

Canadian Public Health Association Position Paper

Too High a Cost

**A Public Health
Approach to Alcohol
Policy in Canada**



December 2011

The Canadian Public Health Association is a national, independent, not-for-profit, voluntary association representing public health in Canada with links to the international public health community. CPHA's members believe in universal and equitable access to the basic conditions which are necessary to achieve health for all Canadians.

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Executive Summary

Although epidemiological evidence about alcohol as a major contributor to trauma, social disruption and chronic disease is mounting, the impact in Canada is not widely known, even in public health circles. Both patterns and levels of consumption contribute to societal costs. In terms of the burden of illness at the population level, the impact of alcohol is next after tobacco. Health and enforcement costs outweigh provincial/territorial revenues from alcohol in almost all provinces and territories.

Tackling major health and social problems such as the problematic use of alcohol requires a combination of leadership, persistence, resources and a broad base of support at all levels (Anderson Chisholm & Fuhr, 2009b; Giesbrecht et al., 2006; Casswell & Thamarangsi, 2009; WHO, 2010). The public health community needs to become fully engaged to raise community awareness of the problems associated with alcohol sales and distribution, advocate for provincial- or territorial-level initiatives, and foster support in community coalitions for inclusion of alcohol as a risk factor for injuries, violence and chronic disease. At the same time, the public health community can mobilize chronic disease alliances and encourage disease-specific non-governmental organizations (NGOs) to become leaders on this topic and to increase their capacity to deal with this issue.

Robust and effective strategies require coordinated, multi-sectoral actions. While public health professionals have a key role to play in many interventions, other strategies also require the expertise of politicians, law enforcement personnel, provincial and municipal government officials, and the cooperation of alcohol retailers and licensing agencies (Babor et al., 2010; Office of the BC Provincial Health Officer, 2008; Giesbrecht et al., 2011). Skill-building and training of public health professionals are essential components, including increased knowledge not only concerning the damage from alcohol and the risks involved, but also about which interventions are effective and feasible at the local, provincial and federal levels, and how to initiate change (Giesbrecht et al., 2006).

Governments need to take a cross-departmental approach (e.g., health, finance and liquor control functions in a provincial government) in setting alcohol policies to achieve a better balance between revenue generation and a reduction in public health and safety impacts. Effective policies are needed to regulate access and overall consumption, and thereby reduce high-risk drinking linked to trauma, social problems and chronic diseases (Babor et al., 2010).

There is strong epidemiologic support for engaging on this public health issue, and there are specific evidence-based interventions that can be promoted, implemented and monitored (Anderson et al., 2009b; Babor et al., 2010; Popova et al., 2009; Wagenaar et al., 2009). Governments, public health agencies and other stakeholders need to take proactive and comprehensive approaches in order to build community support for an effective public health response.

Recommendations for a Multi-dimensional and Comprehensive Response Based on Best and Promising Practices

Population-based Policies and Interventions

Implementing alcohol pricing policies

CPHA calls on the federal, provincial and territorial governments to take action to implement alcohol pricing strategies to reduce the burden of alcohol-related harms.

The federal government should:

- adjust federal excise duties on all alcohol products to the Consumer Price Index and apply federal excise duties based on alcohol content so that taxes would increase proportionally as alcohol content increases.

Provincial/territorial governments should:

- establish a system of alcohol pricing based on the percentage of absolute alcohol in a standard drink such that the higher the alcohol content, the higher the price. This pricing system should be indexed annually to the Consumer Price Index to keep alcohol from becoming cheaper relative to other goods in the marketplace.
- establish a minimum reference price for retail sales (e.g., minimum of \$1.50 per standard unit drink) and a minimum reference price for licensed establishments (e.g., minimum of \$3.00 per standard unit drink). Reference prices should be adjusted periodically to the Consumer Price Index.
- ensure that pricing at establishments such as U-Brew and U-Vin are consistent with the retail minimum reference price.
- establish a provincial surtax on alcoholic beverages that are disproportionately consumed by youth (e.g., alcoholic beverages with high sugar content and artificial flavouring, large-volume beer containers).

Controlling physical and legal availability

CPHA calls on provincial and territorial governments to reduce the physical availability of alcohol.

Evidence-based and promising interventions include:

- undertaking a thorough review of retail outlet numbers and density, and of hours of operation for licensed establishments, with the protection of public health and public safety being a key objective of the review. There should also be a moratorium on new retail outlets and on increases in hours of operation until these reviews are completed.
- not permitting the sale of alcohol in convenience stores. Jurisdictions where such sales are already allowed should not permit further expansion of such sales.
- maintaining the legal age for alcohol use at 19 years of age or considering increasing the legal age for alcohol use to 19 years of age in provinces/territories where it is currently 18.
- ensuring compliance with the legal age for the purchase of alcohol with a valid piece of personal identification; for example, British Columbia is now requiring two pieces of personal identification and Nova Scotia is implementing electronic identification verification systems.

Recommendations for a Multi-dimensional and Comprehensive Response Based on Best and Promising Practices

Population-based Policies and Interventions

Curtailing alcohol marketing

CPHA calls on all three levels of government to restrict alcohol marketing and sponsorship. This can be achieved by:

- restricting alcohol advertising, promotion and sponsorship incrementally, with the ultimate goal to be restrictions similar to those currently in place for tobacco products.
- regulating all forms of alcohol marketing, for instance the use of the Internet and social media promotions and product placement.
- exploring legal options for provincial/territorial restrictions on alcohol advertising, promotion and sponsorship, including strengthening existing provincial regulations on advertising by licensed establishments (e.g., allowing advertising of drink specials and happy hours inside the venue only).

Regulating and monitoring alcohol control systems

CPHA calls on provincial and territorial governments to enhance alcohol control systems based on preeminent public health and public safety interests by:

- maintaining present government control on the sale of alcoholic beverages.
- supporting liquor authorities to take a more balanced approach between financial incentives and public health and public safety considerations.

Targeted Policies and Interventions

Countering drinking and driving

CPHA calls on all levels of government to implement best practice measures to curtail drinking and driving and reduce the recidivism of alcohol impaired driving.

Federal government should consider:

- requesting Transport Canada to study the possibility of including alcohol ignition interlock device or the emerging technology of Driver Alcohol Detection System for Safety (DADSS) in the safety standards governing the manufacturing of road vehicles sold in Canada.

Provincial/territorial governments should consider:

- changing motor vehicle acts to implement and/or increase the length of administrative sanctions (i.e., immediate road side suspensions) for drivers whose blood alcohol level is between .05 and .08.
- requesting that public prosecutors be more severe in their recommendations to the courts regarding sentences that apply to repeat offenders. increasing sobriety check points and investing in building the knowledge and skills about impaired driving enforcement tactics among front-line police staff.
- implementing effective social marketing and media campaigns to assist in increasing public awareness and visibility of the sobriety checkpoints.
- developing and implementing strengthened graduated licensing for novice drivers in provinces/territories. Restrictions should apply to any new driver obtaining a license, whose BAC while driving must be 0.0 for a period of five years after obtaining one's license.
- implementing offender-pay alcohol ignition interlock programs for individuals found guilty of impaired driving.

Recommendations for a Multi-dimensional and Comprehensive Response Based on Best and Promising Practices

Targeted Policies and Interventions

Changing the drinking context

CPHA calls on the provincial and territorial governments to change the drinking context by:

- adopting risk based licensing for licensed establishments.
- ensuring that their alcohol regulatory authorities have appropriate capacity for adequate active enforcement compliance checks of on-premise laws, over-service and minimum age restrictions, along with strengthened and more timely sanctions for non-compliance by operators.
- ensuring that their jurisdiction has an evidence-based bar safety and responsible service training program and that this training is conducted by government or third-party agencies.
- requiring training of owners, managers and staff as a condition of licensing/re-licensing. Frequency of re-licensing should be guided by evidenced-based best practices and risk assessment of the establishment type. In addition, there should be mandatory re-licensing for owners, managers, and staff of licensed establishments that have failed inspections and/or received notifications of regulatory violations.

Educating and promoting behaviour change

CPHA calls on all levels of government to implement education and behaviour change strategies that are found to be effective when used in combination with other alcohol control measures. Education and behaviour change strategies should be focused on changing social norms, not simply disseminating information, and must be part of a comprehensive strategy.

Federal, provincial and territorial governments need to:

- ensure education and behaviour change strategies are appropriately evaluated for their impact and that only those strategies with proven effectiveness be implemented;
- fund social marketing campaigns to denormalize the acceptability of harmful alcohol use in society, as part of a comprehensive alcohol strategy.
- consider the use of mandatory health warning labels (HWL) including information referencing the new low-risk drinking guidelines for Canadians in combination with other marketing and population-based interventions.

CPHA calls on all levels of government, NGOs and professional organizations to collaborate in the dissemination of the new low-risk drinking guidelines for Canadians, which have emerged from the National Alcohol Strategy Advisory Committee and will replace the four or more official sets of guidelines currently in use across the country. It will be especially important that their dissemination is combined with other population-based interventions.

Recommendations for a Multi-dimensional and Comprehensive Response Based on Best and Promising Practices

Targeted Policies and Interventions

Increasing access to screening and brief interventions

CPHA calls on the provincial and territorial health systems, NGOs and professional associations to:

- increase capacity for screening and brief intervention for at risk drinking in both primary health care and emergency room settings;
- increase capacity for screening and counselling women of childbearing age and pregnant women according to SOGC guidelines.
- ensure adequate capacity for community-based and inpatient treatment for both harmful drinking and alcohol addiction.

Cross-cutting Activities – Surveillance, Research and Knowledge Exchange and Skills Building

Below is a list of foundational activities necessary to support work in advancing population-based and targeted policies and interventions.

Surveillance and Research

CPHA calls on federal and provincial/territorial governments to:

- increase their emphasis on continuing the development of a comprehensive and sustainable epidemiological surveillance system at federal/provincial/territorial levels, for major changes in access to alcohol, alcohol consumption patterns, and alcohol-related disease, injury and social outcomes and economic costs;
- increase their support of alcohol research and knowledge exchange activities in order to develop, disseminate and implement evidence-based strategies to reduce alcohol-related harms.

Knowledge Exchange and skills building

CPHA calls on the public health community to build capacity to respond to alcohol as a public health issue by:

- creating a community of practice in the CPHA Knowledge Centre™ to support knowledge exchange;
- working together to build the capacity of health workers by developing alcohol prevention/control continuing learning opportunities for both public health and other health professionals.

CPHA calls on post-secondary educational institutions to include comprehensive information on both the population and individual impacts of harmful patterns of alcohol use in the core curricula of their undergraduate health programs, and expand the training on alcohol issues in medicine and nursing programs, as well as graduate public health programs.

Introduction

The purpose of the CPHA position statement on alcohol is to mobilize the public health community to respond to the growing burden of health and social problems associated with alcohol consumption in Canada. The background statement first outlines the harms and social costs caused by alcohol and how these are evident in different contexts, settings and sectors of the Canadian population. Based on a review of the evidence, it then provides a combination of population-based and targeted policies and interventions that can be selected by public health communities to effectively reduce the harm caused by alcohol. The statement is consistent with the new WHO Global Alcohol Strategy that Canada signed in 2010.

The information and recommendations presented in this paper are based on the evidence from more than 12 existing literature reviews. These are listed in Appendix A. For topics not covered in these major international reviews, additional evidence was sought out to support the perspectives and recommendations presented.

Alcohol related harms and social costs in Canada

From a population health perspective, there are multiple compelling reasons for the public health community to respond to the health and social costs related to alcohol.

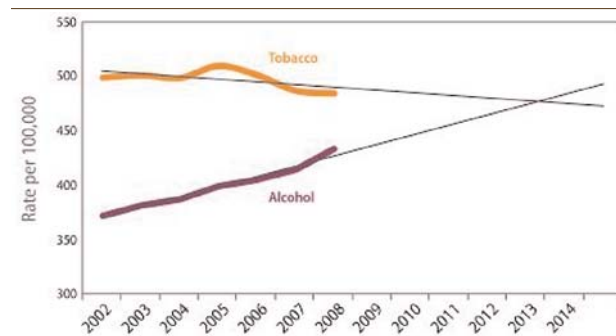
Alcohol is the second leading risk factors for death, disease and disability.

The World Health Organization's (WHO) study of the burden of disease indicates that alcohol ranks second out of 26 risk factors for death, disease and disability (measured in Disability Adjusted Life Years), with only tobacco causing more harm in high-income nations like Canada (WHO, 2011; WHO, 2009a; Rehm et al., 2009a). This places the burden from alcohol higher than that from other health risks, including, overweight and obesity, physical inactivity, illicit drug use, unhealthy diet and others (WHO 2011). Globally, and in Canada, alcohol's net effect is negative.

