A report to the
Toronto Cancer Prevention Coalition

Toronto Cancer Prevention Coalition

Alcohol, Cancer and other Health Issues:

An Action Plan for Prevention

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AN ACTION PLAN FOR PREVENTION

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This report is available from the Toronto Cancer Prevention Coalition website:

http://www.toronto.ca/health/resources/tcpc/index.htm

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TABLE OF CONTENTS

EXECUTIVE SUMMARY

Addressing the harms of alcohol is an urgent public health issue for Ontario. Over the past 15 years, people have increased their alcohol consumption in Canada and many other countries. The prominence of alcohol as a risk factor for disease and disability in countries around the world is finally being recognized. In 2010, the World Health Organization has developed a Global Alcohol Strategy in response to this serious health issue. Here in Canada, a National Alcohol Strategy has been developed in 2007 and key elements of the strategy are being implemented. Furthermore, several provinces also have alcohol strategies.

This context provides a timely opportunity for Ontarians, the provincial government, non-governmental organizations and the public health community to demonstrate leadership on this issue. This paper calls on the Government of Ontario and public health experts across the province to take action now to reduce the harms of alcohol, an avoidable health risk factor, as part of their commitment to protecting the overall health of Ontarians.

The 2008 Secretariat Report of the 61st World Health Assembly identified the harmful effects of alcohol as one of the main factors contributing to premature deaths and avoidable burden of disease worldwide. A World Health Organization report of 2009 identified alcohol as the second leading risk factor for morbidity and disability in high income countries in 2004. Harmful use of alcohol is estimated to cause 2.3 million deaths worldwide (3.8% of total) and 69.4 million (4.5% of total) Disability-Adjusted Life Years (DALYs) globally.

In addition to well-established evidence of alcohol as a contributing cause of trauma, social problems and violence, there is now strong evidence of alcohol as a contributing cause to a wide range of chronic diseases, including cancer. As indicated in reports by the International Agency for Research on Cancer, the World Cancer Research Fund and the American Institute for Cancer Research, alcohol is identified as contributing to at least seven cancer sites, including those of the digestive tract, colorectal and breast. It is also suspected as a contributing cause to stomach cancer, lung cancer and other cancers.

In the past fifteen years overall alcohol sales have increased across Canada. The percentage of Canadians who are high-risk drinkers has also increased; in fact, the number of high-risk drinkers in Canada is greater than the current prevalence of tobacco smokers. There is, therefore, a convergence of factors that increase the risks for cancer and other chronic diseases where alcohol is a contributing cause. Surveys based in Ontario, Nova Scotia and a national sample, all indicate that at least one-third of adults have experienced disruption or harm in the past year due to drinking by others. Therefore in addition to negative impacts on the health of high-risk drinkers, alcohol also causes widespread disruption at the community level.

Addressing alcohol-related risks for cancer and other chronic disease has been impeded by pervasive misunderstandings about alcohol and its health impact. The purpose of this report is to develop an action plan outlining the main themes for preventing alcohol-related cancer relevant to Ontario and specifically to Toronto given the mandate of the Toronto Cancer Prevention Coalition.

Drawing from numerous publications - including municipal, provincial, national and international reports - this report summarizes the most recent alcohol-control evidence. This evidence leads to seven key recommendations directed at populations, communities and high-risk drinkers to reduce alcohol-related harm in Ontario.

Alcohol is a contributing factor to a broad range of health and social problems, including chronic diseases and injuries. In that regard, population-level interventions, strategies and policies that address a range of harms from alcohol will provide health benefits for in the area of cancer control, as well as for other chronic diseases and injury prevention.

