Ontario Agency for Health Protection and Promotion (Public Health Ontario), 2015).

However, challenges to control the physical availability of alcohol continue. In 2015, the Ontario Government announced the introduction of the sale of beer in up to 450 grocery stores across the province (Government of Ontario, 2015). The increase in availability continued in 2016 with the provincial government's announcement of

authorizing wine sales in 150 grocery stores, an agreement with the LCBO to purchase wholesale beer and wine for resale to the public. Over the coming years, of the 450 grocery stores authorized to sell beer, up to 300 will also sell wine, cider and fruit wine (LCBO, 2016).

These recent provincial policy changes related to wine and beer sales in grocery stores will result in an increase in the number of off-premise alcohol outlets in our region further contributing to challenges in the control of alcohol availability. In addition to the increased off-premise outlets, the introduction of the LCBO online retail store and delivery by the LCBO has expanded the convenience and choice of purchasing and consuming alcohol to residents. Although online purchases are not new, online alcohol sales have been growing for a number of years along with the home delivery of alcohol through special AGCO licenses and permits.

Grey Bruce has an opportunity to regulate access and address alcohol consumption through healthy public policy initiatives at the local level as well as advocacy efforts directed at the provincial level. Coordinated, multi sector strategies and effective policies are needed to moderate overall consumption of alcohol and to reduce alcohol related harms (CPHA, 2011). The data collection and mapping of the alcohol outlets in Grey Bruce supports these efforts.

Objectives

1. To create a visual representation of the physical availability and density of alcohol outlets in Grey and Bruce
2. To provide a baseline or current state of the physical availability of alcohol outlets in Grey and Bruce
3. To provide recommendations regarding local alcohol outlet density, outlet data and application of the data

Methodology

Measuring alcohol outlet density involves calculating the number and type of outlets against a reference measure such as land area, the population of a specific region, or a linear measure such as a major road or highway. Examples of measures of density include outlets per population, outlets per land area and outlets per road kilometer. This can be done using different geographic units of measure including census tracts, block groups, zoning districts, postal codes, municipal or county boundaries among others (Giesbrecht, Room, & Rehm, 1999). Rural communities pose unique challenges due to their large unpopulated areas and thus selecting the most appropriate units to measure density can be challenging. The measures chosen for this report are outlets per population and municipal and county boundaries.

A comprehensive list of outlet data obtained from the Alcohol and Gaming Commission of Ontario (AGCO), Liquor Control Board of Ontario (LCBO) and Grey County Economic Development was geocoded by both Grey and Bruce

County Geographic Information System (GIS) representatives. Outlets were categorized into eight off-premise and seven on-premise outlet types.

GBHU staff, as well as staff at the two counties, reviewed data on outlet locations for errors and omissions. Many of the outlet addresses were listed as PO Boxes, which are not a usable format for the GIS and a physical address needed to be researched and entered. In some cases, there were duplicate entries for outlets found in the data, which may have been the result of multiple licenses or permits at one location. In these cases, the outlet or listing was contacted to verify the address and one entry was included.

Data was mapped using ArcGIS, a geographic information system software for capturing, storing, displaying and interpreting data related to geographically referenced positions on the Earth's surface (National Geographic Society, 2011). The GIS map provides a visual representation of the variety and number of physical outlets where alcohol can be legally purchased in Grey Bruce. An ArcGIS online account for the health unit was established through the Grey County Planning Department and the *Bruce and Grey Alcohol Vendor Web Map* was created using the geocoded data. The map is accessible through the Grey County ArcGIS with permission given to edit, add and delete attributes. Once the available data sets were mapped, densities were calculated for each municipality based on population reporting during the 2011 Census.

Definitions

Off-premise alcohol outlets: A retail store where people buy alcohol, but drink it elsewhere.