After subtracting out the beneficial influences of alcohol, approximately 3.8% of global deaths and 4.6% of Disability Adjusted Life Years (DALY) are attributable to

alcohol (Rehm et al., 2009a). In some countries in the Americas, the burden from alcohol is now higher than that from tobacco and ranks first (Monteiro, 2007). This could also be experienced in the future in Canada, as tobacco use and the impact of second-hand smoke decrease due to effective policy interventions, and as alcohol consumption rises (Health Canada, 2003; Rehm et al., 2006a). According to projection based on current trends, it is expected that alcohol-caused hospitalization rates in British Columbia will overtake tobacco-caused hospitalization rates around 2013 – as is indicated in the trend lines in Figure 1 below.

Figure 1. B.C. hospitalization rates caused by alcohol use vs. tobacco use



Source: BC Centre for Disease Control and University of Victoria, 2010

The economic costs related to alcohol are significant.

Alcohol creates a significant burden of health and social costs. For example, the estimated total direct and indirect costs of alcohol in Canada, based on 2002 data, were \$14.6 billion, with over \$7.1 billion as indirect costs due to productivity losses, \$3.3 billion in direct costs to health care, and \$3.1 billion in direct costs to law enforcement (Rehm et al., 2006a). By comparison, the estimated total costs of tobacco use in 2002 were \$17 billion (Rehm et al., 2006a).

Alcohol is associated with injuries, trauma, violence and social disruptions.

A number of studies have examined how others are often injured or killed as a result of drink-driving (Giesbrecht et al., 2010; Laslett et al., 2010). In 2009 in Canada, 884 persons died in an alcohol-related crash, defined as one in which at least one driver of a road motor vehicle had been drinking (Traffic Injury Research Foundation of Canada, 2011). While 69.3% of drink-driving fatalities occurred in

the driver, 18.0% of fatalities involved other vehicle occupants and 12.4% were pedestrians (Traffic Injury Research Foundation of Canada, 2011).

The relationship between alcohol and harm to others is evident not only with regard to drinking and driving, but also in areas such as interpersonal violence and sexual assault (Greenfeld & Henneberg, 2000; Abbey et al., 2004). Injuries and trauma related to alcohol use include fires, falls and drowning, as well as assaults such as intimate partner violence, child abuse, and sexual abuse (Rehm et al, 2006b). Alcohol contributes to a substantial percentage of suicides (Laliberté, 2009; Mann et al., 2006; Ramstedt, 2005), other examples of deliberate self-harm (Haw et al., 2005; Ogle et al., 2008) such as interpersonal violence and victimization, including family violence, relationship and financial problems (Browning & Erickson, 2009; Canadian Centre on Substance Abuse & Health Canada, 2004; Cherpitel et al., 2010). Problematic alcohol use also contributes to lost labour productivity due to absenteeism (Adrian, 1988; Cook, 2007).

In the 2004 Canadian Addiction Survey, 33% of all respondents reported that in the past year, they had experienced one or more types of harm resulting from drinking by others. This survey was conducted with a representative population aged 18 and older (N=13,328). They were asked if they had experienced disruption or harm as a result of the drinking of others. Disruption or harm included insult or humiliation, family or marriage problems, serious arguments or quarrels, verbal abuse, being pushed or shoved, and being hit or physically assaulted in the year prior to the study (Kellner, 2005). The 2008 data from Nova Scotia (aged 15 and older) and 2006 data from Ontario (aged 18 and older) illustrate similar patterns (Focal Research Consultants, 2008; Ialomiteanu & Adlaf, 2007).

Alcohol is a major risk factor for chronic diseases and cancers.

The popular perception is that damage from alcohol is primarily related to drinking and driving, Fetal Alcohol Spectrum Disorder (FASD) and alcohol dependence (alcoholism); however, there is substantial and growing evidence that alcohol contributes to many chronic diseases, trauma and social problems (Babor et al., 2010). Alcohol consumption is related to over 60 health conditions (Rehm and Monteiro 2005).

Beyond cirrhosis of the liver, chronic diseases include, but are not limited to, breast, mouth, throat, larynx, oesophagus, liver and colorectal cancers (IARC, 2007; Baan et al., 2007; Marmot, 2007; WHO, 2011), and gastrointestinal diseases and cardiovascular disease (Rehm et al., 2009a, 2010; Corrao et al., 2004). Further, alcohol consumption is associated with infectious diseases. Heavy drinkers are likely to have elevated risks of HIV (Bryant et al., 2010; Scribner et al., 2010) and tuberculosis (Rehm et al., 2009b), due in part to living conditions and the negative impact of alcohol use on social arrangements and access to services (Møller et al., 2010).

In addition, there is extensive evidence of the role that heavy drinking plays in mental health and social problems. Mental health conditions may stimulate heavy drinking, and heavy drinking may make it difficult to attain remission from depression (Ogiati, 2007).

Alcohol interacts with other risk factors and substantially elevates health risks.

Alcohol interacts with other risk factors and conditions, including, for example, tobacco use, unhealthy diet, and physical inactivity resulting in elevated health risks. For certain types of cancer, a combination of drinking and tobacco smoking will lead to risk levels that are considerably higher than those found among drinkers who do not smoke, or smokers who do not drink (Zeka et al., 2003). Similarly, the combination of drinking and obesity increases the rates of liver, mouth and throat cancers (Marrero et al., 2005; Riedel et al., 2003). In combination with other illicit or prescription drugs, alcohol increases renal failure (Del Ben et al., 2004), reduces liver function (Igboh et al., 2009), and decreases cognitive function in people living with HIV (Green et al., 2004). Research has shown that smoking, heavy episodic drinking, illicit drug use, obesity, and psychological distress are often nested within the same individuals, compounding health outcomes and harms experienced (Coulson et al., 2010; Paglia-Boak et al., 2009).

Fetal Alcohol Spectrum Disorder (FASD) is a leading known cause of developmental disability in Canada.

Alcohol use by women of childbearing age is a growing concern in Canada (PHAC, 2011). Alcohol is a known teratogenic substance, and the term fetal alcohol spectrum

disorders (FASD) describes the range of harms caused by prenatal exposure to alcohol. These include physical anomalies, growth retardation and central nervous system damage with neurodevelopmental, behaviour or cognitive anomalies (Chudley et al., 2005). FASD results in life-long disabilities affecting many spheres of the individual life: mental health problems, disrupted school experience, trouble with the law, inappropriate sexual behaviour, alcohol and drug problems, and dependant living and problems with employment during adulthood (Streissguth et al., 2004). These carry an important burden to the individuals, the families, the communities and the society as a whole.

Alcohol contributes to health inequities.

The negative impacts of high-risk drinking cross all sectors of the population (Giesbrecht et al., 2010), yet they exert an even greater burden on certain populations such as youth (Rehm et al., 2009a), First Nations, Inuit and Métis people of Canada (Alcohol Policy Network, 2006), and people who are homeless (Hwang, 2006) or otherwise living in poverty (Rehm et al., 2009b).

At the population level, alcohol consumption tends to be related to accessibility, so that those with higher disposable income or socio-economic status are likely to drink more (Demers and Kairouz, 2003). However, the inverse seems to be the case with regard to alcohol-related harm, deaths attributable to alcohol being more common in lower than higher socioeconomic groups in studies conducted in different countries (Schmidt et al., 2010). A review of stigma, social inequality and alcohol and drug use indicated that marginalization increases the harm for a given level of use (Room, 2005). More research is needed to describe and understand this issue of socioeconomic inequities and alcohol related harms (Schmidt et al., 2010).

In Canada's Aboriginal population, increased alcohol-related harms are compounded by the history of oppression of Aboriginal peoples and the early Aboriginal alcohol regulation under the *Indian Act*. This concern continues: in 2003 alcohol was considered to be an attributable cause in 80% of suicide attempts and 60% of violent episodes, even though the alcohol abstention rate among First Nations is twice that of the rate in the general Canadian population (Assembly of First Nations, 2007).

Early use of alcohol and solvents by Aboriginal youth between eight and 15 years of age is strongly associated with increased suicide attempts and success, and a high proportion of suicide attempts occur while under the effects of alcohol (Laliberté, 2009).

Youth all across Canada are at risk of alcohol-related harm. They are particularly at risk for the short-term impacts of alcohol such as falls, date rape and other assaults, and injuries and deaths caused by impaired driving (Canadian Centre on Substance Abuse, 2007). The effect of drinking on mortality and morbidity is larger for youth than adults. People aged 15-29 years of age experience 33.6% of alcohol-attributable disability-adjusted life years (DALYs), compared to 22.0% in the 45-59 age group. Deaths attributable to alcohol are also increased in this age group due to an increased incidence of motor-vehicle crashes (Rehm et al., 2009a).

The relationship between alcohol and inequity is complex. There are likely many factors that contribute to higher burden of alcohol-related harm in specific population groups and groups of low socioeconomic status; an extended discussion is beyond the scope of this paper. The WHO's publication on "Equity, social determinants and public health programs" treats specifically the question of alcohol. It speaks to these realities and the need for comprehensive strategies aimed both at high-risk groups, such as youth, and the population as a whole, with attention to the role of social determinants of health in addressing health inequities (Blas and Kurup, 2010).

There are population-wide misunderstandings about the health benefits versus the damage from drinking alcohol.

There is extensive research showing that small amounts of alcohol consumed on a regular basis by middle-aged adults has specific but limited health benefits, such as reduced risk of cardiovascular disease or type two diabetes (Puddy et al., 1999; Babor et al., 2010). It should be noted that these potential benefits from alcohol do not apply to youth or young adults, and can be achieved by other means among older adults. Furthermore, the potential benefits involve only modest amounts of alcohol of one or two "standard drinks" per day, or even less for women (Butt et al, in press). Any instance of heavy episodic drinking reduces or erases these potential benefits (Rehm

et al., 2010). Although there may be health benefits of moderate alcohol intake related to ischemic heart disease and diabetes, these gains may be offset by the negative effects the same amount of alcohol can have on the risk for cancer and other conditions such as hypertension, liver cirrhosis, injuries and violence (Babor et al., 2010; Rehm et al., 2010; Corrao et al, 2004). For many chronic diseases, the threshold for health risk appears to be around one to two standard drinks a day over an extended period (Babor et al., 2010; Rehm et al., 2010). This is the same drinking range at which there are some cardiovascular benefits for older adults. The low-risk drinking guidelines were developed by carefully balancing the risks and benefits of alcohol. They can help clarify the misunderstanding about quantity and frequency of alcohol consumption to minimize risk associated with alcohol use.

Curtailling alcohol consumption result in a decline in alcohol related damage

Studies from Europe, Canada and the United States, have demonstrated that liver cirrhosis mortality rates rise and fall in the population with the overall rate of alcohol sales in the jurisdiction (Ramstedt, 2003; Ye & Kerr, 2011). Other research analyzing natural experiment designs have shown that both trauma and chronic problems decline during periods of restricted access to alcohol, such as during strikes by workers in retail outlets (Babor et al., 2003, 2010). In other words, even if there are numerous other factors that contribute to generating the damage from alcohol, when overall consumption is curtailed or declines, there is typically a decline in alcohol-related damage. A very large proportion of the alcohol consumed in Canada is accounted for by those drinking above low-risk drinking guidelines. Thus, reducing hazardous drinking (i.e. above low-risk guidelines) will decrease overall population consumption, and the concomitant alcohol-related problems.

Current Drinking Patterns

Alcohol production and retailing involve many occupations, produce many jobs, and generate substantial income for individuals, businesses, and governments. The consumption of alcohol in moderate quantities provides a valued complement to meals and many social occasions. Alcohol is a popular, increasingly ubiquitous substance in society.

Most adult Canadians currently drink alcohol. In 2010, 77.0% reported drinking in the past year, while 23% were abstainers – either former drinkers or lifetime abstainers (Health Canada, 2011).

In 2010, per capita sales of alcohol totalled 8.2 litres of pure alcohol* per person aged 15 years and over in Canada, an increase of 13% compared to 1996 with per capital sales totalling 7.2 litres (Statistics Canada, 2011a).

At-risk and heavy drinking are more common

In order to define levels of drinking which carry low health and social risks for the average drinker, new low-risk drinking guidelines for Canadians were released in November 2011 (Butt et al., 2011). The guidelines propose daily and weekly limits for people who choose to drink and describe different situations where it is recommended not to drink. They recommend that men drink no more than three standard drinks† per day and no more than 15 standard drinks per week. Women should not to exceed two standard drinks per day, and 10 per week. For health and safety reasons, it is important to respect upper limits of no more than four standard drinks in one day for men and three standard drinks for women. Drinking at these upper levels should only happen occasionally, always be consistent with weekly limits specified earlier, and be accompanied by other measures to avoid putting oneself or others at risk.