The vision of the TCPC is to be a leader in cancer prevention and to reduce the incidence of cancer in the city of Toronto. To actualize this vision, the TCPC advocates for stakeholder engagement with the Province of Ontario, along with relevant non-governmental and professional organizations, supported by Toronto Public Health. With this partnership, the TCPC calls on primary care and public health professionals, researchers and policy specialists, along with the media and the public, to take action on the following seven key recommendations:

Short-Term (To be implemented in 1-3 years)

a. The Province of Ontario provide strong support for targeted alcohol control strategies focused on limiting availability, access and consumption, and including controls on alcohol advertising and marketing, especially targeted to youth or high-risk drinkers. This is designed to reduce alcohol-related cancer, chronic disease and other risks associated with easy access to alcohol. **(Policy Development & Legislation)**

b. Relevant non-governmental organizations, in collaboration with health professional organizations, addictions specialists and public health units, to increase awareness among health professionals of the risks associated with excessive alcohol use. The purpose is to facilitate cancer and chronic disease prevention, through networks, alcohol-working groups and policy statements. **(Capacity Building; Raising Public Awareness)**

c. Public health units use targeted social-marketing strategies to clarify and increase public awareness of the risks – such as cancer and other diseases – associated with excessive alcohol consumption. The goal is to create greater capacity and interest in prevention of alcohol-related cancers, other chronic diseases and injuries. **(Raising Public Awareness)**

d. The Province of Ontario support comprehensive monitoring and evaluation of alcohol use and related harms. This is critical to assessing the efficacy of existing prevention, health promotion, and treatment policies and programs. At the same time, the province along with other stakeholders should collaborate to promote a combination of population-based and setting-specific interventions to reduce high-risk alcohol consumption. These activities are expected to provide resource material and evidence for fine-tuning interventions, training and planning next steps. **(Monitoring and Evaluation; Capacity Building)**

e. The Province of Ontario, in collaboration with relevant stakeholders, facilitate the development and dissemination of a comprehensive provincial alcohol strategy. This will provide a much-needed focus and priority-setting tool, drawing attention to the issue and pointing to effective next steps. **(Cooperation and Coordination)**

Long Term (To be implemented within 10 years)

f. The Province of Ontario to coordinate health policies and strategies across all sectors – including non-traditional stakeholders such as the media and public – to integrate alcohol as a key risk factor in cancer, chronic disease and injury prevention, as well as prevention of other alcohol-related harms. This will reduce 'siloed' activities and duplication and will generate synergy and cost-reduction. **(Policy Development & Legislation; Capacity Building; Raising Public Awareness)**

g. Relevant governmental agencies and non-governmental organizations coordinate the efforts of national, provincial and local cancer and chronic disease prevention organizations, including the Canadian Partnership Against Cancer, Canadian Cancer Society and Cancer Care Ontario, to develop and support a focused alcohol, chronic disease and cancer prevention agenda for the next 10 years. This builds on earlier recommendations and reinforces a coordinated, focused response. **(Cooperation and Coordination)**

Moving forward, the TCPC aims to provide leadership in coordinating a comprehensive approach to reduce the health risks associated with alcohol consumption and high-risk drinking behaviours, with an emphasis on cancer prevention. The TCPC proposes to take the lead in advocating for the recommendations put forward in this report, in collaboration with identified stakeholders at the municipal, provincial and national levels, as we work together to reduce the incidence of cancer and make the province of Ontario the healthiest possible.

A. WHY THIS TOPIC AT THIS TIME

This report is completed at a time when there is a convergence of evidence about the damage from alcohol, concurrent with increased consumption of alcohol, and inattention to prevention and effective policy.

Alcohol is a risk factor for cancer

There is growing evidence of alcohol as a risk factor for several types of cancer – evidence that is now stronger than some years ago. This evidence is most powerfully described in recent reports by the International Agency for Research on Cancer (IARC) (1) and the combination of efforts from the World Cancer Research Fund (WCRF) and American Institute for Cancer Research (AIRCR) (2). A few decades ago, the list of cancer types where alcohol was identified as a contributing cause was substantially shorter than it is today. For example, there is now much stronger evidence of links between alcohol consumption and colorectal and breast cancer (2). Looked at another way, 20% of the deaths worldwide attributable to alcohol involve some type of cancer. This ranks third after unintentional injuries (27%) and cardiovascular disease (22%) (3). Therefore a key rationale for focusing on this issue at this time is that there is strong and growing evidence of alcohol as a contributing cause of cancer, a chronic disease of public health significance in Canada.