Off-premise Outlet Categories

1. LCBO Stores: Establishments are provincially government-owned by the Liquor Control Board of Ontario. Outlets are individual buildings selling only LCBO products. LCBO cannot sell quantities of beer in 12 containers/packs or 24 containers/packs and sells imported beers to bars and restaurants as well as to The Beer Store)
2. LCBO Agencies: LCBO authorized agency store (often seen in smaller communities) operating within another establishment.
3. Grocery Stores: Authorized eligible grocers that sell beer and wine, including cider in no more than six containers/pack) sales.
4. Beer Store: The Beer Store sells beer for offsite consumption. It is a privately owned retail chain by three companies (Anheuser-Busch Inbev SA, Belgium/Brazil; Molson Coors Brewing Co., USA; and Sapporo Breweries Ltd., Japan) with exclusive right to retail most of the beer in Ontario, exclusive retail of quantities of 12 pack and 24 pack of beer and exclusive right to sell the most popular brands of beer to restaurants and bars. The Beer Store is regulated by the AGCO, an agency of the Government of Ontario

5. Ferment on Premise (FOP): A facility where equipment for the making of beer or wine on the premise is available for individuals. Premises are used exclusively for customers who make their own beer or wine for personal consumption.
6. Off-site Winery: Vintners Quality Alliance (VQA) wine sold in a wine boutique store that must sell a certain percentage VQA wine and non-owner wine, cider with less than 7.1% alcohol and cannot offer a package of more than six (6) containers of cider.
7. Breweries, Cideries, Wineries: Establishments permitted to sell for off-site consumption through their onsite store (wine/beer pub endorsement).
8. Farmers' Markets: Markets obtain authorization from the AGCO to sell VQA wine and/or fruit wine as an 'occasional' extension of its on-site winery retail store (local market sites may not be included due to seasonal operation).

On-premise alcohol outlets: A bar, restaurant or other establishment for the on-premise sale, service and consumption of alcohol. There is no restriction on the type of business that may apply for a liquor sales licence.

AGCO defined on-premise alcohol outlet categories include: *adult entertainment, arcade-style facility, art gallery, athletic club, auditorium, automotive/marina, banquet hall, bar/tavern/nightclub, bar/sports bar, billiard/pool hall, bingo hall, boat, bowling alley, club, community centre, educational facility-over 19 years of age, educational facility-under 19 years of age, funeral home, gaming facility, general store, golf course, grocery store, grocery store with authorization, hair salon/barber shop, historical site/landmark, hotel/motel, internet café, karaoke bar/restaurant, live theatre, lounge, medical facility, military, motion picture theatre, museum, night club, other, outdoor area, place of worship, railway car, restaurant, restaurant (franchise), restaurant/bar, restaurant/club, retirement residence, social club, spa, specialty food store, stadium.*

On-premise Outlet Categories

1. Bars/Sports Bar, Adult Entertainment, Night Club
2. Bowling Alley, Live Theatre, Gaming Facility), Billiard/Pool Hall, Stadium, Banquet Hall, Military facility, Outdoor Area and Museums
3. Community Centre
4. Golf Course
5. Hotel/ Motel
6. Restaurant, Restaurant/Bar, Restaurant (Franchise)
7. Social Clubs

The on-premise establishments are presented as separate and distinct entities; however, many share similar characteristics such as a restaurant may have a freestanding bar, or may become a bar after hours. Some social clubs have private memberships but offer regular access to the public.

Wine or beer manufacturing sites may have more than one Liquor Sales Licence including ‘Tied House’ Liquor Sales, ‘By the Glass’ Limited Licence and/or a Retail Store Authorization and Manufacturers Representatives Licence. Other sites including golf courses, brew pubs, catering, mini bar, room service, wine pub and bring your own wine may have licence endorsements in addition to the liquor sales licence which allow liquor sales licensees to sell and serve alcohol under specific conditions (AGCO, 2017).

