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Strategies to Reduce Alcohol-Related Harms and Costs in Canada:

A Comparison of Provincial Policies

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EXECUTIVE SUMMARY

This report provides a systematic and comparative review of policies and programs across all Canadian provinces which have the potential to reduce the considerable health and social harms from alcohol. The overall objective is to encourage greater uptake of these practices and thereby improve public health and safety in Canada.

Background

Alcohol is consumed by over 80% of Canadian adults and in many instances is used in moderation (Ialomiteanu et al., 2012). However, alcohol is associated with a wide range of harms such as acute injuries, trauma, and violence. Alcohol use is also associated with the development of many chronic diseases (Rehm et al., 2009) and is one of the leading causes of disease and disability in the Americas (Lim et al., 2012). There is a strong line of research demonstrating that increases in alcohol consumption, and hazardous drinking patterns are associated with increases in a range of alcohol-related harms (Norström, 2007; Ramstedt, 2008; Rossow, 2004; Skög, 2003; Rehm, et al., 2008; Anderson et al., 2009a; Babor et al., 2010). Recent data from Canada indicate that alcohol consumption increased by 13% between 1996 and 2010 (Statistics Canada, 2011) and that approximately 20% of drinkers drink above the Canadian low-risk drinking guidelines (LRDGs) (Ialomiteanu et al., 2009; Canadian Public Health Association, 2011).

Several factors may be driving these developments, including a gradual shift towards privatization, increased access to alcohol, extensive marketing and increased acceptability of alcohol use in Canadian society. A system-level response is required in order to curb consumption and reduce these alcohol-related harms and associated costs. Several types of alcohol policy have been shown to be effective in not only reducing population levels of damage, but also modifying the behaviour of high-risk drinkers (Edwards et al., 1994; Babor et al., 2010; Smart & Mann, 2002).

Methods

Development of the project model: This project builds on the model implemented by MADD Canada, which documents the implementation of effective impaired driving policies in Canada and thereby encourages the uptake of these practices by provincial governments. The 10 policy dimensions included in our assessment were based on well established and rigorous systematic reviews on the effectiveness of alcohol prevention measures. Implementation of these policies was assessed for a recent year in all Canadian provinces.

Development of the assessment criteria: Each policy dimension was weighted according to its potential to reduce harm from alcohol and to reach the entire population. A set of measures (indicators) was developed to assess each of the 10 different dimensions. The assessment criteria were peer reviewed by three external international alcohol policy experts. Feedback from the external reviewers was used in order to refine the scoring criteria.

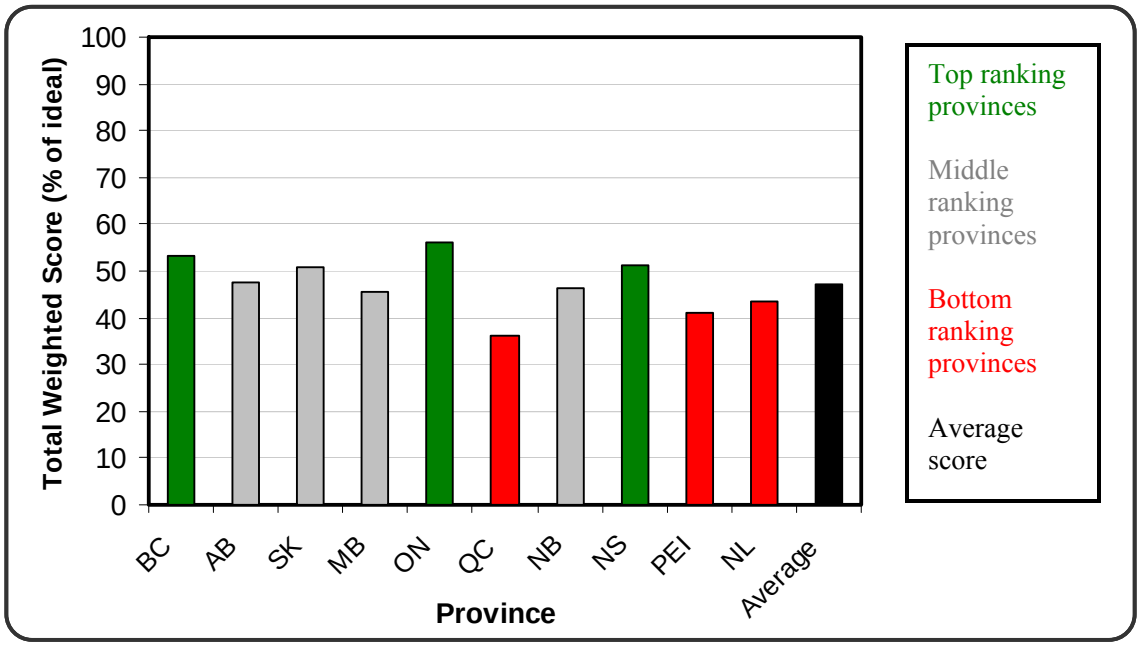
Verification and scoring of the data: Data on existing policies were collected from official sources and from contacts at the ministries responsible for the sale and control of alcohol and from the ministries of health and finance. A first "pilot" round of scoring was conducted independently by two members of the project team in order to verify the reliability of scoring and to ensure sufficient data had been collected to assess each of the 10 policy dimensions and their respective indicators.

The team members were unaware of which province they were scoring. Additional data were then collected as required from each province. Once complete, the data was sent to representatives from the relevant ministries for verification. Once the data was verified for accuracy and completeness the final scoring of the data took place. Any discrepancies in scores were resolved by the Principal Investigator.

Calculating the final scores: In order to calculate the provincial scores for each policy dimension, the indicator scores were tabulated to obtain a raw score out of 10. To calculate the total weighted score for each province across all 10 policy dimensions, the raw scores for each policy dimension were weighted and summed. All the scores are expressed as a percentage of the ideal score.

Results

Total Weighted Scores by Province



In each main policy dimension there are examples of promising policies; however, the average national score fell below 50% of a perfect score. Overall, Ontario, British Columbia and Nova Scotia received the highest scores while Quebec, PEI and Newfoundland and Labrador received the lowest scores. A notable nation-wide strength was the implementation of polices pertaining to the legal drinking age and enforcement, while the lowest average national score was for the warning labels and signs policy dimension. The average national scores for the top five most potent policy levers for reducing alcohol consumption and related harms all fell below 60% of a perfect score. Examples of exemplary pricing practices were identified across several provinces but no province excelled in all areas of this dimension. Less than half of the full potential was achieved in each of the policies examining the control system, the physical availability of alcohol and efforts to deter impaired driving. Finally, there was significant variation in the degree to which provincial strategies target alcohol issues and the degree to which provinces have implemented screening, brief intervention and referral (SBIR) practices. Overall, these results indicate that there is still much unrealized potential for achieving public health and safety benefits through effective alcohol strategies that exemplify a public health and safety approach to alcohol.

Recommendations

Policy-specific recommendations: In order to reduce harm from alcohol, provinces are encouraged to:

- Set minimum prices at a level that will discourage excessive consumption and that apply to all alcohol sales as well as index alcohol prices to inflation and set prices according to their alcohol strength.
- Maintain government monopolies by preventing further privatization of alcohol sales channels and uphold a strong social responsibility mandate.
- Place upper limits on the density of outlets and limit the availability of alcohol in the early morning and late at night.
- Implement the legislative priorities pertaining to licensing, sanctions and remedial programs highlighted by MADD Canada in their 2012 report.
- Extend provincial controls on marketing and advertising beyond those outlined in the Code for Broadcast Advertising of Alcoholic Beverages to include further restrictions and to streamline and formalize the enforcement process.
- Set a minimum drinking age of 19 years of age (at least) and track challenge and refusals to encourage enforcement of the legal drinking age.
- Develop a provincial alcohol strategy in each province to guide progress and establish alcohol as a topic worthy of urgent attention.
- Highlight Screening, Brief Intervention and Referral (SBIR) as a priority area in the provincial alcohol strategy; support the uptake of the SBIR resource released by the Canadian Centre on Substance Abuse (CCSA) and the College of Family Physicians of Canada (CFPC); and implement SBIR fee for service codes.
- Implement mandatory server training and challenge and refusal programs that have been shown through evaluation to reduce over-service or service to minors.
- Disseminate mandatory alcohol warning messages, with clear health messages on a variety of topics, on alcohol packaging as well as at point of sale.

General recommendations

- In line with recommendations made by the WHO in the Global Strategy on Alcohol (2010), a significant step forward would be for all provinces to monitor and report rates of alcohol-related harm on an annual basis, to document policies and prevention strategies, using a public health lens, and to exchange information on these efforts in a systematic way.
- The different government sectors and non-governmental organizations (NGOs) that deal with alcohol issues are encouraged to collaborate on matters pertaining to alcohol and to pilot and evaluate the impact of proposed policy changes.

Conclusions

There is much unrealized potential for achieving public health and safety benefits from effective alcohol policies. Moving forward, provincial authorities, in collaboration with public health and safety stake-holders, are urged to strengthen their policies as highlighted in this report. In order to reduce alcohol-related harm in Canada, there must be concerted action on more than one dimension, with an emphasis on both population-level policies and interventions which target high-risk drinkers.

A. BACKGROUND & RATIONALE

Alcohol is widely consumed and enjoyed by many Canadians. Alcohol is used to enhance meals and social occasions and contributes to celebrations. In many cases it is used moderately however, when consumed in higher quantities it can facilitate high risk behaviours, contribute to socially deviant acts and lead to accidents, violence and crime.

There is evidence of high rates of alcohol-related harm both in Canada and internationally (Rehm, Baliunas, Brochu et al., 2006; WHO, 2009). Alcohol is one of the leading causes of disease and disability, as measured in disability-adjusted life years (DALYs), in the Americas (Lim, Vos, Flaxman et al., 2012) and experts have predicted that damage and costs will increase if the status quo persists (Anderson, Chisholm, & Fuhr, 2009a; Babor, Caetano, Casswell et al., 2010).

In Canada, alcohol consumption is associated with the occurrence of acute injuries, trauma, and violence, as well as the development of many chronic diseases. While the evidence linking alcohol to motor vehicle crashes is well known, the role alcohol plays in the development of chronic diseases, and the emergence of social problems is less widely known.

In 2002, alcohol was responsible for 8.22% of all deaths under the age of 70 and 7.23% of all hospital days in Canada (Patra, Taylor, Rehm et al., 2007), although many prevention networks focusing on chronic disease do not explicitly include alcohol as a risk factor. Alcohol use interacts with other risk factors such as tobacco use and unhealthy diets to substantially increase health risks. It contributes to health inequities by having a relatively greater impact on individuals without the social or economic resources to deal with harm from drinking, whether due to their own consumption or drinking by others. Furthermore, the costs associated with alcohol use are high. The burden on health care and law enforcement services as well as costs associated with the loss of productivity in the home or workplace due to alcohol use amount to approximately 14.6 billion dollars in Canada (Rehm et al., 2006). In more than half of all provinces, a comparison of direct revenue and costs from alcohol shows an overall deficit (Thomas, 2012).

Long term studies in Canada, using time series analysis or natural experiment designs, have shown that increases in sales are associated with increased rates of overall harm from alcohol (e.g. Norström, 2001, 2004, 2007; Ramstedt, 2003, 2004, 2005, 2006, 2008; Rossow, 2004; Skög 2001, 2003; Rehm, Gnam, Popova et al., 2008). There is also extensive international research indicating that higher levels of alcohol consumption and of hazardous drinking are associated with higher rates of alcohol-related harm (Anderson et al., 2009a; Babor et al., 2010; Rehm, Mathers, Popova et al., 2009). Both the overall level of alcohol consumption and the rate of high risk drinking contribute to alcohol-related harm in a population. However, both of these factors can be measured and modified by implementing effective alcohol policies as indicated below.

What system level actions can reduce these health and social harms and, in turn, the high associated economic costs? To date, much of the focus has been on treating the heavy consumer and dependent drinker, and implementing educational and other strategies that highlight the risks associated with excessive alcohol consumption. These strategies, while laudable, are not enough.

World Health Organization research teams (e.g., Babor et al., 2010) have identified evidence based interventions and policies that reduce alcohol-related harms and costs. Several forms of alcohol policies have been shown to be effective in not only reducing population levels of damage, but also curtailing the behaviour of high-risk drinkers (Edwards, Babor, Casswell et al., 1994; Babor et al., 2010; Smart & Mann, 2000). Furthermore, some of these policies focus on high-risk drinkers and youth and are therefore not overly punitive for low volume/low-risk drinkers (Anderson et al., 2009a; Babor et al., 2010).

There are other important reasons for emphasizing policy interventions and efforts to deal with alcohol related harms. Alcohol policy is effective because: it can typically be implemented without major administrative costs or bureaucratic machinery; it benefits all sectors of society; it is especially relevant to those who drink in an unsafe manner; and it is effective in reducing the overall harm from alcohol.

As highlighted below, there are strong examples of effective alcohol policies that have been implemented in Canada. However, in recent years there has been a shift towards loosening of alcohol controls and gradual privatization of the liquor market in several provinces. Two recent developments are especially worrisome: total consumption of alcohol increased by 13% on a per adult basis between 1996 and 2010 (Statistics Canada, 2011). Concurrently, national and provincial surveys indicate that approximately 20% of drinkers drink above the Canadian low-risk drinking guidelines (Adlaf, Ialomiteanu, & Rehm, 2008: Ialomiteanu, Adlaf, Mann et al., 2009; Giesbrecht & Thomas, 2010; Canadian Public Health Association, 2011).

Several factors may be driving these developments, including: increased access and availability to alcohol and a gradual shift towards privatization; more extensive and sophisticated alcohol marketing, promotion and sponsorship; integration of alcohol and drinking into a wide range of social activities; and relative silence of the media, governments and other stakeholders on precautionary issues when alcohol controls are relaxed. Altogether, there may be an increased perceived acceptability of drinking since risk ratings associated with alcohol use are perceived as relatively low (Canadian Centre on Substance Abuse [CCSA], 2006); this may be contributing to the trivialization of alcohol consumption.

This project builds on a long and exemplary tradition in Canada of using alcohol policy strategies to reduce alcohol-related harm (Room, Stoduto, Demers et al., 2006). Major strengths of the project are that: (1) it is modeled after a successful Canadian initiative by MADD Canada that has been used to encourage the uptake and implementation of policies to control drinking and driving (Solomon, Chamberlain, Abdoullaeva et al., 2009), and (2) it draws on inter-provincial experiences in tobacco control where a series of policies were combined with one-on-one interventions to successfully reduce tobacco-related harm across Canada (de Beyer & Brigden, 2003).

This project assumes a precautionary perspective, not a prohibitionist one. In order to promote and sustain a precautionary approach, public health and safety need to be considered at least as important as marketing, promotion and revenue generation. Appropriate attention to health and safety issues will not only promote social and community well-being, but reduce the social costs of alcohol.

B. OVERVIEW

1. Objectives

The overall objective of this project is to facilitate the implementation of evidence-informed prevention and policy initiatives that reduce alcohol-related harms. This will be accomplished by: providing a systematic and comparative review of recent policy and programmatic interventions known to reduce the health and social harms from alcohol in the 10 Canadian provinces; highlighting the policy strengths across each of these jurisdictions; providing recommendations on how to improve weaker policy areas; and finally by disseminating this up-to-date information to major stakeholders and policymakers in each jurisdiction. A detailed outline of the project activities provided in the methods section describes how these objectives were achieved.

2. Audience for this report

Efforts to reduce alcohol-related harm will be most effective if a "whole of government" approach is taken. Alcohol regulation traditionally falls under the jurisdiction of finance and other ministries or departments in provincial governments. However, health ministries have a legitimate role in influencing a wide range of policy issues, even those that fall outside their traditional mandate for example, access to alcohol or real costs of beverage alcohol. Therefore, the intended audience includes the health and safety authorities as well as the finance departments and liquor boards and retailing agencies that are responsible for the control and distribution of alcohol in the majority of Canadian provinces. It also includes those involved in policy development and analysis. Furthermore, it includes national and provincial NGOs that deal with chronic diseases and injuries, and other conditions where alcohol is a contributing cause. Lastly, this report is also intended for dissemination to economic operators including alcohol producers and retailers, so that strategies that are most appropriate for these groups can be considered in order to reduce the harm from alcohol use.

3. Structure of this report

The subsequent sections represent the core of the report. Section C provides the design, methods and caveats. In Section D the results are provided, with additional policy specific information in Appendix A. The Results are organized by the 10 policy dimensions that were analyzed in this project, and each section includes two figures. The first figure includes the indicator scores by province and the second figure highlights inter-provincial comparisons. Sections E and F provide the interpretations, recommendations and conclusions.

C. DESIGN, METHODS AND CAVEATS

1. Using a comparative analysis to stimulate policy change

This project seeks to stimulate the implementation of effective alcohol policies by providing provincial policy-makers, decision-makers and knowledge users with a synopsis of their jurisdiction's status with regard to effective policies and interventions, drawing on best practices,

research and other evaluation literature, noted below. This project also provides practical suggestions as to how a jurisdiction can modify and improve their alcohol control and prevention strategies, and what positive impacts can be expected.

Several scientific publications where alcohol policies were scored were used to inform the development of the assessment criteria specific to this project including Babor et al., (2010, chapter 16), published scientific papers by Anderson et al., (2009a), Karlsson & Österberg (2001) and Brand, Saisana, Rynn et al., (2007) as well as the dimensions used by MADD Canada (Solomon et al., 2009).

This project builds on a similar model to that implemented in Canada since 2000 by MADD Canada, which monitors the progress of several policies aimed at reducing impaired driving. The MADD Canada "report card" documents and makes publicly available information about the implementation of effective impaired driving policies in each province and territory and thereby encourages the uptake of these practices by provincial governments. In the first six years following the first two MADD Canada report cards there were more than 65 legislative changes across Canada (A. Murie, personal communication, January 23, 2013). The MADD Canada report card has had a significant impact in the area of drinking and driving countermeasures; summarizing the current policy context and highlighting areas for improvement may serve as an important tool to motivate policy change.

2. Scope— Provincial focus

This project focuses on all 10 Canadian provinces. Each province's economic and regulatory environments related to alcohol are unique. This is illustrated by provinces displaying differing levels of per capita alcohol consumption and also mixes of private and public retail systems. Therefore, this report focuses on each province individually while also drawing cross-provincial comparisons across the policy measures.

While there are some policy levers that are controlled at the federal level, such as national advertising codes and federal excise tax rates, the majority of the most potent interventions are in the provincial domain. Furthermore, the recommended policy initiatives included in Canada's National Alcohol Strategy (National Alcohol Strategy Working Group [NASWG], 2007) are concentrated at the provincial level. While it is acknowledged that municipalities may have tailored interventions, they cannot diverge substantially from their provincial context and it would also be impractical to review policies across many hundred individual Canadian municipalities. Thus, this project focuses only on provincial level alcohol policies. However, the project does take into account provincial polices that allow for municipal powers with regard to outlet placement and pricing.

The Canadian territories not only represent a unique geographical context but also are unique in terms of the population and drinking context. Due to these differences and limitations in the project's funding, the 10 provinces remained the focus of this project. However, with appropriate refinement and adaptation to different socio-cultural contexts and settings, the basic vision and methods of this project can be applied to other jurisdictions and to other health issues. Thus, we hope to communicate the findings and implications of this knowledge exchange project and

consult with experts from the territories to ascertain how the protocol might be adapted and applied in these jurisdictions in future initiatives.

3. Scope— Data

The status of specific policy indicators was assessed at the time of data collection (January 1st, 2012- October 31st, 2012). As such, only polices in place at the time of data collection were evaluated. For policy indicators which were not set in regulation, such as outlet density, data for the most recent year available, typically 2010/11, was collected. Finally, the evaluation of the drinking and driving policies and initiatives was based on the MADD Canada 2012 Provincial and Territorial Legislative Review and as such had a cutoff date of December 31st, 2011.

4. Development of the scoring rubric— Overview of the policy dimensions and indicators, data resources, indicator scoring and policy weighting

i) Selection of policy dimensions and indicators

The 10 policy dimensions included in this assessment were based on well established and rigorous systematic reviews on the effectiveness of alcohol prevention measures (e.g. Anderson et al., 2009a; Babor et al., 2010; Brand et al., 2007; Karlsson and Osterberg, 2001). As informed by Babor et al.,'s comprehensive review (2010), the *quality* and *breadth of evidence*, the *effectiveness of the policy*, as well as the potential for *population reach* were the primary factors that were considered when selecting the best practices in alcohol policy. The 10 policy dimensions included in this assessment are:

1. Pricing
2. Alcohol Control System
3. Physical Availability
4. Drinking and Driving
5. Marketing and Advertising
6. Legal Drinking Age
7. Screening, Brief Intervention and Referrals
8. Server Training and Challenge and Refusal Programs
9. Provincial Alcohol Strategy
10. Warning Labels and Signs

A combination of policy and practice indicators was developed to assess each of the 10 different policy dimensions. Policy indicators reflect a policy that has been mandated at the provincial level and is included in legislation or provincial regulations (e.g. a policy that restricts the location or number of retail outlets). Practice indicators reflect a direct outcome from a policy indicator, or the absence of a policy, (e.g. the density of retail outlets).

ii) Development and refinement of scoring and policy weighting

While each of the 10 policy dimensions in this project play an important role in a comprehensive alcohol policy, they were not considered to be equally effective in terms of reducing harm from alcohol or in their potential to reach the total population. The weighting of the policy dimensions was based on the team's assessment of a combination of the scope (or reach) of the policy

multiplied by the assessed effectiveness of the policy. These assessments were based upon comprehensive reviews of the relative effectiveness and potential for population reach of the different strategies. Both the effectiveness and scope were rated out of 5, for a maximum possible weighting of 25. A more complete rationale of the policy weightings is provided in Section 11 of this report (see Table 2).

Similarly, indicator scores within a policy dimension were scaled in order to reflect their relative impact or effectiveness. Each policy dimension was thus comprised of scaled indicator scores which achieved a maximum score of 10. The calculation of the raw policy scores and application of the policy dimension weights are described in parts viii and ix of this section.

The team decisions on weighting and scaling of indicator measures were made at meetings in 2011 and 2012, before the data collection was completed. In other words, the decision on weighting was not influenced by the results of the raw scoring, which were not known at that time.

iii) Review by three external experts and refinement

The scoring rubric, outlining the 10 policy dimensions and their respective indicators, was sent to three external international alcohol policy experts for peer review and feedback. The three experts were: Thomas Greenfield, Center Director and Scientific Director, Alcohol Research Group, Public Health Institute, the United States; Esa Österberg, Senior Researcher, National Research and Development Centre for Welfare and Health, Finland; and Robin Room, Director of AER Centre for Alcohol Policy Research, Turning Point Alcohol & Drug Centre, Australia. The reviewers were asked to comment on several aspects of the scoring rubric including: the comprehensiveness and relevance of the selected policy dimensions and operational indicators; the relative weights of each policy dimension and their respective indicators; and the supporting evidence and rationale provided for each policy dimension and indicator. Feedback from the external reviewers was used in order to refine the scoring rubric, namely fine tuning of the indicators designed to assess each policy dimension and the relative weighting and scoring of the policies and indicators respectively.

iv) Data collection

Two techniques were used to collect the data. First, the Research Analysts used official sources: wherever possible, official regulatory documents such as the Provincial Liquor Control and Licensing Acts were used to collect the data. However, other public sources of information such as Provincial Strategies, Annual Reports and information documents for the general public and media, as well as data from Statistics Canada and MADD Canada, were also used. Second, in the case where the data was not readily accessible, information was sought directly from contacts at the provincial alcohol retailer and regulators, the ministries of finance (or other ministries responsible for the alcohol retail and regulation) and the ministries of health. Research Analysts used standardized Excel data templates to collect and store the data. Once complete, the data files were sent to the Research Coordinator who reviewed the data for inconsistencies and missing information.

v) Scoring and verification of inter-rater reliability - Pilot test

A first round of blind scoring was conducted in order to pilot test the scoring rubric, to verify the reliability of scoring and to ensure sufficient data had been collected to assess each of the 10 policy dimensions and their respective indicators. Each policy dimension was scored independently by a member of the research team and subsequently reviewed by a second member of the team. First, the reviewers each received the data for the policy dimensions, which was blinded for the province, along with the scoring rubric which outlined the scoring criteria to be applied to each policy dimension. Once the scoring criteria had been applied and the scores tallied, the data file and the completed scoring rubric was passed to the second reviewer. Second, the peer reviewer reviewed the scored data to ensure the scoring criteria outlined in the scoring rubric had been applied appropriately. The data remained blinded for the province throughout the review process. Any discrepancies found by the second reviewer were brought to the attention of the PI and resolved on a case by case basis. As a result of the pilot test it was found that 27 additional data items should be collected in order to accurately assess the policy dimensions.

vi) Verification of data

Following the collection of additional data items determined to be of relevance to this project, the data sets for each jurisdiction were assessed for accuracy and completeness by sending the relevant data for each jurisdiction to representatives from the provincial alcohol retailer and/or regulators or relevant organizations, the Ministry of Finance (or other ministry responsible for the alcohol retail and regulation) and the Ministry of Health. Representatives from these ministries/departments who are familiar with alcohol regulatory and retailing arrangements, prevention initiatives and enforcement in each province were asked to review the accuracy and completeness of the data. Interactive forms that allowed the provincial reviewer to make corrections and add sources and comments as needed were used and further follow-up via email and teleconference was conducted when clarification or elaboration was required.

vii) Final scoring

The data sets for each jurisdiction were updated based on the information provided during the verification process and subsequently redistributed to team members for final scoring. Again the reviewer received the policy dimension dataset as well as the scoring rubric with instructions for scoring. Reviewers were assigned to score the same policy dimension as in the pilot scoring. Once the scoring was complete the data and populated scoring rubric was provided to a second team member for review. Any discrepancies found by the second reviewer were brought to the attention of the PI and resolved on a case by case basis.

viii) Calculating the scores for the 10 policy dimensions

In order to calculate the pre-weighted policy scores, the indicator scores were first tabulated to obtain a raw score out of 10 for each policy dimension, see Table 1. The total raw score was then presented as a percentage of the ideal score (pre-weighted policy score). In order to facilitate comparisons both the pre-weighted policy scores and the indicator scores were presented as a percentage of the ideal score in the figures presented in the results section for each policy dimension.