Alcohol consumption and heavy episodic drinking is on the rise

A second dimension relates to high-risk drinking and overall consumption. There is a high prevalence of heavy episodic drinking* in Canada (4) and an increase in overall consumption over the past 15 years (5, 6). Several surveys have shown that about one quarter of drinkers drink in a high-risk manner (7). This is above low risk drinking guidelines and above the lower threshold where there is an elevated relative risk of alcohol-related cancer (8). The proportion drinking in a high-risk manner in Canada is greater than the current prevalence of tobacco smokers (9). While high-risk drinking is not a recent development, the gradual and steady increase in overall sales per adult – as illustrated below - when combined with high-risk drinking is particularly worrisome. With easy access to alcohol and extensive promotion and marketing of alcoholic beverages using many venues and contexts, the stage is set to support current levels of consumption and to likely encourage increased drinking. In short, there is a convergence of factors to increase the levels of risk for cancer and other chronic disease where alcohol is a contributing cause (3).

Alcohol is the second leading risk factor for morbidity and disability

A third development is the prominence of alcohol as a risk factor for disease and disability in many countries. A World Health Organization (WHO) report from 2009, using 2004 data, identified alcohol as the second leading risk factor for mortality, morbidity and disability in high income countries (10). Alcohol-related cancer is part of a larger context where the burden from alcohol

* Heavy episodic drinking is defined as having 5 or more drinks on one occasion, 12 or more times in the past year.

involves many conditions, diseases and types of disruption. What is new is the emerging evidence of the extent of this burden relative to other risk factors and conditions and the links between alcohol and many social conditions, types of trauma and numerous chronic diseases, including cancer.

A provincial alcohol strategy in Ontario is needed

Finally, the response from governments to these issues has been inadequate. There is no provincial strategy in Ontario focusing on alcohol, nor is there currently sufficient capacity to curtail the alcohol-related burden. 'Checks and balances' on alcohol marketing, retailing and promotion are inadequate. Effective and comprehensive programs to curtail high-risk drinking have not been implemented, nor are there population level efforts to flat-line overall alcohol consumption and curtail high-risk drinking.

In contrast to the situation in Ontario, there are provincial alcohol strategies in British Columbia (11), Nova Scotia (12) and Quebec (13). Recommendations for a National Alcohol Strategy were put forth in 2007 (14). Furthermore, in May 2010 (15), the General Assembly of the WHO approved a global alcohol strategy (16, 17).

Costs attributed to alcohol include direct health care costs, law enforcement, prevention and research, and indirect productivity costs, including short and long-term disability (18). In 2002, a cost estimated at $5.3 billion was attributed to alcohol abuse in Ontario, which includes health care, law enforcement, prevention and research, productivity lost and other costs. In Canada, the cost was estimated at $13.9 billion – from 2002 data (19). This is a conservative estimate, given the underestimation of costs (especially indirect) and insufficient data for estimating costs of alcohol-related social problems.

As indicated by these developments and recent initiatives, there is a justified sense of urgency in reducing the harms from alcohol. The Province of Ontario, public health specialists and other stakeholders are urged to take action on reducing the harms of alcohol, using the well-established evidence on effective interventions. Otherwise the burden of illness and attendant costs will continue to increase.

B. THE TORONTO CANCER PREVENTION COALITION & RECENT LOCAL EFFORTS

Toronto Public Health (TPH) and other dedicated stakeholders in cancer prevention created the Toronto Cancer Prevention Coalition (TCPC) in 1998 to advocate for policy, education and action to prevent cancer. The Coalition is comprised of a steering committee and seven workgroups (including the Alcohol Working Group) based on the cancer risk factors identified in the *Report of the Ontario Task Force on the Primary Prevention of Cancer* (March, 1995). The Mandate of the Toronto Cancer Prevention Coalition can be found in Appendix 1.