Results

Using the GIS software to map locations of the alcohol outlets in Grey Bruce allows the collected data to be presented in a variety of ways to support future policy and program initiatives. Outlets can be sorted and mapped by the outlet types including by the different types of outlets within each of the on- or off-premise outlet categories and the outlet types by municipality. Additional data can be added to each outlet attribute to further improve the capabilities of the mapped data such as seating capacity, type of alcohol or volume of sales. With more advanced GIS software capabilities, overlays of the locations of crime, injury and violence can be mapped and analysed to identify patterns, trends that can be used to support land use planning decisions (Quick, Law, & Luan, 2016). Overlays of community characteristics such as urban design and sociodemographic information can further support analysis and provide more detailed information to inform land use planning and policy. **Error!**

Reference source not found. The outlet density is shown as the number of residents per outlet within the boundaries for each municipality. An Alcohol Outlet Heat Density map is used to visualize the density of the number of alcohol outlets in Grey Bruce using colour to show higher and lower density areas **Error! Reference source not found.**[Summary](#)

Grey Bruce has 40 alcohol retailers serving a population of 158,670 people, a ratio of approximately one store for every 4000 people (Grey Bruce Health Unit, 2014). That is two and a half times as many stores per capita than Ontario as a whole. Table 1 offers a comparison of off-premise outlets to our peer groups Huron and Perth health units, as defined by Statistics Canada in the Canadian Community Health Survey.

Table 1. Comparison of Off-premise alcohol outlets Ontario & similar health unit regions (Huron and Perth County October 2016):

Alcohol Outlet (off-premise)	Grey Bruce	Ontario	Huron	Perth
LCBO	20	651	5	5
LCBO Agency Stores	8	212	4	2
List of Brewers Retail (The Beer Store)	12	450	4	5
Totals	40	1,313	13	12
Population	158,670	13.3 million	59,000	75,110
Ratio 1 store:	4,000	10,000	4,500	6,259

On-premise and off-premise outlets and their density are reflected in Table 2. Owen Sound had the highest number of on-premise and off-premise outlets with a total of 56 outlets, a density of 1 outlet per 388 residents. The second highest number of outlets was the Saugeen Shores with 43 outlets, a density of 1 outlet per 273 residents. The lowest number of total outlets was the Georgian Bluffs with 2 outlets, a density of 1 outlet per 5,253 residents, followed by the Southgate with 5 outlets, a density of 1 outlet per 1,433 residents. Based on the density of total outlets per population, the Municipality of Northern Bruce Peninsula had the greatest density of one (1) outlet per 226 residents. The second highest density was the Town of Saugeen Shores at 273 residents per outlet followed by the Town of South Bruce Peninsula and Arran-Elderslie each having 281 residents per outlet.

Table 2. Total On- and Off-premise Outlets by Municipality and Outlet Density per Population (October, 2016)

Municipality	Population (Census 2006)	On-premise outlets	Off-premise outlets	Total on- and off-premise outlets	Density (ratio of 1 outlet per populations):
City Of Owen Sound	21,753	46	10	56	388
Municipality Of Arran-Elderslie	6,747	20	4	24	281
Municipality Of Brockton	9,641	14	2	16	603
Municipality Of Grey Highlands	9,480	13	7	20	474
Municipality Of Kincardine	11,173	25	5	30	372
Municipality Of Meaford	10,948	15	5	20	547
Municipality Of Northern Bruce Peninsula	3,850	13	4	17	226
Municipality Of South Bruce	5,939	5	4	9	660
Municipality Of West Grey	12,193	9	4	13	938
Town Of Blue Mountains	6,825	16	3	19	359
Town Of Hanover	7,147	16	5	21	340
Town Of Saugeen Shores	11,720	37	6	43	273
Town Of South Bruce Peninsula	8,415	26	4	30	281
Township Of Chatsworth	6,392	5	2	7	913
Township Of Georgian Bluffs	10,506	2	0	2	5253
Township Of Huron-Kinloss	6,515	6	2	8	814
Township Of Southgate	7,167	3	2	5	1433

Source: Population Estimates (2006). (Statistics Canada, 2007)

Grey and Bruce counties have 73 off-premise outlets (Table 3), a retail store where people buy alcohol, but drink it elsewhere. Twenty seven percent (20/73) of the outlets are LCBO stores, followed by ferment-on-premise at 22%. Currently, there are only two grocery stores with applications to sell alcohol. Grey and Bruce County have a total of 17 Farmer's Markets of which only two had permits to sell alcohol at the time of data collection. Variations in the number of licenses for Farmer's Markets may be due to the seasonal nature of Farmer's Markets and the potential for permits to be issued as special occasion permits for the vender. The **Error! Reference source not found.** map shows the total number of off-premise outlets in Grey Bruce.