According to a survey done by Health Canada in 2009, 12.7% of Canadians aged 15 and older had exceeded the

* According to Statistics Canada, “A liter of absolute alcohol is a liter of pure alcohol, free of water. The volume of sales of alcoholic beverages in liters of absolute alcohol is calculated by multiplying the sales volume by the percentage of alcohol content.” (Statistics Canada, 2009).

† In Canada, one standard drink contains 13.6 g or 17 ml of pure alcohol: wine (12% alcohol) = 5 oz/142 ml, spirits (40% alcohol) = 1.5 oz/43 ml, and regular strength beer (5% alcohol) = 12 oz/341 ml.

daily or weekly low-risk drinking guidelines in the past week. The proportion was 16.4% for men and 9.3% for women (Health Canada, 2010). This represents an estimated 3.29 million Canadians who had drunk daily or weekly quantities of alcohol above low risk drinking guidelines in the week prior to the survey.

In Canada and elsewhere, heavy episodic drinking is defined as drinking five or more standard drinks on a single occasion for men and four or more for women. This drinking pattern is associated with an increased risk of health and social harms (Babor et al., 2010). In a survey conducted in 2009-2010, among drinkers 15 years old and over, 31.1% of men and 20.9% of women reported heavy episodic drinking at least monthly in the past year (Statistics Canada, n.d).^{*} Between 2003 and 2009-10, there was a statistically significant increase of 13.8% in monthly heavy episodic drinking in women, but no statistically significant change for men. However, over this same time interval, there was a significant increase in monthly heavy drinking patterns in men aged 25-34 and 45-64. Among women, the highest overall increase was in those aged 25 to 34 and 45 to 54, where the increases were respectively 39% and 45% (Statistics Canada, n.d). Finally, 2.6% of Canadians aged 15 or older were classified as dependent

^{*} Since the Canadian Community Health Survey (Statistics Canada, n.d.) defines heavy episodic drinking as five or more drinks on one occasion for both men and women, the Canadian Center on Substance Abuse used data from three national surveys (Canadian Addiction Survey, 2004, CADUMS 2008 and CADUMS 2009) to determine an average conversion factor between the monthly 5 or more drinks and 4 or more drinks for women. This conversion was applied to the CCHS data to generate the yearly proportions of risky drinking for women (CCSA, unpublished data).

on alcohol (alcoholics) in 2002. This represented approximately 641,000 people (Tjepkema, 2004).

Adolescent drinking is a cause for concern

Another area of concern is adolescent drinking. Compared to adults, adolescents experience greater harms from their use of alcohol (Adlaf et al., 2005). A large proportion of youth under the minimum legal drinking age drink alcohol. In addition, the use of alcohol significantly increases with school grade. According to multiple school surveys conducted in various Canadian provinces, the percentage of students in grades seven to 12 who have consumed alcohol during their lifetime varies between 51.6% and 70% (Young et al., 2011). The proportion of Grade 12 students who have consumed alcohol during their lifetime varied between 77.3% and 91%. The consumption of five or more drinks on one occasion in the past month is reported by approximately half of Grade 12 students in Canada. On the other hand, the percentage of adolescents aged 12 to 17 who had at least one alcoholic drink in the past year declined between 2001 and 2010 (Statistics Canada, 2011b).

The mean age of initiation was 15.6 years (Canadian Centre on Substance Abuse & Health Canada, 2007). In Nova Scotia, the age of initiation has been decreasing over time and is currently 12.9 years (Poulin et al., 2007), but has been increasing in Ontario over the past decade (Paglia-Boak et al., 2009). Early initiation, prior to the age of 15, is correlated with increased risk of dependence and other harms into adulthood (Grant et al., 2001; Komro et al., 2010).

Contrasting Trends

There are two countervailing developments to consider when thinking about the increase in alcohol consumption since the mid-1990s. On the one hand, there is increasing access to alcohol, extensive integration of drinking into many social contexts and settings, and societal tolerance of high-risk drinking especially among young adults. On the other hand, there are international, national and provincial alcohol-specific initiatives that seek to promote policies and prevention strategies to reduce the burden associated with alcohol.

Increasing access to alcohol

While the changes in access to alcohol go back to the post-war era in Canada (Room et al., 2006), it is in recent decades that we have seen a convergence of several factors related to increasing access to alcohol. These include an erosion of control systems, an increase in accessibility due to increased density of sales outlets and/or more liberal selling days/times, prices that do not increase with inflation, and high levels of marketing and promotion including the expansion of Internet and social network-based marketing (Giesbrecht 2006; Giesbrecht et al. 2011).

Provincial retail systems have either been changed entirely from public to private, as in the case of Alberta in 1993, or to mixed models (private and public) as in British Columbia, Ontario and Quebec. To our knowledge, no definitive evaluation has been done on the Alberta experience. However, several reports from British Columbia point to increased population risks associated with the expansion of private alcohol outlets. A recent analysis of British Columbia's alcohol retailing system showed that in areas where there was a greater increase in the number of privately-run outlets, there was a greater increase in overall sales (Stockwell et al., 2009a). A subsequent study examining local area mortality rates reported that rapidly rising densities of private liquor stores in British Columbia from 2003 to 2008 were associated with a significant increase in rates of alcohol-related death (Stockwell et al., 2011). Furthermore, there are indications that private systems are not as persistent and effective as public systems in preventing sales to minors or intoxicated patrons (Kendall, 2008; Miller et al., 2006).

At the same time, there has been a gradual increase in access to alcohol in most parts of Canada. This gradual

increase results from longer selling hours for both on-premise and off-premise outlets and the introduction of Sunday sales for off-premise outlets (Giesbrecht, 2000, 2006). Meta-analyses and special studies have shown strong and persistent links between low alcohol prices and overall consumption and damage from alcohol (Wagenaar et al., 2009; 2010; Cook, 2007). Unfortunately, alcohol pricing regimes are not directed at curtailing overall sales (Thomas, forthcoming). These arrangements include real prices that do not keep pace with the cost of living, especially for wines and spirits sold in stores (Statistique Canada, 2011y). In comparison, the retail price of tobacco products increased much more rapidly than the total Consumer Price Index due to public policies addressing tobacco consumption (Statistics Canada, 2011y). Other factors include discount pricing, and having delisted products priced below the minimum retail price restrictions as set by provincial regulation (Thomas, forthcoming). For example, a recent analysis of Ontario Beer Store and Liquor Control Board of Ontario (LCBO) web sites indicated that it was possible to obtain one standard drink of domestic beer or wine or spirits for as little as \$0.85 – which is equivalent to or less than the price of a non-alcoholic soft drink or bottled water.

High exposure to advertising

There are several contributing factors for the increase in alcohol consumption in Canada. Based on the international evidence, it would appear that high levels of marketing of alcohol, combined with easier access, contributes to an increase in alcohol consumption (Babor et al., 2010; Popova et al., 2009; Stockwell & Chikritzhs, 2009; Anderson et al., 2009a; Jernigan, 2010).

In general, both government retailers and private retailers/producers of alcohol have a strong orientation to marketing and promotion of their products. These involve in-store advertising, websites, billboards, newspaper inserts and advertisements, television, radio and online advertisements, ads on public transit vehicles, sponsorship of sports and cultural events, and more recently, extensive use of the Internet and social media (Jernigan, 2009). Taken together, these multi-media marketing messages reinforce a pro-social attitude about the consumption of alcohol while disregarding the potential harmful consequences (Anderson, Chisholm & Fuhr, 2009b; British Medical Association, 2009; Morgenstern et al., 2011).

According to recent reviews on the effects of alcohol promotion, exposing young people to alcohol marketing increases the likelihood of adolescents starting to drink alcohol and increases the amount consumed by those already drinking (Smith and Foxcroft, 2009; Anderson et al., 2009a). Not only the content of the marketing is important but also the amount of marketing to which young persons are exposed (Babor et al., 2010; WHO, 2010). Increasingly sophisticated techniques are used to promote alcohol products such as emails, short message service (SMS), podcasting and social media. In this context, a precautionary approach should be considered to protect them, according to WHO (2010). In a focus group study from Nova Scotia, adolescents and especially parents expressed concerns about the impact of advertising that glamorizes drinking, particularly by young people. Participants had strong reservations about how alcohol is marketed, suggesting that current advertising is “dishonest and misleading” and “needs to be restricted” (Schrans et al., 2009).

While this topic is worthy of a systematic investigation, a general impression is that in the past decade, the volume, frequency and channels of marketing and advertising of alcoholic beverages has increased (Gordon, Hastings, & Moodie, 2010). Furthermore, since 1996 there has been an erosion of controls on alcohol advertising in Canada (Ogborne & Stoduto, 2006), including the Canadian Radio-television Telecommunications Commission (CRTC) relinquishing direct day-to-day control of proposed electronic alcohol advertising. Since then, Advertising Standards Canada, a marketing industry trade group, provides screening service of proposed advertising as requested by alcohol producers or advertisers (Advertising Standards Canada, 2011).

Increasing number of international, national and provincial alcohol-specific initiatives

In contrast to these developments, during the past decade those working on alcohol policy issues have not been inactive. In Geneva, Washington, Ottawa and several Canadian provinces, there are initiatives that draw on the evidence of the damage from alcohol, including studies of

the burden of health and social costs from alcohol (WHO, 2002, 2009a, 2010; Rehm et al., 2009a), along with more focused investigations.

In May 2010, the General Assembly of the World Health Organization (WHO) approved a Global Alcohol Strategy to reduce the harmful use of alcohol (WHO, 2010). The WHO strategy identifies a range of universal and targeted policy options, including those related to pricing policies, availability of alcohol, marketing of alcoholic beverages, drinking and driving countermeasures, and brief interventions.

In the Americas, a report from the Pan American Health Organization (PAHO) (Monteiro, 2007) outlined alcohol-related health and social problems and recommended ten policies for the Americas: (1) minimum age to legally purchase alcohol; (2) restrictions on availability of alcohol; (3) restrictions on off-premise sale; (4) prices and taxation; (5) drinking and driving legislation; (6) screening and brief interventions for alcohol-related problems; (7) advertising and sponsorship; (8) alcohol-free environments; (9) prevention and treatment; and (10) human resources training. Currently, PAHO is developing an alcohol strategy for its region. Outside our borders, the British Medical Association has demonstrated a strong interest in reducing the burden from alcohol in the United Kingdom (British Medical Association, 2008).

There have been several promising developments in Canada. In 2007, a Canadian National Alcohol Strategy (National Alcohol Strategy Working Group, 2007) has been developed by the Canadian Centre on Substance Abuse, Health Canada and other partners. Recent reports on alcohol policy from Nova Scotia (Nova Scotia Department of Health Promotion and Protection, 2007), British Columbia (Office of the BC Provincial Health Officer, 2008) and Quebec (April et al., 2010) have recommended effective interventions. The main themes of these four reports show a significant convergence across the jurisdictions with regard to prevention, with similar foci at the national and provincial levels.

Recommendations for a Multi-dimensional and Comprehensive Response

Drawing on existing literature reviews and evaluations of programs and policies, the following evidence-based approaches should be considered as part of any comprehensive strategy to reduce the burden of alcohol on society.

An effective public health response must be multi-dimensional, involving a combination of population-level policies and targeted policies and interventions. Population-based interventions are necessary to curtail alcohol consumption and result in an overall reduction of alcohol-related harms. These interventions have the potential to contribute to the reduction of many chronic and acute health and social problems, including trauma and FASD. Targeted policies and interventions address specific drinking situations, risk behaviours, contexts or groups. Both levels of interventions need to be supported by cross-cutting foundational elements such as ongoing surveillance and monitoring, as well as research and knowledge exchange in order to build capacity to reduce alcohol-related social and health harms.

Each jurisdiction needs to determine which interventions are feasible at their respective level and which combination of interventions will effectively initiate change.

Population-based policies and interventions

Implementing alcohol pricing policies

Several international projects linked with the WHO point to alcohol pricing as the intervention with the strongest empirical support and widest impact among more than 30 interventions assessed. Raising the price of alcohol, using the policy levers of direct pricing or taxation, leads to lower consumption and reduced trauma, social problems and chronic disease associated with alcohol use (Babor et al., 2010). A meta-analysis published in 2009, based on over 112 studies, provides strong support for this intervention (Wagenaar et al., 2009).

CPHA calls on the federal, provincial and territorial governments to take action to implement alcohol pricing strategies to reduce the burden of alcohol-related harms.

The federal government should:

- adjust federal excise duties on all alcohol products to the Consumer Price Index and apply federal excise duties based on alcohol content so that taxes would increase proportionally as alcohol content increases.