The Alcohol Working Group has been active in advocating recommendations put forward in several key reports relating alcohol and cancer prevention, including the 2007 *Alcohol and Cancer Best Advice Paper* (20). The working group partners with other key strategy groups at the municipal, provincial and national levels. In the past few years, the Alcohol Working Group has been involved in several efforts to raise awareness on the links between alcohol and chronic disease, including cancer, and advocated for more comprehensive, better resourced and more widely supported alcohol control initiatives. Several activities continue to be undertaken to gain support from government and Non-Governmental Organization (NGO) representatives as well as other interested organizations to collaborate on developing an alcohol control strategy.

A collective focus on the harms associated with alcohol misuse and broader policies directed at reducing its impact is critical in achieving Toronto Public Health's 2010-2014 vision of Toronto being a "healthy city for all".

Cancer and chronic disease prevention is a priority for Toronto Public Health. There has been significant commitment to reducing the burden of chronic disease by integrating the planning and delivery of comprehensive chronic disease prevention services (21). Alcohol misuse is identified as one of four targeted focus areas of the municipal Integrated Chronic Disease Prevention Framework (22) and is also a targeted area of focus for Toronto Public Health's Injury Prevention/Substance Misuse Prevention program (23, 24). In addition, the Toronto Drug Strategy contains many actions targeted to reduce the harms of alcohol, including strengthening alcohol policies.

A collective focus on the harms associated with alcohol misuse and broader policies directed at reducing its impact is critical in achieving Toronto Public Health's 2010-2014 vision of Toronto being a "healthy city for all". Of particular emphasis is the focus on addressing health inequalities as a means to improving the health of the whole population (25).

Since the TCPC *Action Plan for Cancer Prevention* was approved by the Board of Health in 2001, the coalition has been active in implementing the key action areas and recommendations for alcohol control identified. This includes:

- In 2005, Toronto City Council approved the Toronto Drug Strategy, which includes a range of policy, program and advocacy recommendations focused on reducing the harms associated with alcohol use.

- In 2007, the TCPC, in partnership with the Centre for Addiction and Mental Health (CAMH), brought together public health, non-profit agencies, retail and local and provincial government representatives to discuss strategies to change the disturbing trends related to alcohol causing various cancers.

- In 2008, the Toronto Board of Health approved a report from the Medical Officer of Health requesting support of six recommendations for presentation to the Association of Local Public Health Agencies (alPHa), which focused on strengthening alcohol policy and legislation in Ontario (26). Based on these resolutions, the Alcohol Working Group developed strategies to specifically reduce cancer risk from alcohol, in an attempt to accelerate progress in implementing the recommendations of the TCPC Action Plan.

To date, the TCPC has continually advocated for attention to the recommendations set out in the *Best Advice* report (20) through the province's Local Health Integration Networks (LHINs), and by linking to inter-ministerial groups, as well as to the National Alcohol Strategy. These recommendations are listed in Section G, Current Alcohol Policies, Strategies & Recommendations, of the current report. In 2008 the TCPC released a 10th anniversary report, *Ten Years Later: The History and Development of the Toronto Cancer Prevention Coalition. A Retrospective and Prospective Analysis* (27). This document described the current successes and challenges since the Action Plan recommendations were approved by Toronto City Council as well as future recommendations to continue support for the TCPC.

C. PURPOSE AND SCOPE

The purpose of this report is to develop an action plan outlining the main themes for prevention of alcohol-related cancer that is relevant to Ontario and specifically Toronto, given the mandate of the TCPC. Renewing Anthony Miller's landmark recommendations (28) of sixteen years ago on the primary prevention of cancer, this report will provide a rationale for decision makers across the various health and related sectors in Ontario to advance and promote policies and interventions that will limit the overall rate of alcohol consumption while reducing the proportion of Ontarians who drink at high-risk specifically aimed at cancer prevention (29).

This report will provide comprehensive, evidence-based recommendations for cancer prevention in Ontario. At the same time, it is important to recognize that alcohol is a contributing cause not only to cancer, but many other chronic diseases and harms, and therefore, targeted strategies will realize multiple health benefits. There is a direct relationship between consumption and prevalence of alcohol-related cancer and chronic disease (10) as well as alcohol-related injuries. This relationship is further discussed within Section F, Review of Recent Evidence on Alcohol & Cancer.