Table 3. Type of Off-premise outlets in Grey Bruce (Number of off-premise outlets as of October 31, 2016)

Alcohol Outlet (off-premise)	Number of Outlets
Farmer's Market Licence (seasonal)	2
Ferment-on-Premise Locations	16
Grocery stores	2
LCBO Stores	20
LCBO Agency Stores	8
List of Brewers Retail (The Beer Store)	12
Off-site Wineries	1
On-site Brewery	6
On-site Cidery	3
On-site Winery	3
Total	73

On-premise outlets, a bar, restaurant or other establishment with a licence where people buy alcohol and drink it on-site totaled 271 in Grey Bruce (Table 4). Restaurants and Restaurants/Bar represented the highest number of outlets with 158, followed by Social Clubs at 38 and outlets categorized as Golf Courses at 28. For the purpose of this report, Social Club is a combined total from sites with similar characteristics and includes legions, curling clubs, snowmobile clubs, ski clubs, lawn bowling clubs, country clubs and athletic clubs. Community Centres represented the fewest number of outlets at five (5) in Grey Bruce. Of the 17 municipalities, off-premise alcohol outlets were highest in Owen Sound with a total of 10 outlets. All outlets in this category except for two, on-site cidery and grocery store and a density of one outlet per 2,175 residents. Grey Highlands had the second highest number of outlets with 7, of which 3 were LCBO agency stores and an outlet density of 1,354 residents per outlet. Saugeen Shores had 6 outlets with an outlet density of one outlet per 1,953 residents.

The municipality with the greatest density of off-premise outlets was Northern Bruce Peninsula with 1 outlet per 963 residents followed by Grey Highlands at 1 outlet per 1,354 residents and Hanover with 1 outlet per 1,429 residents. Owen Sound had the most on-premise outlets with 46 with 65% or 30/46 categorised as Restaurants and Restaurant/Bar outlets. Saugeen Shores had 37 on-premise outlets followed by South Bruce Peninsula at 26 and Kincardine at 25 on-premise outlets.

The density of on-premise outlets (Table 9) was greatest in Northern Bruce Peninsula with 13 outlets, a density of one (1) outlet per 296 residents. Followed by Saugeen Shores with 37 outlets, a density one (1) outlet per 317 residents and South Bruce Peninsula had 26 outlets, with a density one (1) outlet per 324 residents. The municipality with the lowest density of on-premise alcohol outlets was Georgian Bluffs with two (2) outlets, one (1) outlet per 5,253 residents. This was followed by Southgate with three (3) outlets, one (1) outlet per 2,389 residents and West Grey with 9 outlets and a density of one (1) outlet per 1,355 residents. Two outlets listed in this category have licenses for both a restaurant and brewery. For the purpose of this report they have been categorized as breweries only

Discussion

Several different study designs including time-series studies on alcohol outlet density change have shown that greater outlet density is associated with increased alcohol consumption and related harms including medical harms, injuries, crime and violence (Livingston, 2011). There is evidence especially for the association between increased violence with increased outlet density (Fitterer, Nelson & Stockwell, 2015; Popova et al., 2009).

Regulating the density of alcohol outlets to lower alcohol consumption and reduce alcohol-related injuries, assaults, public disorders, and violence is an effective approach (Zhao et al., 2013).

Factors that may affect outlet density impact on consumption and alcohol related harms include outlet size/sales volume (i.e., physical size of the retail premises or the volume of its sales), clustering (i.e., level of aggregation of outlets within a given area), location (i.e., proximity of alcohol outlets to sensitive areas such as schools), neighbourhood environmental factors (i.e., demographics of the community and social isolation/cohesion), size of the community (i.e., which may affect access to other off-premise outlets), number and types of alcohol outlets and illegal behaviour (i.e., outlet types such as a bar, restaurant, LCBO, grocery store) (Sparks, Jernigan, & Mosher, 2006). The exercise of mapping outlets in Grey Bruce provides information for two factors: the physical size of the community/total number of outlets/proximity to one another and the number/type of alcohol outlets as well as the differing risks that each type may pose (Giesbrecht, Room, & Rehm, 1999). Determining the adverse health effects of an increase in on and off-premise alcohol outlets and associated density changes on population health requires ongoing surveillance and monitoring both at the local and provincial levels.