Table 1: Provincial Score Tabulation of a Hypothetical Policy Dimension

Province	a. Indicator A (out of 5)	b. Indicator B (out of 4)	c. Indicator C (out of 1)	Total Raw Score (out of 10)	Pre-weighted policy score (% of ideal)
Province X	3 (60%)	4 (100%)	1 (100%)	(Indicators A + B+ C) = 3+4+1 =8/10	=80%

ix) Calculating the final weighted policy scores

Once the total raw scores were tabulated the policy weights were applied to the ten policy dimensions. For example, the policy dimension Legal Drinking Age was comprised of three main indicators: a. Level of legal drinking age and supporting legislation (out of 5 points); b. Enforcement of the legal drinking age for off-premise outlets (out of 3 points); and c. Enforcement of the legal drinking age for on-premise establishments (out of 2 points). The indicator scores were summed to obtain the total raw policy score out of 10. The total raw policy score was then weighted according to its effectiveness and scope to obtain the final policy weighted score. For example, the total raw policy score for legal drinking age was weighted by a factor of 8 to reflect its effectiveness and scope relative to the other nine policy dimensions. A rationale of each of the policy weightings is provided in Table 2, Section 11 of this report.

x) Knowledge exchange activities

The project team has engaged in a number of knowledge exchange activities, and further activities will follow the release of this report. The knowledge exchange activities have involved communications with various liquor boards and agencies, ministries of finance and health and NGOs dealing with public health issues related to alcohol use. During the course of data collection and verification – described above, there were numerous exchanges between researchers on the team and representatives of various government agencies or departments that deal with alcohol issues and who are knowledgeable on the 10 policy dimensions that are at the core of this project.

In December 2012 three webinars were held. For the first two webinars, the invitees were representatives of the ministries of health and finance, and liquor control agency in each province. The third webinar was held in conjunction with a regular meeting of the Council of Chief Medical Officers of Health (CCMOH). At each webinar the project's goals, methods and 10 dimensions were presented and discussed. Following the release of this report, there will be additional knowledge exchange activities with the key stakeholders, see section E.

5. Caveats— Missing information

All information and data requested under this project is publicly available under the Freedom of Information and Protection of Privacy Act. However, as outlined above, not all data was readily accessible. In the cases where data was not publicly accessible, the information was sought from representatives from the appropriate ministries or departments. In some cases the Research Analysts were not able to obtain the data using either of these strategies. In this case the missing information was requested during the data verification process. In some instances the missing data was not provided during the verification phase despite repeated requests over several

months. In the cases where data remained incomplete following the verification phase it was assumed that there are no existing relevant policies or regulations and scored accordingly. It should be noted that there were very few cases where the relevant data was not provided. The decision to assign a score of zero for missing information is supported by the recommendations made by the WHO in the 2010 Global Strategy on Alcohol (WHO, 2010) which stress the importance of monitoring policies in order to provide feedback for future action.

D. RESULTS

1. Pricing

Evidence and Rationale: Although there are important differences, alcohol is like many other products in that demand is inversely related to its price. This means that when the price of alcohol products increase, sales decrease if other factors such as income are kept constant. Several decades of international research show that increasing the price of alcohol through interventions such as excise taxes is one of the most effective approaches for reducing consumption and also, importantly, alcohol-related harm at the population level (Wagenaar, Salois & Komro, 2009; Babor et al., 2010; Wagenaar, Tobler & Komro, 2010). Pricing interventions that better target risky drinkers and risky products have been implemented in several jurisdictions in Canada and elsewhere. Two such policies include *minimum prices*, which reduce the economic availability of the least expensive alcohol often favoured by risky drinkers, *and pricing on alcohol content*, which raises the price of higher strength products and reduces the price of lower strength products to reduce overall ethanol consumption across the population (National Alcohol Strategy Working Group [NASWG], 2007; Meier, Purshouse, & Brennan, 2009; Babor et al., 2010; Stockwell, Auld, Zhao et al., 2012a; Stockwell, Zhao, Giesbrecht et al., 2012b, Stockwell, Zhao, Martin et al. in press; Zhao, Stockwell, Martin et al., 2013). A third pricing policy, regularly adjusting alcohol prices for inflation, ensures that alcohol products do not become cheaper relative to other goods in the marketplace. This maintains the ability of prices to protect public health and safety of the population over time (Babor et al., 2010; Thomas, 2012). Our assessment of pricing policies in the 10 provincial jurisdictions is based on these three main interventions: minimum prices, indexing prices to inflation and pricing on alcohol content.

Pricing Indicators as per Appendix A

a. Minimum prices: we evaluated the scope and level of minimum prices for both off-premise outlets (liquor stores and other retailers) and on-premise outlets (restaurants, bars, etc.). For the scope score we used 100% coverage of all major categories of products (beer, wine, spirits and coolers/cider) as the optimum policy. For level of minimum prices we converted all official minimums to prices per standard drink of alcohol (17.05 mL of ethanol) for products of typical strength and volume and used $1.50 per standard drink and $3.00 per standard drink as achievable benchmark policies for off-premise and on-premise outlets respectively. Scores were then scaled down from these pricing points. We also included a measure which looks at prices per standard drink for high-strength/low cost products to assess the prices of products that are not typical strength and volume. Finally, we subtracted half a point for jurisdictions that have significant pricing loopholes such as selling discontinued products below official minimum prices.

b. Indexing prices to inflation: to assess the indexation of prices to inflation we collected data on annual jurisdiction specific price indices published by Statistics Canada (2002 is the base year) for beer, wine and spirits. We compared these indices to the national CPI (all products) for each year from 2006 to 2011 and then calculated the average of the difference with zero (no difference) identified as the optimal policy. We also used the alcohol beverage specific price indices for 2011 as a measure of average prices with the average alcohol price index for that year (117.5) considered optimal. Finally, we allocated half a point bonuses to jurisdictions that have a policy of automatically indexing minimum prices to inflation.

c. Pricing on alcohol content: to assess pricing on alcohol content we counted the number of volumetric price bands (i.e. price categories based on alcohol strength) that are above and below the typical alcohol content (i.e., beer = 5%; wine = 12.5%; spirits = 40% and coolers/cider = 7%) and calculated scaled scores with three or more price bands both above and below considered optimal. We also added a 1 point bonus for jurisdictions that adjusted all minimum prices for alcohol content and 0.5 point bonus for those who adjusted minimum prices for only some products. A second measure identified specific high and low alcohol strength products common to every jurisdiction and then compared the prices per standard drink. For this indicator, a score of zero (i.e. no difference in price per standard drink across low and high alcohol content products within beverage classes) is considered optimal.

Scoring: To develop a final price policy score the minimum pricing is worth a maximum of 4 points, indexing prices to inflation is worth a maximum of 4 points and pricing on alcohol content a maximum of 2 points for a total of 10 scaled points.

Jurisdictions score a perfect 10 points if: (1) all products were covered by minimum pricing, with no exceptions or loopholes, average minimum prices were $1.50 or higher per standard drink in off-premise outlets and $3.00 or higher per standard drink in licensed establishments and the average price of common low cost/high strength products in off-premise outlets was $1.50 or higher per standard drink; (2) the prices of the basket of all alcohol products surveyed by Statistics Canada kept pace with or exceeded inflation (national CPI for all products) year to year; and (3) all prices were based on alcohol content so that the price per standard serving remained constant across the product spectrum.

Results Summary:
In this key policy domain, much variation was observed in alcohol pricing practices across the provinces, see Figures 1 and 2. While there are clear areas of excellence in relation to each main indicator examined, the overall picture indicates much unrealised potential for achieving public health and safety benefits. All jurisdictions, except for Alberta have minimum prices for at least one beverage type sold in off-premise outlets and all provinces, except for British Columbia and Quebec, have separate (and higher) minimum pricing for on-premise establishments. Generally speaking, minimum prices were lower than the recommended $1.50 per standard drink for off-premise outlets and $3.00 per standard drink in bars, clubs and restaurants, although the minimum prices of some products in some jurisdictions are above these levels. Most jurisdictions have loopholes which allow alcohol to be sold for less than government established minimum prices. Indexation policies were generally better across Canada with seven of 10 jurisdictions scoring 60% or higher. However, prices for alcohol in both Ontario and Quebec have lagged

significantly behind inflation even though both currently have all or some of their minimum prices indexed to inflation in legislation or regulation. In terms of pricing on alcohol content, Western and Central provinces scored higher than the Eastern provinces and Ontario, with its sophisticated and nuanced pricing system, scored a perfect 100%.

Figure 1: Results by Province for the Pricing Policy Indicators

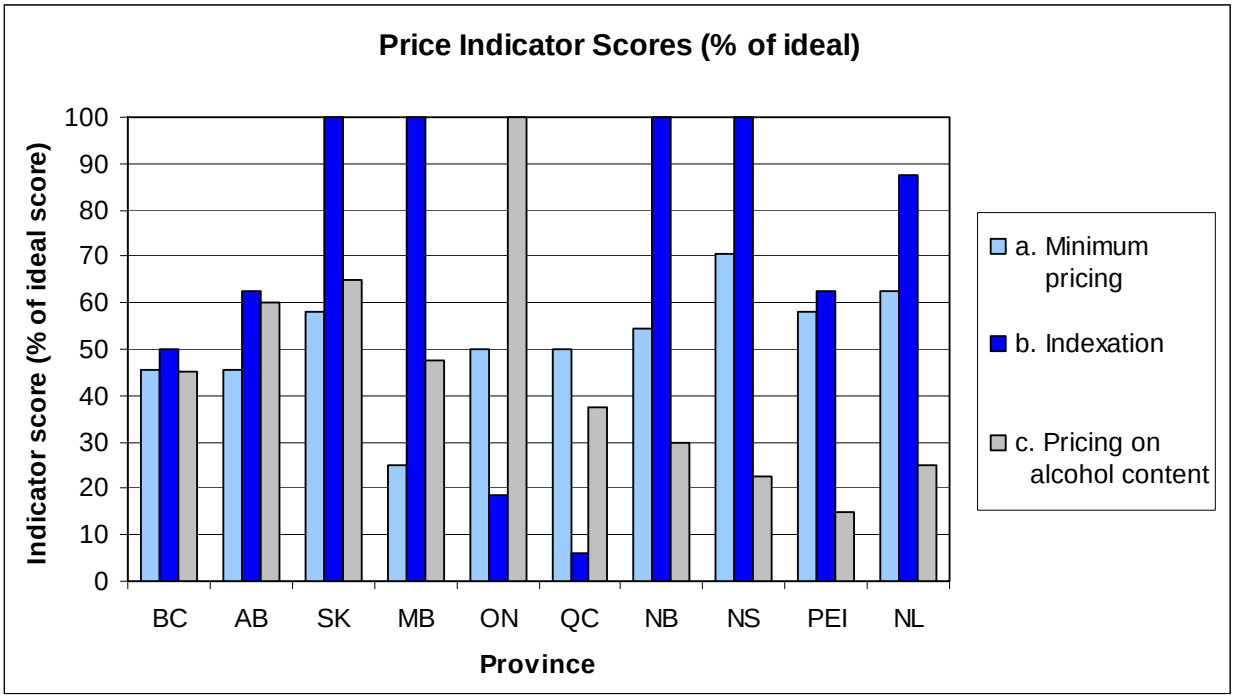
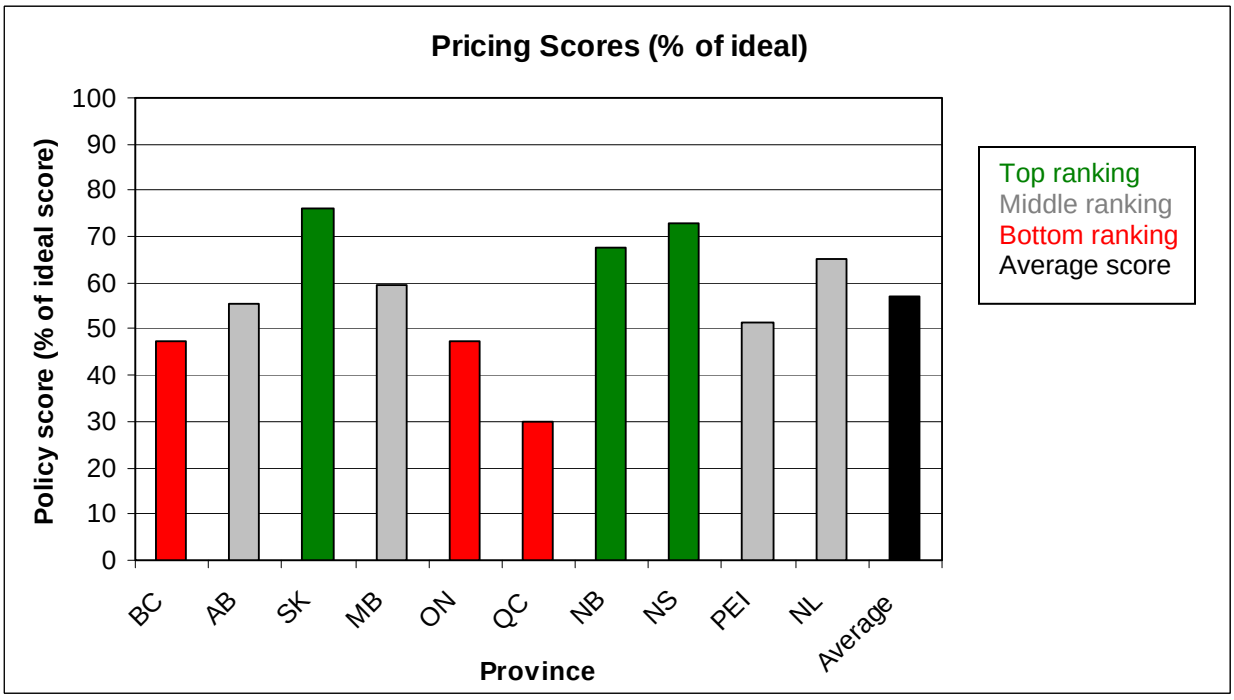


Figure 2: Results by Province for the Pricing Policy Dimension



Promising Policies and Practices:

(1) Ontario has mandated the indexation of minimum prices of all alcoholic beverages to inflation while Quebec also does this for beer minimum prices. This practice helps ensure that the price of alcohol does not become increasingly cheap relative to other goods over time.

(2) Many jurisdictions have begun to adjust their minimum prices for alcohol content which means that lower strength products are usually cheaper than higher strength products. This practice helps prevent relatively inexpensive products from emerging. Saskatchewan now makes broad distinctions between three or four strength categories within each beverage type when setting minimum prices while Ontario and Quebec have banded volumetric pricing based on alcohol content for beer, British Columbia for low-strength coolers and cider and Manitoba has strictly volumetric minimum prices for single serve, high-strength beer.

(3) Ontario adjusts their prices based on alcohol content and scored 100% on this indicator. Increasing the price of higher strength products and reducing the price of lower strength products helps prevent relatively inexpensive sources of alcohol from emerging and creates incentives for the production and consumption of lower strength beverages. This has the potential to lower per capita alcohol consumption across the population.

Policies and Practices – Areas for Improvement:

(1) Ontario, British Columbia and Saskatchewan are permitted to sell delisted products for significantly less than established minimum prices and New Brunswick has recently established 4 liquidation outlets dedicated to selling alcohol at deeply discounted prices. Similarly, privately owned liquor stores in British Columbia can undercut minimum prices which apply to government liquor stores. These practices undermine the value of minimum prices and likely encourage consumption among high-risk groups.

(2) Several provinces, including British Columbia, Alberta, Ontario, Quebec and PEI, have not raised the prices of all their products to match inflation since 2006.

(3) Several jurisdictions set their prices using a "flat" rate per litre of beverage. Not adjusting prices for alcohol content means higher strength products are cheaper per standard serving than lower strength products thus providing incentives for consumers to choose higher alcohol content beverages to get more "bang for their buck".

(4) Several jurisdictions provide volume discounts for large volume products.

(5) No jurisdiction with Ferment on Premise (FOP) outlets has regulated minimum prices that apply to products purchased from these commercial outlets. This is a significant loophole that undermines the value of minimum pricing by providing very inexpensive sources of beer and wine in several provinces.

2. Alcohol Control System

Evidence and Rationale: There is a variety of evidence supporting the role that control systems play in influencing alcohol consumption and health outcomes. For example, off-premise state-run retail monopolies are understood to play a role in mediating alcohol consumption. In Canadian provinces where monopolies have been dismantled (e.g. Alberta) or partial privatization has been introduced, increases in consumption and harms have been observed but these effects were mitigated by different factors such as the economic situation at the time (Wagenaar & Holder, 1995; Adrian, Ferguson, & Her, 1996; Trolldal, 2005; Stockwell, Zhao, Macdonald et al., 2009b; 2011). According to international literature the privatization of retail alcohol sales is associated with substantial increases in per capita sales as well is an established proxy for excessive alcohol consumption (Babor et al., 2010). Furthermore, there was also evidence that re-monopolization is associated with a decrease in alcohol-related harms (Hahn, Middleton, Elder et al., 2012). Moreover, not only does selling alcohol outside of government regulated outlets lead to an increase in availability, it also increases its perceived acceptability thereby resulting in higher levels of consumption (Abbey, Scott, & Smith, 1993). Furthermore, survey findings suggest that people who purchase alcohol from ferment on premises outlets (FOPs) and use ferment at home kits are more likely to be younger and exhibit high-risk drinking patterns (MacDonald, Wells, & Giesbrecht, 1999). Alcohol monopolies also serve as an ideal vehicle for counter advertising. While social marketing programs have shown mixed effects, evidence shows they contribute to raising public awareness and play an important supportive role in a comprehensive alcohol policy (Anderson et al., 2009a; Babor et al., 2010). Crucially, nearly all the evidence-based policies identified in this report are easier to implement consistently within a government alcohol monopoly arrangement than a fully or partially privatized system, in particular pricing and availability controls.

Control System Indicators as per Appendix A:

a. Type of retail system concerns the type of off-premise retailing system in the province – the proportion of off-premise public retail stores to private retail stores (including agency stores and ferment on premise outlets) was identified. Maintaining a government-controlled alcohol monopoly is important for regulating access to alcohol by way of maintaining many of the other policies examined in this report e.g. legal drinking age, hours of operation and days of sale, upholding social responsibility mandates, and regulating price. The retail system was assessed based on the proportion of government owned and operated alcohol outlets as described in Appendix A. The scoring structure encouraged jurisdictions to maintain a strong government monopoly, with a full additional point being awarded if the province had exclusively a government owned and run system.

b. Alcohol sales beyond on-premise and off-premise outlets: This indicator looks at the relative presence or absence of alcohol sales though delivery services, on-line shopping, ferment on premise outlets and the availability of ferment at home kits. Delivery services and on-line shopping further increase the number of access points to alcohol increasing the overall availability and perceived acceptability of alcohol. Similarly, ferment on-premise outlets and ferment at home kits also increase alcohol availability and undermine minimum pricing regulations by providing large quantities of inexpensive alcohol.

c. Emphasis on social responsibility: This indicator concerns the relative spending on advertising vs. social responsibility programming and messaging. Provincial liquor boards uphold a dual mandate to both increase revenues to government through the sale of alcohol as well as protect the public's health from alcohol use. A liquor board should therefore uphold this dual mandate with a balanced approach to product promotion and socially responsible messages.

d. Ministry responsible for overseeing alcohol retail and control: Alcohol retail and control most often falls under the responsibility of the Ministry of Finance. Often financial targets are set without considering the public health implications. Liquor retail and control should fall under a ministry that is concerned with the health and safety costs associated with alcohol.

Scoring: In order to develop the final score for the control system policy dimension the type of retail system was scored out of a maximum of 4 points, with alcohol retailing beyond on-premise and off-premise outlets worth a maximum of 2 points. The emphasis on social responsibility messaging was worth a maximum of 3 points and the ministry responsible for overseeing the retail and control of alcohol is worth a maximum of 1 point out of a maximum of 10 total points.

In order for a province to receive a perfect score, they would need to have a retail system entirely based on a state-run monopoly that restricts the availability of alcohol through delivery services, on-line shopping, ferment on premise locations, and the availability of ferment at home kits; their budget should emphasize a variety of social responsibility campaigns rather than focus on product promotion and ideally, a ministry with a health and/or safety mandate would oversee alcohol retailing and control.

Figure 3: Results by Province for the Alcohol Control System Policy Indicators

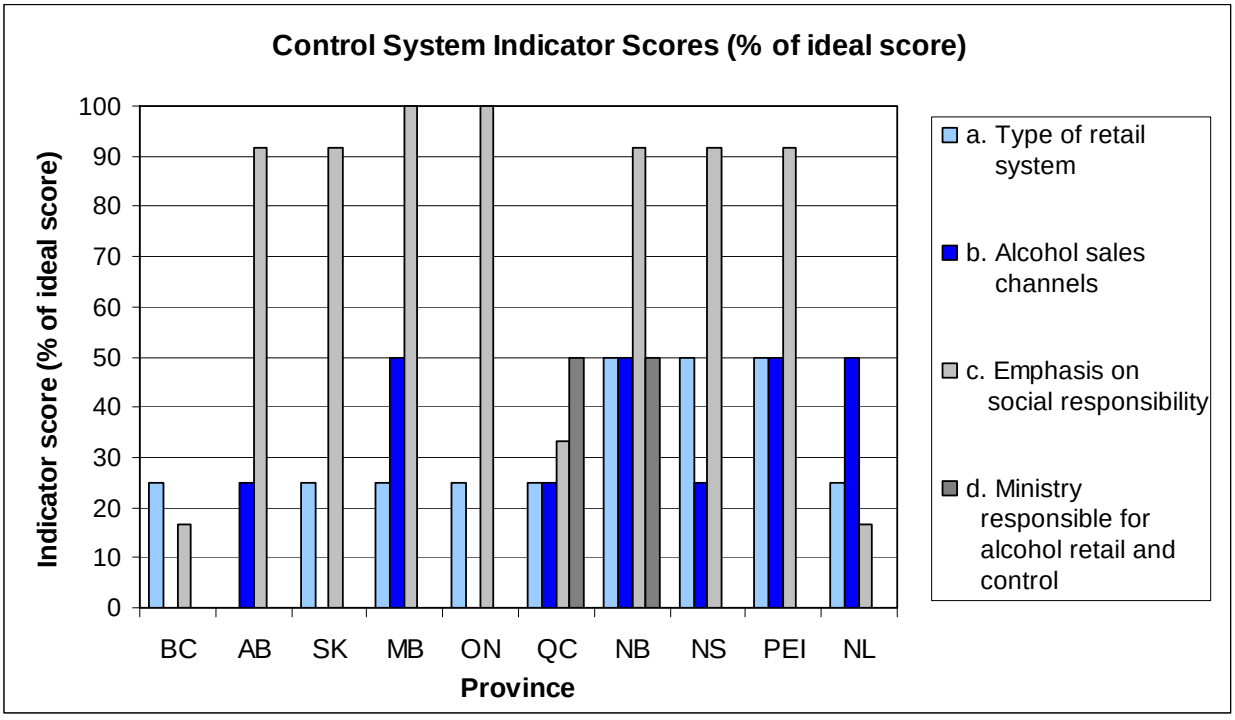
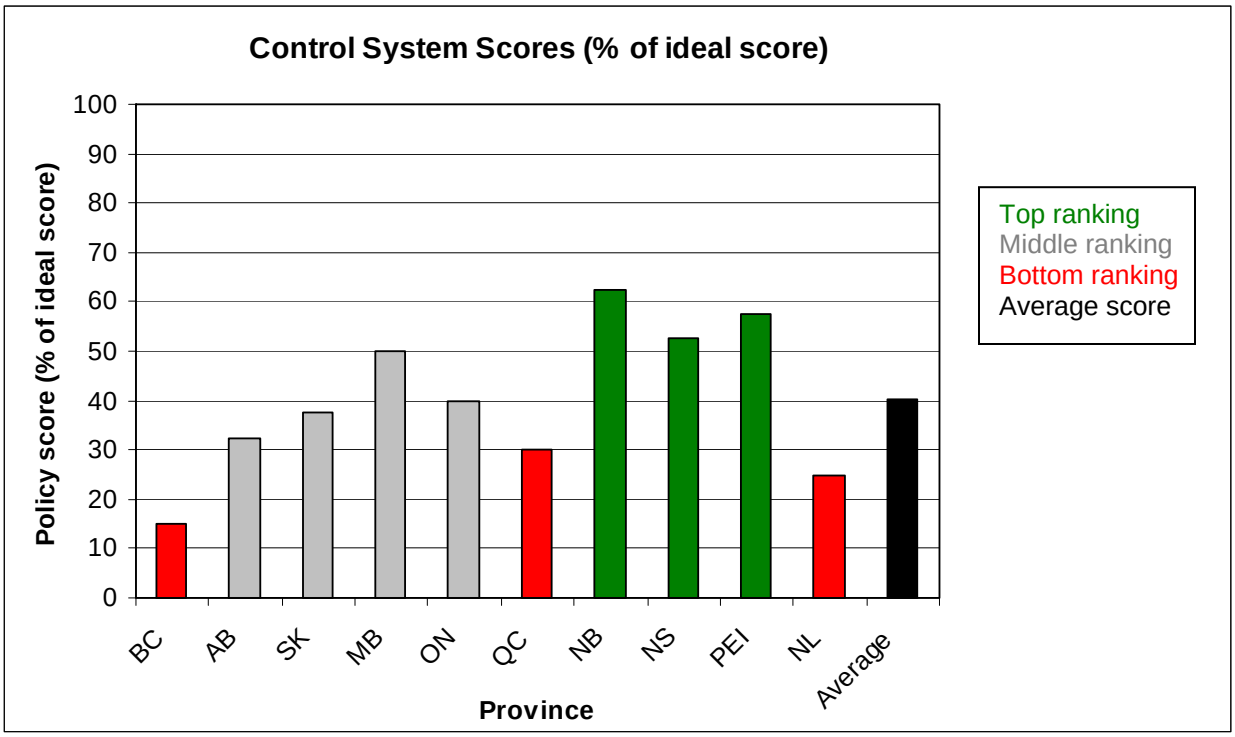


Figure 4: Results by Province for the Alcohol Control System Policy Dimension



Results Summary:
In examining the types of retail systems across jurisdictions it was found that few provinces have maintained a strong government monopoly of alcohol retail; New Brunswick, Nova Scotia and PEI were the top ranking provinces for this indicator. Nova Scotia and PEI were the only provinces to hold more than a 50% government monopoly and were among the top ranking provinces overall for this policy dimension, see Figures 3 and 4. In addition to on-premise establishments and off-premise outlets, all provinces allow for the retail of alcohol through two or more of the following channels: ferment on premise (FOP) outlets, the sale of ferment at home kits, liquor delivery services and the online sale of alcohol. It was found that all provinces are disseminating social responsibility messages though a variety of media, most of which were targeting youth and aiming to reduce drinking and driving. In addition, almost all provinces put more funding towards social responsibility messaging then they do product promotion, however there is still extensive manufacturer sponsored product promotion across most jurisdictions. Finally, alcohol retailing and control was most commonly overseen by the Ministry of Finance.