Consultation with Toronto Public Health highlighted the importance of promoting collaboration amongst cancer, chronic disease and injury prevention interventions, as efforts to date in Canada largely remain 'siloed'. Population-level interventions, strategies and policies that impact a range of different harms from alcohol will have a health benefit for all three areas. Furthermore, a multiple-risk factor approach is recognized as a strategic approach, as interventions that target alcohol-

related harm will also have impact on other public health risk factors including environmental hazards, injury, unhealthy diet and tobacco use, as they relate to cancer prevention.

This report aims to synergistically balance several agendas related to alcohol harm, without losing sight of the Coalition's focus on the implications of alcohol-related cancer prevention. This focus does not preclude interventions on other risk factors or the broader impact on reducing alcohol-related harm. Nevertheless, the review of the literature and recommendations will focus mainly on the impact as it relates to cancer, with implications for chronic disease and injury prevention. Figure 1 presents a schematic of the focus of this report as it relates to alcohol as a contributing cause for cancer. Making population level recommendations specific to alcohol-related cancer will have impact on other alcohol-related harm (and vice versa). Decreasing alcohol consumption is expected to contribute to a culture of moderation, therefore reducing the risk of alcohol-related cancer (3). Existing recommendations and best practices related to this model will be highlighted in subsequent sections of this report.

This paper will include the following:

- Demonstrate the growing evidence supporting the relationship between alcohol and cancer with implications for injury and chronic diseases, as well as rising incidence of alcohol-attributable cancers;
- Indicate that given recent cancer statistics, the risks associated with alcohol and cancer are likely to increase, adding to the global burden of disease;
- Address the current myths or misperceptions pertaining to alcohol consumption and goals of alcohol control strategies; and
- Build on current (within last 10 years) alcohol and cancer prevention recommendations to identify priority evidence-based, sector-specific recommendations applicable to Toronto and Ontario across all alcohol-related areas.

This paper is intended to be illustrative of the current global and national alcohol policies, strategies and recommendations. An expanded review of existing alcohol policies worldwide and in Canada can be found in supporting documents (14, 17 30, 31).

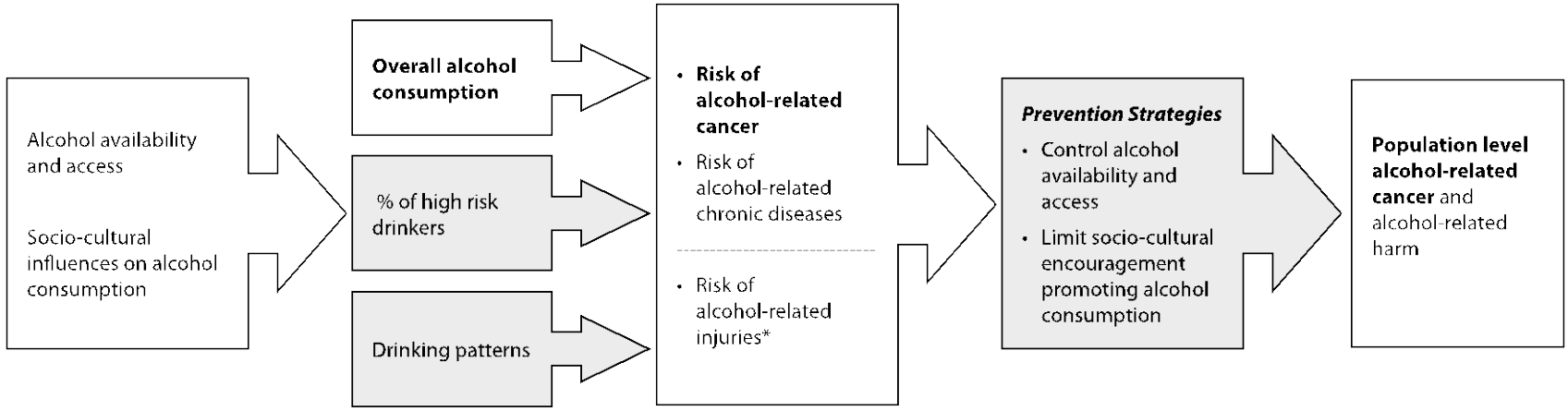

Figure 1: Alcohol as a contributing cause for cancer with implications for chronic disease and injury prevention – A population-level perspective