The next step to understanding the impact of alcohol outlet density in the region is to map and compare to community indicators on alcohol related harms. Mapping alcohol outlets allows for local level analysis to inform future policy-making around the physical availability of alcohol. Further, the use of GIS mapping to manage, interpret and visualize data enables patterns, relationships and trends to be identified within the data. Assessing community impact of alcohol is possible with data from police, hospital records, and motor-vehicle collisions. Data on calls and arrests due to alcohol-injury and assaults, alcohol-related crashes and rates of emergency department over-laid with alcohol outlet density maps will provide a full picture of how alcohol outlet density impacts the community. A study in the Region of Peel examined the density of on-premise establishments and made comparisons to EMS ambulance calls per 1000 residents finding a correlation between EMS ambulance calls for injuries, particularly trauma with density. Livingston et al. points out that increased alcohol outlet density can have secondary effects that new outlets may cause competition on existing outlets resulting in price reductions which have been shown to increase consumption (Livingston et al., 2007).

Recommendations

Recommendations included in this report recognize that collaborative efforts among provincial ministries, public health, municipalities, law enforcement, AGCO and health care providers are required in order to achieve healthy communities.

Public Health

- Advocate for the establishment of provincial standards that grant local municipalities the authority to stop licensing of alcohol outlets in areas with high density or crime
- Advocate for provincial policies on minimum distance between alcohol retailers including grocery stores
- Continuously work with municipalities to provide feedback on strategic plans that affect alcohol density (Tourism, Economic Development, Planning) and to develop, implement and evaluate municipal alcohol policies
- Public health and its partners can work with stakeholders to improve and streamline data collection and management through annual updates of datasets both internally and from external partnerships
- Public health and its stakeholders can conduct a geospatial analysis using GIS to investigate the local spatial associations between the alcohol environment (on- and off-premise outlets) and associated problems, such as motor vehicle crashes, injuries and violence (include domestic disturbance, public nuisance and EMS non transfer calls)

Monitor local outlet density activity and participate in public health surveillance related to alcohol and alcohol related harms to support informed evidence based policy decisions

Municipalities

- Establish restrictions on licensing through municipal by-laws
- Establish policies that set limits regarding the number of liquor licensed establishments by neighbourhood (accounting for degree of crime)
- Establish zoning by-laws for minimum separation distances between alcohol outlets and public spaces like parks, schools and recreation facilities; minimum separation between alcohol retailers including grocery stores Work with Public Health to advocate for provincial and local control of alcohol outlet density such as establishing provincial standards and granting local licensing powers etc.
- Create a business license category that includes grocery retailers for applications to go through rezoning and public hearing
- Regulate alcohol consumption on municipally owned property through a *Municipal Alcohol Policy* in compliance with current liquor laws

- Continue to strengthen wording in specific *Municipal Alcohol Policy* areas as well as consistently implement and regularly review the *Municipal Alcohol Policy*
- Municipalities work with public health to evaluate and conduct *Health Impact Assessments* on alcohol licence applications. *Health Impact Assessments* are a means to integrate health considerations into community planning decisions to create positive health effects and minimize negative health impacts
- Incorporate a *Health in All Policies* approach through local community planning and development to identify areas and policies in official plans to support decreased outlet density

Conclusions

Limiting the availability of alcohol through controlling physical availability is an effective approach to reducing alcohol-related harms. This report provides information on the outlets and outlet densities in each municipality within Grey Bruce. Significant staff time was allocated to collecting, editing and reviewing the on and off-premise outlet listings provided by the AGCO and LCBO. Annual updates and edits of datasets may support improved data management and future analysis. Strategies identified by the Grey Bruce Health Unit related to the physical and legal availability of alcohol include regulating alcohol outlet density, hours of service and alcohol served at public events.