Provincial/territorial governments should:

- establish a system of alcohol pricing based on the percentage of absolute alcohol in a standard drink such that the higher the alcohol content, the higher the price. This pricing system should be indexed annually to the Consumer Price Index to keep alcohol from becoming cheaper relative to other goods in the marketplace.
- establish a minimum reference price for retail sales (e.g., minimum of \$1.50 per standard unit drink) and a minimum reference price for licensed establishments (e.g., minimum of \$3.00 per standard unit drink). Reference prices should be adjusted periodically to the Consumer Price Index.
- ensure that pricing at establishments such as U-Brew and U-Vin are consistent with the retail minimum reference price.
- establish a provincial surtax on alcoholic beverages that are disproportionately consumed by youth (e.g., alcoholic beverages with high sugar content and artificial flavouring, large-volume beer containers).

Controlling physical and legal availability

Substantial international research demonstrates that high density of outlets and extended hours and days of sale are associated with high-risk drinking and alcohol-related problems (Babor et al., 2010; Anderson et al., 2009b; Popova et al., 2009). For example, an increase in private-sector off-premise outlets in British Columbia was associated with an increase in overall consumption (Stockwell et al., 2009a) and an increase in alcohol-related mortality (Stockwell et al., 2011). It has also been shown that raising the minimum legal drinking age to 19 would reduce alcohol sales to minors, and would decrease the purchase of alcohol by students who are of age and who pass it along to their under-age friends, thereby reducing drinking-related problems among youth (Babor et al.,

2010). In light of increasing access to alcohol in recent years, including dramatic increases in some jurisdictions (Stockwell et al., 2009a), a reduction in physical availability is important, including controlling the number, density and hours of operation of retail outlets and licensed establishments.

CPHA calls on provincial and territorial governments to reduce the physical availability of alcohol.

Evidence-based and promising interventions include:

- undertaking a thorough review of retail outlet numbers and density, and of hours of operation for licensed establishments, with the protection of public health and public safety being a key objective of the review. There should also be a moratorium on new retail outlets and on increases in hours of operation until these reviews are completed.
- not permitting the sale of alcohol in convenience stores. Jurisdictions where such sales are already allowed should not permit further expansion of such sales.
- maintaining the legal age for alcohol use at 19 years of age or considering increasing the legal age for alcohol use to 19 years of age in provinces/territories where it is currently 18.
- ensuring compliance with the legal age for the purchase of alcohol with a valid piece of personal identification; for example, British Columbia is now requiring two pieces of personal identification and Nova Scotia is implementing electronic identification verification systems.

Curtailing alcohol marketing

There is evidence that alcohol promotion contributes to the normalization of alcohol consumption, especially among young people (Jernigan, 2010). The current environment is saturated with increasingly sophisticated alcohol marketing and WHO (2010) recently recommended that the countries restrict the marketing of alcohol based on its likely contribution to increases in alcohol consumption. Restricting the marketing of alcohol products through advertising, promotion and sponsorship, as has been done for tobacco, is recommended as a policy for controlling the harms from alcohol.

CPHA calls on all three levels of government to restrict alcohol marketing and sponsorship. This can be achieved by:

- restricting alcohol advertising, promotion and sponsorship incrementally, with the ultimate goal to be

restrictions similar to those currently in place for tobacco products.

- regulating all forms of alcohol marketing, for instance the use of the Internet and social media promotions and product placement.
- exploring legal options for provincial/territorial restrictions on alcohol advertising, promotion and sponsorship, including strengthening existing provincial regulations on advertising by licensed establishments (e.g., allowing advertising of drink specials and happy hours inside the venue only).

Regulating and monitoring alcohol control systems

A fourth intervention relates to alcohol retailing arrangements. Government-run retailing systems, while not flawless, have a stronger potential than private systems to prevent service to minors and intoxicated patrons due to the fact that staff are trained and the profit motive is not paramount with every sale (Office of the BC Provincial Health Officer, 2008). In addition, density of outlet controls and price disincentives have been shown to be effective at reducing consumption (B.C. Provincial Health Officer, 2008; Babor et al., 2010; Popova et al., 2009), and are easier to implement and maintain under a government-run system.

There is international and national evidence in support of government-run alcohol retail systems as a means to promote the public health response to alcohol (Stockwell et al., 2009b; Babor et al., 2010). A recent analysis of the partial privatization of British Columbia's alcohol retailing system showed that in areas where there was a more dramatic increase in the private-run outlets, there was a greater increase in overall sales (Stockwell et al., 2009a). Thus, increased privatization leads to increased sales, increased consumption, and ultimately to increased alcohol problems in society. To reduce alcohol problems it is therefore necessary to arrest the trend towards privatization of retail monopolies.

However, the positive benefits of government-run retailing systems are greatly reduced if their primary mandate is to generate revenue and they lose sight of public health and control obligations. Recognizing that many Canadian jurisdictions have committed to a private distribution system, in whole or in part, we strongly recommend that

private systems also be closely regulated and monitored to ensure a preeminent public health interest, and that, in light of the international evidence (Anderson et al., 2009b; Babor et al., 2010), there be no further privatization.

CPHA calls on provincial and territorial governments to enhance alcohol control systems based on preeminent public health and public safety interests by:

- maintaining present government control on the sale of alcoholic beverages.
- supporting liquor authorities to take a more balanced approach between financial incentives and public health and public safety considerations.

Targeted policies and interventions

Countering drinking and driving

Extensive evidence supports a number of interventions and policies for curtailing drinking and driving (Babor et al., 2010). These include sobriety check points, random breath testing, lower legal blood alcohol concentration (BAC) limits, 'zero tolerance' for young drivers, administrative license suspension, and graduated licensing for novice drivers (Babor et al., 2010).

In Canada the BAC limit as prescribed in the Criminal Code is 80mg/100ml, while it is 50mg/100ml in many countries. Certain provincial jurisdictions issue administrative sanctions to drivers with BAC between 50 and 79mg/100ml. The province of British Columbia has implemented more stringent roadside penalties for drivers with blood alcohol limit over 0.05. Preliminary data related to *BC Immediate Roadside Prohibitions* indicates a significant and sustained decrease in alcohol-related motor vehicle fatalities. The results from the first 12 months of data (October 2010 to September 2011) showed a 40% decrease in fatalities, compared to the average for the same period the previous five years. There were 68 alcohol-related motor vehicle fatalities between October 2010 and September 2011, compared to an average of 113 alcohol-related motor vehicle fatalities for the same October to June time period for the previous five years (Office of the Superintendent of Motor Vehicles, 2011)

In sobriety checkpoints, police officers stop vehicles passing a road block to verify if the drivers might be impaired, while in random breath testing, they stop cars at

random and require the drivers to take a screening breath test, and if positive, a confirmatory blood test (Babor et al., 2010). The latter practice is not allowed within the Canadian Criminal Code, where police must have a reasonable suspicion before requiring testing. The aim of sobriety checkpoints and random breath testing is to act as a deterrent by increasing the perception of the risk of being arrested. Both interventions are effective as long as they are broadly implemented and rigorously enforced; above all, they need to be highly visible and publicized in order to give the perception of a high likelihood of being stopped by police and tested (Babor et al, 2010).

According to the best practice literature, several approaches can reduce recidivism related to alcohol-impaired driving, including counselling plus license suspension and the use of ignition interlock systems. In 2008, Nova Scotia implemented an Alcohol Ignition Interlock Program that is unique to these types of programs worldwide. Drivers considered at risk to re-offend and repeat offenders must participate in the program. Offenders receive six penalty points and a suspension of driving privileges for a period of six months. The offender's vehicle is fitted with an ignition interlock that prevents the car from starting if the offender has any alcohol in his or her blood. The mechanism gathers data that addictions counsellors review while they provide ongoing therapy to the offender. Other alcohol ignition interlock programs are also present in some other provinces.

While still in the developmental stages, Driver Alcohol Detection System for Safety (DADSS) is seen as a potential tool for keeping drunk drivers from being able to operate their car if their blood alcohol concentration is at or above the legal BAC limit. The technology could be voluntarily installed as an option for new cars. One system under evaluation determines the blood alcohol concentration through a touch-based approach and another system uses a breath-based approach (U.S. Department of Transportation, 2008). In the long term, technological deterrents such as alcohol interlock devices and DADSS have the potential to complement other public health approaches for the prevention of drink-driving.

CPHA calls on all levels of government to implement best practice measures to curtail drinking and driving and reduce the recidivism of alcohol impaired driving.

Federal government should consider:

- requesting Transport Canada to study the possibility of including alcohol ignition interlock device or the emerging technology of Driver Alcohol Detection System for Safety (DADSS) in the safety standards governing the manufacturing of road vehicles sold in Canada.

Provincial/territorial governments should consider:

- changing motor vehicle acts to implement and/or increase the length of administrative sanctions (i.e., immediate road side suspensions) for drivers whose blood alcohol level is between .05 and .08.
- requesting that public prosecutors be more severe in their recommendations to the courts regarding sentences that apply to repeat offenders.
- increasing sobriety check points and investing in building the knowledge and skills about impaired driving enforcement tactics among front-line police staff.
- implementing effective social marketing and media campaigns to assist in increasing public awareness and visibility of the sobriety checkpoints.
- developing and implementing strengthened graduated licensing for novice drivers in provinces/territories. Restrictions should apply to any new driver obtaining a license, whose BAC while driving must be 0.0 for a period of five years after obtaining one's license.
- implementing offender-pay alcohol ignition interlock programs for individuals found guilty of impaired driving.

Changing the drinking context

There have been significant strides in understanding and modifying the drinking context, including training programs (e.g. CAMH's Safer Bars program) and house policies relating to responsible beverage service training for licensed establishment staff and management to better handle aggression, enhanced enforcement of laws and other legal requirements of on-premise sales, and legal precedents regarding server liability (Babor et al., 2010). Nevertheless, since many server training programs used in Canadian jurisdictions have not been thoroughly evaluated, regular monitoring and quality control is needed.

CPHA calls on the provincial and territorial governments to change the drinking context by:

- adopting risk based licensing for licensed establishments.
- ensuring that their alcohol regulatory authorities have

appropriate capacity for adequate active enforcement compliance checks of on-premise laws, over-service and minimum age restrictions, along with strengthened and more timely sanctions for non-compliance by operators.

- ensuring that their jurisdiction has an evidence-based bar safety and responsible service training program and that this training is conducted by government or third-party agencies.
- requiring training of owners, managers and staff as a condition of licensing/re-licensing. Frequency of re-licensing should be guided by evidenced-based best practices and risk assessment of the establishment type. In addition, there should be mandatory re-licensing for owners, managers, and staff of licensed establishments that have failed inspections and/or received notifications of regulatory violations.

Educating and promoting behaviour change

There is ample research evidence to show that reliance on education alone will not reduce alcohol-related problems and costs. Most school-based programs do not demonstrate a substantial impact on drinking behaviour or damage from alcohol (Babor et al., 2010; Giesbrecht, 2007), although some intensive programs in universities are beginning to show some promise (Babor et al., 2010). Resources should be redirected to those programs with a demonstrated positive impact, and, at the same time, education and persuasion techniques should be oriented to increasing awareness of population-level damage from alcohol and provide guidance on the roles that citizens can play in reducing the harm from alcohol in their community (Giesbrecht, 2007).

From a consumer perspective, there is also a "right to know" about the health effects of alcohol, and the launch of national low-risk drinking guidelines for Canadians (Butt et al., 2011) is a welcome development. The guidelines will be useful in combination with effective control measures for reducing alcohol-related harms and costs (Wagenaar et al., 2009; Popova et al., 2009).

Social marketing is a process that applies health promotion marketing principles and techniques to influence target audience behaviours which benefit society as well as the target audience. Social marketing can contribute to population-level changes in behaviour if integrated within a comprehensive strategy.

Health warning labels (HWL) are used to offer directional

information about drinking on beverage containers and packaging. They tend to take the form of reminders about general health risks associated with alcohol consumption, health risks of drinking during pregnancy, and dangers of drinking while driving or operating machinery. Labels may also include additional information, such as reference to official low drinking guidelines and information on alcohol units or standard drinks.

CPHA calls on all levels of government to implement education and behaviour change strategies that are found to be effective when used in combination with other alcohol control measures. Education and behaviour change strategies should be focused on changing social norms, not simply disseminating information, and must be part of a comprehensive strategy.

Federal, provincial and territorial governments need to:

- ensure education and behaviour change strategies are appropriately evaluated for their impact and that only those strategies with proven effectiveness be implemented;
- fund social marketing campaigns to denormalize the acceptability of harmful alcohol use in society, as part of a comprehensive alcohol strategy.
- consider the use of mandatory health warning labels (HWL) including information referencing the new low-risk drinking guidelines for Canadians in combination with other marketing and population-based interventions.