* NB: Drinking patterns are particularly critical with regard to risk of alcohol-related injury

D. METHODS

This report draws on several resources: print and on-line publications in peer-reviewed journals; reports in government and NGO web sites – provincially, nationally and internationally; official statistics on alcohol sales and cancer incidence and prevalence; and documents related to the activities of the Toronto Cancer Prevention Coalition.

With regard to published papers, a broad PubMed search was conducted in January 2011. Original research articles, systematic reviews and meta-analyses focusing on alcohol as a risk factor for cancer were selected if they were published between the years 2000-present, were in English and were focused on humans. For the section G 'Current Alcohol Policies, Strategies and Recommendations', an online search was undertaken using Google search engine to search for policies, recommendations and strategies related to alcohol and cancer prevention within the past 10 years.

Globally, the search focused on developed countries with socio-economic climates and resources comparable to Canada (and broadly, North America) including the United States, United Kingdom, Europe and Australia. Within Canada, current alcohol policy, recommendations and strategies were reviewed at the federal or national level. This included NGOs, charitable organizations, chronic disease and cancer centres, organizations, alliances and networks. In Ontario specifically, this review included the work of the Alcohol Policy Network (APN), Canadian Cancer Society (CCS) (Ontario Division), Cancer Care Ontario (CCO), the Centre for Addiction and Mental Health (CAMH), the Ontario Chronic Disease Prevention Alliance (OCDPA) and Toronto Public Health (TPH). The Ministry of Health Promotion and Sport (MHPS), Ministry of Health and Long Term Care (MoHLTC) and the Ontario Agency of Health Protection and Promotion (OAHPP) as well as the Departments of Health across all provinces and territories were also reviewed to retrieve any existing alcohol strategies.

E. BACKGROUND

1. Global burden of disease & injury

The 2008 Secretariat Report of the 61st World Health Assembly identified the harmful effects of alcohol as one of the main factors contributing to premature deaths, avoidable disease and disability burden worldwide. Identified as the second leading risk factor for Disability Adjusted Life Years (DALYs) in high-income countries, harmful use of alcohol is estimated to cause 6.7% of DALYS in these countries. This accounts for 69.4 million (4.5% of total) DALYs globally (10). In some low-mortality countries in South America, the burden is even greater than that of tobacco (15).

Furthermore, the total societal harm is not accurately reflected in these numbers, as many social problems from drinking and harm are not included, in addition to the impact on people other than the drinker (3). This collateral damage – or 'second hand effects' – of alcohol consumption (32) includes impacts on spouses, children, abstainers, occasional and heavy-drinkers. This includes, but is not

limited to, injuries such as trauma to others, work-place incidents, mass transportation incidents or family disruption, violence or abuse (33). The alcohol-attributed burden of disease (4) along with a detailed description of alcohol-attributed deaths by specific chronic disease and cancer are listed in Appendix 2.

2. Alcohol as a modifiable risk factor for cancer and chronic disease

Although alcohol has been identified as an important risk factor impacting overall health (4), diet, physical activity and obesity continue to be the primary risk factors receiving attention in cancer and chronic disease prevention (34). In fact, globally and in high income countries, the burden from alcohol is greater than the individual effects of each of the following: high cholesterol, body mass index, low fruit and vegetable consumption and illicit drug use (10). The WHO passed the Global Alcohol Strategy to reduce the harmful use of alcohol in 2010 (15). Until most recently, alcohol has not received the same attention as other addictive substances (i.e., tobacco and illicit drugs) on the global health agenda; however concern and commitment towards alcohol-related harms and alcohol-control policy is growing (35).