The primary rationale for limiting the availability of alcohol through various means, including alcohol outlet density, is to reduce the negative impacts of alcohol and to improve the overall health and well-being of residents in our communities. Healthy public policies and interventions are essential in reducing the harms associated with alcohol consumption (Barclay, 2012). Ontario does not currently have a provincial policy on limiting or regulating alcohol outlet densities (Giesbrecht, et al., 2013). Further research into the health impacts of outlet density is needed to determine specific recommendations for policies and legislation related to alcohol outlets. Undertaking the outlet mapping has provided insight into possible improvements to data collection, organization and the sharing of data between and across sectors to improve public health outcomes and support for healthy public policy.

References

- AGCO Alcohol and Gaming Commission of Ontario. (May 2016). All Sales Alcohol.
- Ashe, M., Jernigan, D., Kline, R., & Galaz, R. (2003). Land use planning and the control of alcohol, tobacco, firearms and fast food restaurants. *American Journal of Public Health, 93*(9), 1404-1408. Retrieved 1 12, 2017
- Babor, T., Caetano, R., & Casswell, S. (2010). *Alcohol: no ordinary commodity - research and public policy, revised edition*. Oxford: Oxford University Press.
- Barclay, M. (2012). *Reducing Alcohol Related Harm: Moving Toward A Culture of Moderation in Grey Bruce. A Call for Action*. Owen Sound, Ontario: Grey Bruce Health Unit.
- CAMH Health Promotion Resource Centre. (2013). *Making the case: Tools for Supporting Local Alcohol Policy in Ontario*. Toronto: Centre for Addiction and Mental health.
- Campbell, C., Hahn, R., Elder, R., Brewer, R., Chattopadhyay, S., & Fielding, J. (2009). The effectiveness of limiting alcohol outlet density as a means of reducing excessive alcohol consumption and alcohol-related harms. *American Journal of Preventative Medicine, 37*(6), 556-569. Retrieved December 2016, from <https://www.thecommunityguide.org/sites/default/files/assets/EffectivenessLimitingAlcoholOutletDensityMeansReducingExcessiveAlcoholConsumptionAlcohol-RelatedHarms1.pdf>
- Canadian Centre on Substance Abuse. (2013). *Canada' Low Risk Drinking Guidelines*. Retrieved November 2016, from Canadian Centre on Substance Abuse: <http://ccsa.ca/Resource%20Library/2012-Canada-Low-Risk-Alcohol-Drinking-Guidelines-Brochure-en.pdf>
- Cancer Care Ontario. (2014). *Cancer Risk Factors in Ontario: Alcohol*. Queen's Printer for Ontario. Retrieved from <https://www.cancercare.on.ca/common/pages/UserFile.aspx?fileId=303138>
- Cancer Care Ontario. (2016). *2016 Prevention System Quality Index: monitoring Ontario's efforts in cancer prevention*. Toronto: Queen's Printer for Ontario. Retrieved October 24, 2016, from <https://www.cancercare.on.ca/common/pages/UserFile.aspx?fileId=363932>
- CPHA. (2011). *Too High a Cost: A Public Health Approach to Alcohol Policy in Canada*. Ottawa: CPHA.
- Educ'alcool. (2007). *Alcohol and Health Low-Risk Drinking: 2 3 4 0*. Montreal: Educ'alcool.
- Giesbrecht, N. (2013). *Submission to the Inquiry into Modernizing British Columbia's Liquor Laws; Response to the letter from MLA John Yap to the Centre of Addiction and Mental Health*.
- Giesbrecht, N., Room, R., & Rehm, J. (1999). Privatizing alcohol sales and alcohol consumption: evidence and implications. *Addiction, 94*, 1125-1139.
- Giesbrecht, N., Wettlaufer, A., April, N., Asbridge, M., Cukier, S., Mann, R., . . . Vallance, K. (2013). *Strategies to Reduce Alcohol-Related Harms and Costs in Canada: A Comparison of Provincial Policies*. Toronto, ON: Centre for Addiction and Mental Health. Retrieved January 13, 2017, from http://www.camh.ca/en/research/news_and_publications/reports_and_books/Documents/Pro

vincial%20alcohol%20reports/Strategies%20to%20Reduce%20Alcohol%20Related%20Harms%20and%20Costs%202013.pdf