CPHA calls on all levels of government, NGOs and professional organizations to collaborate in the dissemination of the new low-risk drinking guidelines for Canadians, which have emerged from the National Alcohol Strategy Advisory Committee and will replace the four or more official sets of guidelines currently in use across the country. It will be especially important that their dissemination is combined with other population-based interventions.

Increasing access to screening and brief interventions

CPHA also recommends increasing access to brief interventions so that all adult drinkers at risk potentially can benefit. Brief interventions are intended for drinkers who are at risk, but who do not meet the criteria for alcohol use disorders – early intervention and treatment is considered appropriate for the latter group. This involves a

combination of several steps as noted in the Clinical Guide for Reducing Alcohol Risks and Harms (2010) and outlined in a recent systematic review (Kaner et al., 2009).

The National Alcohol Strategy Advisory Committee (NASAC) is developing web-based screening and brief intervention tools for physicians across the country. In addition to the evidence for the efficacy of screening and brief intervention, research indicates that many patients cut down on their drinking simply because they were asked by their doctor about their alcohol use.

Evaluated online self-help tools to assess drinking are also available (Cunningham et al., 2009). These interventions can help reduce high-risk drinking (Kaner et al., 2009) and are projected to have a substantial public health benefit in reducing demand on health care and attendant costs (Anderson et al., 2009b).

In order to prevent FASD, a set of interventions is recommended to health care providers including screening for alcohol consumption before and during pregnancy and brief interventions for women who engage in at-risk drinking. The Society of Obstetricians and Gynaecologists (SOGC) has developed evidence-based clinical practice guidelines for screening and recording alcohol use, as well as counselling women of child-bearing age and pregnant women (SOGC, 2010).

CPHA calls on the provincial and territorial health systems, NGOs and professional associations to:

- increase capacity for screening and brief intervention for at risk drinking in both primary health care and emergency room settings;
- increase capacity for screening and counselling women of childbearing age and pregnant women according to SOGC guidelines.
- ensure adequate capacity for community-based and inpatient treatment for both harmful drinking and alcohol addiction.

Cross-cutting activities - surveillance, research and knowledge exchange and skills building

Below is a list of foundational activities necessary to support work in advancing population-based and targeted policies and interventions.

Surveillance and Research

CPHA calls on federal and provincial/territorial governments to:

- increase their emphasis on continuing the development of a comprehensive and sustainable epidemiological surveillance system at federal/provincial/territorial levels, for major changes in access to alcohol, alcohol consumption patterns, and alcohol-related disease, injury and social outcomes and economic costs;
- increase their support of alcohol research and knowledge exchange activities in order to develop, disseminate and implement evidence-based strategies to reduce alcohol-related harms.

Knowledge Exchange and skills building

CPHA calls on the public health community to build capacity to respond to alcohol as a public health issue by:

- creating a community of practice in the CPHA Knowledge Centre™ to support knowledge exchange;
- working together to build the capacity of health workers by developing alcohol prevention/control continuing learning opportunities for both public health and other health professionals.

CPHA calls on post-secondary educational institutions to include comprehensive information on both the population and individual impacts of harmful patterns of alcohol use in the core curricula of their undergraduate health programs, and expand the training on alcohol issues in medicine and nursing programs, as well as graduate public health programs.

Conclusion

In summary, reducing alcohol-related harms and costs is an emerging and rapidly evolving issue which is demanding attention from the public health community. As noted above, Canadian and international research has shown that an increase in access to alcohol is associated with both an increase in alcohol sales and alcohol-related harm. While there is much to be learned from the successes achieved by public health in tobacco use reduction in Canada, alcohol is different product and will require innovative and specific responses. This statement provides a summary of both the compelling evidence for action and the effective strategies required. Public health is ideally situated in, and connected with, both local and provincial governments to be able to instigate, influence and lead a comprehensive approach to alcohol harm reduction so that the increasing burden of illness and costs to health and community safety can be ameliorated. This is the “call to action”!

Glossary

AUDIT Scale – Alcohol Use Disorders Identification Test

The AUDIT was developed by the WHO as a simple method of screening for excessive and harmful drinking. The test consists of ten questions about the quantity and frequency of consumption and the consequences experienced by the drinker. The numeric values assigned to each answer are added to present a score. A total score of eight or more is an indication of hazardous and harmful alcohol use (Babor, Higgins-Biddle, Saunders, & Monteiro, 2001).

Blood Alcohol Concentration (BAC)

Sometimes also called the BAL (Blood Alcohol Level), it represents the concentration of alcohol (ethanol) present in blood. It is usually expressed as mass per unit volume; e.g., milligrams per litre (mg/l). A concentration of 8 parts per thousand would be expressed in legal terminology in Canada as .08%, or

80 mg/100 ml. Legal limits differ by province and territory across Canada with administrative penalties most commonly set at 0.05% and criminal code penalty set at 0.08%.

Disability Adjusted Life Years (DALYs)

A composite health summary measure that combines years of life lost (from life expectancy) to premature death with years of life lost due to disability. The lower the DALY the less healthy the person.

Dependence (Dependent Drinkers /Alcoholic)

Dependence is the state of needing or depending on something or someone for support or to function or survive. As applied to alcohol and other drugs, the term implies a need for repeated doses of the drug to feel good or to avoid feeling bad. In DSM-IV, dependence is defined as “a cluster of cognitive, behavioural and physiologic

symptoms that indicate a person has impaired control of psychoactive substance use and continued use of the substance despite adverse consequences”. It is roughly equivalent to the dependence syndrome of ICD-10. In the ICD-10 context, the term dependence could refer generally to any of the elements in the syndrome. The term is often used interchangeably with addiction and alcoholism.

Hazardous drinking / Hazardous use

A pattern of drinking that increases the risk of harmful consequences for the drinker, or others. Some would limit the consequences to physical and mental health (as in harmful use); some would also include social consequences. Hazardous use refers to patterns of use that are of public health significance despite the absence of any current disorder (e.g., dependence) in the individual user. The term is used currently by WHO but is not a diagnostic term in ICD-10.

Heavy episodic drinking (also referred to as binge drinking)

Consumption five or more standard drinks on an occasion. Some surveys use a different cut-off point for males and females, where females are considered heavy episodic drinkers if they consume four or more drinks, and males five. Heavy episodic drinking is a pattern of use often associated with a range of negative social, financial and health effects for the drinker and those in the presence of the drinker.

Standard Drink

In Canada, one standard drink is equal to 13.6 grams (17.24 ml) of ethanol (pure alcohol); this is equivalent to a 12 ounce (341 ml) bottle of 5% beer; a 5 ounce (140 ml) glass of wine at 12.5% strength, or a 1.5 ounce (40 ml) shot of 40% strength spirits (Butt et al., 2011).

References

- Abbey, A., Zawacki, T., Buck, P. O., Clinton, A. M. and McAuslan, P. Sexual assault and alcohol consumption: What do we know about their relationship and what types of research are still needed? *Aggression and Violent Behavior* 2004; 9(3): 271-303.
- Adlaf, E. M., Begin, P. and Sawka, E. Canadian Addiction Survey (CAS): A national survey of Canadians use of alcohol and other drugs: Prevalence of use and related harms. Ottawa: Canadian Centre on Substance Use; 2005.
- Adrian, M. The social costs of alcohol. *Canadian Journal of Public Health* 1988; 79(5): 316-322.
- Advertising Standards Canada. *Alcoholic Beverage Advertising Clearance Services*. At www.adstandards.com/en/AdvertisingPreclearance/alcoholicBeverages.aspx (Accessed April 4, 2011).
- Alaniz, M.L. Alcohol availability and targeting advertising in racial/ethnic minority communities. *Alcohol Health & Research World* 1998; 22(4):286-289.
- Alaniz, M.L., Cartmill, R.S. and Parker, R.N. Immigrants and violence: the importance of neighborhood context. *Hispanic Journal of Behavioral Sciences* 1998; 20: 155-174.
- Alaniz, M.L. and Wilkes, C. Pro-drinking messages and message environments for young adults: The case of alcohol industry advertising in African American, Latin, and Native American communities. *Journal of Public Health Policy* 1998; 19(4): 447-472.
- Alberta Alcohol and Drug Commission. *The Alberta Youth Experience Survey: (TAYES) 2005: Summary Report*. Edmonton, AB: Alberta Alcohol and Drug Commission; 2006.
- Alcohol Policy Network. *Priorities 2006 – Developments in Alcohol Policy since 1996*. Toronto: Alcohol Policy Network; 2006.
- Anderson, P., Baumberg, B. *Alcohol in Europe. A public health perspective. A report for the European Commission*. Institute of Alcohol Studies, UK; 2006. At http://ec.europa.eu/health-eu/news_alcoholineurope_en.htm
- Anderson, P., de Bruijn, A., Angus, K., Gordon, R. and Hastings, G. Impact of alcohol advertising and media exposure on adolescent alcohol use: A systematic review of longitudinal studies. *Alcohol and Alcoholism* 2009a; 44 (3):229-243.
- Anderson, P., Chisholm, D. and Fuhr, D. Alcohol and Global Health 2: Effectiveness and cost-effectiveness of policies and programmes to reduce the harm caused by alcohol. *The Lancet* 2009b; 373: 2234-46.
- April, N., Begin, C. and Morin, R. *La consommation d'alcool et la santé publique au Québec: Direction du développement des individus & des communautés*. Montreal: Institut national de santé publique du Québec; 2010.
- Assembly of First Nations. *First Nations Regional Longitudinal Health Survey (RHS) 2002/2003. Results for adults, youth and children in First Nations communities*. Ottawa: Assembly of First Nations; 2007.
- Australian Bureau of Statistics. *Population by age and sex; 2005*. At www.abs.gov.au/ausstats/abs@.nsf/mf/3235.0.55.001 (Accessed June 8, 2011).
- Baan, R., Straif, K., Grosse, Y., Secretan, B., El Ghassassi, F., Bouvard, V., Altieri, A., Coglianò, V. on behalf of the WHO International Agency for Research on Cancer Monograph Working Group. Carcinogenicity of Alcoholic Beverages. *The Lancet Oncology* 2007; 8: 292-293.
- Babor, T., Caetano, R., Casswell, S., Edwards, G., Giesbrecht, N., Grube, J., Gruenewald, P., Hill, L., Holder, H., Homel, R., Österberg, E., Rehm, J., Room, R. and Rossow, I. *Alcohol: No ordinary commodity – research and public policy*. Oxford: Oxford University Press; 2003.
- Babor, T., Caetano, R., Casswell, S., Edwards, G., Giesbrecht, N., Grube, J., Hill, L., Holder, H., Homel, R., Livingstone, M., Österberg, E., Rehm, J., Room, R. and Rossow, I. *Alcohol: No ordinary commodity – research and public policy*, revised edition. Oxford: Oxford University Press; 2010.
- Babor, T.F., Higgins-Biddle, J.C., Saunders, J.C., and Monteiro, M.G. *AUDIT: The Alcohol Use Disorders Identification Test. Guidelines for Use in Primary Care*, 2nd edition. WHO/MSD/MSB/01.6a. Geneva: World Health Organization, Department of Mental Health and Substance Use; 2001.
- Blas E, Kurup AS. *Equity, social determinants and public health programmes*. Geneva: World Health Organization; 2010.
- Booth, A., Meier, P., Stockwell, T., Sutton, A., Wilkinson, A., Wong, R., Brennan, A., O'Reilly, D., Purshouse, R. and Taylor, K. *Independent Review of the Effects of Alcohol Pricing and Promotion: Part A. Systematic Reviews*. UK: School of Health and Related Research, University of Sheffield. 2008. At www.dh.gov.uk/en/PublicHealth/Healthimprovement/Alcoholmisuse/DH_4001740
- British Medical Association Board of Science. *Under the influence: The damaging effect of alcohol marketing on young people*. UK: British Medical Association; 2009.
- British Medical Association Board of Science. *Alcohol misuse: tackling the UK epidemic*. London: BMA Science and Education department of the Board of Science; 2008.
- Browning, S. and Erickson, P. Neighborhood disadvantage, alcohol use, and violent victimization. *Youth Violence and Juvenile Justice* 2009; 7 (4):331-349.
- Bruun, K., Edwards, G., Lumio, M., Mäkelä, K., Popham, R.E., Room, R., Schmidt, W., Skog, O.J., Sulkunen, P. and Österberg, E. *Alcohol Control Policies in Public Health Perspective. The Finnish Foundation for Alcohol Studies Vol. 25*. Helsinki: Finnish Foundation for Alcohol Studies; 1975.
- Bryant, K. J., Nelson, S., Braithwaite, R. S., and Roach, D. Integrating HIV/AIDS and alcohol research. *Alcohol Research and Health* 2010; 33 (3):167-178.
- Butt, P., Beirness, D., Cesa, F., Gliksman, L., Paradis, C., and Stockwell, T. (2011). Alcohol and health in Canada: A Summary of evidence and guidelines for low-risk drinking. Ottawa, ON: Canadian Centre on Substance Abuse.
- Canadian Centre on Substance Abuse. *Substance Abuse in Canada: Youth in Focus*. Ottawa: Canadian Centre for Substance Abuse; 2007.
- Canadian Centre on Substance Abuse & Health Canada. *Canadian Addiction Survey – A national survey of Canadians' use of alcohol and other drugs. Substance use by Canadian youth*. Ottawa: Canadian Centre on Substance Abuse; 2007.
- Canadian Centre on Substance Abuse and Health Canada. *Canadian Addiction Survey – A national survey of Canadians' use of alcohol and other drugs. Prevalence of use and related harms: Detailed report*. Ottawa: Canadian Centre on Substance Abuse; 2005.
- Canadian Centre on Substance Abuse and Health Canada. *Canadian Addiction Survey – Highlights. A national survey of Canadians' use of alcohol and other drugs. Prevalence of Use and Related Harms*. Ottawa: Canadian Centre on Substance Abuse; 2004.
- Canadian Centre on Substance Abuse and Health Canada. *Reducing alcohol-related harm in Canada: Toward a culture of moderation. Recommendations for a national alcohol strategy*. Alberta Alcohol and Drug Abuse Commission. 2007.
- Casswell, S. and Thamarangsi, T. Alcohol and Global Health 3: Reducing harm from alcohol: call to action. *The Lancet* 2009; 373: 2247-2257.
- Centre for Addiction and Mental Health. *Low Risk Drinking Guidelines Toronto*. At www.camh.net/About_Addiction_Mental_Health/Drug_and_Addicti on_Information/low_risk_drinking_guidelines.htm (Accessed November 5, 2010).
- Centers for Disease Control and Prevention. *Vital Signs: Binge Drinking Among High School Students and Adults*. United States: Morbidity and Mortality Weekly Report (MMWR); 2009 At www.cdc.gov/mmwr (Accessed October 5, 2010).
- Center on Alcohol Marketing and Youth. *Youth exposure to alcohol advertising on television, 2001-2009*. Baltimore, MD: Center on Alcohol Marketing and Youth; 2010.
- Chaloupka, F.J., Grossman, M. and Saffer, H. The effects of price on alcohol consumption and alcohol related problems. *Alcohol Research and Health* 2002; 26 (1):22-34.
- Chen, M. J., Grube, J. W., Bersamin, M., Waiters, E., and Keefe, D. B. Alcohol advertising: What makes it attractive to youth? *Journal of Health Communication* 2005;10 (6):553-565.
- Cherpitel, C. J., and Ye, Y. Alcohol and violence-related injuries among emergency room patients in an international perspective. *Journal of the American Psychiatric Nurses Association* 2010; 16 (4):227-235.
- Chikritzhs, T., Fillmore, K., and Stockwell, T. A healthy dose of scepticism: Four good reasons to think again about protective effects of alcohol on coronary heart disease. *Drug and Alcohol Review* 2009; 28: 441-444.
- Chisholm, D., Rehm, J., Van Ommeren, M. and Monteiro, M. Reducing the global burden of hazardous alcohol use: a comparative cost-effectiveness analysis. *Journal of Studies on Alcohol and Drugs* 2004; 65(6):782-93.
- Chudley AE, Conry J, Cook JL, Loock C, Rosales T, LeBlanc N. Fetal alcohol spectrum disorder: Canadian guidelines for diagnosis. *CMAJ* 2005; 172(5 Suppl):S2-S21.
- Clinical Guide for Reducing Alcohol Risks and Harm (Prototype being developed for Family Physicians and other Health Professionals. At <http://webcache.googleusercontent.com/search?q=cache:2ltyYDmvp lwj:seapath.org/+clinical+guide+reducing+alcohol+risks+harm&hl=en&gl=ca&strip=0> (Accessed January 25, 2011).
- Cook, P.J. *Paying the Tab: The costs and benefits of alcohol control*. Princeton, NJ: Princeton University Press; 2007.