Promising Policies and Practices:

(1) Nova Scotia and PEI have maintained a strong government monopoly with approximately 65% and 62% of their off-premise outlets being government owned and operated, respectively. Nova Scotia and PEI are the only two provinces to have maintained over a 50% government monopoly retail system.

Promising Policies and Practices (Continued):

(2) In Manitoba, provincial legislation requires the Manitoba Liquor Control Commission to set aside a minimum of 0.20% of estimated gross profit to fund social responsibility programs. Similarly, the Société des alcools du Québec (SAQ) helps fund Éduc' alcool a not-for-profit organization dedicated to educating the public on low-risk drinking.

(3) All provinces are disseminating social responsibility messages through a variety of mediums including online content, corporate websites and social media, print materials, TV and radio advertisements, workshops and more.

(4) In Quebec and New Brunswick, alcohol control is overseen by the Ministry for Public safety and Ministry of Public Safety and Solicitor General respectively.

Policies and Practices – Areas for Improvement:

(1) All provinces, aside from PEI and Nova Scotia, have maintained less than a 26% government monopoly on off-premise retail outlets, with Alberta having a fully privatized retail system.

(2) Several regions allow for the sale of alcohol beyond the on-premise and off-premise outlets.

Province	FOP Outlets	Ferment at home kits	Online sales	Liquor delivery services
BC	✓	✓	✓	✓
AB		✓	✓	✓
SK	✓	✓	✓	✓
MB	✓*	✓		✓
ON	✓	✓	✓	✓
QC		✓	✓	✓
NB	✓	✓		
NS		✓	✓	✓
PEI	✓	✓		
NL	✓	✓		

* There is one FOP outlet that is government run

(3) While the majority of provinces take a balanced approach to product promotion and social responsibility messaging, there remains extensive manufacturer sponsored product promotion that makes use of the provincial liquor boards' logos and branding.

3. Physical Availability

Evidence and Rationale: Physical availability is set primarily by the number of outlets and licensed establishments in a certain area as well as the hours and days when these outlets are open. Outlet density is associated with drinking levels in the local population (Livingston, 2012). Restricting alcohol availability by limiting the number of outlets where alcohol is sold has been widely implemented in order to reduce alcohol-related harms by limiting consumption. It is well documented that a substantial increase in the number of alcohol outlets results in increases in alcohol consumption and associated harms (Livingston, 2012; Stockwell et al., 2009b; 2011). Recent evidence points to increases in consumption and harms that can result from even minor changes in outlet density due to the gradual relaxation of liquor regulation (Babor et al., 2010). The impact of outlet density on high-risk drinking among younger drinkers is especially pronounced (Livingston, Laslett & Dietze, 2008; Popova, Giesbrecht, Bekmuradov et al., 2009).

There is a long history of research that demonstrates the positive relationship between the density of both on-premise and off-premise outlets, and alcohol-related harms such as violence and injuries, including assaults, alcohol-related crashes, and suicide (Popova et al., 2009) as well as public disturbances (Wilkinson & Livingston, 2012). Harms are especially prevalent in neighbourhoods with high outlet density (Stockwell & Gruenwald, 2004; Livingston, Chikritzhs & Room, 2007). Recently, Livingston (2008) has demonstrated that the effect of outlet density on assaults varies depending on the level of outlet density, suggesting a plausible density limit.

International evidence indicates that longer hours of sale significantly increase the amount of alcohol consumed and the rates of alcohol-related harms. Changes to late night retail hours are particularly associated with levels of heavy drinking (Babor et al., 2010). Extended hours of sale attract a younger drinking crowd and result in higher BAC levels for males (Chikritzhs & Stockwell, 2007). The literature indicates that acute harms were most likely to increase with the extension of hours of sales (Stockwell & Chikritzhs, 2009a; Vingilis, McLeod, Studot et al., 2007).

Physical Availability Indicators as per Appendix A:

a. Regulations pertaining to outlet density: It is important to consider the availability of alcohol. Higher levels of outlet density lead to higher levels of consumption and perceived acceptability of drinking. Furthermore, a concentration of outlets may also lead to issues in terms of public disorder and violence. Outlet density should be regulated according to population size in order to avoid high-density entertainment districts. In the absence of such provincial regulations it is recommended that municipal powers that allow for citizen input on location and or number of outlets be granted.

b-c. Practice indicator-outlet density. Outlet density measures the number of alcohol access points (on-premise establishments and off-premise outlets) per population. Measures of off-premise outlet density include all types of off-premise outlets that provide access to alcohol; including private and government run stores as well as ferment on premise outlets. Similarly, measures of on-premise outlet density will include all licensed establishments where alcohol is served for consumption on site. While these measures of outlet density do not account for the

size of the store or the types of alcohol sold, it does provide a measure of the density of outlets that provide access to alcohol. Outlet densities were calculated separately for on-premise and off-premise outlets and expressed as the number of outlets per 10,000 persons aged 15 years and older. For the scoring, a greater emphasis is placed on off-premise outlet density due to the greater potential for harm.

d. Hours of operation. It is important for hours of operation to be set by regulation in order to limit and standardize access to alcohol. Having the hours of operation limited by regulation prevents certain outlets from operating around the clock and serving alcohol at times where harm is more likely to occur such as late at night or very early in the morning. Hours of operation were evaluated separately for on-premise and off-premise outlets. Hours of operation for off-premise outlets were scored against an ideal of no more than nine hours per day and no early morning or late night sales. While evidence indicates that extending the hours of operation of bars past midnight is associated with an increase in assaults, we took account of the much later hours currently in operation in most provinces, especially for night clubs, and adopted an ideal of no more than 14 hours per day (from 11 am to 1 am) with no early morning or late night sales as a benchmark for the hours of operation of on-premise outlets.

Scoring: In order to develop the final score for the physical availability policy dimension the regulations pertaining to outlet density were worth a maximum of 2 points, the practice indicator measuring actual outlet density was worth a maximum of 2 points for on-premise outlet density and 3 points for off-premise outlet density, and hours of operation for both on-premise and off-premise outlets were worth a maximum of 3 points for a total of 10 points.

An ideal score would entail provincial regulations limiting the density of both on-premise and off-premise outlets based on the population. This would then be reflected by lower levels of outlet density. Hours of operation would be set by regulation and limit access to alcohol with decreased availability early in the morning and late at night.

Results Summary:
Overall, the results of this policy dimension highlight the high accessibility of alcohol across all provinces, see Figures 5 and 6. No province has regulated population-based restrictions on overall outlet density. However, many provinces allow for municipal powers in determining either the location or number of outlets, and several jurisdictions provided the opportunity for citizen input on the establishments of new outlets or issuing of new licenses. There was a wide range of both off-premise and on-premise outlet densities found across the provinces with the highest outlet densities found in Eastern Canada, with the exception of Nova Scotia. While almost all provinces had hours of operation set by regulation there were still a number of provinces that allowed for the service of alcohol either very late at night or early in the morning.

Figure 5: Results by Province for the Physical Availability Policy Indicators

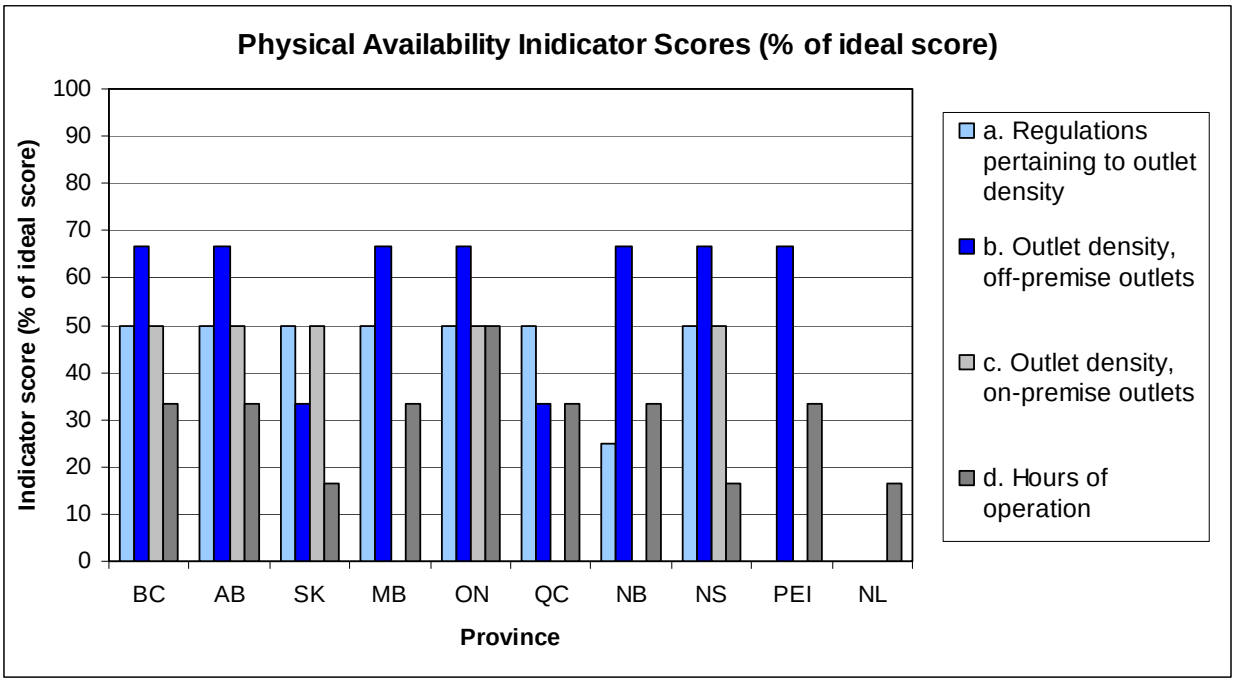
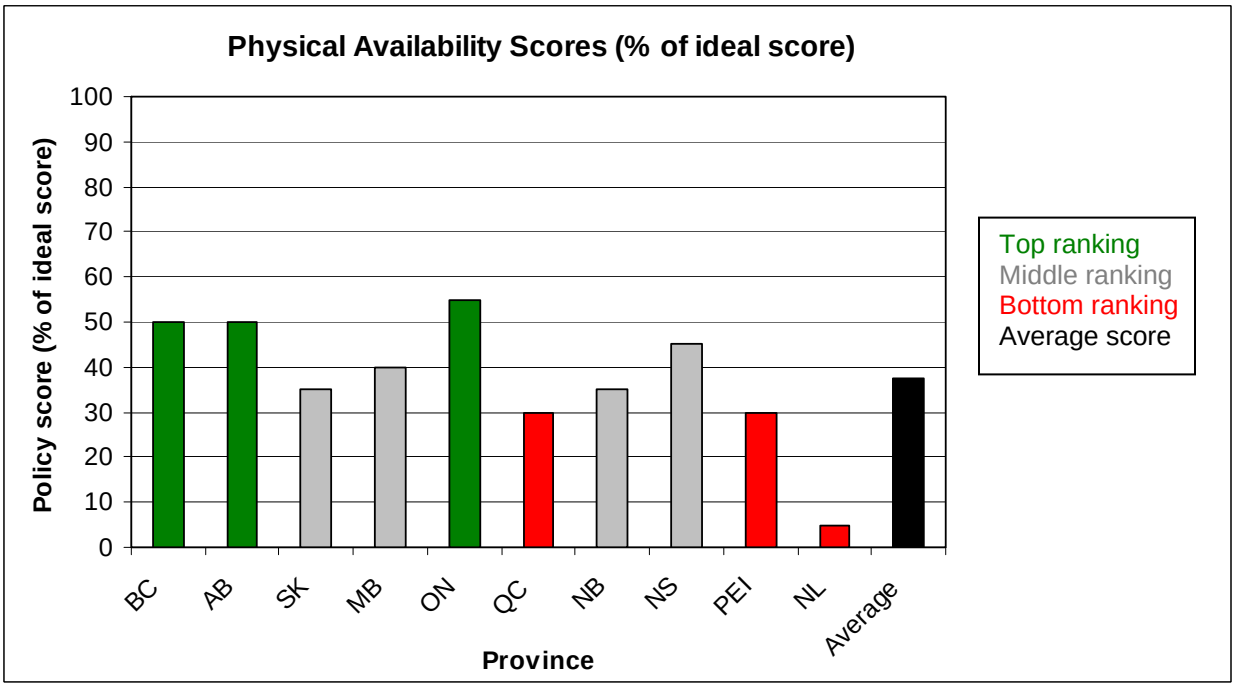


Figure 6: Results by Province for the Physical Availability Policy Dimension



Promising Policies and Practices:

(1) Alberta, Ontario, Quebec and Nova Scotia all allow for citizen input regarding the placement of both on-premise and off-premise outlets. This could be used as a tool to support public health input in alcohol policy decisions.

(2) In Saskatchewan, off-sale endorsements, which permit take away sales from hotels and other on-premise establishments, are limited by population in some regions, although some exceptions apply. Population based limits on outlet density help control the availability of alcohol and prevents the formation of high density entertainment districts.

(3) Alberta, Manitoba, Quebec and Nova Scotia do not allow for privately run ferment on premise locations, although Manitoba has one government run FOP outlet.

(4) Seven of the 10 provinces have set hours of operation regulated under their respective alcohol control and or licensing acts for both on-premise and off-premise outlets.

Policies and Practices – Areas for Improvement:

(1) No provinces, aside from Saskatchewan, have limits on population density that are set through provincial legislation/regulation.

(2) In several provinces, including British Columbia, Saskatchewan, Manitoba, Quebec, New Brunswick, PEI and Newfoundland and Labrador, regulations allow for the sale of alcohol from on-premise outlets prior to 10 am. With New Brunswick regulations allowing for the sale of alcohol from on-premise establishments offering meal service from as early as 6 am.

(3) All provinces allow for alcohol sales in the early morning (i.e. before 11:00 am) or late at night (i.e. past 8:00 pm for off-premise or past 1:00 am of the next day for on-premise sales).

(4) In Ontario, Quebec, New Brunswick, Nova Scotia, PEI and Newfoundland and Labrador extended hours of alcohol sales from on-premise establishments may be authorized during events of municipal, provincial, national or international significance such as the World Cup Soccer matches or the East Coast Music Awards.

(5) Newfoundland and Labrador and Quebec both demonstrate two of the highest outlet densities for both off-premise and on-premise outlets.

4. Drinking and Driving

Evidence and Rationale: Alcohol-related collisions remain one of the leading sources of alcohol-related deaths and injuries in Canada and internationally (e.g., Lim et al., 2012). Nevertheless, research has identified policies and programs that may substantially reduce the impact of drinking and driving on crashes, injuries and fatalities.

Young, novice or newly licensed drivers are at substantially increased collision risk. It has been shown that Graduated Licenses, designed to separate young or new drivers from specific driving hazards such as driving after drinking during this learning period, are effective in reducing collision rates, including those resulting from alcohol (Wickens, Butters, Flam et al., in press; Paglia-Boak, Adlaf & Mann, 2011; Fell, Jones, Romano, et al., 2011).

Research has provided strong support for setting administrative and criminal per se limits at 0.05%, since significant impairment is observed at this level, collision risk is significantly increased at this level, and setting or lowering a legal limit to this level results in significant decreases in alcohol-related collisions, injuries and fatalities (Wickens et al., in press; Mann, 2002). As well, sanctions need to have a meaningful deterrent value to be effective (Mann, Stoduto, MacDonald et al., 2001). Vehicle impoundment has been found to be a meaningful sanction that results in reductions in rates of drinking driving (Voas, Fell, McKnight et al., 2004).

Individuals who have been apprehended for drinking driving offenses are at very high risk for subsequent drinking driving offenses, collisions and alcohol-related deaths (e.g., Peck, Arstein-Kerslake, Helander, 1994; Mann, Anglin, Wilkins et al., 1993). Remedial programs based on principals of effective alcohol intervention, including screening, brief intervention and referral to more intensive treatment where indicated, have been shown to reduce alcohol problems, recidivism and collision risk among offenders (Mann, Anglin, Wilkins et al., 1994; Health Canada, 2004; Wells-Parker, Bangert-Drowns, McMillen et al., 1995; Flam-Zalcman, Mann, Stodotu et al., in press). Programs requiring installation of ignition interlock devices have been shown to reduce recidivism rates substantially while they are in place (Voas et al., 2004), and more recently combining remedial and interlock programs in a mutually supportive fashion, have been identified as a very promising countermeasure strategy (Voas et al., 2004; Elder, Vaos, Beirness et al., 2011).

Drinking and Driving Indicators as per Appendix A:
In selecting the following indicators, MADD Canada considered those measures that would likely garner the greatest public support and most significantly reduce impaired driving. These priority areas were the focus of this report.

a. Licensing: It is important to consider the increased vulnerability of new and younger drivers. Young drivers are dramatically overrepresented in all categories of impairment-related traffic deaths, reflective of their hazardous patterns of alcohol use. Evidence has consistently shown that Graduated Licensing Programs (GLP) significantly reduce crash deaths and injuries among new and young drivers by gradually introducing drivers to more challenging driving situations. It is for this reason that new drivers should also be subjected to a zero BAC limit. Strong

enforcement powers in support of the GLP further deter drinking and driving, by increasing the perceived risks of detection and sanction (Solomon & Chamberlain, 2006).

b. Licensing suspensions and revocations: Without consequences, impaired drivers are not held accountable for the risk they pose to themselves and others. Sanctions must be significant enough to serve as a deterrent and convey the message that risky driving behaviour will be taken seriously. It is recommended that jurisdictions impose a seven day license suspension and vehicle impoundment program for a BAC of 0.05 or higher. The program should be supported by a record keeping procedure and escalating sanctions for repeat occurrences and accompanied by a reinstatement fee to help cover administrative costs of the program (Solomon & Chamberlain, 2006).

c. Vehicle and remedial programs: Each province and territory should establish an alcohol interlock program in conjunction with licence suspensions as part of a comprehensive approach to dealing with impaired driving offenders. On their own, ignition interlocks are simply restrictive, not rehabilitative. Therefore Ignition interlocks should remain in place until the underlying alcohol problem has been addressed. It is recommended that vehicle forfeiture be put in place for repeat offenders. Finally, it is important that mandatory remedial programs be in place to help offenders with serious alcohol problems.

Scoring: In order to develop the final score for the drinking and driving policy dimension the licensing indicator was scored out of a maximum of 4 points, the licensing suspension and revocation indicators were scored out of a maximum of 3 points and the vehicle and remedial programs indicator was scored out of a maximum of 3 points, for a total of 10 points.

In order to receive a perfect score a jurisdiction must: 1) have a comprehensive GLP for all new drivers that gradually introduces new drivers to more challenging driving scenarios. Their policy should require all drivers under 21 years of age or with less than 5 years experience to have a BAC of 0.00%. these should be supported by police enforcement powers and mandatory administrative suspensions for those who break the conditions of the GLP; 2) A minimum 7 day administrative licence suspension and vehicle impoundment for drivers with a BAC of 0.05% or more accompanied by a record of the suspension, remedial programs and escalating sanctions in addition to a $150-$300 licence reinstatement fee; 3) A mandatory alcohol ignition interlock program for all federal impaired driving offenders with reduced provincial licence suspensions to encourage participation. This program should be supported by escalating Administrative Licence Suspensions, vehicle impoundment sanctions and lengthy ignition interlock extensions for repeat program violations as well as mandatory vehicle forfeitures and remedial programs for drivers with repeated federal impaired driving violations.