- Gmel, G., Holmes, J., & Studer, J. (2016). Are alcohol outlet densities strongly associated with alcohol-related outcomes? A critical review of recent evidence. *Drug Alcohol Review, 35*, 40-54. Retrieved November 2016
- Government of Ontario. (2015, September 23). *Ontario.ca*. (M. o. Finance, Producer) Retrieved February 14, 2017, from Ontario.ca: <https://www.ontario.ca/page/beer-wine-cider-sales-grocery-stores>
- Grey Bruce Health Unit. (2013). *CCHS Indicators: Regular Heavy Drinking*. Owen Sound: Grey Bruce Health Unit.
- Grey Bruce Health Unit. (2014). *Grey Bruce Healthy Community Picture*. Owen Sound, Ontario: Grey Bruce Health Unit. Retrieved January 12, 2017
- Grey Bruce Health Unit. (2015). *Drinking in Excess of the Low-risk Drinking Guidelines*. Owen Sound, ON: Grey Bruce Health Unit. Retrieved January 16, 2017, from <https://intranet.publichealthgreybruce.on.ca/Reports/Epi%20Reports/Chronic%20Disease%20and%20Injury%20Prevention/Alcohol/Drinking%20in%20Excess%20of%20the%20LRDG.pdf>
- Gruenewald, P. J., Remer, L., & Lipton, R. (2002, January 1). Evaluating the Alcohol Environment: Community Geography and Alcohol Problems. *Alcohol Research, 26*(1). Retrieved from <https://www.questia.com/library/journal/1P3-153352181/evaluating-the-alcohol-environment-community-geography>
- Hann, N., Kean, K., Matulionis, R., & Sterling, T. (2004). Policy and environmental change: new directions for public health. *Health Promotion Practice, 5*(4), 377-381.
- Health Canada. (2007). *Reducing Alcohol-Related Harm in Canada: Toward a Culture of Moderation*. Ottawa, ON: Health Canada. Retrieved January 16, 2017, from <http://www.ccsa.ca/Resource%20Library/ccsa-023876-2007.pdf>
- Ialomiteanu, A., Hamilton, H., Adlaf, E., & Mann, R. (2015). *CAMH Monitor eReport 2015: Substance Use, Mental health and Well-Being Among Ontario Adults, 1977-2015 (CAMH Research Document Series No. 45)*. Toronto, ON: Centre for Addiction and Mental Health. Retrieved from http://www.camh.ca/en/research/news_and_publications/CAMH%20Monitor/CAMH-Monitor-2015-eReport-Final-Web.pdf
- LCBO. (2015). *Let's Get Together LCBO Annual Report 2014-15*. LCBO Corporate Communications. Retrieved January 13, 2017, from <http://www.lcbo.com/content/lcbo/en/corporate-pages/about/annual-report.html>
- LCBO Liquour Control Board of Ontario. (September 2016). *Agency Store List*.
- LCBO, L. C. (2016). *LCBO Strategic Plan 2016-2019*. Toronto. Retrieved Feb 16, 2017, from http://www.lcbo.com/content/dam/lcbo/corporate-pages/about/pdf/23770%20Strategic%20Plan%202016-19_ENG.pdf