- Corrao G, Rubbiati L, Bagnardi V, Zambon A, Poikolainen K. Alcohol and coronary heart disease: a meta-analysis. *Addiction* 2000 Oct;95(10):1505-23.
- Coulson, C. E., Williams, L. J., Henry, M. J., Berk, M., Lubman, D. I. and Brennan, S. L. Patterns of alcohol use and associated physical and lifestyle characteristics according to new Australian guidelines. *Australian and New Zealand Journal of Psychiatry* 44 2010; (10):946-951.
- Cunningham, J.A., Wild, T.C., Cordingley, J., van Mierlo, T., Humphreys, K. A randomized controlled trial of an internet-based intervention for alcohol abusers. *Addiction* 2009; 104 (12):2023-2032.
- Cunningham, J.A., Humphreys, K. and Koski-Jännes, A. Providing personalized assessment feedback for problem drinking on the Internet: a pilot project. *Journal of Studies on Alcohol* 2000; 61 (6):794-798.
- Del Ben, M., Angelico, F., Alessandri, F., and Alessandri, C. Acute renal failure associated with cocaine and alcohol abuse. *Gazzetta Medica Italiana Archivio Per Le Scienze Mediche* 2004; 163 (4):127-129.
- Demers, A. and Kairouz, S. A multilevel analysis of change in alcohol consumption in Quebec, 1993-1998. *Addiction* 2003; 98:205-213.
- Epstein, E. E., Fischer-Elber, K., and Al-Otaiba, Z. Women, aging, and alcohol use disorders. *Journal of Women and Aging* 2007; 19(1-2): 31-48.
- Fell, J.C., and Voas, R.B. Mothers Against Drunk Driving [MADD]: The first 25 years. *Traffic Injury Prevention* 2006; 7: 195-212.
- Fillmore, K., Chikritzhs, T., Stockwell, T., Bostrum, A., and Pascal, R. Alcohol Use and Prostate Cancer: A Meta-Analysis. *Molecular Nutrition & Food Research* 2009; 53: 240-255.
- Fillmore, K. M., Kerr, W. C., Stockwell, T., Chikritzhs, T., and Bostrum, A. Moderate Alcohol Use and Reduced Mortality Risk: Systematic Error in Prospective Studies *Addiction Research and Theory* 2006; 14(2): 101-132.
- Flam Zalcman, R. and Mann, R.E. Effects of privatization of alcohol sales in Alberta and suicide mortality rates. *Contemporary Drug Problems* 2007; 34: 589-605.
- Focal Research Consultants. *Culture of alcohol use in Nova Scotia*. Halifax: Nova Scotia Department of Health Promotion and Protection; 2008.
- Giesbrecht, N. Alcohol policy in Canada: Reflections on the role of the alcohol industry. *Nordic Studies on Alcohol and Drugs* 2006; 23 (6): 445-466.
- Giesbrecht, N. Reducing alcohol-related damage in populations: Rethinking the roles of education and persuasion interventions. *Addiction* 101 2007; (9): 1345-1349.
- Giesbrecht, N. Roles of commercial interests in alcohol policies: Recent developments in North America. *Addiction* 2000; 95 (Supplement 4): S581-S595.
- Giesbrecht, N. & Thomas, G. A complex picture. Trends in alcohol consumption, harms and policy: Canada 1990-2010. *Nordic Studies on Alcohol and Drugs* 2010; 27 (5): 515-238.
- Giesbrecht, N., Room, R., Demers, A., Lindquist, E., Ogborne, A., Bondy, S. and Studoto, G. Alcohol policies: Is there a future for public health considerations in a commercially-oriented environment? in *Sober Reflections: Commerce, Public Health, and the Evolution of Alcohol Policy in Canada, 1980-2000*, Montreal and Kingston: McGill-Queen's University Press; 2006, pp. 289-329.
- Giesbrecht, N., DePape, D. and Mann, R. *Alcohol – Canada's Favourite Drug. A population level perspective on Risks, Damage, Challenges and Policy Responses. Summary Report*. Ottawa, Ontario: Canadian Public Health Association Annual Conference, September 16, 2007.
- Giesbrecht, N., Cukier, S., Steeves, D. Collateral damage from alcohol: Implications of 'second-hand effects of drinking' for populations and health priorities. *Addiction* 2010; 105: 1323-25.
- Giesbrecht, N., Stockwell, T., Kendall, P., Strang, R. and Thomas, G. Alcohol in Canada: Reducing the toll through focused interventions and public health policies. *Canadian Medical Association Journal* Feb. 7. 2011
- Gordon, R., Hastings, G., and Moodie, C. Alcohol marketing and young people's drinking: What the evidence base suggests for policy. *Journal of Public Affairs* 2010; 10(1-2): 88-101.
- Grant, B. F., Stinson, F. S., and Harford, T. C. Age at onset of alcohol use and DSM-IV alcohol abuse and dependence: A 12-year follow-up. *Journal of Substance Abuse* 2001; 13(4), 493-504.
- Green, J. E., Saveanu, R. V., and Bornstein, R. A. The effect of previous alcohol abuse on cognitive function in HIV infection. *American Journal of Psychiatry* 2004; 161(2): 249-254.
- Greenfeld L., Henneberg, M. *Alcohol, crime, and the criminal justice system. Alcohol & Crime: Research and Practice for Prevention*. Washington, DC; 2000. Alcohol Policy XII Conference, 11-14 June 2000.
- Haw, C., Hawton, K., Casey, D., Bale, E., and Shepherd, A. Alcohol dependence, excessive drinking and deliberate self-harm: Trends and patterns in Oxford, 1989-2002. *Social Psychiatry and Psychiatric Epidemiology* 2005; 40 (12): 964-971.
- Health Canada. *Canadian Alcohol and Drug Use Monitoring Survey (CADUMS)*; 2009. At www.hc-sc.gc.ca/hc-ps/drugs-drogues/stat/index-eng.php (Accessed October 5, 2010).
- Health Canada. *Canadian Alcohol and Drug Use Monitoring Survey (CADUMS), Summary of Results for 2010; 2011*. Online http://www.hc-sc.gc.ca/hc-ps/drugs-drogues/stat/_2010/summary-sommaire-eng.php#alc. Accessed October 28, 2011.
- Health Canada. *Canadian Tobacco Use Monitoring Survey. Smoking in Canada: An overview*. Ottawa: Health Canada, ISSN: 1492-1448; 2003.
- Hemstrom, O. Alcohol-related deaths contribute to socioeconomic differentials in mortality in Sweden. *European Journal of Public Health* 2002; 12: 254-262.
- Hemstrom, O. Per capita alcohol consumption and ischaemic heart disease mortality. *Addiction* 96 (Supplement 1): S93-S112; 2001.
- Her, M., Giesbrecht, N., Room, R. and Rehm, J. Privatizing alcohol sales and alcohol consumption: Evidence and implications. *Addiction* 1999; 94 (8): 1125-1139.
- Huckle, T., You, R. Q., and Casswell, S. Socio-economic status predicts drinking patterns but not alcohol-related consequences independently. *Addiction* 2010; 105(7): 1192-1202.
- Hwang, S. Homelessness and harm reduction. *Canadian Medical Association Journal* 2006; 174(1): 45-49.
- Ialomiteanu, A. and Adlaf, E. M. *CAMH Monitor 2006: Technical Guide*. Toronto: Centre for Addiction and Mental Health; 2007. At www.camh.net/research/population_life_course.html
- Igboh, N. M., Onwubiko, D., Agomuo, E. N., Onyesom, I., Maduagwunal, C. A. and Uzuegbu, U. E. Synergistic effect of alcohol and antiretroviral drugs on hepatic function. *Biosciences Biotechnology Research Asia* 2009; 6(1): 107-110.
- International Agency for Research on Cancer. Working Group report on the Evaluation of Carcinogenic Risks to Humans. Alcoholic Beverage Consumption and Ethyl Carbamate (Urethane)" in *IARC monographs on the evaluation of carcinogenic risks to humans*. Vol. 96. Lyon: International Agency for Research on Cancer; 2007.
- Jackson, M. C., Hastings, G., Wheeler, C., Eadie, D., and Mackintosh, A. M. Marketing alcohol to young people: Implications for industry regulation and research policy. *Addiction* 2000; (95): S4, S597-608.
- Jernigan, D.H. The extent of global alcohol marketing and its impact on youth. *Contemporary Drug Problems* 2010; 37: 57-90.
- Jernigan, D.H. The Global Alcohol Industry: an overview. *Addiction* 2009; 104 (Suppl. 1), 6-12.
- Kaner, E.F.S., Dickinson, H.O., Beyer, F., Pienaar, E., Schlesinger, C., Campbell, F., Saunders, J.B., Burnand, B. and Heather, N. The effectiveness of brief alcohol interventions in primary care settings: A systematic review. *Drug and Alcohol Review* 2009; May (28): 301-23.
- Kendall, P.R.W. Public Health Approach to Alcohol Policy and Updated Report from the Provincial Health Officer, December 2008. www.health.gov.bc.ca/library/publications/year/2008/alcoholpolicyreview.pdf
- Kellner, F. Alcohol-related problems: Prevalence, incidence and distribution in *Canadian Addiction Survey (CAS): a national survey of Canadians' use of alcohol and other drugs: prevalence of use and related harms*, detailed report. Ottawa: Canadian Centre on Substance Abuse; 2005. pp. 33-47.
- Kotler, P., Roberto, N. and Lee, N. *Social Marketing: Improving the Quality of Life*, 2nd ed. California: Sage Publications, Thousand Oaks; 2002. pp. 438.
- Komro, K. A., Tobler, A. L., Maldonado-Molina, M. M., and Perry, C. L. Effects of alcohol use initiation patterns on high-risk behaviors among urban, low-income, young adolescents. *Prevention Science* 2010; 11(1): 14-23.
- Laliberté, A., and Tousignant, M. Alcohol and other contextual factors of suicide in four aboriginal communities of Quebec, Canada. *Crisis* 2009; 30(4): 215-221.
- Laslett, A-M., Catalano, P. and Chikritzhs, Y. *The Range and Magnitude of Alcohol's Harm to Others*. Fitzroy, Victoria: AER Centre for Alcohol Policy Research, Turning Point Alcohol and Drug Centre, Eastern Health; 2010.
- MADD Canada. *Rating the Provinces and Territories: The 2009 Report. Mothers Against Drunk Driving*. At <http://madd.ca/english/research/rtp2009.pdf> (Accessed June 11, 2010).
- Mann, R. E., Zalcman, R. F., Smart, R. G., Rush, B. R., and Suurvali, H. Alcohol consumption, alcoholics anonymous membership, and suicide mortality rates, Ontario, 1968-1991 *Journal of Studies on Alcohol* 2006; 67(3): 445-453.