Drinking alcohol has become increasingly normalized in Ontario and across Canada, limiting the capacity of efforts to profile alcohol as a high priority health issue (36). Despite existing efforts to promote better knowledge dissemination to health professionals and the general public on the chronic risks of heavy drinking (34), the focus is often limited to the immediate impacts, including dependence on alcohol or addiction, drinking and driving or public disturbance. The wide range of social problems, trauma, chronic disease, violence and other disruptions associated with alcohol consumption that impact drinkers and others (32) are typically not in the public eye or highlighted in government and media accounts. Nevertheless, the most recent Ontario Public Health Standards (OPHS) (37) identifies alcohol as a risk factor of public health importance to reduce the burden of preventable chronic disease and a necessary component of the mandatory programs and services in the province.

Alcohol is one of the main factors contributing to premature deaths and avoidable disease burden worldwide – it is the second leading risk factor for disease and disability in high-income countries.

3. Alcohol and the Social Determinants of Health

For over three decades, the social determinants of health have been considered a strong focus in promoting the health of a population. Most recently, the Health Council of Canada reinforced the message of the determinants needing coordinated action to address the needs of poorer and socially disadvantaged Canadians (38). The negative impacts of high-risk drinking cut cross all sectors of the population (39) with a greater burden on high-risk populations.

Special emphasis is placed, for example, on our country's Aboriginal population, on rural and remote area population sub-groups, and on individuals who fall into a lower socio-economic status in urban centres, including the homeless (40).

The relationship between alcohol and socioeconomic status is complex. At the population level, alcohol consumption tends to be related to accessibility, so that those with higher disposable income or social economic status are likely to drink more (41). However, the inverse seems to be the case in some studies, with regard to alcohol-related harm. For example, a study in Sweden found that for both sexes, manual workers, lower non-manual entrepreneurs and unclassified groups had significantly higher alcohol-related mortality than did upper non-manual groups (42). A review of stigma, social inequality and alcohol and drug use indicated that poverty often increases the harm for a given level of use (43).

The negative impacts of high-risk drinking cut cross all sectors of the population, with a greater burden on high-risk populations – special emphasis on the role of the social determinants of health is needed to help reduce health inequalities while improving the health of the whole population.

There are likely many reasons for the associations between social status and alcohol-related harm, and an extended discussion is beyond the scope of this paper. Nevertheless, it is likely that persons with limited resources are more likely to be more vulnerable when intoxicated or in heavy drinking situations – drinking more likely to be done in public and drinking-related behaviour more visible to the authorities. Also, with limited resources, combined with survival priorities, it may be more challenging to obtain proper diet, shelter and health care in comparison with other drinkers of easier access to resources (43). This reality speaks to the need for comprehensive strategies aimed at both high-risk groups, and the population as a whole (44), with special emphasis on the role of the social determinants of health to help reduce health inequalities while improving the health of the whole population.

4. Alcohol sales & consumption

While a variation in alcohol consumption exists worldwide, on average, 6.2L of pure alcohol (100% ethanol) is consumed per adult per year (3). The Americas are the region with the second highest level overall of per capita alcohol consumption according to the 2004 WHO report on alcohol exposure (30), with the highest region being Europe and Russia.

In Canada, per capita sales of alcohol in terms of pure ethanol equivalent (for those aged 15 years plus) have increased since 1996 by about 13% (45, 46). With an increase in sales, there is also an

increase in reported consumption, in absolute alcohol consumption (defined as the amount of pure alcohol, or ethanol, in beer, wine and distilled spirits beverages (5)[*]).

Figure 2 depicts this trend. While the data on alcohol sales are useful, it is important to acknowledge official sales data under estimate actual alcohol consumption since they do not include home-produced alcohol, smuggling and other sources of "unofficial consumption".