- Livingston M, Chikritzhs T, Room R.. Changing the density of alcohol outlets to reduce alcohol-related problems, *Drug Alcohol Rev*, 2007, vol. 26 (pg. 557-66)
- Livingston M, Alcohol outlet density and harm: comparing the impacts on violence and chronic harms *Drug Alcohol Rev*. 2011 Sept 30(5):515-23
- National Geographic Society. (2011, March 26). *Nationalgeographic.org*. Retrieved March 28, 2017, from Geographic Information Systems GIS:
<http://www.nationalgeographic.org/encyclopedia/geographic-information-system-gis/>
- Ontario Agency for Health Protection and Promotion (Public Health Ontario). (2015). *Provincial Municipal Alcohol Policy (MAP) Scan: Summary of findings from a public health unit survey. Version 1.0*. Toronto, ON: Queen's Printer for Ontario.
- Popova, S., Giesbrecht, N., & Bekmuradov, D. (2009). Hours and days of sale and density of alcohol outlets: impacts on alcohol consumption and damage: a systematic review. *Alcohol Alcohol*, 44, 500-516. Retrieved October 2016
- Public Health Agency of Canada. (2016). *The Chief Public Health Officer's Report on the State of Public Health in Canada 2015; Alcohol Consumption in Canada*. Ottawa: Public Health Agency of Canada. Retrieved March 31, 2017, from <https://www.canada.ca/content/dam/canada/health-canada/migration/healthy-canadians/publications/department-ministere/state-public-health-alcohol-2015-etat-sante-publique-alcool/alt/state-phac-alcohol-2015-etat-aspc-alcool-eng.pdf>
- Quick, M., Law, J., & Luan, H. (2016, June 2). The Influence of On-Premise and Off-Premise Alcohol Outlets on Reported Violent Crime in the Region of Waterloo, Ontario: Applying Bayesian Spatial Modeling to Inform Land Use Planning and Policy. *Applied Spatial Analysis*. Retrieved 2017
- Ray, J G, et al. 2016, 'On premise alcohol establishments and ambulance calls for trauma, assault and intoxication', *Medicine*, vol. 95, no. 19.
- Rehm, J., Baliunas, D., Brochu, S., Fischer, B., Gnam, W., Patra, J., . . . Taylor, B. (2006). *The Costs of Substance Abuse in Canada 2002*. Ottawa, ON: Canadian Centre on Substance Abuse (CCSA). Retrieved from <http://www.ccsa.ca/Resource%20Library/ccsa-011332-2006.pdf>
- Sparks, M., Jernigan, D., & Mosher, J. (2006). *Strategizer 55 - Regulating Alcohol Outlet Density: An Action Guide*. CADCA CAMY. Retrieved January 2017
- Statistics Canada. (2007). *Census Profile. 2006 Census Catalogue no. 98-311-XCB2011023*. Ottawa: Statistics Canada. Retrieved January 2017, from <http://www12.statcan.gc.ca/census-recensement/2011/dp-pd/tbt-tt/Rp-eng.cfm?TABID=2&LANG=E&APATH=3&DETAIL=0&DIM=0&FL=A&FREE=0&GC=0&GK=0&GRP=1&PID=102010&PRID=10&PTYPE=101955&S=0&SHOWALL=0&SUB=0&Temporal=2011&THEME=88&VID=0&VNAMEE=&VNAMEF=>
- Statistics Canada. (2017). *Census Profile. 2016 Statistics Canada Catalogue no. 98-316-X2016001*. Ottawa: Statistics Canada. Retrieved February 2017, from <http://www12.statcan.gc.ca/census-recensement/2016/dp->

pd/prof/details/page.cfm?Lang=E&Geo1=CD&Code1=3542&Geo2=PR&Code2=01&Data=Count
&SearchText=&SearchType=Begins&SearchPR=01&TABID=1&B1=All

U.S Department of Health and Human Services (HSS). (2016). *Facing Addiction in America: The Surgeon General's Report on Alcohol, Drugs and Health*. Washington, DC: U.S Department of Health and Human Services (HSS). Retrieved January 16, 2017, from <https://addiction.surgeongeneral.gov/surgeon-generals-report.pdf>

Wikipedia. (2017, March 9). *Geographic Information Systems*. Retrieved January 2017, from Wikipedia: https://en.wikipedia.org/wiki/Geographic_information_system

World Health Organization. (2004). *Global Status Report on Alcohol 2004*. Mental Health and Substance Abuse. Geneva: WHO. Retrieved December 13, 2016, from http://www.who.int/substance_abuse/publications/global_status_report_2004_overview.pdf

Zhao, J, Stockwell, T, Martin, G, Macdonald, S, Vallance, K, Treno, A, et al. 2013, 'The relationship between minimum alcohol prices, outlet densities and alcohol attributable deaths in British Columbia, 2002–09', *Addiction*, vol. 108, no. 6, pp. 1059-69.