- Mann, R.E, Rehm, J.T., Giesbrecht, N., Room, R., Adlaf, E. and Gmel, G. *Alcohol distribution, alcohol retailing and social responsibility: A report submitted to the Beverage Alcohol System Review Panel*. Toronto: Ontario Ministry of Finance; 2005. At www.fin.gov.on.ca/english/consultations/basr/report.html
- Mann, R.E., Smart, R.G., Stoduto, G., Adlaf, E.M., Vingilis, E., Beirness, D. and Lamble, R. Changing drinking-and-driving behaviour: the effects of Ontario's administrative driver's licence suspension law. *Canadian Medical Association Journal* 2000; 182 (8): 1141-1142.
- Marmot. Food, Nutrition, Physical Activity, and the Prevention of Cancer. Slide presentation on alcohol, based on report by the World Cancer Research Fund and the American Institute for Cancer Research, 2007.
- Marrero, J. A., Fontana, R. J., Fu, S., Conjeevaram, H. S., Su, G. L., and Lok, A. S. Alcohol, tobacco and obesity are synergistic risk factors for hepatocellular carcinoma. *Journal of Hepatology* 2005; 42(2): 218-224.
- Meier, P., Purshouse, R. and Brennan, A. Assessing the Impact of Policy Options for Alcohol Price Regulation: The Importance of Modelling Population Heterogeneity. *Addiction* (in press)
- Miller, T., Snowden, C., Birckmayer, J., and Hendrie, D. Retail alcohol monopolies, underage drinking, and youth impaired driving deaths. *Accident Analysis and Prevention* 2006; 38(6): 1162-1167.
- Møller, V., Erstad, L., and Zani, D. Drinking, smoking, and morality: Do 'drinkers and smokers' constitute a stigmatised stereotype or a real TB risk factor in the time of HIV/AIDS? *Social Indicators Research* 2010; 98(2): 217-238.
- Monteiro, M.G. Alcohol and Public Health in the Americas: A Case for Action. Washington, D.C.: Pan American Health Organization; 2007.
- Morgenstern, M., Isensee, B., Sargent, J. D., and Hanewinkel, R. Exposure to alcohol advertising and teen drinking. *Preventive Medicine* 2011; 52(2): 146-151.
- Naimi, T., Brown, D. and Brewer R. Cardiovascular risk factors and confounders among non-drinking and moderate drinking U.S. adults. *American Journal of Preventive Medicine* 2005; 28:369-73.
- Norström, T. ed. *Alcohol in Postwar Europe. Consumption, Drinking Patterns, Consequences and Policy Responses in 15 European countries*. Stockholm: Almqvist and Wiksell International; 2002.
- Norström, T. Per Capita Alcohol Consumption and All-cause Mortality in Canada, 1950-98. *Addiction* 2004; 99: 1274-1278.
- Nova Scotia Department of Health Promotion and Protection. *Changing the Culture of Alcohol Use in Nova Scotia. An Alcohol Strategy to Prevent and Reduce the Burden of Alcohol-Related Harm in Nova Scotia*. Halifax, NS: Nova Scotia Department of Health Promotion and Protection; 2007.
- Novak, J.A. *Alcohol promotion and the marketing industry: Trends, tactics, and public health*. Toronto: The Association to Reduce Alcohol Promotion in Ontario (ARAPO); 2004.
- Office of the BC Provincial Health Officer. *A public health approach to alcohol policy: an updated report from the Provincial Health Officer*. Victoria, BC, Canada: BC Ministry of Health; 2008.
- Office of the Superintendent of Motor Vehicles, (2011) Alcohol Related Fatalities, October 2010 to September 2011
- Ogborne A. and Stoduto, G. Changes in Federal Regulation of Broadcast Advertisements for Alcoholic Beverages in *Sober Reflections: Commerce, Public Health, and the Evolution of Alcohol Policy in Canada, 1980-2000*. Montreal and Kingston: McGill-Queen's University Press; 2006. pp. 237-259.
- Ogle, R. L., and Clements, C. M. Deliberate self-harm and alcohol involvement in college-aged females: A controlled comparison in a nonclinical sample. *American Journal of Orthopsychiatry* 2008; 78(4): 442-448.
- Oligati, P., Liappas, I., Malitas, P., Piperi, C., Politis, A. and Tzavellas, E. O. Depression and social phobia secondary to alcohol dependence. *Neuropsychobiology* 2007; 56(2-3): 111-118.
- Paglia-Boak, A., Mann, R.E., Adlaf, E.M. & Rehm, J. *Drug use among Ontario students 1977-2009: OSDUHS Highlights*. Toronto: Centre for Addiction and Mental Health; 2009.
- Popova, S., Giesbrecht, N., Bekmuradov, D. and Patra, J. Hours and days of sale and density of alcohol outlets: Impacts of alcohol consumption and damage: A systematic review. *Alcohol and Alcoholism* 2009; 44 (5): 500-516.
- Poulin, C., Elliott, D. *Nova Scotia Student Drug Survey in the Atlantic Provinces. 2007: Atlantic Technical Report*. Halifax, Nova Scotia: Nova Scotia Department of Health and Dalhousie University; 2007.
- Public Health Agency of Canada. *FASD and the Government of Canada*. 2011. Web site: <http://www.phac-aspc.gc.ca/hp-ps/dca-dea/program/fasd-etcaf/bg-di-eng.php> Consulted November 18th, 2011
- Puddey, J.B., Rakic, V., Dimmitt, S.B. and Beilin, L.J. Influence of pattern of drinking on cardiovascular disease and cardiovascular risk factors – a review. *Addiction* 1999; 94: 649-663.
- Ramstedt, M. Alcohol Consumption and Alcohol-related Mortality in Canada, 1950-2000. *Canadian Journal of Public Health* 2004; 95 (2): 121-126.
- Ramstedt, M. Alcohol Consumption and Liver Cirrhosis Mortality With and Without the Mention of Alcohol – the Case of Canada. *Addiction* 2003; 98: 1267-1276.
- Ramstedt, M. Alcohol and suicide at the population level—the Canadian experience. *Drug and Alcohol Review* 2005; 24: 203-208, 2005.
- Rehm, J., Baliunas, D., Borges, G., Graham, K., Irving, H., Kehoe, T., Parry, C., Patra, J., Popova, S., Poznyak, V., Roerecke, M., Room, R., Samokhvalow, A. and Taylor, B. The relation between different dimensions of alcohol consumption and burden of disease: an overview. *Addiction* 2010; 105 (5): pp. 717-847.
- Rehm J, Baliunas D, Brochu S, Fischer B, Gnam W, Patra J, Popova S, Sarnocinska-Hart A, Taylor B. *The costs of substance abuse in Canada 2002*. Ottawa: Canadian Centre on Substance Abuse; 2006b.
- Rehm, J., Giesbrecht, N., Patra, J. and Roerecke, M. Estimating chronic disease deaths and hospitalizations due to alcohol use in Canada in 2002 – Implications for policy and prevention strategies. *Preventing Chronic Disease* 2006a; 3 (4). [online journal]
- Rehm, J., Gnam, W., Popova, S., Patra, J., Sarnocinska-Hart, A. *Avoidable cost of alcohol abuse in Canada 2002*. Toronto, ON: Centre for Addiction and Mental Health; 2008.
- Rehm, J., Mathers, C., Popova, S., Thavorncharoensap, M., Teerawattananon, Y. and Patra, J. Alcohol and Global Health 1: Global burden of disease and injury and economic cost attributable to alcohol use and alcohol-use disorders. *The Lancet* 2009a; 373: 2223-33.
- Rehm J, Monteiro M. Alcohol consumption and burden of disease in the Americas – implications for alcohol policy. *Pan American Journal of Public Health* 2005; (4/5):241-248.
- Rehm, J., Samokhvalov, A. V., Neuman, M. G., Room, R., Parry, C., Lönnroth, K., et al. The association between alcohol use, alcohol use disorders and tuberculosis (TB). A systematic review. *BMC Public Health* 2009b; 9.
- Riedel, F., Goessler, U., & Hörmann, K. Alcohol-related diseases of the mouth and throat. Bailliere's Best Practice and Research. *Clinical Gastroenterology* 2003; 17(4): 543-555.
- Room, R. Drinking and coming of age in a cross-cultural perspective (Background paper) in R. J. Bonnie & M. E. O'Connell (Eds.), *Reducing Underage Drinking: A Collective Responsibility*. Washington DC: The National Academies Press; 2003. pp. 654-677.
- Room, R. Stigma, social inequality and alcohol and drug use. *Drug and Alcohol Review* 2005; 24: 143-155.
- Room, R., Stoduto, G., Demers, A. Ogborne, A. & Giesbrecht, N. Alcohol in the Canadian context in *Sober Reflections: Commerce, Public Health, and the Evolution of Alcohol Policy in Canada*. Montreal, McGill-Queen's University Press; 2006. pp. 14-42.
- Rose, G. Sick individuals and sick populations. *International Journal of Epidemiology* 1985; 14, 32-38.
- Rosow, I. Alcohol Consumption and Homicides in Canada 1950-1999. *Contemporary Drug Problems* 2004; 31:541-560.
- Schrans, T., Schellinck, T., and Yi, Z. *Child and youth drinking: The context of alcohol use among adolescents in Nova Scotia*. Report prepared for the Nova Scotia Department of Health Promotion and Protection; 2009. Retrieved from www.gov.ns.ca/hpp/publications/child_and_youth_drinking.pdf
- Schmidt LA, Makela P, Rehm J, Room R. *Alcohol: equity and social determinants*. In: Blas E, Kurup AS. *Equity, social determinants and public health programmes*, Chapter 2. Geneva: World Health Organization; 2010, p.11-30.
- Scribner, R., Theall, K. P., Simonsen, N., and Robinson, W. HIV risk and the alcohol environment: Advancing an ecological epidemiology for HIV/AIDS. *Alcohol Research and Health* 2010; 33(3): 179-183.
- Seeley, J.R. Death by liver cirrhosis and the price of a beverage alcohol. *Canadian Medical Association Journal* 1960; 83: 1361-1366.
- Single, E., Robson, L., Xie, X., and Rehm, J. *The costs of substance use in Canada: Highlights of a major study of health, social and economic costs associated with the use of alcohol, tobacco and illicit drugs*. Ottawa: Canadian Centre on Substance Abuse; 1996.
- Skög, O-J. Alcohol Consumption and Fatal Accidents in Canada, 1950-98. *Addiction* 2003; 98 (7): 883-93.
- Society of Obstetricians and Gynaecologists of Canada, Alcohol Use and Pregnancy Consensus Clinical Guidelines. *Journal of Obstetrics and Gynaecology Canada* 2010; 32(8): S1-S32.
- Statistics Canada. *Language, health and lifestyle issues: 1991 Aboriginal Peoples' Survey*. Catalogue no. 89-533. Ottawa: Statistics Canada; 1993.