Figure 7: Results by Province for the Drinking and Driving Policy Indicators

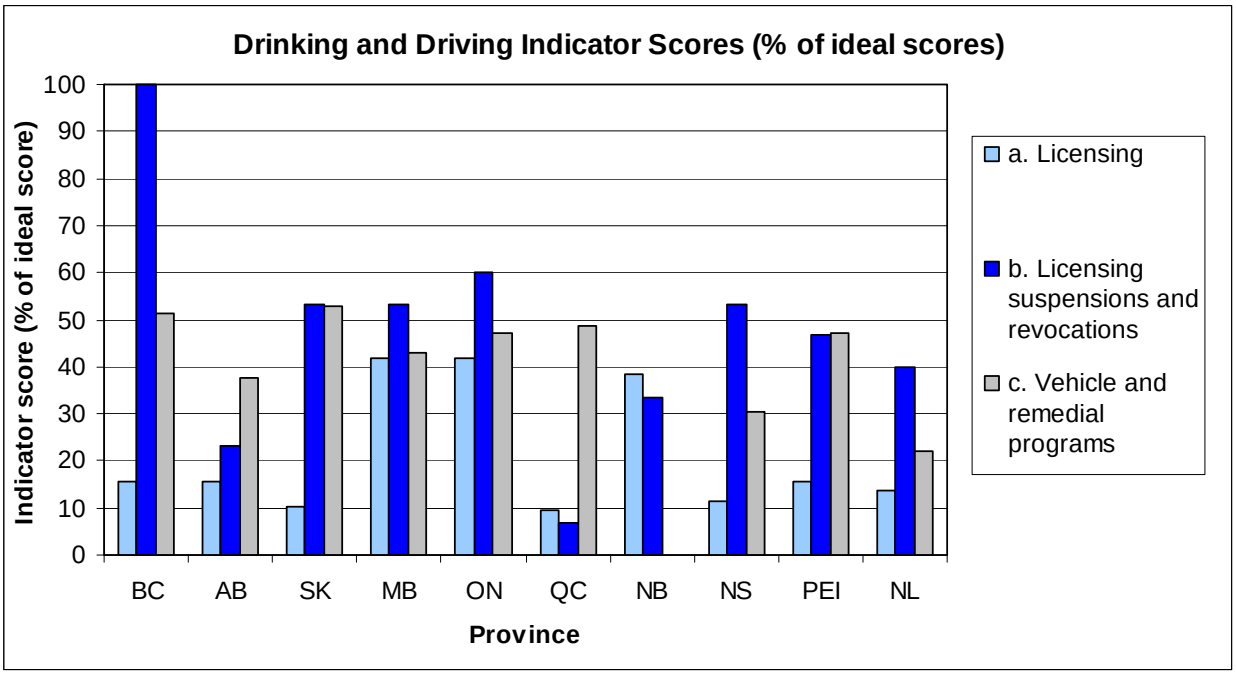
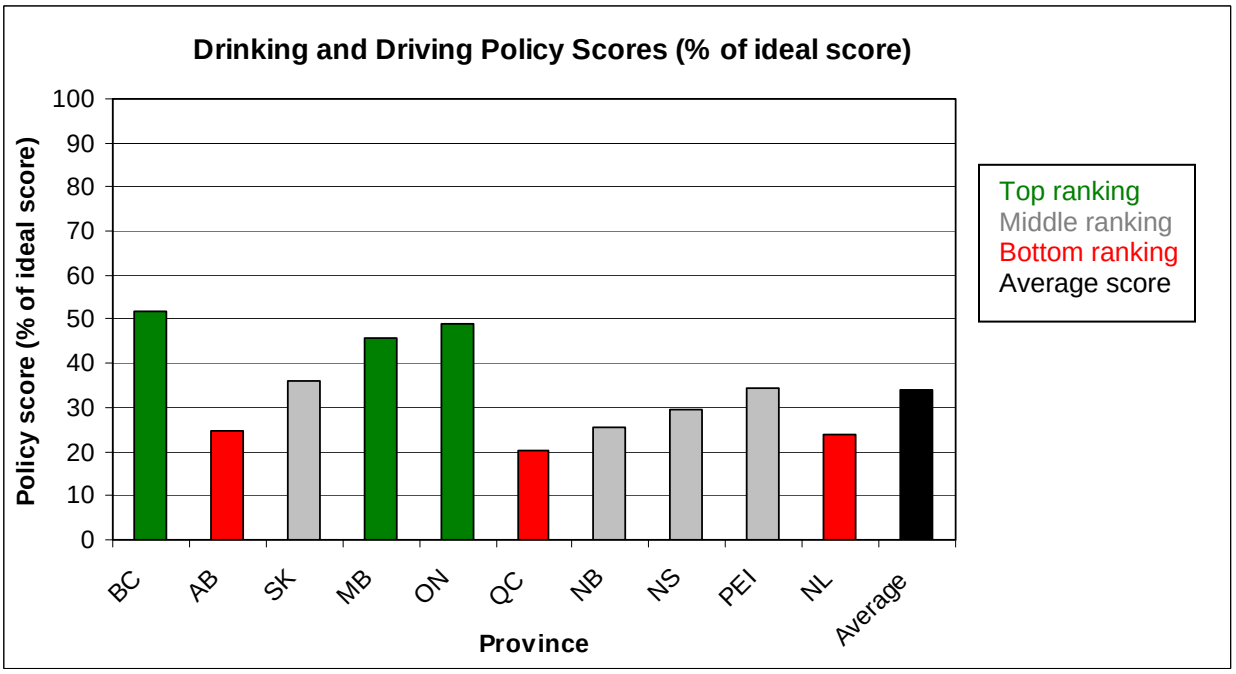


Figure 8: Results by Province for the Drinking and Driving Policy Dimension



Results Summary:

The scoring criteria implemented in evaluating the drinking and driving related policies was based on the 2012 MADD Canada report. While there are some examples of some strong drinking and driving polices particularly with regard to licensing programs and licence

suspension and revocation indicators, the overall picture indicates much unrealised potential for achieving public health and safety benefits, see Figures 7 and 8. All provinces have implemented a Graduated Licensing Program of at least 2 years however, with the exception of Manitoba, none of these programs are supported by police enforcement powers. While several provinces are beginning to adopt zero tolerance rules for young and new drivers; Manitoba, Ontario and New Brunswick are the only provinces to adopt a 0.00% BAC limit that extends beyond the length if the GLP program. There was a wide range in the comprehensiveness of the licensing suspensions and revocation programs with British Columbia demonstrating a gold standard in administrative licence suspension and impoundment programs. All provinces except for New Brunswick and Newfoundland and Labrador have mandatory interlock programs for federal impaired driving offenders however, the quality of the programs vary. Furthermore, all provinces, except for New Brunswick, Nova Scotia and Newfoundland and Labrador, have mandatory remedial programs for federal impaired driving offenders. For a comprehensive review and comparative analysis of drinking and driving countermeasures in each province please refer to the MADD Canada 2012 Provincial and Territorial Legislative Review (Solomon, Cardy, Noble et al., 2012).

5. Marketing and Advertising

Evidence and Rationale: Twenty years of research has shown that young people's exposure to alcohol advertising is linked to increased drinking if the young person currently drinks, and earlier initiation of drinking if the young person has not yet begun drinking (Anderson, De Bruijn, Angus et al., 2009b; Gordon, Harris, Mackintosh et al., 2011; Jernigan, Ostroff, Ross et al., 2007; Snyder, Milici, Slater et al., 2006). Other long-term studies have found that youth exposed to more alcohol ads drink more than youth exposed to fewer ads (Smith, & Foxcroft, 2009; Stoolmiller, Wills, & McClure, 2012). Research with young adults has garnered similar results in that a greater exposure to alcohol portrayals in the media is associated with increased drinking (Engels, Hermans, van Baaren et al., 2009; Koordeman, Anschutz, Engels, 2012; Koordeman, Kuntsche, Anschutz et al., 2011).

Alcohol advertising also encourages and reinforces positive attitudes about alcohol and associated drinking behaviors (British Medical Association, 2009); especially problematic are ads featuring young women and girls who are increasingly shown as objectified and sexualized (Smith, Cukier, & Jernigan, in press).

Exposure to alcohol ads through event and team sponsorship, on TV, in movies, online, on busses, bus shelters, billboards and other media further reinforce positive associations with alcohol and proffer unrealistic expectations of the effects of drinking; often this will take on the form of consumption in high risk contexts (Brown & Witherspoon, 2002; van Hoof, de Jong, Fennis et al., 2009).

Consensus is widespread, Canada's Alcohol Strategy (CCSA, 2007), the US Surgeon General (2007), the American Academy of Pediatrics (2010), the US Institute of Medicine (2004), Anderson et al., (2009b) and the Center on Alcohol Marketing and Youth (Jernigan, 2011) all recommend limiting exposure to alcohol advertising.

Marketing and Advertising Indicators as per Appendix A:

a. Comprehensiveness of provincial marketing regulations: The Canadian Radio-Television Telecommunications Commission (CRTC) is the federal body responsible for setting alcohol advertising regulations in the Code for Broadcast Advertising of Alcoholic Beverages. The current media climate has changed dramatically since 1996 when the CRTC's regulations were last amended. It is incumbent upon provincial regulators, therefore, to consider more relevant provincial regulations for alcohol advertising that go above and beyond those specified by the CRTC and that consider the following: 1) the *content* of alcohol ads, especially ads depicting glamorous lifestyles and including aspirational characters often engaged in consequence-free drinking; 2) the *placement* of alcohol ads, as children are more vulnerable to the effects of alcohol ads, places where children play, and the media to which they are exposed should be protected from alcohol ads; 3) the *number* of ads in circulation, where fewer are better; and 4) the advertisement of drink prices, where ads for discounted drinks should be restricted.

b. Enforcement of regulations. Without the enforcement of regulations, alcohol advertisers are not held accountable for the content of alcohol ads. The current self-regulatory system is not sufficient to protect children from harmful exposure to these ads, therefore, the CRTC and provincial regulators should uphold a stronger standard for complaints and violations of regulations. Ideally there should be a specific authority responsible for enforcement. This authority should oversee a formal complaint system for ads that are thought to be in violation and finally strong consequences should be in place for violations of the regulations.

c. Practice Indicator- Focus of the liquor board's website. All provincial liquor boards uphold a dual mandate to both increase revenues to government through the sale of alcohol as well as protect the public's health from alcohol use. As a first face to the public, a liquor board's website should therefore represent this dual mandate with equal if not more prevention messaging compared to product promotion.

d. Sponsorship. Sponsorships, such as sports team, infrastructure and community event sponsorship, that allow for the display of alcohol manufacturer names and logos, increase the likelihood of exposure of alcohol ads to youth. Positive associations between sport and alcohol are reinforced as is the regular inclusion of alcohol in family events. Policies restricting alcohol sponsorship might help balance health and revenue raising objectives.

Scoring: In order to develop the final score for this policy dimension, a maximum of 4 points was allocated to the comprehensiveness of the provincial marketing regulations, a maximum of 3 points was allocated to the enforcement of the marketing regulations, a maximum of 1 point was assigned to the focus of the liquor boards website and a maximum of 2 points was allocated to the regulation of advertisement sponsorship practices, for a total of 10 points overall.

An ideal score would include provincial regulations on the content, placement and quantity of alcohol advertising, e.g. no lifestyle ads, no ads posted in or around schools, playgrounds or other places where children congregate, limits on the number of ads in geographic zones; regulations that prohibit the advertisement of deeply discounted drinks; violations to the Liquor Control Act regarding alcohol advertising would be reported using a formalized process and be

punishable by a strong penalty (i.e. high fine, licence suspension or revocation); social responsibility would be the main focus of the liquor board's website; and alcohol sponsorship of events, infrastructure and sports teams, that allow for the display of alcohol manufacturer names and logos, would be restricted.

Figure 9: Results by Province for the Advertising and Marketing Policy Indicators

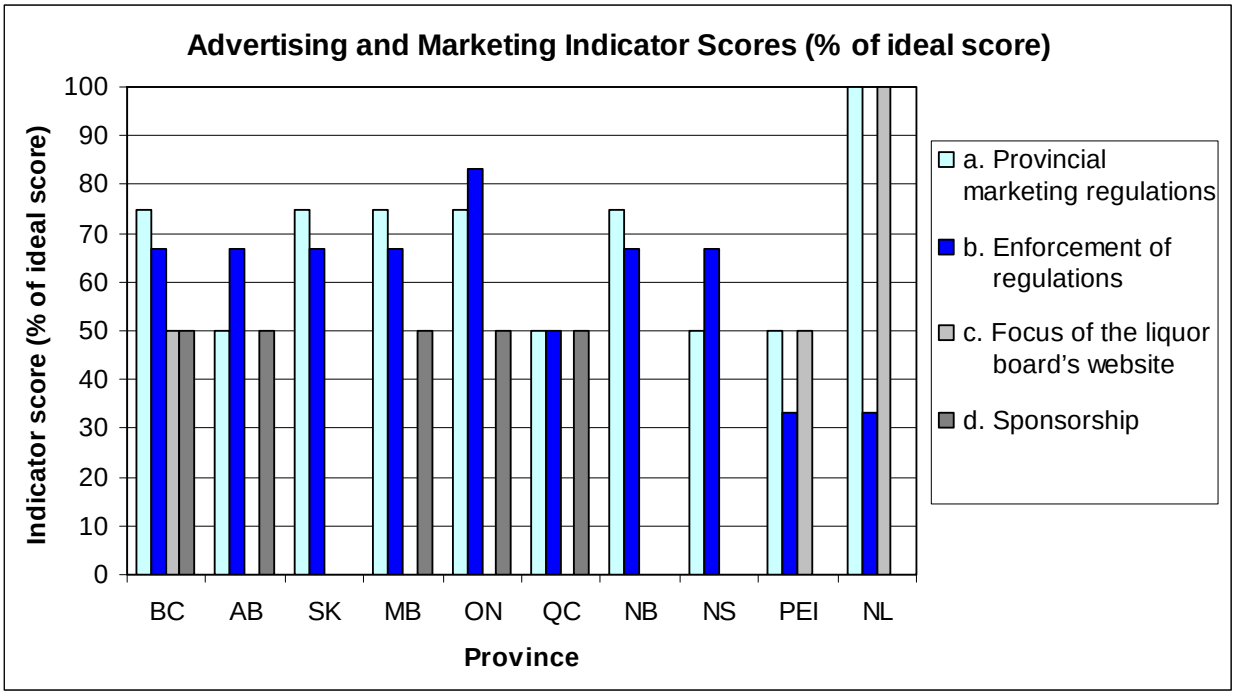
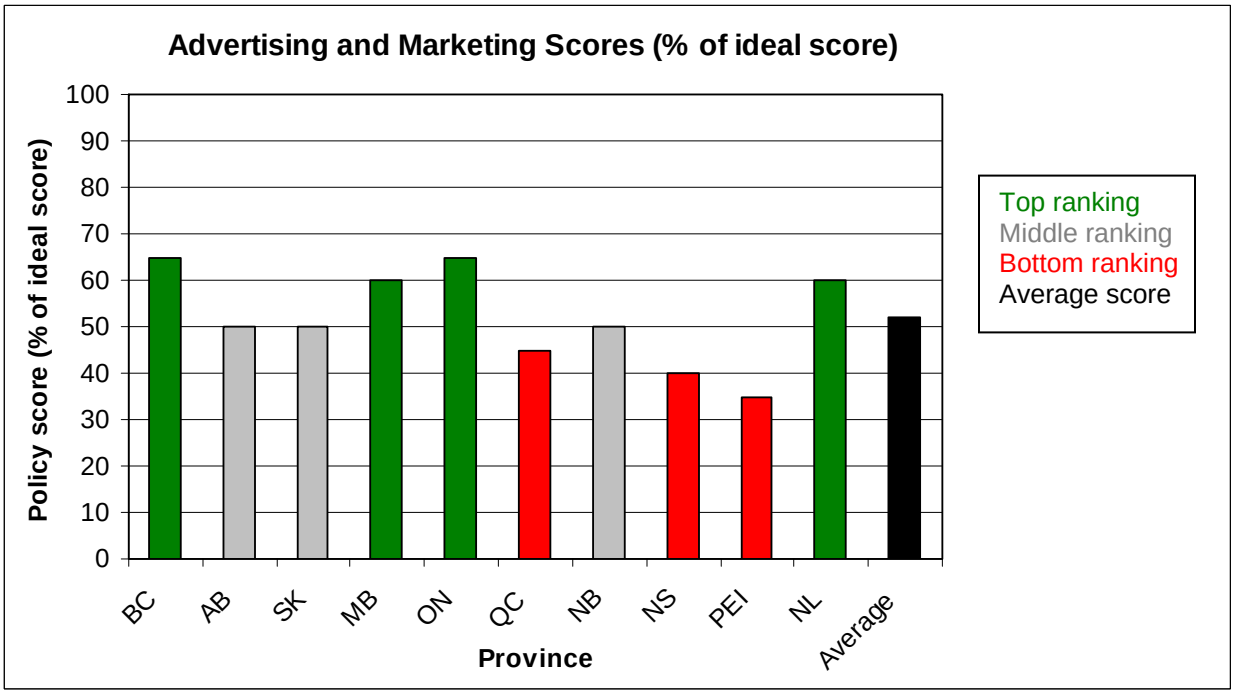


Figure 10: Results by Province for the Advertising and Marketing Policy Dimension



Results Summary:
Overall, seven of the 10 provinces are meeting at least 50% of their full potential on this policy dimension however, there is room for improvement in implementing restrictive sponsorship policies and shifting the focus of provincial liquor board websites away from product promotion towards a more health focused message, see Figures 9 and 10. Almost all provinces have alcohol advertisement content restrictions that go beyond those stipulated in the Canadian Radio-television Telecommunications Committee (CRTC) Code for Broadcast Advertising of Alcoholic Beverages, with many jurisdictions also placing restrictions on the placement of advertisements and the advertising of price. However, only two provinces place restrictions on the quantity of alcohol advertisements. All jurisdictions have an identified department or individual responsible for the enforcement of advertising regulations but only Ontario has implemented a formal complaint process. As indicated under the previous policy dimension, all jurisdictions are disseminating social responsibility messages though a variety of media, though few jurisdictions had these messages prominently displayed on their corporate website's landing page. Finally, all provinces permit sponsorship of events and infrastructure by alcohol manufacturers however most provinces have at least some restrictions in place.

Promising practices and policies:

(1) While all provinces' alcohol advertising content regulations go beyond those outlined in the CRTC code, New Brunswick and Newfoundland were the only provinces to place limitations on the quantity of advertisements.

(2) There are a number of promising restrictions on the advertisement of alcohol prices. Specifically, British Columbia, Alberta, and Ontario forbid the advertisement of 2 for 1 specials. Furthermore, these provinces as well as Quebec have restrictions on advertising 'happy hour' specials that indicate reduced alcohol prices. Finally, in Saskatchewan and Ontario, ferment on premise locations may not promote price per bottle or promote their prices as being inexpensive or "cheap".

(3) Several provinces have begun to place restrictions on alcohol advertising sponsorship. For example, British Columbia requires the display of socially responsible messaging if sponsorship includes sale or service of liquor, Ontario forbids sponsorship that associates liquor with driving or any activities which involve care and skill or elements of physical danger.

Policies and Practices – Areas for Improvement:

(1) PEI demonstrates relatively weak consequences for violations of advertising guidelines (i.e. removal of advertisement) as does Ontario, despite having a formal complaint process and a clearly identified enforcement authority. Finally, Newfoundland and Labrador lacks the authority to enforce provincial advertising policies.

Policies and Practices – Areas for Improvement (Continued):

(2) Few liquor boards emphasize the risk associated with the use of alcohol on their corporate website landing page, with the exception of British Columbia and PEI where the product promotion messages are balanced with equal space dedicated to socially responsible messaging.

(3) Saskatchewan, New Brunswick and Newfoundland and Labrador do not have restrictions on alcohol advertising sponsorship and Ontario, Nova Scotia and PEI permit manufacturers to donate money for corporate or brand identified scholarships, bursaries and scholastic prizes. This practice is a form of marketing that directly targets minors and should be prohibited.

6. Legal Drinking Age

Evidence and Rationale: There is a variety of evidence supporting the role that minimum alcohol drinking age laws play in health outcomes, particularly for younger populations. A comprehensive review conducted by Wagenaar and Toomey (2002) concluded that implementing a legal age of 21 for both purchases and consumption of alcohol is the most effective strategy in reducing related problems among younger drinkers. The implementation of a uniform minimum legal drinking age has demonstrated significant decreases in alcohol consumption, drinking and driving incidents, and alcohol related hospital admissions (Babor et al., 2010; Subbaraman & Kerr, 2013; Carpenter & Dobkin, 2011). However, the evidence suggests that the effectiveness of a higher minimum legal drinking age is strongly influenced by the level and consistency of law enforcement efforts and also by the extent of implementation of other effective alcohol control policies (Wagenaar, Murray, & Toomey, 2000). A recent study showed that, consistent with social learning theory, community norms and the enforcement of under age drinking laws influence beliefs and behaviours around alcohol. Adolescents who perceive enforcement of underage drinking laws to be strong and drinking to be disapproved of by others also believe alcohol is less available and less common amongst their friends, all beliefs that influence their alcohol consumption (Lipperman-Kreda, Grube, & Paschall, 2010).

Legal Drinking Age Indicators as per Appendix A:

a. Level of legal drinking age and supporting legislation: A higher minimum legal drinking age is considered more effective in decreasing alcohol consumption and related harms among younger drinkers with a minimum legal drinking age of 21 years representing the best practice (Babor et al., 2010). It is important that the legal drinking age be supported by legislation that prohibits not only the purchase of alcohol by those below the minimum legal drinking age but also prohibits the sale of alcohol to these individuals. This places the focus not only on the drinker but also on alcohol retailers to uphold the legal drinking age. Finally, policies that permit individuals under the legal drinking age to drink under specific circumstances (i.e. social hosting policies) are important to consider due to the permissive attitude towards alcohol they may promote.

b-c. Enforcement of the legal drinking age in on-premise and off-premise outlets: It is important that a jurisdiction has the capacity to enforce the legal drinking age in both on-premise and off-premise outlets. The benefits of a higher drinking age are only realized with adequate and consistent enforcement. Mystery shopper programs are effective in holding alcohol retailers accountable and ensuring that alcohol retailers are not selling alcohol to individuals below the legal drinking age. Similarly, liquor inspection programs conducted by the liquor authority and supported by law enforcement initiatives afford the needed support for underage alcohol sale enforcement.

Scoring: In order to develop the final score for the legal drinking age policy dimension the level of the legal drinking age was scored out of a maximum of 5 points, the enforcement of the legal drinking age for off-premise outlets was scored out of a maximum of 3 points and the enforcement of the legal drinking age for on-premise establishments was scored out of a maximum of 2 points for a total maximum of 10 points.

An ideal score would entail a high minimum legal drinking age such as 21 years of age. This policy would be adjunct to legislation that prohibits not only the purchase of alcohol by individuals below the minimum legal drinking age but also prohibits the sale of alcohol to these individuals. These policies would be supported by a strong enforcement program that conducts regular inspections of both off-premise and on-premise retailers and collaborates with law enforcement to conduct inspections and uphold the minimum legal drinking age.

Figure 11: Results by Province for the Legal Drinking Age Policy Indicators

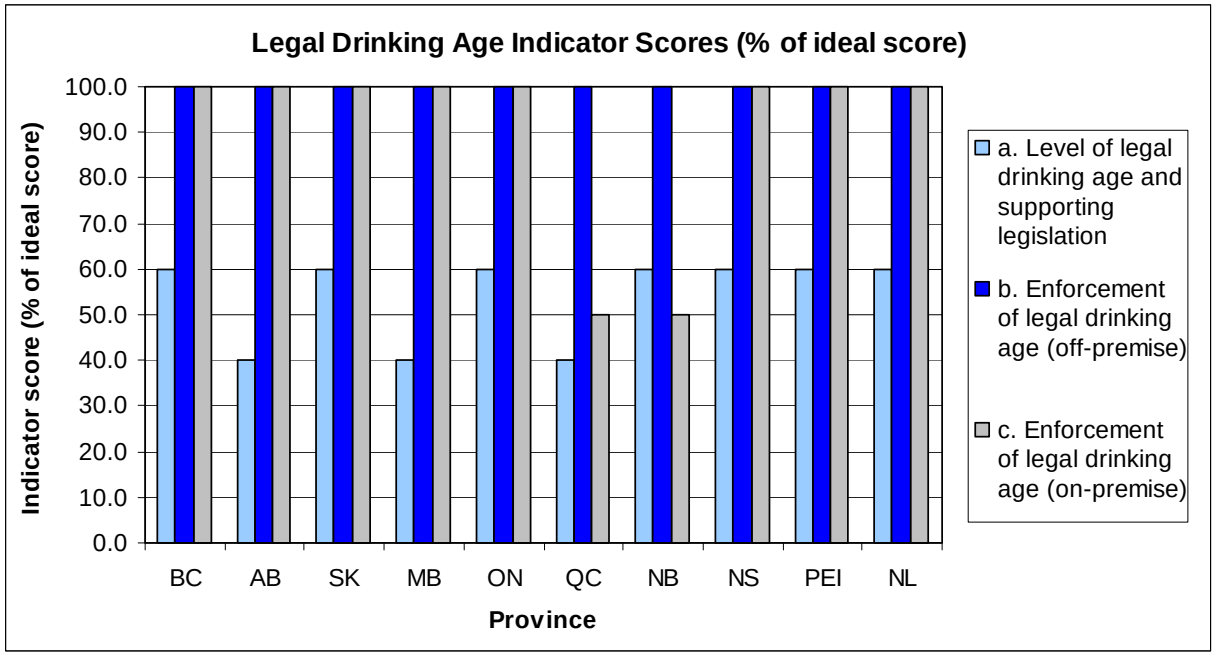
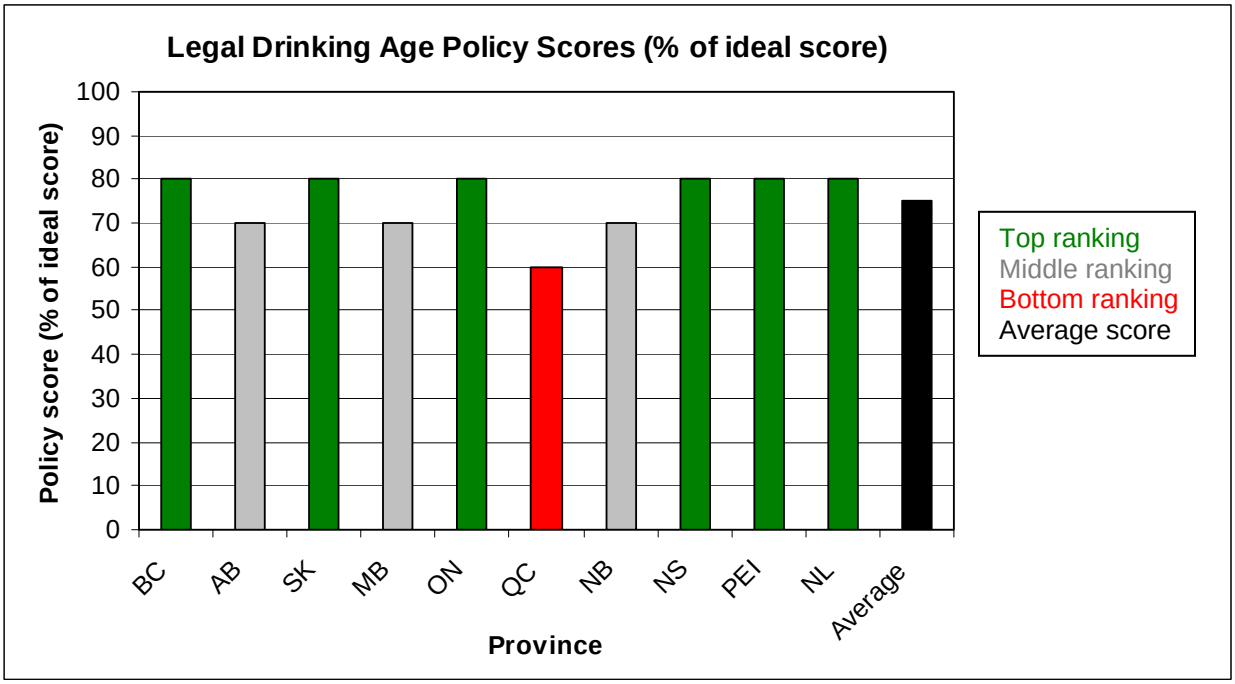


Figure 12: Results by Province for the Legal Drinking Age Policy Dimension



Results Summary:
Overall, provinces performed well on the legal drinking age policy dimension. While no province has implemented a minimum legal drinking age of 21, the enforcement of the legal drinking age is a strength across all jurisdictions, see Figures 11 and 12. All provinces have a minimum legal drinking age of either 18 or 19 years of age with supportive legislation prohibiting both the sale of alcohol to an individual below the legal drinking age as well as prohibiting an individual below the legal drinking age from purchasing alcohol. Nova Scotia was the only province that did not allow for exceptions to the legal drinking age under social hosting policies. Finally, all provinces have mystery shopper programs that support the enforcement of the minimum legal drinking age in off-premise outlets and all provinces have some form of enforcement of the minimum legal drinking age in on-premise outlets either by way of outlet inspections or enforcement by law enforcement officials (i.e. police).

Promising Practices and Policies:

(1) All jurisdictions have supporting legislation that prohibits both the purchase of alcohol by a minor and the sale of alcohol to a minor.

(2) Overall enforcement of the legal drinking age is strong. All jurisdictions have mystery shopper program that monitor the enforcement of the legal drinking age in off-premise outlets and all provinces either have a liquor inspection program or collaborate with law enforcement officials in order to enforce the legal drinking age in on-premise establishments.

Policies and Practices – Areas for Improvement:

(1) The legal drinking age is 18 in Alberta, Manitoba and Quebec.

(2) In Manitoba and New Brunswick, social hosting regulations that allow parents and spouses to provide alcohol to their underage child or spouse extend beyond a private residence to on-premise outlets and community halls, respectively.

7. Screening, Brief Intervention and Referrals

Evidence and Rationale: The cumulative evidence from more than several hundred empirical studies, recent meta-analyses and systematic reviews, is that the use of screening, brief interventions and referrals (SBIR) in health care settings is an effective method for reducing alcohol consumption and associated problems, particularly those with early stage or less severe alcohol dependence (Kaner, Dickinson, Beyer et al., 2009; Moyer, Finney, Swearingen et al., 2002; Ballesteros, Duffey, Querejeta et al., 2004a; and Bertholet, Daeppen, Wietlisbach et al., 2005). This approach has shown evidence of effectiveness for both males and females (Ballesteros Gonzalez-Pinto, Querejeta al., 2004b), as well as adolescents and adults (Babor et al., 2010). Chisholm, Rehm, Van Ommeren et al., (2004) conducted a meta-analysis of all high quality published studies on these interventions and estimated a net of 22% reduction in consumption of hazardous drinkers. Rehm, Gnam, Popova et al., (2008) estimate that with 70% uptake of SBIR in general practice an annual saving of $1.6 billion in terms of Canadian health, crime and productivity losses. It can be concluded that the integration of SBIR into a range of primary and secondary health care settings will have a substantial public health benefit in reducing demand on health care and attendant costs.

Screening, Brief Intervention and Referral Indicators as per Appendix A:
Provinces were rated on three key indicators that enhance the integration and efficacy of SBIR in provincial health care settings (Babor & Higgins-Briddle, 2000; Johnson, Jackson, Guillaume et al., 2010).

a. The inclusion of SBIR in a provincial strategy or action plan: The inclusion of SBIR in a strategy document endorsed by the province identifies it as a priority and is intended to mobilize action. Encouraging the use of SBIR with the general population, in addition to at-risk groups (i.e. pregnant women), increases the scope and potential effectiveness of SBIR and has the potential to detect drinkers who may not otherwise be identified as at-risk.

b. Practice guidelines and/or position paper: A position paper or guideline on SBIR issued by a credible provincial professional association such as physicians, nurses or psychologists, encourages SBIR to become practice (Babor, et al., 2000; Johnson et al., 2010).

c. Fee for service codes: Fee for service codes provide the means for physicians to conduct SBIR and receive payment and encourage the use of SBIR by physicians. More general fee for

service codes allow for physicians to bill for SBIR activities, however SBIR specific codes are assumed to support consistency in SBIR protocol across physicians.

Scoring: In order to develop the final score for the screening, brief intervention and referral policy dimension the inclusion of SBIR in a strategy document was scored out of a maximum of 4 points, the status of a position paper of provincial guidelines was scored out of a maximum of 3 points and the jurisdictions' policy on SBIR fee for service codes was scored out of a maximum of 3 points for a maximum score of 10 points overall.

To achieve the maximum score, a province had to have evidence of a provincial policy for SBIR that targeted the general population, practice guidelines or a position paper on SBIR, and a fee for service code specific to SBIR.

Summary of Results:
There was great variability in this policy domain with both British Columbia and Ontario having perfect to almost perfect scores while other provinces having little or no activity on SBIR, see Figures 13 and 14. Most provinces do at least include SBIR as part of a provincial strategy or action plan. However, few provinces support physicians in actually implementing SBIR in practice by providing guidelines or fee for service codes.

Figure 13: Results by Province for the Screening, Brief Intervention and Referral Policy Indicators

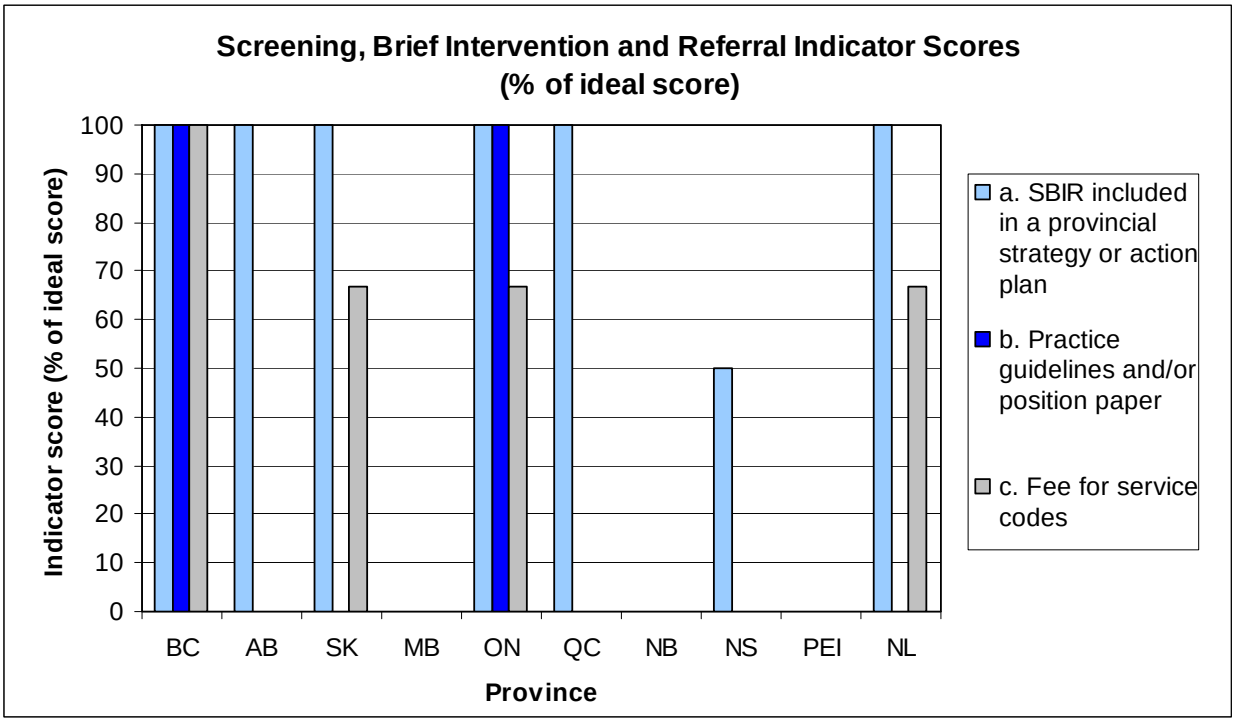
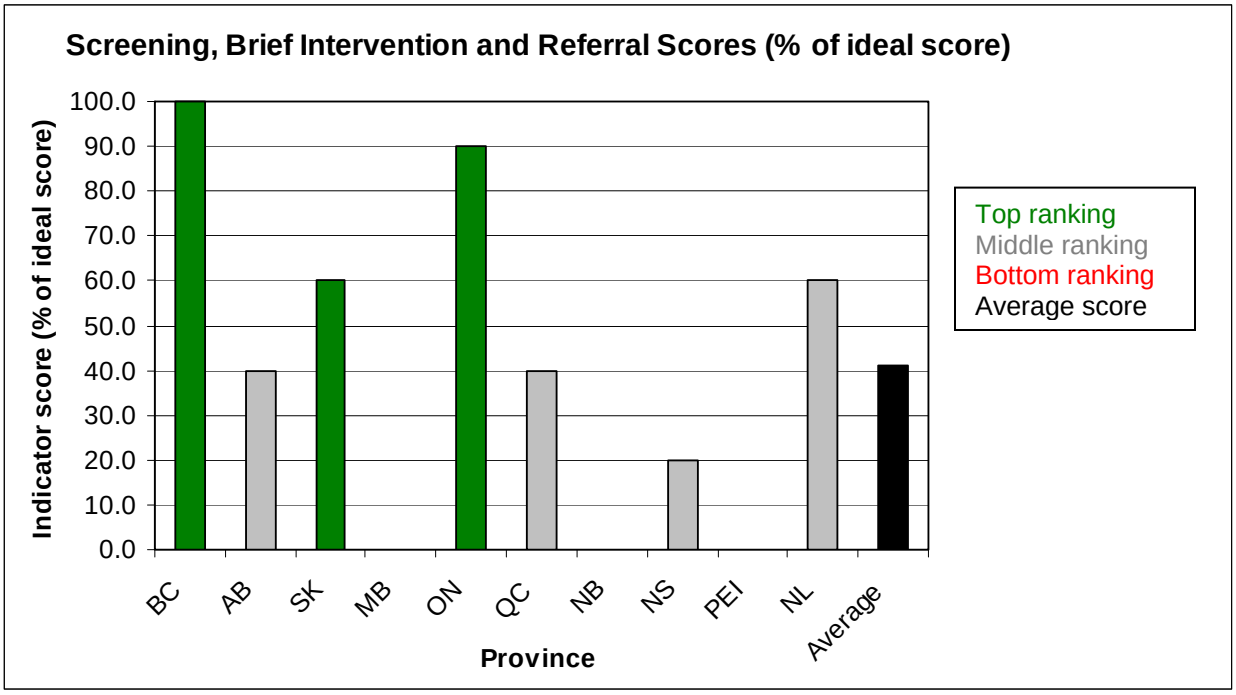


Figure 14: Results by Province for the Screening, Brief Intervention and Referral Policy Dimension



Promising policies and practices:

(1) British Columbia has a fee for service code specific to SBIR and received the highest score overall on this policy dimension.

(2) Both British Columbia and Ontario provide practice guidelines or a position paper on SBIR. The SBIR web-based resource released in November 2012 by the Canadian Centre on Substance Abuse (CCSA) and the College of Family Physicians of Canada (CFPC) can be implemented across all jurisdictions

(3) British Columbia, Alberta, Saskatchewan, Ontario, Quebec and Newfoundland and Labrador have identified SBIR for the general population as a priority in their provincial strategy or action plan.

Policies and Practices – Areas for Improvement:

(1) Manitoba, New Brunswick and PEI do not include SBIR as part of a provincial strategy or action plan. The SBIR resource released by CCSA and CFPC may stimulate change in this area.

8. Server and Management Training and Challenge and Refusal Programs

Evidence and Rationale: There is evidence reviewed by Anderson et al., (2009a) and Babor et al., (2010), that some server and management interventions can have a desired impact on reducing service to minors and over-service to patrons in on-premise establishments. It is assumed that a comprehensive, intensive, evidence-based mandatory training program, which does not allow for loopholes, will have a greater potential to reduce service to intoxicated customers. As a result, alcohol-related incidents such as drinking and driving will be less frequent than with a voluntary system that is not evidence-based and involves only modest training. It is also important to note that the effectiveness of these programs appears to be contingent on active enforcement of the relevant liquor laws i.e. those prohibiting the sale of alcohol to minors and intoxicated customers (Stockwell, 2006).

There is also evidence reviewed by Anderson et al., (2009a) and Babor et al., (2010) that challenge and refusal programs at off-premise liquor stores can have some impact on sales of alcohol to minors and those who are intoxicated. The impact is usually greater if the program is mandatory, valued by provincial alcohol management authorities, is comprehensive, and includes regular documentation and periodic evaluation.

Server and Management Training and Challenge and Refusal Program Indicators as per Appendix A:

Server and Management Training Program (on-premise outlets and special occasion permits)

a. Server and management training program policy status: This indicator looked at whether there were voluntary or mandatory server and management training programs in place.

b. Quality of the server and management training program: Not all server and management interventions have a desired impact on reducing service to minors and over-service to patrons in on-premise establishments. Therefore the quality of the program was assessed by whether it was based on evaluated server interventions shown empirically to reduce incidents of over-service or service to minors, whether it included comprehensive challenge criteria, whether it had adequate training and whether it applied to all licensed events and venues.

c. Program enforcement: Without enforcement, licensees and their staff are not held accountable for upholding responsible alcohol service practices. The effectiveness of the program is enhanced by enforcement practices such as the tracking of challenge and refusals.

Challenge and Refusal Program (off-premise outlets)

a. Challenge and refusal program policy status: This indicator looked at whether or not a jurisdiction had a challenge and refusal program in place.

b. Quality of the challenge and refusal program: The quality of the program was assessed based on whether the challenge criteria were comprehensive; the program training was adequate and protocols were revised regularly.

c. Program enforcement: Without enforcement, alcohol retailers are not held accountable for upholding socially responsible alcohol sales practices. The effectiveness of the program is enhanced by enforcement practices such as the tracking of challenge and refusals and efforts to evaluate the program through secret shopper interventions.

Scoring: To develop a final server training and challenge and refusal policy dimension score each province's programs were scored on whether there was a program in place (maximum 1 point for each program type), the quality of the program (maximum 2 points for each program type) and enforcement of the program (maximum 2 points for each program type) for a total of 10 points.

To achieve an ideal score for this policy dimension, a province had to have mandatory server and management training program and challenge and refusal programs in place in both on-premise establishments and off-premise outlets. The programs had to employ comprehensive challenge criteria, including both prevention of service to under-age and to intoxicated patron, consist of adequate training with regularly updated protocols, and enforcement in the form of tracking of challenges and refusals had to be in place.

Results Summary:
Most provinces have a server training program that is mandatory but it often does not apply to all license classes and event types and the quality of the programs varies across jurisdictions, see Figure 15. With the exception of Alberta, the server training programs for on-premise establishments are particularly weak with some programs focusing mainly on customer service and revenue targets. It is particularly concerning that few of these programs are based on evaluated training interventions and are mainly completed online. In addition, British Columbia and Newfoundland and Labrador are the only provinces to track enforcement of their on-premise programs. Overall the Challenge and Refusal programs in off-premise outlets are much stronger, see Figure 16. Manitoba, Ontario, Nova Scotia and PEI all have comprehensive programs that are of good quality and enforcement is tracked. All provinces have a challenge and refusal program in off-premise outlets all of which have been evaluated for effectiveness through secret shopper initiatives. While the majority of provinces track challenge and refusals conducted in off-premise outlets this is not a consistently practiced in many private stores and very few jurisdictions follow this practice in on-premise outlets, see Figure 17 for the combined scores for both program types, across provinces.

Figure 15: Results by Province for the Server and Management Training Program Policy Indicators

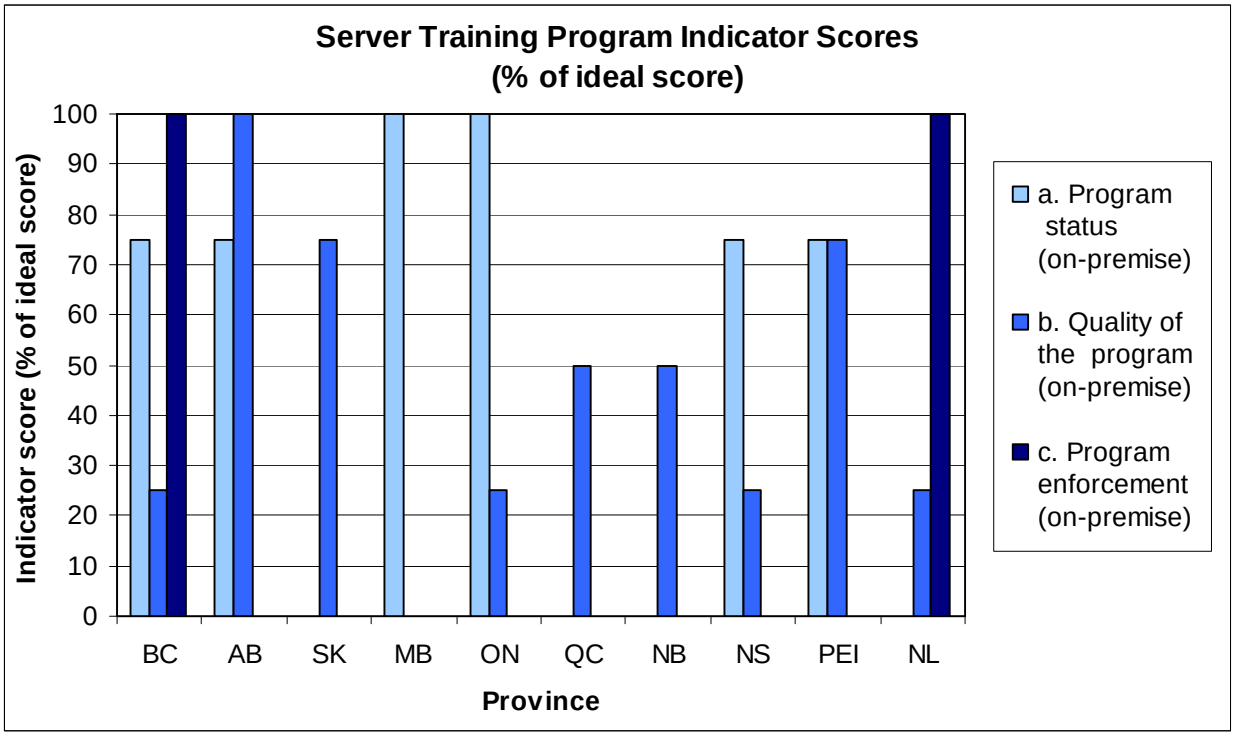


Figure 16: Results by Province for the Challenge and Refusal Program Policy Indicators

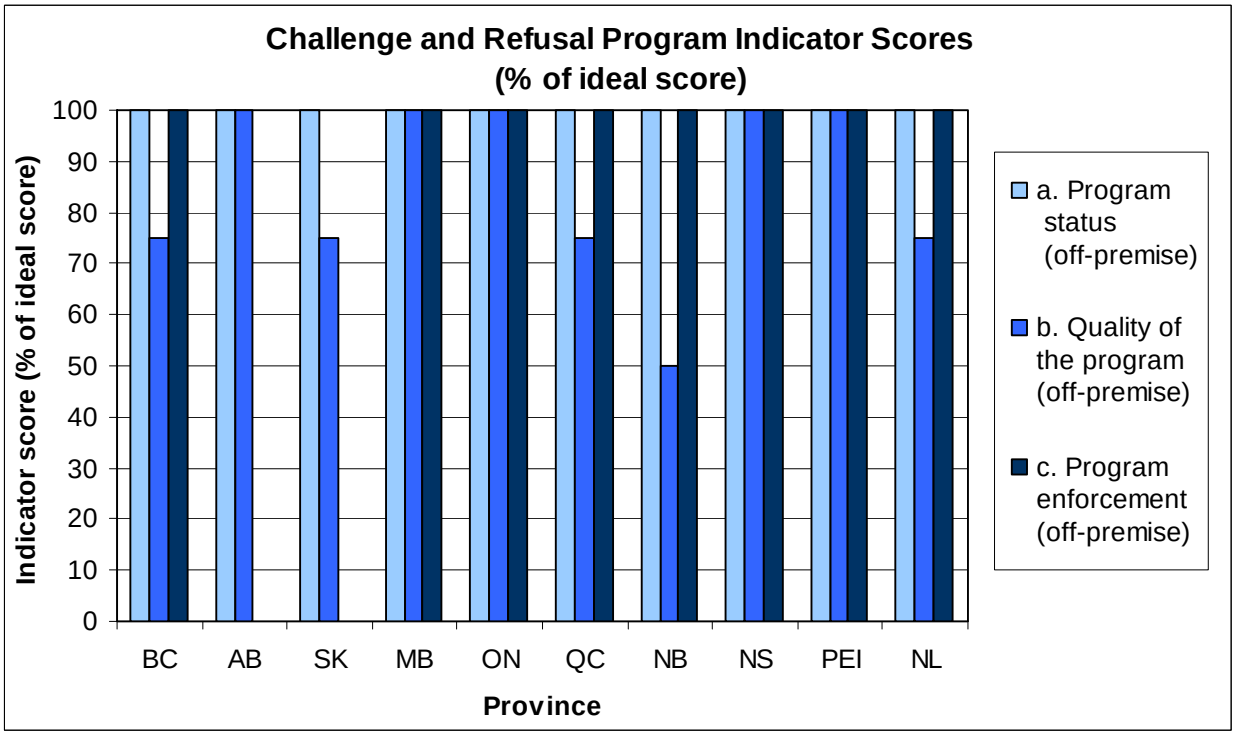
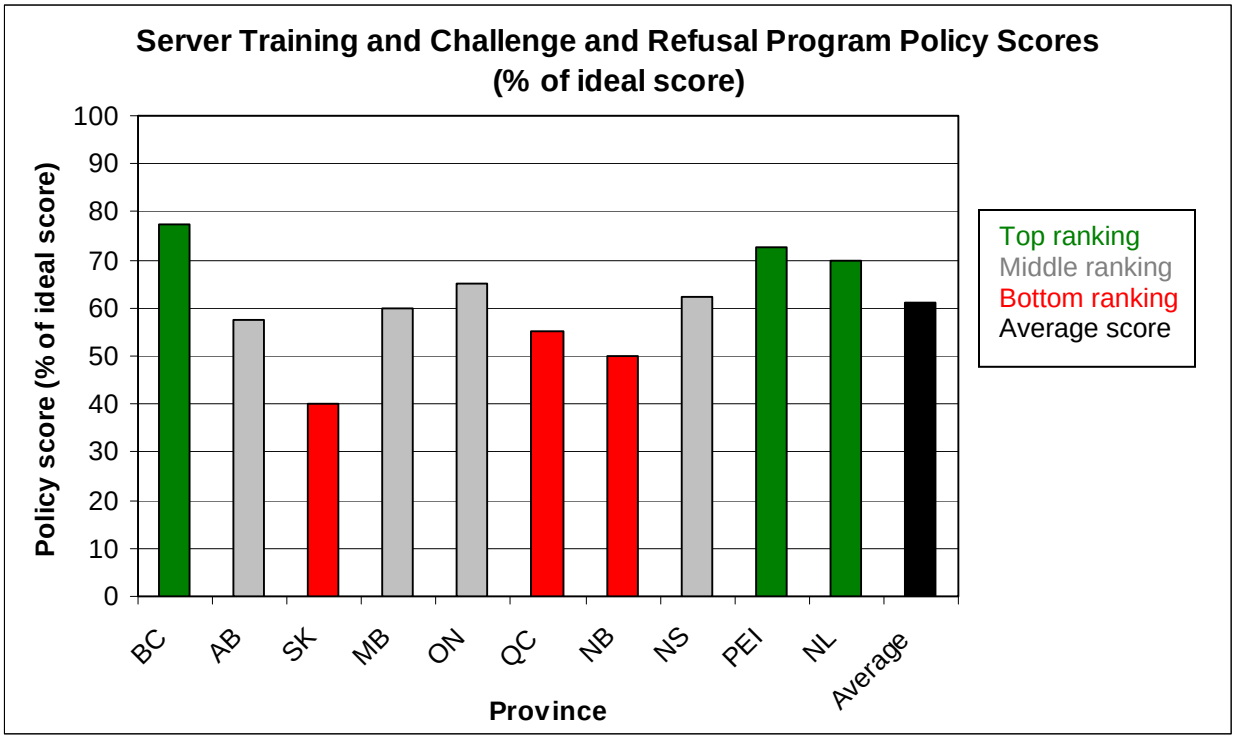


Figure 17: Results by Province for the Server and Management Training and Challenge and Refusal Program Policy Dimension



Promising policies and practices:

(1) Every jurisdiction has a policy against serving intoxicated patrons for both on-premise and off-premise outlets.

(2) British Columbia, Alberta, Manitoba, Ontario and PEI have server training programs that are mandatory on a province wide basis for staff at all public on-premise establishments. In Manitoba and Ontario server training is also required for staff at special events where alcohol is being served.