- Statistics Canada. *National Population Health Survey (NPHS): Cycle 1, 1994-95*. Catalogue no. 0019782-567-XIB, Ottawa: Statistics Canada; 1997.
- Statistics Canada. *The Control and Sale of Alcoholic Beverages in Canada, 2001*. Catalogue no. 63-202-XIB, Ottawa: Minister of Industry; 2002a.
- Statistics Canada. *Health Indicators*. Catalogue no. 82-221-XIE, Ottawa: Statistics Canada; May 2002.
- Statistics Canada. *Canadian Community Health Survey (CCHS), 2003*. Catalogue no. 82M0013GPE, Ottawa: Statistics Canada; 2005a.
- Statistics Canada. *The Control and Sale of Alcoholic Beverages in Canada, 2007*. Catalogue no. 63-202-XIE, Ottawa: Minister of Industry; 2007.
- Statistics Canada, 2011a, Control and sale of alcoholic beverages. For the year ending March 31, 2010. <http://www.statcan.gc.ca/daily-quotidien/110420/dq110420a-eng.htm>
- Statistics Canada. *Volume of sales of alcoholic beverages in litres of absolute alcohol and per capita 15 years and over, fiscal years ended March 31, annual*. CANSIM Table 183-0019 Ottawa: Statistics Canada; 2009. (Accessed September 8, 2009)
- Statistics Canada. *Volume of sales of alcoholic beverages in litres of absolute alcohol and per capita 15 years and over, fiscal years ended March 31, annual* (table), CANSIM (database); 2010a. Table 183-0019.. At http://cansim2.statcan.gc.ca/cgi-win/cnsmcgi.exe?Lang=E&CNSM-Fi=CII/CII_1-eng.htm (Accessed December 22, 2010).
- Statistics Canada. *Estimates of population, by age group and sex for July 1, Canada, provinces and territories, annual (persons unless otherwise noted) (table)*, CANSIM (database), Using E-STAT(distributor); 2010b. Table 051-0001 At http://estat.statcan.gc.ca/cgi-win/cnsmcgi.exe?Lang=E&EST-Fi=EStat/English/CII_1-eng.htm (Accessed December 23, 2010).
- Statistics Canada, n.d., *Canadian Community Health Survey (CCHS)*, Custom tables on heavy drinking (5+drinks/occasion) from 2003 to 2009/10. Unpublished analysis by Canadian Centre on Substance Abuse (CCSA).
- Statistics Canada, 2011y, *to be completed* Statistique Canada, Indice des prix à la consommation, tableau 326-0021, 2002 à 2010, extrait avec E-Stat en novembre 2011
- Stockwell, T. Alcohol, supply, demand, and harm reduction: What is the strongest cocktail? *International Journal of Drug Policy* 2006; 17: 269-277.
- Stockwell, T., Leng, J and Sturge, J. *Alcohol pricing and public health in Canada: issues and opportunities*. Vancouver, BC: CARBC Technical report; 2006.
- Stockwell, T., Chikritzhs, T., Bostrom, A., Fillmore, K., Kerr, W. Rehm, J., and Taylor, B. Alcohol-caused mortality in Australia and Canada: Scenario analyses using different assumptions about cardiac benefit. *Journal of Studies on Alcohol* 2007; 68(3): 345-352.
- Stockwell, T. and Chikritzhs, T. Do relaxed trading hours for bars and clubs mean more relaxed drinking? A review of international research on the impacts of changes to permitted hours of drinking. *Crime Prevention and Community Safety* 2009; 11(3): 153-170.
- Stockwell, T., Zhao, J., Macdonald, S., Pakula, B., Gruenewald, P. and Holder, H. Changes in per capita alcohol sales during the partial privatization of British Columbia's retail alcohol monopoly 2003-2008: a multi-level local area analysis. *Addiction* 2009a; 104 (11): 1827-1836.
- Stockwell, T., Zhao, J. and Thomas, G. Should alcohol policies aim to reduce total alcohol consumption? New analyses of Canadian drinking patterns. *Addiction Research and Theory* 2009b; 17 (2): 135-151.
- Stockwell, T. Chao, J., Macdonald, S. et al. Impact on alcohol-related mortality of a rapid rise in density of private liquor outlets in British Columbia: a local area multi-level analysis. *Addiction* 2011; doi: 10.1111/j.1360-0443.2010.0331.x
- Streissguth AP, Bookstein FL, Barr HM, Sampson PD, O'Malley K, Young JK. Risk factors for adverse life outcomes in fetal alcohol syndrome and fetal alcohol effects. *J Dev Behav Pediatr* 2004 Aug;25(4):228-38.
- Thomas, G. Alcohol and illicit drug dependence. Analysis based on CADUMS, 2008 and on Tjepkema, M." *Supplement to health reports* 2004; Volume 15. Retrieved January 11, 2010 from www.statcan.gc.ca/pub/82-003-s/2004000/pdf/7447-eng.pdf
- Thomas, G. (forthcoming). *Price policies to reduce alcohol-related harms in Canada: Current context and recommendations for targeted policies*. Ottawa: Canadian Centre on Substance Abuse (CCSA).
- Tjepkema, M. *Alcohol and illicit drug dependence*. Statistics Canada, Catalogue 82-003, Supplement to Health Reports, 15: 9-13. Ottawa: Statistics Canada; 2004.
- Traffic Injury Research Foundation of Canada. *Alcohol-Crash Problem in Canada: 2008*. Ottawa: Canadian Council of Motor Transport Administrators; 2010.
- Trolldal, B. An investigation of the effects of privatization of retail alcohol sales of alcohol on consumption and traffic accidents in Alberta, Canada. *Addiction* 2005; 100: 662-671.
- U.S. Department of Transportation. Work advances on technology to prevent drunk driving At <http://fastlane.dot.gov/2011/11/work-advances-on-new-technology-to-prevent-drunk-driving.html>
- Wagenaar, A., Salois, M. and Komro, K. Effects of beverage alcohol price and tax levels on drinking: a meta-analysis of 1003 estimates from 112 studies. *Addiction* 2009; 104(2):179-90.
- Wagenaar, A.C., Tobler, A.L. and Komro, K.A. Effects of alcohol tax and price policies on morbidity and mortality: A systematic review. *American Journal of Public Health* 2010; (published on-line September 23, 2010).
- Walsh, D., Gentile, D.A. (n.d). Slipping under the radar: Advertising and the mind. At www.psychology.iastate.edu/FACULTY/dgentile/Walsh_Gentile_WH_O.pdf (Accessed May 12, 2011)
- Warner, K.E. Tobacco policy in the United States: Lessons learned for the obesity epidemic in *Policy Challenges in Modern Health Care*. Toronto: Rutgers University Press; 2005. pp. 99-114.
- World Health Organization. *World Health Report: Reducing Risks, Promoting Healthy Life*. Geneva: World Health Organization; 2002.
- World Health Organization. *Global Health Risks: Mortality and Burden of Disease Attributable to Selected Risk Factors*. Geneva: World Health Organization; 2009a.
- World Health Organization. *Follow the process for implementing the WHA 61.4 resolution and preparing a draft global strategy to reduce harmful use of alcohol*. World Health Organization; 2009b. At www.who.int/substance_abuse/activities/globalstrategy/en/index.html (Accessed June 17, 2009).
- World Health Organization. *Global Strategy to Reduce the Harmful Use of Alcohol*. Geneva: World Health Organization; 2010.
- World Health Organization. *Global status report on alcohol and health*. Geneva: World Health Organization; 2011. At www.who.int/substance_abuse/terminology/who_lexicon/en/ (Accessed June 5, 2011).
- Yach, D., McKee, M., Lopez, A., and Novotny, T. Improving diet and physical activity: 12 lessons from controlling tobacco smoking. *British Medical Journal* 2005; 330: 898-900.
- Ye, Y., and Kerr, W. C. Alcohol and liver cirrhosis mortality in the United States: Comparison of methods for the analyses of time-series panel data models. *Alcoholism: Clinical and Experimental Research* 2011; 35(1): 108-115.
- Zeka, A., Gore R. and Kriebel, D. Effects of alcohol and tobacco on aerodigestive cancer risks: a meta-regression analysis. *Cancer Causes and Control* 2003; 14(9): 897-906.

Appendix A

List of literature reviews that informed the CPHA Position Statement

- Anderson, P., Baumberg, B. 2006. *Alcohol in Europe. A public health perspective. A report for the European Commission*. Institute of Alcohol Studies, UK. At http://ec.europa.eu/health-eu/news_alcoholineurope_en.htm
- Anderson, P., Chisholm, D., Fuhr, D.C. 2009. "Alcohol and Global Health 2. Effectiveness and cost-effectiveness of policies and programmes to reduce the harm caused by alcohol," *The Lancet* 373: 2234–46.
- Babor, T., Caetano, R., Casswell, S., et al. 2010. *Alcohol: no ordinary commodity – Research and public policy, 2nd Edition*. Oxford: Oxford University Press, 360p.
- Casswell, S., You, R.Q. and Huckle, T. 2011. "Alcohol's harm to others: reduced wellbeing and health status for those with heavy drinkers in their lives," *Addiction*.:8
- Giesbrecht, N., Stockwell, T., Kendall, P., Strang, R. & Thomas, G. (2011) Alcohol in Canada: Reducing the toll through focused interventions and public health policies. *Canadian Medical Association Journal*. Feb. 7. 2011.
- Meier, P., Brennan, A., O'Reilly, D., et collab. 2008. *Independent Review of the Effects of Alcohol Pricing and Promotion. Part A: Systematic Reviews*. ScHARR, University of Sheffield, 243 p. www.sheffield.ac.uk/polopoly_fs/1.43097!/file/dh_091366.pdf
- National Institute for Health and Clinical Excellence. 2010. *Alcohol-use disorders: preventing the development of hazardous and harmful drinking*, *Nice Public Health Guidance* 24, 100p. At <http://guidance.nice.org.uk/PH24/Guidance/pdf/English>
- Rehm, J., Baliunas, D., Borges, G.L. G., Graham, K., Irving, H. Kehoe, T., Parry, C. D., Patra, J. and Popova, S. Poznyak, V., Roerecke, M., Room, R., Samokhvalov, A.V. and Taylor, B. 2010. *The relation between different dimensions of alcohol consumption and burden of disease: an overview*. *Addiction*, 105, 817–843
- Rehm, J., Mathers, C., Popova, S., Thavorncharoensap, M., Teerawattananon, Y., Patra, J. 2009. *Alcohol and Global Health 1. Global burden of disease and injury and economic cost attributable to alcohol use and alcohol-use disorders*. *The Lancet*. Vol 373 June 27
- WHO Europe. 2009. *Handbook for action to reduce alcohol-related harm*. WHO Regional Office for Europe
- World Health Organization. 2011. *Global status report on alcohol and health*, Geneva, http://www.who.int/substance_abuse/publications/global_alcohol_report/en/
- World Health Organization. 2010. *Global strategy to reduce harmful use of alcohol*, Geneva, www.who.int/substance_abuse/msbalcstrategie.pdf

List of International, national and provincial specific alcohol strategies

- Global Alcohol Strategy to reduce the harmful use of alcohol**
World Health Organization, 2010
www.who.int/substance_abuse/msbalcstrategie.pdf
- Alcohol and Public Health in the Americas: A Case for Action**
Pan American Health Organization (PAHO)
www.who.int/substance_abuse/publications/alcohol_public_health_americas.pdf
- Reducing Alcohol-Related Harm in Canada: Toward a Culture of Moderation**
The Canadian National Alcohol Strategy (National Alcohol Strategy Working Group 2007)
www.ccsa.ca/2007%20CCSA%20Documents/ccsa-023876-2007.pdf
- Changing the Culture of Alcohol Use in Nova Scotia**
Nova Scotia Department of Health Promotion and Protection, 2007
www.gov.ns.ca/ohp/publications/alcohol_strategy.pdf
- Public Health Approach to Alcohol Policy: An updated report from the provincial health officer**
Office of the BC Provincial Health Officer, 2008
www.health.gov.bc.ca/library/publications/year/2008/alcoholpolicyreview.pdf
- La consommation d'alcool et la santé publique au Québec: synthèse**
Institut de la santé publique du Québec
www.inspq.qc.ca/pdf/publications/1088_AlcoolEtSantePublique_Synthese.pdf



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