(3) All provinces have off-premise challenge and refusal programs that are evaluated for effectiveness through secret shopper programs.

(4) British Columbia and Newfoundland and Labrador both have tracking of challenge and refusals in on-premise establishments.

Policies and Practices – Areas for Improvement:

(1) Few of the server training and challenge and refusals programs are based on evaluated training interventions shown to reduce over service or service to individuals below the legal drinking age.

(2) Alberta and Saskatchewan do not track challenge and refusals in either on-premise establishments or off-premise outlets.

(3) Challenge and refusals are not consistently tracked amongst private alcohol retailers.

9. Provincial Alcohol Strategy

Evidence and Rationale: For the purposes of this study, a provincial alcohol strategy is one approved by the provincial government or by a ministry/department of the provincial government and focuses on alcohol or where alcohol is a focus. The determination of this policy dimension is based, in part, on comprehensive province-wide tobacco control strategies which have been instrumental in reducing smoking rates, encouraging cessation and delaying on-set of tobacco use (de Beyer et al., 2003). It is felt that a strong provincial strategy should include the key elements of the WHO Global Strategy on Alcohol (2010) which provides a comprehensive set of goals that an effective policy should seek to attain. These include health services' responses, community action, pricing and marketing policies as well as monitoring and evaluation activities. The value of a coordinated alcohol policy has been noted by Babor et al., (2010) who identifies nations such as France and the USA as nations which have seen policy development effectively shaped by health sector stakeholders.

Provincial Alcohol Strategy Indicators as per Appendix A:

a. Main focus of the provincial strategy: Since a large share of societal damage from alcohol is associated with low to high-risk drinking rather than with addiction *per se*, an alcohol strategy has, in principle, more potency at the population level than an addiction strategy that does not focus on the full population affected. Therefore it is proposed that addiction strategies, while useful, are scored lower in this context. For additional support see: WHO (2010); Babor et al., (2010, chapter 16); Anderson et al., (2009a); and Giesbrecht et al., (2011).

b. Range of policy interventions: This indicator looked at whether the provincial strategy had a wide range of population level evidence-based alcohol control interventions and policies along the lines of those identified as a priority in the World Health Organization Global Strategy on Alcohol.

Scoring: In order to develop a final score for the provincial alcohol strategy policy dimension, the strategy's focus was scored out of a maximum of 2 points and the range of alcohol control policy interventions, as informed by the WHO Global Strategy on Alcohol, included in the provincial policy was scored out of a maximum of 8 points, for a total of 10 points.

A high rating would be provided if there was evidence of an alcohol-specific provincial strategy with a wide range of population level and focused evidence-based interventions and policies as outlined in the World Health Organization Global Strategy on Alcohol (2010).

Figure 18: Results by Province for the Provincial Alcohol Strategy Policy Indicators

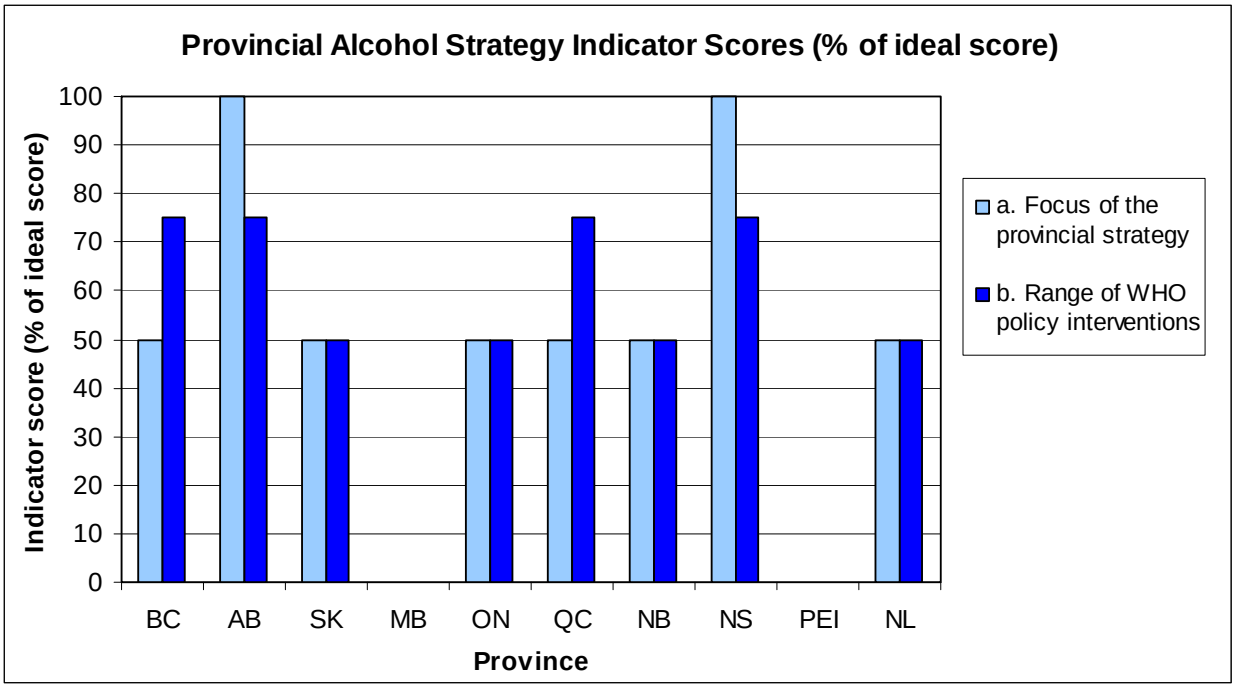
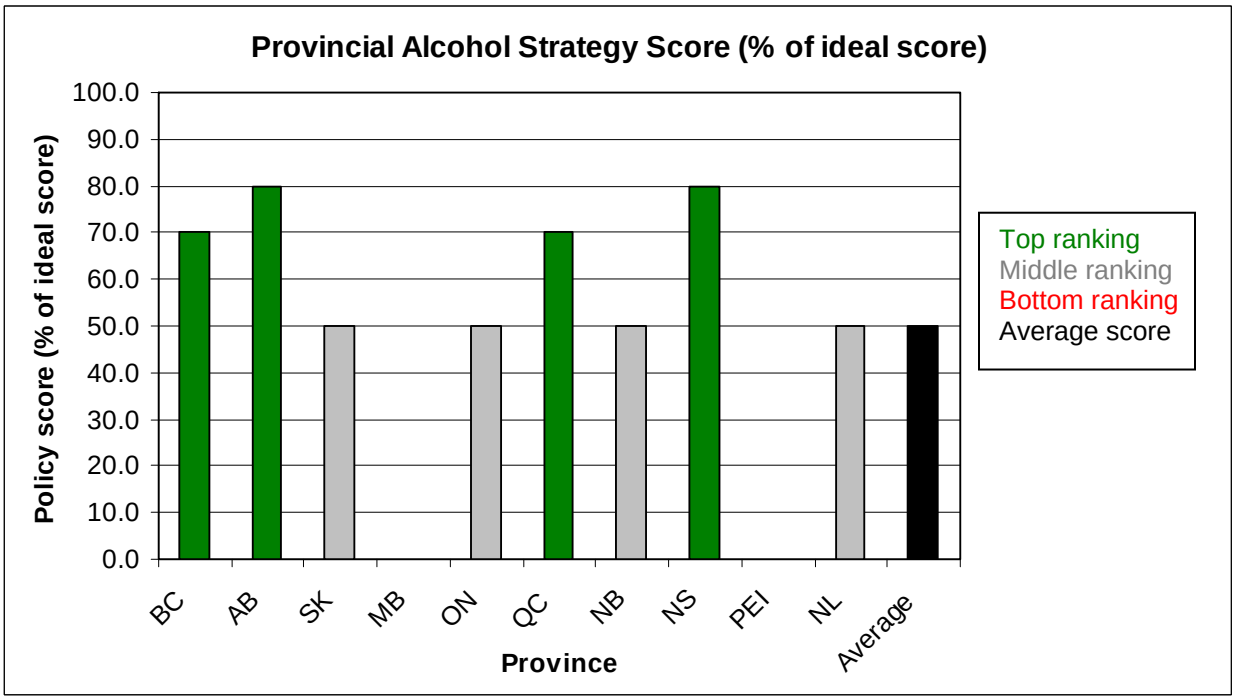


Figure 19: Results by Province for the Provincial Alcohol Strategy Policy Dimension



Results Summary:
Alberta and Nova Scotia were the only provinces to have a provincial alcohol strategy (see Alberta Health Services, 2008 and Nova Scotia Department of Health Promotion and Protection, 2007). However, the majority of the other provinces have other health related strategies that included alcohol to some degree, see Figure 18. Just under half of the provinces have a provincial strategy that includes interventions targeted at reducing harm specific to alcohol; eight out of the 10 provinces have a provincial strategy that addresses alcohol issues to some degree. Manitoba and PEI do not have a provincial health strategy that includes alcohol as a priority issue, see Figure 19.

Promising policies and practices:

(1) Alberta and Nova Scotia are the only provinces to develop alcohol focused provincial strategies. These provincial alcohol strategies, in addition to the mental health and addictions strategy in British Columbia and public health strategy in Quebec, include many of the alcohol specific priorities, initiatives and policies identified in the WHO Global Strategy on Alcohol.

(2) All of the current provincial health oriented and alcohol strategies recognize the importance of: leadership, awareness and commitment; a health services response; mobilizing community action; monitoring surveillance and evaluation.

Policies and Practices – Areas for Improvement:

(1) Few of the provincial health oriented strategies mention effective alcohol- specific interventions or polices as a priority.

(2) None of the provincial strategies include priorities aimed at reducing the public health impact of illicit alcohol and informally produced alcohol.

(3) Manitoba and PEI do not have a provincial health strategy that includes alcohol as a priority area.

10. Warning Labels and Signs

Evidence and Rationale: Warning labels on alcohol containers and point of sale warning signs are included as a good policy practice because of their potential to raise awareness of alcohol as a health issue and to support the adoption of other more directly effective policies. As an isolated strategy, there is limited evidence of effectiveness for warning labels (Anderson et al., 2009a; Babor et al., 2010) with almost all published research focusing on the introduction of small black-and-white labels on containers and signs in bars advising of risks from alcohol for pregnant mothers, drivers, risks of dependence and some serious diseases in the 1980s in the US.

It was reported that these labels and signs increased conversations about the health risks of alcohol (Kaskutas & Greenfield, 1992) and were associated with slightly reduced likelihoods of drinking and driving (Greenfield, 1997). Warning labels and signs in bars also have a unique advantage as a medium for communicating health information about alcohol; they are most frequently seen and remembered by the heaviest drinkers (Greenfield & Kaskutas, 1998).

Warning labels and signs may be an important tool for raising awareness of alcohol as a risk factor for chronic diseases. There is limited public awareness of the growing evidence linking even low levels of alcohol consumption with increased risk of cancer (Latino-Martel P, Arwidson, Ancellin et al., 2011). Increasing awareness of these and other health and safety risks of alcohol consumption through warning labels and signs can be considered helpful in creating a climate of opinion in which more effective alcohol policies could be implemented (Giesbrecht, 2007).

Warning label and signs indicators as per Appendix A:
Indicators related to policies on warnings and health messages were concerned with: warning labels on alcohol containers; warning signs placed in liquor stores at the point of sale; and warning signs placed in bars, restaurants and other on-premise venues.

a. The status of warning labels on alcohol containers: Implementing mandatory alcohol labels would help to ensure that the health messages are consistent across different manufacturers and jurisdictions, and would increase compliance (Babor et al., 2010).

b. The quality of warning label messages: It is important that the messaging conveyed on warning labels is clear and provides concrete advice. Messages should be prominently placed on the packaging, should include a variety of health-oriented messages and should be accompanied by graphics.

c-d. The status of warning signs: This indicator looks at whether the province has implemented mandatory warning signs in off-premise retail outlets and on-premise licensed establishments. Mandatory signage helps ensure messaging is consistent and that outlets are compliant in displaying and promoting the messages (Babor et al., 2010).

e-f. The quality of warning sign messages: It is important that the warning messages be clear and provide concrete advice. Slogans containing vague messaging such as “drink responsibly” are not effective in reducing alcohol related harm and may have undesired effects (Babor et al., 2010). In relation to the quality of point of sale warning messages the range and content of the health messaging was assessed.

Scoring: In order to develop the final score for the warning labels and signs policy dimension the status of warning labels on alcohol containers was scored out of a maximum of 1 point, the quality of the warning label messages was scored out of a maximum of 3 points, the status of warning labels and signs in off-premise and on-premise outlets was scored out of a maximum of 1 point each, and the quality of the warning signs was scored out of a maximum of 2 points for off-premise outlets and a maximum of 2 points for on-premise outlets for a total of 10 points.

A maximum score would be achieved in a province where prominent, graphic and rotating warnings about a broad range of health and safety issues were mandatory on all alcohol containers as well as at point of sale in both liquor stores and all on-premise venues.

Figure 20: Results by Province for the Warning Labels and Signs Policy Indicators

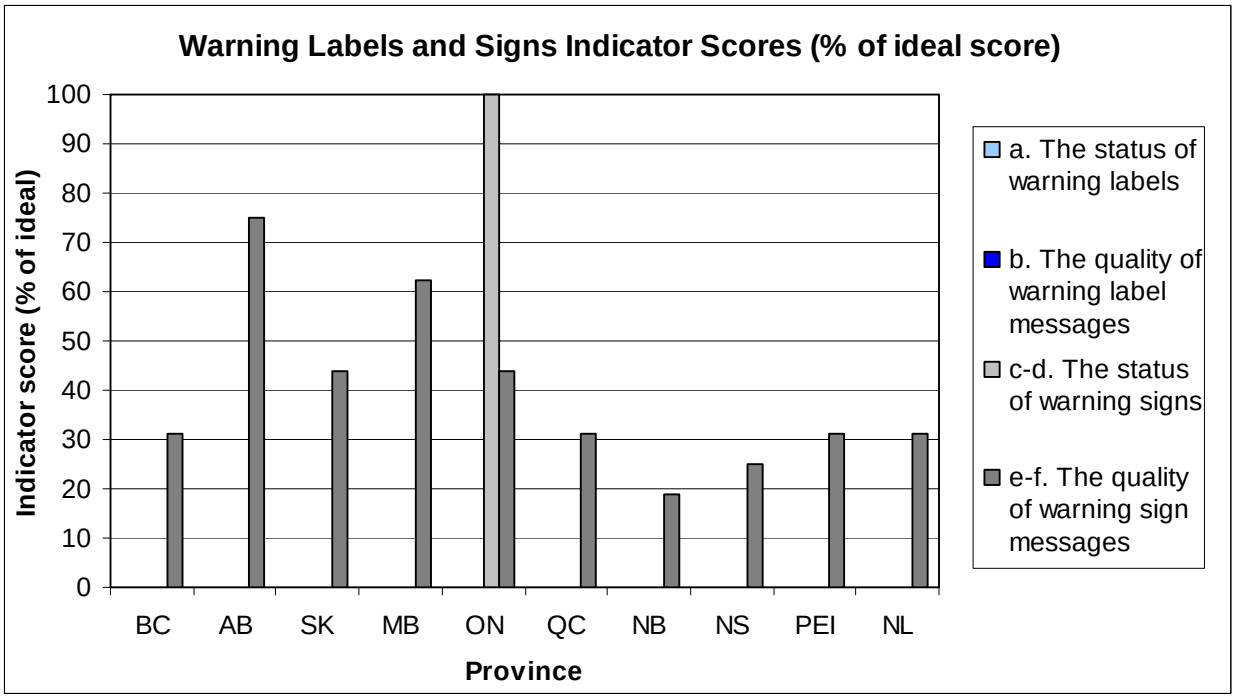
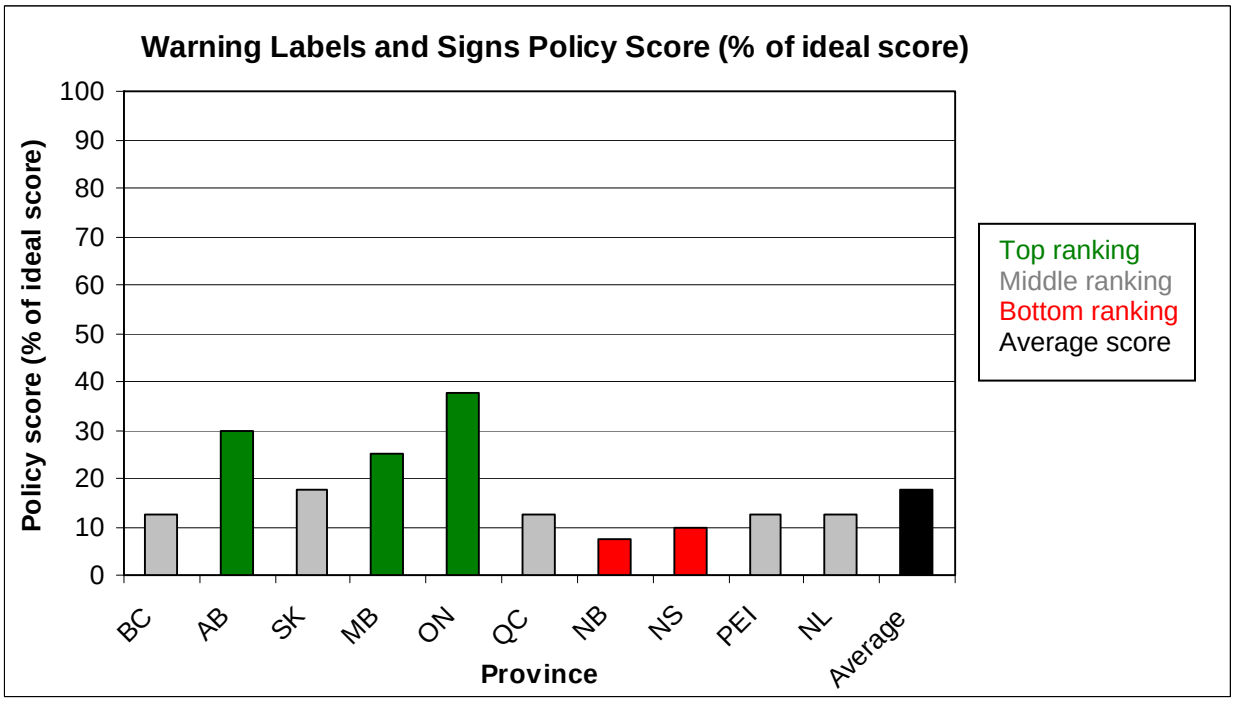


Figure 21: Results by Province for the Warning Labels and Signs Policy Dimension



Results Summary:
There is much unrealised potential in terms of informing consumers of the risks associated with alcohol use by implementing packaging labels and point of sale messaging, see Figures 20 and 21. No province has implemented mandatory warning labels on alcohol containers or packaging and only one province has mandated warning signs in both on-premise and off-premise outlets, although the majority of provinces have an internal or 'in-house' policy requiring these signs be posted at least in off-premise outlets. Overall the quality of the warning messages in both on-premise and off-premise outlets was poor, with vague references to a limited range of alcohol related health issues in most provinces.

Promising Practices and Policies:

(1) Ontario has legislated mandatory warning signs for both off-premise and on-premise outlets with a clear and direct health message pertaining to the risks of consuming alcohol while pregnant (i.e. Sandy's law).

(2) The following are some examples of some strong health oriented warning messages that have been implemented.
   a. Ontario and New Brunswick: Warning: Drinking alcohol during pregnancy can cause birth defects and brain damage to your baby.
   b. Manitoba: Enjoy your options at this year's festival. Designate a driver. Take the bus. Call a Cab. Be safe and sober.
   c. Nova Scotia: Underage drinking can cause brain damage- don't buy for minors. And, Before 19 the brain can't take it. Underage drinking can cause permanent brain damage and memory loss.
   d. Quebec was the only province to have defined moderate drinking and incorporate Canada's low-risk drinking guidelines into their messaging.

(3) While it was beyond the scope of this project to include a full assessment of the territories, the Yukon and Northwest Territories are the only Canadian jurisdictions to have implemented mandatory container warning labels.

Policies and Practices – Areas for Improvement

(1) No Canadian province has implemented regulated warning labels on alcohol containers and or packages.

(2) No Canadian province made reference to the risks of chronic diseases associated with alcohol use in their warning messages.

11. Comparing the provinces on all ten policy dimensions

Each of the policy dimensions play an important role in a comprehensive alcohol policy however, they are not equally effective in terms of reducing harm from alcohol and their potential to reach the total population. The weighting was based on a combination of the scope (or population reach) of the policy multiplied by the assessed effectiveness. Both the effectiveness and scope were rated out of 5, for a maximum possible weighting of 25 (see Table 2 below).

Table 2: The Breakdown and Rationale of the Policy Dimension Weightings

Policy Dimension and Weighting Rationale	Effectiveness (out of 5)	Scope (out of 5)	Total product
1. Pricing: This high weighting is justified on the basis of the strong, consistent and broad base of evidence drawn from multiple countries and going back many decades linking prices both to levels of alcohol consumption and rates of alcohol-related harm and the ability of these strategies to affect all drinkers in the population and in direct proportion to the amount that they consume.	4	5	20
2. Control System: The type of control system allows for control and regulation not only of off-premise alcohol retailing but of several other alcohol control policies such as regulating pricing, hours of operation, and days of sale and upholding social responsibility mandates.	3	5	15
3. Physical Availability: There is evidence to suggest that significant changes in availability affect both consumption and harm especially when used to target specific problems associated with hours of sale and high-density entertainment districts such as late-night violence, crashes and public disorder. In addition, the availability of alcohol also affects non-drinkers in terms of the harms they might experience due to the drinking of others.	3	5	15
4. Drinking and Driving: There is much research to support the effectiveness of drinking and driving countermeasures however the effectiveness of these policies is largely dependant upon consistent and high profile enforcement. The scope of this policy measure received a moderate weighting since these policy interventions target a small portion of the drinking population that drive after consuming alcohol. This was balanced against their ability to protect innocent victims.	4	3	12
5. Marketing and Advertising: Although there is evidence of increased likelihood of alcohol consumption by young people with increasing levels of exposure to marketing, more research is needed to evaluate any likely change in drinking behavior with the reduction of exposure. More research is also needed to isolate direct links between exposure and behavior. However, exposure to alcohol ads is abundant. Scope is weighted high since exposure to ads is highly likely even for non-drinkers.	2	5	10
6. Legal Drinking Age: A high legal drinking age is effective in reducing drinking and alcohol related problems among youth and	4	2	8

young adults, a typically high-risk group. However, while the minimum legal drinking age is applicable to the entire population it is really only relevant to younger drinkers.			
7. Screening, Brief Intervention and Referrals: There is significant evidence documenting the effectiveness of SBIR. However, the population reach of SBIR is relatively small compared to other policies since it is typically practiced only in health care settings.	4	2	8
8. Server Training and Challenge and Refusal Programs: There is not extensive evidence of the effectiveness of these programs and this is contingent upon external factors such as a credible level of enforcement of the relevant liquor laws, Furthermore, the scope of these interventions is limited to liquor stores and licensed venues serving alcohol.	2	3	6
9. Provincial Alcohol Strategy: While the provincial strategy itself is not directly effective in reducing alcohol consumption and associated harms it plays an important role in mobilizing action in all other alcohol control policy areas. The scope of this policy dimension was rated high as the alcohol strategy applies to the entire population.	1	5	5
10. Warning Labels and Signs: While these warnings may impact knowledge and perceptions, evidence on behaviour change is unclear. However, with warning messages at each type of outlet and on every product package, these messages are likely to reach a high proportion of those who drink (warning labels and signs) as well as those who do not drink (warning signs).	1	4	4
Total:			**103**

Summary of Provincial Comparison:
Overall, Ontario, British Columbia and Nova Scotia received the highest scores while Quebec, PEI and Newfoundland and Labrador received the lowest scores, see Table 3. All provinces scored within approximately 20% of each other with the range of final weighted scores varying between approximately 36% and 56%.

While there are examples of exemplary strategies in relation to each main policy dimension examined, the overall picture is of much unrealized potential for achieving public health and safety benefits through strong alcohol policies. Overall, the mean national score fell less than 50% (47.1%) of a perfect score. More specifically, the national mean score for eight of the policy domains examined fell below 60% of a perfect score, including the top five most potent policy levers for reducing alcohol consumption and related harms.

Among the policy domains considered to have the most impact on health and safety, pricing was one of the higher scored areas. Examples of excellent practice were identified across several provinces but there was also considerable scope for improvement with an overall score nationally of only 57% of the ideal. Controls on physical availability (38%) and strategies to deter drinking and driving (34%) mostly fell short and again there is much unrealised potential for implementing these policies to reduce alcohol-related harm in Canada. Ontario performed the most strongly in these two important policy domains.

Table 3: Weighted Scores by Province, across all 10 Policy Dimensions

Province (ranking)	1. Pricing (out of 20)	2. Alcohol Control System (out of 15)	3. Physical Availability (out of 15)	4. Drinking and Driving (out of 12)	5. Marketing and Advertising (out of 10)	6. Legal Drinking Age (out of 8)	7. SBIR (out of 8)	8. Server Training and Challenge and Refusal (out of 6)	9. Provincial Alcohol Strategy (out of 5)	10. Warning Labels and Signs (out of 4)	Total Weighted Score (% of Ideal)
BC (2)	9.46	2.25	7.50	6.20	6.50	6.40	8.00	4.65	3.50	0.50	53.4%
AB (5)	11.06	4.88	7.50	2.94	5.00	5.60	3.20	3.45	4.00	1.20	47.4%
SK (4)	15.26	5.63	5.25	4.32	5.00	6.40	4.80	2.40	2.50	0.70	50.7%
MB (7)	11.90	7.50	6.00	5.47	6.00	5.60	0.00	3.60	0.00	1.00	45.7%
ON (1)	9.50	6.00	8.25	5.86	6.50	6.40	7.20	3.90	2.50	1.50	55.9%
QC (10)	6.00	4.50	4.50	2.44	4.50	4.80	3.20	3.30	3.50	0.50	36.2%
NB (6)	13.54	9.38	5.25	3.05	5.00	5.60	0.00	3.00	2.50	0.30	46.2%
NS (3)	14.56	7.88	6.75	3.57	4.00	6.40	1.60	3.75	4.00	0.40	51.4%
PEI (9)	10.26	8.63	4.50	4.13	3.50	6.40	0.00	4.35	0.00	0.50	41.0%
NL (8)	13.00	3.75	0.75	2.89	6.00	6.40	4.80	4.20	2.50	0.50	43.5%
National mean score	11.45 (57%)	6.04(40%)	5.63 (38%)	4.27 (34%)	5.20 (52%)	6.00 (75%)	3.28 (41%)	3.66 (61%)	2.50 (50%)	0.71 (18%)	47.1%
Score range %	30-76%	15-63%	5-55%	20-52%	35-65%	60-80%	0-100%	40-78%	0-80%	8-38%	36-56%

A notable policy strength common across all jurisdictions was that of legal drinking age. While the legal drinking age varies between 18 and 19 across provinces there is enforcement across most provinces and all jurisdictions have legislation in support of the legal drinking age. Similarly, all provinces, with the exception of Saskatchewan, scored 50% or higher for the server training and challenge and refusal policy dimension. The lowest overall policy scores were for warning labels and signs, the policy with the lowest weighting overall.

The policies with the widest range of scores were screening, brief intervention and referal and provincial alcohol strategy, respectively. The degree of implementation of SBIR programs varied significantly across jurisdictions as did the degree to which provincial strategies targeted alcohol issues, although the release of the SBIR resource by CCSA and CFPC in November 2012 may bring about change in these areas by encouraging the uptake and implementation of SBIR practices across jurisdictions. Manitoba and PEI scored zero on both of these policy dimensions, whereas British Columbia received a perfect score for their SBIR practices and Alberta and Nova Scotia both scored 80% on Provincial Alcohol Strategy.

E. INTERPRETATION AND RECOMMENDATIONS

This project is funded by the Canadian Institutes of Health Research. Its focus is on the health and safety issues associated with the sale, distribution and consumption of alcoholic beverages. As noted at the outset of this report, extensive international and national research has pointed to alcohol policies, regulations and control practices as being central to controlling and reducing the harm from alcohol and its attendant costs. Ten policy dimensions were identified and each province was rated on these dimensions and their indicators. This final section provides advice on how alcohol policies across provinces can be strengthened and also notes the next steps.

Recommendations – Strengthening alcohol policies
Despite some high scores for several dimensions for some provinces, there is substantial room for improvement. Much more emphasis needs to be placed on effective evidence-based policies. All decisions on alcohol policy need to be weighed against the evidence and a precautionary perspective. In light of the harm from alcohol, collaborative and comprehensive action is warranted.

The following recommendations build on strong policies already in place in many jurisdictions in Canada, and provide suggestions for implementing these policies in all provinces. The recommendations are organized by the ten dimensions examined in this project, and then followed by several general recommendations.

1. Alcohol pricing

This is one of the most potent policy levers to reduce alcohol-related harm. All jurisdictions are encouraged to set regulations in three areas. Ideally, they should set indexed minimum pricing for both on-premise and off-premise sales, and at levels that are substantially higher than what currently is charged for non-alcoholic beverage of the same volume. It is recommended that provinces set a minimum price of $1.50 per standard drink for alcohol sold from off-premise outlets and $3.00 per standard drink for alcohol sold from on-premise outlets. Prices from all channels, internet sales, and ferment on premise outlets should be in line with minimum price

regulations. Furthermore, all prices should be indexed to inflation to prevent alcohol from becoming cheaper, relative to other goods, over time and that prices be adjusted according to alcohol content so that the price per standard drink remains stable across products of different strengths.

2. Alcohol control system

The provinces that have government control systems are strongly encouraged to retain them, as well as strengthen their social responsibility and control mandates. Provinces with a mixed retail system are encouraged to place a moratorium on private outlets including agency stores and grocery store kiosks. The authorities overseeing alcohol are encouraged to also pay close attention to other distribution systems such as delivery services, on-line shopping and ferment on premise sales. There should be sufficient oversight to curtail sales to minors or intoxicated customers in these systems. Furthermore, with regard to the dual roles of liquor boards, marketing and retailing agendas appear to overshadow control functions. This over-emphasis should be addressed in order to more effectively reduce alcohol-related costs to government. In other jurisdictions, such as Sweden, the liquor retailing agency reports to a health ministry. This option is worthy of careful consideration, as a way of insuring that there is closer attention to health, public safety and other social costs when revenue generating targets are being set for alcohol sales.

3. Physical availability of alcohol

All jurisdictions are encouraged to set upper thresholds on a per capita basis for outlet density in order to reduce the number of points of access to alcohol. This may be more challenging for on-premise outlets, but not impossible if municipalities are given power to determine a ceiling on the number of licenses to grant. In those provinces with a strong government retail system, they can more easily set density limits. Furthermore, strong citizen input is encouraged on all decisions around opening more outlets, including the expansion of government outlets. Provinces are also encouraged to regulate hours of operation of both on-premise and off-premise outlets and limit the availability of alcohol in the early hours of the morning or very late at night.

4. Drinking and driving

In line with the MADD Canada's legislative priorities, all provinces are encouraged to have a comprehensive 3 year graduated licensing program for all new drivers that is supported by police enforcement powers and a 0.00% BAC for all drivers under 21 or with less than 5 years driving experience. Furthermore, licensing suspensions and revocations as well as vehicle and remedial programs, should follow MADD Canada's guidelines [see, The 2012 Provincial and Territorial Legislative Review, Solomon, Cardy, Noble et al., 2012].

5. Marketing and Advertising

All provinces are encouraged to look closely at the alcohol advertising, marketing and sponsorship evident in their jurisdiction, and explore ways of strengthening controls, particularly those forms of promotion that appeal to youth or to persons drinking in a high-risk manner. They are encouraged to discontinue advertising of discount prices and are strongly urged to limit the quantity of alcohol advertising they permit. Mechanisms for dealing with breeches of codes or guidelines should be streamlined so that violations are dealt with in a timely way and the public is aware of how to launch a complaint. Many jurisdictions have strong penalties for

violations but they are seldom implemented. Jurisdictions are encouraged to implement these penalties following repeat or severe violations. Furthermore, the websites of government liquor boards should be reviewed to ensure that strong and detailed responsibility messages have a central place. Often these messages only focus on impaired driving or contain messages such as "please drink responsibly' that are vague and are not likely to impact behaviour (Babor et al., 2010). Finally, all provinces are encouraged to review their sponsorship policies – for example, sponsorship practices that target youth, such as the sponsorship of academic scholarships should be prohibited as should the sponsorship of events that feature high risk activities when combined with alcohol.

6. Legal drinking age

There are two minimum legal drinking ages in Canada, 18 and 19, depending on the province. At a minimum, it is recommended that no province lower their drinking age, and all provinces consider raising them to a minimum of 19 years of age. Furthermore, all provinces are encouraged to maintain their mystery shopper programs for their off-premise networks. With regard to on-premise outlets, provinces are encouraged to strengthen their liquor inspection program and collaborate with law enforcement officials to more effectively enforce the legal drinking age. The tracking of challenge and refusals may further encourage enforcement of the legal drinking age, particularly in on-premise outlets.

7. Screening, brief intervention & referral (SBIR)

This intervention has been shown to be effective in reducing consumption among high-risk drinkers. As a first step, provinces are encouraged to include SBIR protocols in their provincial policy or plan, and to make SBIR available to the general population as well as specific populations. Provinces are encouraged to support implementation of SBIR by providing organizations with financial support. Instituting a fee for service code for physicians to use for SBIR is one possibility. Having a position paper by a medical or other credible provincial association or developing provincial guidelines could also support the implementation of SBIR. Provinces are encouraged to make use of the SBIR web-based resource released in November 2012 by the Canadian Centre on Substance Abuse (CCSA), the College of Family Physicians of Canada (CFPC).

8. Server training & challenge and refusal

For on-premise sales, all provinces are encouraged to implement province wide mandatory server training for staff at all licensed events and venues. It is recommended that provinces implement programs that have been shown through evaluation to reduce over-service or service to minors and implement tracking of challenges and refusals. For off-premise sales, provinces are encouraged to strengthen their programs by having ongoing training of staff and comprehensive challenge criteria that include minors, intoxicated individuals or people suspected of attempting to purchase alcohol for either of these groups. It is recommended that provinces continue to track the number and type of challenges and refusals, and evaluate the scope and effectiveness of the program through 'secret shopper' interventions.

9. Provincial alcohol strategy

While a number of provinces include alcohol as part of more general health strategies, having a stand alone alcohol strategy clearly signals that it is an important health and social issue worthy

of government and NGO attention. Furthermore, provinces are encouraged to develop an alcohol strategy that includes population level alcohol policies and that outlines a range of interventions and policies along the lines of the WHO's 2010 Global Strategy on Alcohol, which has been signed by Canada.

10. Warning labels and signs

There have been several attempts to introduce warning labels in Canada. The public should be made aware of the risks of alcohol use in the most direct ways possible; a label on the beverage container which conveys a clear health message is one way this may be accomplished. All provinces are encouraged to have mandatory warning signs in both on-premise and off-premise venues. These messages should focus on a range of health related themes, highlighting different alcohol problems. Messaging should be clear, visible and concise. For example, vague 'please drink responsibly' messages should be replaced with expanded text offering concrete advice on daily and weekly drinking limits, as well as specific advice on how the drinker can achieve more responsible levels of alcohol consumption. These warning messages and all 'counter-advertising' should be subject to rigorous third party evaluation. The results of the evaluation should be central to informing plans to upgrade the campaign to increase its potential for impact on reducing high risk drinking behaviour.

Recommendation – Standardized documentation

The complexity of the alcohol retail and regulatory system, often managed by several ministries, presented several challenges in collecting comprehensive data on alcohol policies that could be measured against a standardized assessment tool. This siloed approach to alcohol distribution, regulation and problem management lead to extra challenges in correctly interpreting the policy information. Finally, because most information about the alcohol distribution and retailing is collected for business purposes, at times the relevant data was not available or was difficult to interpret from a public health and safety perspective. Therefore, a significant step toward strengthening alcohol policies would be for all jurisdictions to develop and maintain a standardized way of documenting their policies and prevention strategies. This is one of the recommendations of the WHO (2010) Global Strategy on Alcohol.

Recommendation – Information exchange

Jurisdictions can benefit from close monitoring of what is happening across provinces in Canada and internationally to reduce alcohol-related harm. It appears that there is an extensive exchange of ideas and strategies with regard to marketing and retailing practices. All jurisdictions are encouraged to routinely exchange systematic information on prevention practices and control policies, indicating the rationale, dimensions, scope and outcomes of the prevention initiatives. Furthermore, it would be useful to set up a central website where this information could be posted and up-dated, and accessed by provincial and territorial ministries.

Recommendation – Impact assessment and exploratory studies

In the past decades there have been a number of changes in alcohol policy – some of which increased access to alcohol, such as an increase in the number of outlets, and others restricted access – such as raising the minimum age. There have also been changes in marketing practices – such as inclusion of print brochures in newspapers and the use of social media. These changes tend not to be accompanied by an evaluation plan that is publicly accessible. Some policy

changes have been evaluated by researchers (e.g. Stockwell et al. 2011; 2012b). In other jurisdictions, such as Sweden, the liquor authorities work with researchers to conduct and evaluate policy experiments and use the results to inform decisions on whether to implement a change beyond the pilot that was evaluated (Rossow & Norström, 2012; Norström & Skög, 2005).

Therefore, proposed changes to alcohol policy, whether to enhance access or restrict access to alcoholic beverages, should be introduced with a systematic and thorough impact assessment plan, involving the following three main steps:

(1) *Involve a range of stakeholders in formulating the plan.* These stakeholders include representatives from the ministries of finance, health and safety from the specific provincial or territorial governments, as well as liquor control agencies, NGOs dealing with alcohol issues, and researchers with expertise on alcohol policy;

(2) *Conduct a pilot study to examine the impact of the policy change*. This should involve before and after measures and a comparison area or site where the policy was not introduced;

(3) *Make results of the pilot available to the stakeholder groups prior to a decision on full implementation*.

Recommendation – Inter-sector planning
The implementation of these recommendations will be facilitated by a closer working relationship between different sectors of government and non-government agencies that deal with alcohol issues. Each province and territory is encouraged to establish a standing inter-departmental committee on alcohol issues. The role of these committees would be to provide general guidance on alcohol policy issues, facilitate timely exchange on plans and encourage a better inter-sector understanding of the nuances of alcohol retailing, revenue generation, alcohol-related harm, and population-level policies that reduce the harm from alcohol.

Next Steps
This report highlights examples of Canadian best practices and points to future opportunities where further actions can be undertaken, and which policies can be modified or enhanced in order to reduce alcohol-related harm. Subsequent communications aim to provide province specific information and recommendations. It also provides concrete suggestions on how more effective inter-sector and inter-provincial collaborations and knowledge exchange can facilitate policy development. Finally, this report points to the importance of continued surveillance of the Canadian alcohol policy context and ongoing evaluation.

F. CONCLUSIONS

Canada is a world leader in many dimensions of effective tobacco control including implementing by-laws and provincial legislation that restrict smoking, well funded cessation programs, pricing, and taxation of tobacco products, and policies that restrict sales to minors, to mention a few. Also, many Canadian jurisdictions are devoting resources, and providing coordinated action in an effort to reduce the high toll of unhealthy eating and a lack of physical

activity on morbidity and mortality. Provincial organizations and NGOs are collaborating to reduce the harm and costs from both of these risk factors.

However, there is significantly less attention paid to alcohol, particularly as a relevant health issue. Attention to alcohol mostly consists of brief appearances in the media when there is a drinking and driving tragedy, or a business perspective when further potential privatization of alcohol outlets is discussed. Given alcohol's status as the leading risk factor for ill-health, injury and disability in North America (Lim et al., 2012) we suggest that at least equal attention should be devoted to the reduction of alcohol-related harm and associated economic costs.

The project team offers three main comments: 1. While all provinces have good policies or regulations in one or more areas, more generally, there appears to have been an erosion of controls and effective interventions in the past decades which may compromise public health and safety. 2. In order to reverse this trend, provincial authorities, working with NGOs and other stake-holders, are urged to strengthen their policies highlighted in this report. 3. Finally, to be effective there must be concerted action on more than one dimension, and including a combination of population level policies and more focused interventions.

1. Context: An erosion of controls

In recent decades there has been erosion of control in several areas, including, for example, advertising and marketing of alcohol (Giesbrecht et al. 2006), privatization of alcohol outlets (Stockwell et al. 2011), and other increases in physical availability – such as longer hours, and use of discount pricing to stimulate sales. In contrast, there has been positive progress in drinking and driving counter-measures.

2. Strengthening the response to alcohol-related harm

As noted earlier in this report, Canadian provinces are realizing, on average, less than half of the potential of a comprehensive implementation of ideal policies. This is due to a combination of not having policies in some areas, inadequate policies in others, or not having well-resourced enforcement or implementation of policies or regulations.

Government alcohol agencies have a central role in the ideal policy model, and their place needs to be retained and strengthened, not eroded. The scope of their social responsibility functions also needs to be expanded and strengthened. In all of the ten areas, provinces can learn from each other, and from jurisdictions outside Canada, about how to implement strong and more comprehensive policies.

3. A coherent and collaborative response

In order to reduce the harm from alcohol and attendant costs, a coordinated, coherent and collaborative response is encouraged. Policies and regulations need to be complementary, not contradictory for example, warning signs advising of the risks associated with alcohol use should not be undermined by advertising of inexpensive alcohol where the price per unit is so low that it encourages binge drinking. A coordinated response involving enhanced policies on all ten

dimensions is expected to have a greater health and safety benefit than a few strong policies in some areas combined with policies that erode controls and encourage high risk consumption in others (Babor et al., 2010). More consistent policies across dimensions will provide a supportive environment for the total population, including those who wish to adopt healthy behaviour by reducing their alcohol consumption and those who are in recovery from dependence on alcohol.

It is essential to have a provincial strategy on alcohol that will provide guidance in developing a coordinated and coherent response. Governments and NGOs working on health and safety issues are encouraged to work together on the issue of alcohol (Giesbrecht et al., 2011). These recommendations and those in the previous section hopefully provide a resource for developing detailed action plans.

G. GLOSSARY

Delisted product:	A delisted product is one that has been removed from sale by a retailer due to reasons such as the poor retail performance of a product or the retailer plans to permanently reduce the stock of the item.
Federal impaired driving offender:	Refers to someone who has incurred a conviction for a drinking driving offence under the federal criminal code. Often, provincial administrative sanctions are linked to criminal code offences. For example, provincial provisions may link the remedial measures requirement and or interlock requirements to a criminal code conviction. In practice, the two systems work together, highway traffic act initiatives in the provinces are prompted by a criminal code conviction.
High-risk drinking:	Defined as drinking 5 or more drinks for males and 4 or more drinks for females on an occasion at least monthly.
Ignition Interlock:	An ignition interlock is a small breath-testing device that is connected to the engine of a vehicle to prevent the vehicle from being operated if the driver has a BAC that is above a pre-set level (usually .02%) (Chamberlain & Solomon, 2009).
Mystery shopper program:	Mystery or secret shopper programs involve visits to retail outlets by unidentified shoppers in order to verify compliance with provincial liquor laws, including the legal drinking age and regulations against over service of alcohol.
Off sale endorsements:	An off-sale endorsement is an addition to a liquor sales licence that allow the sale of alcohol in closed containers for consumption away from an on-premise licensed establishment.
Overall alcohol consumption:	Overall consumption is typically measured as litres of pure ethanol per person aged 15 and older.
Policy dimension:	Refers to a strategy, intervention or practice employed by governments that is intended to reduce the harm from alcohol at the population level.
Policy indicator:	Refers to a measure that was developed in order to assess a policy dimension. A Policy indicator reflects a policy that has been mandated at the provincial level and is included in legislation or provincial regulations.
Practice indicator:	Refers to a measure that was developed in order to assess a policy dimension. Practice indicators reflect a direct outcome from either the presence or the absence of a policy.
Price bands:	Refers to pricing categories that typically vary by alcohol strength.

Provincial abbreviations:	AB: Alberta; BC: British Columbia; MB: Manitoba; NB: New Brunswick; NS: Nova Scotia; NL: Newfoundland and Labrador; ON: Ontario; PEI: Prince Edward Island; QC: Quebec; SK: Saskatchewan.
Standard drink:	A standard drink is defined as 17.05 ml of ethanol and is approximately equal to a 142 ml (5 oz) glass of 12% strength wine, 43 ml (1.5 oz) shot of 40% strength spirits or a 341 ml (12 oz) bottle of 5% strength beer, cider or cooler (Butt, Beirness, Glicksman et al., 2011).

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I. APPENDIX

Appendix A: Policy dimension and indicator score rubric

Each policy dimension can score a maximum of 10 points. The policy dimension score is then weighted to obtain the final weighted policy score.

A. Policy Dimension	B. Indicators& Criteria	C. Max. Pts	D. Minimum & Maximum points
1. Pricing	**a. Minimum prices** 1. Off-premise minimum prices: Coverage: jurisdictions were scored according to whether they had min prices for alcohol sold in liquor stores based on beverage type using percent of sales to assess coverage. 2. Level: jurisdictions were scored according to the level of minimum price for products of typical alcohol content and container sizes sold in government liquor stores (5%-beer, 40%-spirits, 12.5%-wine and 7%-coolers/cider). The average minimum price per standard drink for these products was compared across jurisdictions. 3. Off-premise minimum pricing loopholes: Jurisdictions were penalized for having any minimum pricing loopholes for off-premise sales. 4. Actual prices: jurisdictions were scored based on prices of common low cost/high alcohol products: The average price per standard drink was calculated	4	Coverage of minimum prices, off-premise (0-4): 0= If a jurisdiction does not have any minimum prices, 1= Jurisdiction with less than 50% coverage 2= Jurisdictions with 74%-50% coverage, 3=Jurisdictions with 99%-75% coverage, 4= Jurisdictions with 100% coverage. Level of min prices, off-premise (0-4): 0= No minimum prices, 1= Jurisdictions with average min prices of $0.99 or less per standard drink, 2= Jurisdictions with average min prices of $1.00 to $1.24 per standard drink, 3= Jurisdictions with average min prices of $1.25 to $1.49 per standard drink, 4= Jurisdictions with average min prices $1.50 or higher per standard drink. Off-premise minimum pricing loopholes (penalty of 0-0.5) 0.5 points were deducted from the total score for off-premise minimum prices if a jurisdiction had any minimum pricing loopholes for off-premise sales (e.g. discounting of de-listed products, ferment on premise products being exempt from minimum prices etc.). Price of common low cost/high alcohol content products (0-4): 0= Average price below $1.09, 1= Average price between $1.29 and $1.10,

	for a set of common low cost/high alcohol content beer, wine and spirit products sold in liquor stores. 5. On-premise minimum prices: Coverage: jurisdictions were scored according to whether they had minimum prices for alcohol sold through licensed establishments based on beverage type using percent of sales to assess coverage. 6. Level: jurisdictions were scored according to the level of minimum prices. The price per standard drink for on-premise minimum prices was compared across jurisdictions. 7. On-premise minimum pricing loopholes: jurisdictions were penalized ½ point for having any minimum price loophole for on-premise sales.		2= Average price between $1.39 and $1.30, 3= Average price between $1.49 and $1.40, 4= Average price $1.50 or higher. Coverage of minimum prices, on-premise (0-4): 0= If a jurisdiction does not have any minimum prices., 1= Jurisdiction with less than 50% coverage, 2= Jurisdictions with 74%-50% coverage, 3= Jurisdictions with 99%-75% coverage, 4= Jurisdictions with 100% coverage. Level of minimum prices, on-premise (0-4): 0= No minimum prices, 1= Jurisdictions with average min prices of $1.99 or less per standard drink 2= Jurisdictions with average min prices of $2.00 to $2.49 per standard drink, 3= Jurisdictions with average min prices of $2.50 to $2.99 per standard drink, 4= Jurisdictions with average min prices $3.00 or higher per standard drink. On-premise minimum pricing loopholes (penalty of 0-0.5) 0.5 points were deducted from the total score for on-premise minimum prices if a jurisdiction had any minimum pricing loopholes for on-premise sales (e.g. complimentary drinks, discounted gift certificates etc.). **Final scoring (0-4): the scores for the coverage and level for both off-premise and on-premise prices were averaged and then penalties for loopholes were subtracted. The average between off-premise min price/scope and the prices of common low price/high alcohol content beverages was then calculated. Lastly the overall average between off-premise and on-premise scores was calculated with off-premise weighted 2/3rd and on-premise weighted 1/3rd.**
	b. Average Prices and Indexing prices to inflation 1. Average price levels: average price levels were rated using jurisdiction and beverage class specific price indexes from Statistics Canada for last reporting year.	4	Average price levels (0-4): 0= Jurisdictions below 106.4, 1= Jurisdictions with alcohol price indicies scores of below 110.4 to 106.5 2= Jurisdictions with alcohol price indicies of 114.4 to 110.5 and

	2. Indexation: the differences (negative and positive) from jurisdiction specific alcohol price indicies and CPI were examined in order to interpret degree of congruence with overall inflation. Average differences over the past 5 year were used to look at recent trends. 3. Automatic indexation: Jurisdictions that automatically index minimum prices to inflation were given a 1/2 point bonus for item 1b.		3= Jurisdictions with alcohol price indicies of 117.4 to 114.5, 4= Jurisdictions with alcohol price indicies scores of 117.5 or higher. Indexation (0-4): 0= Jurisdictions with a score below -4.6 1= Jurisdictions with a score of between -3.1 and -4.5 2= Jurisdictions with a score of between -1.6 and -3.0 3= Jurisdictions with a score of between 0 and -1.5 4= Jurisdictions with a score of 0 or higher on the second measure, Automatic Indexation (0-0.5) 0.5 bonus points were awarded if the jurisdiction had automatically indexed minimum prices to inflation. **Final scoring (0-4): the scores for the two components, average price levels and indexation, were averaged and any bonuses for automatic indexation were added to calculate the final indicator score.**
	c. Pricing on alcohol content 1. Price bands: Each major category of alcohol was scored from 0 to 4 with 0 for no volumetric markup (i.e., 1 price band), 1 point if there were two price bands above the typical strength (5% for beer, 7% for coolers/cider/premixed cocktails and 40% for spirits), and 2 points for having three or more bands above the typical strength. The same criteria apply below the typical strength for a possible 2 points. Jurisdictions were given 1 point if they used a different markup rate for a special class of beverages in a category (e.g., higher markups for fortified wines, ports, sherries, etc.). Finally, if they used a perfectly volumetric formula to determine price, they received 0.50 bonus. Scores between 0-4 for each category were then averaged across the categories to obtain final band score (also from 0-4).	2	Price bands (0-2): 0= Jurisdictions with an average of 1 price band, 1= Jurisdictions with an average of between 1.1 and 2.9 price bands, 2= Jurisdictions with an average of 3 or more price bands.

	2. Pricing on alcohol content- slope: low and high alcohol content products in each product category common to all jurisdictions were chosen to calculate the variation in the slope of the line that determines them from zero.		Pricing on alcohol content- slope (0-2) 0= Jurisdictions with a slope below -1, 1= Jurisdictions with -0.1 to -1 for the slope measure, 2= Jurisdictions with 0 or higher for the slope measure. Final scoring (0-2): The scores for the two components were averaged to calculate the final indicator score.
2. Control System	**a. Type of off-premise retailing system** This was determined by the proportion of outlets that are public (government run vs. privately owned). Note that agency stores and ferment on premise outlets were considered as private outlets. An additional full point was given to jurisdictions that did not allow for private outlets.	4	Type of retailing system (0-4) 0= no public off-premise outlets (all private) 1,2,3,4,5 were based on the ratio of public to total outlets 1= 1%-33% of off-premise outlets are public 2= 34%-66% of off-premise outlets are public 3= 67%-99% of off-premise outlets are public 4= all (100%) of off-premise outlets are public (no private)
	b. Alcohol sales beyond on-premise and off-premise outlets Jurisdictions were scored on whether regulations allowed for on-line sales, delivery purchases, ferment on premise outlets or ferment at home kits.	2	On-line sales (0.0- 0.5) 0.0= on-line sales permitted 0.5= on-line sales not permitted Liquor delivery (0.0- 0.5) 0.0= liquor delivery permitted 0.5= liquor delivery not permitted Ferment on premise outlets (0.0-0.5) 0.0= permitted 0.5= not permitted Ferment at home kits (0.0-0.5) 0.0= permitted 0.5= not permitted
	c. Relative emphasis on sales vs. social responsibility 1. Ratio of spending- product promotion vs. social responsibility messaging: This was determined based on total spending per capita on advertising vs. total spending on social responsibility initiatives and messaging.	3	Ratio of spending- product promotion vs. social responsibility (0-2) The score was determined based on the ratio of per capita spending on advertising vs. social responsibility initiatives. 0= social responsibility initiatives are low priority- advertising to social responsibility ratio >1.25

	2. Policy on dedicated prevention/ social responsibility funds: data was collected on whether there was a policy that ensures there are dedicated funds to support prevention and social responsibility messaging 3. Main mediums for social responsibility messaging: A checklist of six mediums was the basis for measuring this indicator: 1) Posters 2) Pamphlets 3) Billboards 4) Online content (websites) 5) Print Advertising 6) TV/Radio advertisements 7) Social media (twitter, fb etc) Other:_____		1= Advertising and social responsibility messaging are equal in priority- advertising to social responsibility ratio of 1.25-0.75 2= social responsibility initiatives are high priority- advertising to social responsibility ratio of (<0.75) Policy on dedicated prevention/ social responsibility funds (commentary) Jurisdictions with dedicated prevention/ social responsibility funding will get a special mention for this good practice in the results section. Main mediums for social responsibility (SR) messaging (0-1) 0.00= no SR messaging 0.25= SR messaging using 1-2 mediums 0.50= SR messaging using 3-4 mediums 0.75= SR messaging using 5-6 mediums 1.00= SR messaging using 7 or more mediums
	d. Ministries overseeing alcohol retail and control: The jurisdictions were scored based on the ministry they report to and their recognition of alcohol as a health issue.	1	Ministry overseeing alcohol retail and control (0-1) 0.0= alcohol retail and control are overseen by a ministries for which health is not a primary concern (e.g. Ministry of Finance) 0.5= a ministry for which health is a primary concern (e.g. Ministry of Public Safety, Ministry of Health) is responsible for either alcohol retail or control 1.0= alcohol retail and control are both overseen by a ministry for which health is a primary concern (e.g. Ministry of Public Safety, Ministry of Health)
3. Physical Availability	**a. Regulations pertaining to outlet density** Jurisdictions were scored on whether they had provincially mandated (either stated in legislation or regulation) limits on outlet density, location or number of outlets for both on-premise and off-premise outlets. Provincial powers that allow for	2	Off-premise density policy (0-1) 0.0= no limits on population density, location or number of outlets, 0.5= no provincially mandated limits on population density of outlets but regulations provide power to determine number and/or location of outlets/permits (this includes municipal powers) and/or policy allows for citizen input on location or number of outlets,

	restrictions on location and/or number of outlets and/or a process for citizen input on the number or placement of outlets were also considered.		1.0= Limits on population density that are set through provincial legislation/regulation. <u>On-premise density policy (0-1)</u> 0.0= no limits on population density, location or number of outlets; 0.5= no provincially mandated limits on population density of outlets but regulations provide power to determine number and/or location of outlets/permits (this includes municipal powers) and/or policy allows for citizen input on location or number of outlets. 1.0= Limits on population density that are set through provincial legislation/regulation.
	b. Practice indicator: Outlet density – off premise Data was collected on the density of all off-premise outlets, including private, government run and ferment on Premise (FOP) outlets. A greater emphasis was placed on off-premise outlet density due to the greater potential for harm.	3	<u>Off-premise outlet density (government and private stores) (0-3)</u> 0= density per 10,000 age 15+ was 15.0 or above 1= density per 10,000 age 15+ was between 8.0 and 14.9 2= density per 10,000 age 15+ was between 2.0 and 7.9 3= density per 10,000 was below 2.0
	c. Practice indicator: Outlet density – on premise Data was collected on the density of all licensed establishments where alcohol is served on-premise, including special occasion permits (SOP).	2	<u>On-premise outlet density (all licensed establishments) (0-2)</u> 0= density per 10,000 aged 15+ was 25.0 and above; 1= density per 10,000 aged 15+ was between 15.0 and 25.0 2= density per 10,000 aged 15+ was 15.0 or below The population density (ages 15+) of SOPs was also collected and is included in the results section of the report.
	d. Hours of operation <u>1. Regulation of hours of operation</u>: Provinces were scored on whether hours of operation for both on and off-premise outlets are limited by policy (as stated in legislation/regulation). <u>2. Hours of Operation:</u> Provinces were also scored based on the maximum hours of operation their policies allowed for as stated in legislation or regulation for both on-premise and off-premise outlets.	3	<u>Regulated hours off-premise</u> (0.0-0.5) 0.0= hours are not regulated 0.5= hours are regulated <u>Regulated hours on-premise</u> (0.0-0.5) 0.0= hours are not regulated 0.5= hours are regulated <u>Hours of operation off-premise</u> (0-1) Hours of operation for off-premise outlets were scored against an ideal of no more than 9 business hours per day and limited availability early in the morning and late at night; 11 am to 8 pm was used as an achievable policy benchmark. 0.0= Business hours extend more than a total of 2 hours before 11 am or after 8

			pm 0.5= Business hours extend no more than a total of 2 hours before 11 am or after 8 pm 1.0= Hours of operation do not extend before 11 am or after 8 pm (9 hours or less) <u>Hours of operation on-premise</u> (0-1) Hours of operation for on-premise outlets were scored against an ideal of no more than 14 business hours per day and limited availability early in the morning and late at night; 11 am to 1 am was used as an achievable policy benchmark. 0.0= Business hours extend more than a total of 2 hours before 11 am or after 1 am 0.5= Business hours extend no more than a total of 2 hours before 11 am or past 1 am 1.0= Hours of operation do not extend before 11 am and past 1 am (14 hours or less) <u>Availability- exceptions and extensions (commentary)</u> Exceptions and extensions to the hours and days of sale were noted and included in the results section (e.g. extended hours or days of sale for festivals).
	<u>3. Availability- exceptions and extensions</u>: Data was collected on loopholes that allow for exceptions to policies restricting availability (hours and days of sale) e.g. extending the hours of operation for community events.		
4. Drinking and Driving[1]	**a. Licensing** Jurisdictions were scored on whether they had: 1. a comprehensive 3 year graduated licensing program for all new drivers that includes: i) Police enforcement powers; ii) Passenger, nighttime driving and highway restrictions; iii) A ban on using electronic devices and iv) Mandatory roadside administrative license suspension (ALS) for breaking conditions.	4	<u>Comprehensive graduated licensing program (0-1)</u> Points were afforded based on the implementation of the following: 0.25= 3 year graduated licensing program 0.25= police enforcement powers 0.50= nighttime driving, passenger and highway restrictions as well as a ban on electronic devices. (partial points are awarded if some components are included)

[1]These indicators are part of a comprehensive program as outlined by MADD Canada. Please see the 2012 MADD Canada Provincial and Territorial Legislative Review (2012) for detailed information on the implementation of drinking and driving countermeasures across the provinces.

	2. a 0.00% BAC limit for all drivers under 21 or with less than 5 years experience and includes i) Police enforcement powers ii) Mandatory roadside ALS for violation.		Zero tolerance BAC level for drivers under 21 or with less than 5 years experience (0-3) Points were afforded based on the implementation of the following: 2= 0.00% BAC for drivers with less than 5 years experience (1 point) and all drivers under the age of 21 years of age (1 point) 1= police enforcement powers (partial points are awarded if some components are included)
	b. Licensing suspensions and revocations Jurisdictions were scored on whether their drinking and driving counter policies included: 1. A seven day 0.05% ALS and vehicle impoundment program, which includes i) A $150-$300 licence reinstatement fee and ii) A record of the suspension on the driver's record. iii) Escalating ALS and impoundment sanctions and remedial program for drivers with repeat records within 5 years. 2. A parallel ALS and vehicle impoundment program for those who fail a sobriety test or who refuse lawfully demanded tests	3	ALS and vehicle impound program (0-2) Points were afforded based on the implementation of the following 1= Has a seven day 0.05% ALS and vehicle impoundment program 1= the program includes at least a $150 licence reinstatement fee, a record of the suspension, escalating sanctions for repeat offenders in a 5 year period. (partial marks awarded if some components are included) Parallel ALS and vehicle impoundment programs for those who fail or refuse sobriety tests. Points were afforded based on the implementation of the following: 0.5= parallel ALS program for those who fail or refuse lawfully demanded sobriety tests 0.5 parallel impoundment program for those who fail or refuse lawfully demanded sobriety tests (partial marks awarded if some components are included)
	c. Vehicle and remedial programs Jurisdictions were scored on whether their vehicle and remedial programs included: 1. A mandatory interlock program for all federal impaired driving offenders which includes i) Reduced provincial license suspension to encourage participation ii) Escalating ALS and vehicle impoundment sanctions and lengthy program extensions for repeat program violations	3	Mandatory Interlock program for federal impaired driving offenders (0-1) Points were afforded based on the implementation of the following: 0.5= program is mandatory for all federal impaired driving offenders 0.5= program includes reduced provincial license suspension to encourage participation and escalating ALS and vehicle impoundment sanctions and lengthy program extensions for repeat program violations. (partial marks awarded if some components are included)

	2. Mandatory administrative forfeiture for drivers with >2 federal impaired driving violations within 10 years. 3. Mandatory remedial program for federal impaired driving offenders and for drivers with a repeat short term 90 day impairment related ALS within five years.		Mandatory administrative impoundments for unauthorized drivers (0-1) Points were afforded based on the implementation of the following: 0.5= program applies to uninsured, unlicensed, suspended, prohibited, or disqualified drivers 0.5= mandatory administrative forfeiture for drivers with more than 2 federal impaired driving violations within 10 years. (partial marks awarded if some components are included) Mandatory remedial programs (0-1) Points were afforded based on the implementation of the following: 0.5= program applies to federal impaired driving offenders 0.5= program applied to drivers with a repeat short term 90 day impairment related ALS within five years. (partial marks awarded if some components are included)
5. Marketing and Advertising	**a. Comprehensiveness of provincial marketing regulations**: Jurisdictions were assessed on whether they had: 1. Content restrictions beyond CRTC regulations; 2. Placement restrictions; 3. Quantity restrictions; 4. Regulations restricting the advertisement of price (e.g. policies restricting the advertisement of drink specials)	4	Advertising Restrictions (0-4) 0= no regulations beyond CRTC regulations. 1= regulated restrictions on any 1 criteria (of those listed in column B) 2= regulated restrictions on any 2 criteria 3= regulated restrictions on any 3 criteria 4= regulated restrictions on all 4 criteria
	b. Enforcement of regulations Jurisdiction were scored on whether they had clear guidelines on: 1. A specific authority responsible for enforcement 2. A formal complaint system 3. Strong or escalating consequences for violation	3	Advertising Authority (0-1) 0= no clear authority responsible for enforcement or voluntary system 1= a clear authority responsible for enforcement Complaint process (0-1) 0= no formal complaint process 1= a formal complaint process Possible penalties for violation (0-1) 0.0= nonexistent penalties 0.5= weak consequences (warning letter, having ad removed, low monetary fine) 1.0= strong penalties (high fine, license suspension or revocation,

			imprisonment).
	c. Practice Indicator- Focus of the liquor board's website Jurisdictions were scored on the focus of the liquor board's website. As a first face to the public, was the responsibility message larger/smaller/equal to the size of the product promotions?	1	Focus of the Liquor Boards website (0-1) 0.0= retailers' websites focused on promoting sales and consumption; small or non existent responsibility message(s) 0.5 = The responsibility message was equal in size to the product promotion message. 1.0= retailers' website focused on both sales and social responsibility; responsibility message stood out or was larger than product promotion messages.
	d. Sponsorship Jurisdictions were scored on their sponsorship policies. Specifically, if sponsorship is permitted and if so, what restrictions are in place?	2	Sponsorship Policies (0-2) 0= advertising & sponsorship via sports, cultural events, charities etc. is permitted with no restrictions 1= sponsorship is permitted but some restrictions apply 2 = sponsorship is not permitted
6. Legal Drinking Age	**a. Legal drinking age** 1. Level of legal drinking age: jurisdictions were scored on the level of legal drinking age. 2. Legislation supporting the legal drinking age: jurisdictions were scored on whether they had policies (as stated in legislation or regulation) that prohibit the sale of alcohol to minors and also prohibit minors from purchasing alcohol. 3. Social Hosting Policies: data was collected on the social hosting practices in each province. These data focused on policies pertaining to serving minors in a private residence or licensed area.	5	Level of legal drinking age (0-4) 0= 17 or less 1= 18 2= 19 3= 20 4= 21 Policy on prohibition of serving/selling alcohol to minors (0-0.5): 0.0= no policy against serving/selling to minors 0.5= a policy prohibiting the sale/service of alcohol to minors Policy on prohibition of the purchase of alcohol by a minor (0-0.5) 0.0= no policy against minors purchasing alcohol 0.5= jurisdiction has a policy that prohibits the purchase of alcohol by a minor. Social hosting policies (commentary) Information was collected on policies that permit, parents, spouses or other adults to serve alcohol to individuals below the legal drinking age in a private residence, party or licensed establishment. This information will be discussed in the results section.
	b. Enforcement of the legal drinking age in off-premise outlets Jurisdictions were scored on whether they had a mystery shopper program that monitors adherence	3	Mystery shopper program (off-premise outlets) (0-3) 0= does not have a mystery shopper program 3= does have a mystery shopper program

	to the legal drinking age.		
	c. Enforcement of the legal drinking age in on-premise outlets Jurisdictions were scored on whether they have a liquor inspection program or other programming to support the enforcement of the legal drinking age.	2	Liquor inspection program (on-premise outlets) (0-2) 0= does not have any programs to enforce the legal drinking age 1= has a liquor inspection program or enforcement via enforcement officials 2= has both a liquor inspection program and collaborates with enforcement officials (i.e. police) via programs aimed at enforcing the legal drinking age.
7. SBIR	**The inclusion of SBIR in a provincial strategy or action plan** Jurisdictions were scored on whether there was an existing provincial strategy or action plan that included SBIR as a priority for either at risks groups or the general population.	4	The inclusion of SBIR in a provincial strategy or action plan (0-4) 0= SBIR not included in provincial plan; 2= SBIR for certain populations such as women of drinking age and during pregnancy and at-risk groups was included in the provincial plan. 4= SBIR for general population was included in the provincial plan
	b. SBIR practice guidelines or position paper Jurisdictions were scored on whether SBIR practice guidelines or a position paper had been issued by a credible provincial professional association (e.g. MD, nurses, psychologists)	3	SBIR Position paper (0-3) 0= no guidelines or position paper; 3= provincial guidelines and/or position paper by a credible provincial associations (e.g. MDs, nurses, psychologists) and thus is the practice norm
	c. Fee for service codes Jurisdictions were scored on whether they had fee for service codes for MDs that could be used for SBIR	3	Fee for service codes (0-3) 0= province has no fee for service code for MDs to use for SBIR; 2= province has a fee for service code for MDs to use for counseling on health habits or mental health issues 3= province has a fee for service code for MDs to use for SBIR
8. Server Training & Challenge and Refusal Programs	**Server and management training program (on-premise outlets & special occasion permits)**		
	a. Server and management training program policies: 1. Jurisdictions were scored on whether the server and management training program was mandatory (as stated in legislation or regulations) for all licensed events and venues on a provincial wide basis. 2. Data was collected on whether a jurisdiction had a policy that prohibits the sale of alcohol to someone who is intoxicated	5	Policy pertaining to on-premise server and management training program (mandatory vs. voluntary) (0-1). 0.00= no training program or program is voluntary 0.75= training program is mandatory with some exceptions e.g. special occasion permits 1.00= training program is mandatory for all licensed events and venues, including special occasion permits Policy on serving intoxicated patrons (commentary) Data was collected on whether a jurisdiction has a policy prohibiting the sale of alcohol (on-premise) to a person who is intoxicated. This policy will be noted in the results section.

	b. Quality of the server training program Jurisdictions were scored based on the quality of their server and management training program as assessed by: 1. The comprehensiveness of the challenge criteria. i.e. when is a customer challenged? Appears to be under 25 years of age? 35 years of age? Is everyone challenged? Appears to be intoxicated? 2. Whether the program training was based on face-to-face protocol 3. whether staff were required to take periodic re-training e.g. retraining every 2 years 4. Whether the program, was based on evaluated server interventions shown to reduce incidents of over-service or service to minors?		<u>Quality of on-premise training program (voluntary or mandatory), based on 2-6 of column B.)</u> (0-2) 0.0= no training program 0.5= 1 element from column B 1.0= 2 elements from column B 1.5= 3 elements from column B 2.0= all elements from column B E.g. mandatory training based on a face to face training protocol for all staff, program has been evaluated for effectiveness in reducing service to minors and over service (as opposed to process evaluation) and requires re-certification on regular intervals.
	c. Program enforcement Jurisdictions were scored on whether the server and management training program was enforced through the tracking of challenge and refusals.		<u>Tracking of challenge and refusals</u> (0-2): 0= challenge and refusals are not tracked 2= challenge and refusals tracked.
	Challenge and refusal Program (off-premise outlets)		
	a. Challenge and refusal program policies: 1. Jurisdictions were scored on whether or not they had a challenge and refusal program. 2. Data was collected on whether a jurisdiction had a policy that prohibits the sale of alcohol to someone who is intoxicated.	5	<u>Challenge and refusal program policy status</u> (0-1). 0= no challenge and refusal program 1= they have a challenge and refusal program <u>Policy on serving intoxicated patrons (commentary)</u> Data will be collected on whether a jurisdiction has a policy prohibiting the sale of alcohol (off-premise) to a person who is intoxicated. This policy will be noted in the results section.
	b. Quality of the challenge and refusal program: Jurisdictions were scored based on the quality of their challenge and refusal program as assessed by: 1. The comprehensiveness of the challenge criteria. i.e. when is a customer challenged? Appears to be under 25 years of age? 35 years of age? Is everyone challenged? Appears to be intoxicated? 2. Whether the program training was based on face-		<u>Quality of challenge and refusal program</u> (0-2) 0.0= no challenge and refusal program in place 0.5= 1 element from column B 1.0= 2 elements from column B 1.5= 3 elements from column B 2.0= all elements from column B E.g. a program with a face to face training protocol for all staff , comprehensive challenge criteria, protocols are revised regularly, and the program has been

	to-face protocol 3. whether the program protocols were revised on a regular basis 4. whether there were independent provincial level efforts to evaluate effectiveness and scope of the program through 'secret shopper' interventions?		evaluated for effectiveness in reducing service to minors and over service (secret shopper program).
	c. Program enforcement 1. Jurisdictions were scored on whether the challenge and refusal program was enforced through the tracking of challenge and refusals. Data on the number of challenge and refusals was also collected		Enforcement of Challenge and Refusals (0-2 pts) 0= no tracking of challenge and refusals 2= tracking of challenge and refusals
9. Provincial Alcohol Strategy	**a. Main focus of the provincial strategy** Jurisdictions were scored on whether they had an provincial alcohol strategy or whether alcohol was captured under the umbrella of a more board strategy such as an addictions strategy, metal health strategy or other strategy.	2	Provincial Strategy Focus (0-2): 0= no provincial strategy that includes alcohol 1= a provincial addictions, mental health, public health or other strategy that includes an alcohol policy focus 2= provincial alcohol strategy.
	b. Range of policy interventions Jurisdictions were scored on whether the above mentioned strategy included a wide range of interventions and or policies along the lines of those mentioned as priorities in the WHO Global Strategy on Alcohol	8	Range of WHO policy interventions and policies (0-8) 0= no WHO components (0) 2= some WHO Components (1-3) 4= several WHO components (4-6) 6= almost all WHO components (7-9) 8= all WHO components (10)
10. Warning Labels and Signs	**a. The status of warning Labels** Jurisdictions were scored on whether they had mandatory warning labels on the beverage containers.	1	Mandatory vs. voluntary labels (0-1) 0= labels are voluntary 1= labels are mandatory
	b. Quality of the warning label messages The quality of the warning labels was assessed based on: 1. The content of the warning message(s)	3	Quality of labels (mandatory and voluntary) (0-3) 0= does not have any labels 1= over all the warning labels were poor in quality (as assessed by the criteria listed in column B)

	2. Whether there was a set of rotating messages 3. Whether the warnings included graphics 4. Whether the warnings were large/prominent (significant in relation to the size of the container)		2= overall the warning labels are of mediocre quality (as assessed by the criteria listed in column B) 3= overall the labels are of high quality (as assessed by the criteria listed in column B) e.g. the warning labels had several rotating, clear health messages, and were large and contained graphics as well as text.
	c. The status of warning signs: Off-premise Jurisdictions were scored on whether they had mandatory (as stated in regulations)warning signs in off-premise outlets.	1	Mandatory vs. voluntary off-premise signs (0-1) 0= signs are voluntary 1= signs are mandatory
	d. The status of warning signs: On-premise Jurisdictions were scored based on whether they had mandatory (as stated in regulations) warning signs in on-premise outlets**.**	1	Mandatory vs. voluntary on-premise signage (0-1) 0= signs are voluntary 1= signs are mandatory
	e. Quality of the off-premise warning signs The warning signs were assessed based on: 1. The variation in messaging. i.e. whether a jurisdiction had messaging around a variety of alcohol related health and safety topics. 2. The quality of the warning message(s) i.e. whether the message contained a clear health messages and was accompanied by graphics	2	Variation in messaging (0-1) (0.25 pts max for each messaging category) -Fetal Alcohol Spectrum Disorder (FASD)/pregnancy -Drinking and driving -Minors -Chronic disease/ health and moderate consumption (Low Risk Drinking Guidelines) Quality of messages (0-1): (0.25 pts max for each messaging category) Quality is assessed by the precision of the message, the health focus, accompanying graphics etc. -Fetal Alcohol Spectrum Disorder (FASD)/pregnancy -Drinking and driving -Minors -Chronic disease/ health and moderate consumption (Low Risk Drinking Guidelines)
	f. Quality of the on-premise warning signs The warning signs were assessed based on: 1. The variation in messaging. i.e. whether a jurisdiction had messaging around a variety of	2	Variation in on-premise messaging (0-1) (0.25 pts max for each messaging category)

	alcohol related health and safety topics. 2. The quality of the warning message(s) i.e. whether the message contained a clear health messages and was accompanied by graphics		-Fetal Alcohol Spectrum Disorder (FASD)/pregnancy -Drinking and driving -Minors -Chronic disease/ health and moderate consumption ((Low Risk Drinking Guidelines) Quality of on-premise messages (0-1): (0.25 pts max for each messaging category) Quality is assessed by the precision of the message, the health focus, accompanying graphics etc. -Fetal Alcohol Spectrum Disorder (FASD)/pregnancy -Drinking and driving -Minors -Chronic disease/ health and moderate consumption (Low Risk Drinking Guidelines)