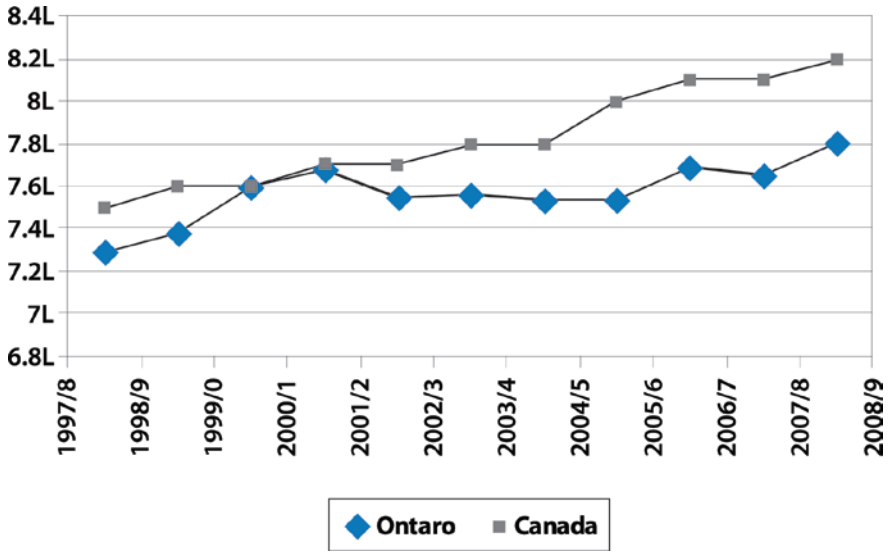

Figure 2[†]: Per capita alcohol consumption, in liters of absolute alcohol, Ontario & Canada, aged 15+ (5, 6, 47)

[†] We wish to acknowledge the contribution by Kate Vallant, Research Associate, Centre for Addiction Research British Columbia, in assembling and organizing the data presented.

5. High-risk drinking

In addition to alcohol sales, overall consumption and drinking patterns also have an important public health implication, as both have been shown to impact chronic disease. Figure 3 summarizes the relationship between overall consumption and drinking patterns and chronic disease, social problems and trauma.

[*] Statistics on sales of alcoholic beverages by volume should not be equated with data on consumption. Sales volumes include only sales by liquor authorities and their agents, and sales by wineries and breweries and their outlets that operate under license from the liquor authorities. Consumption of alcoholic beverages would include all these sales, plus homemade wine and beer, wine and beer manufactured in brew-on-premises operations, all sales in duty-free shops and any unrecorded transactions.

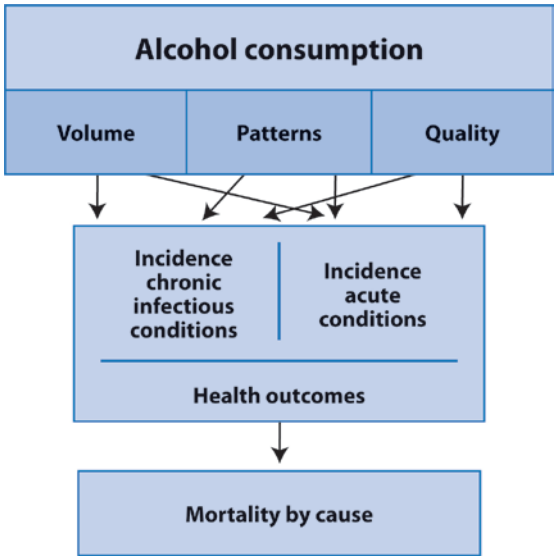

Figure 3: Causal model of alcohol consumption, intermediate mechanisms, and long-term consequences (47)

Extensive research has shown a strong, direct relationship between national per capita alcohol consumption and the prevalence of alcohol-related harm and alcohol dependence. Trends indicate that alcohol consumption is rising globally (30) and in Canada, 23% of drinkers are consuming at levels above low-risk drinking guidelines* (48, 49). In Ontario, 2004 data demonstrate over 20% of drinkers aged 15 and older are exceeding national drinking limit guidelines and over 30% are at risk for associated harms. Both volume consumption and drinking patterns (including frequency of consumption, variation in amount consumed per occasion and peak consumption during events) influence alcohol-related harm. The overview of drinking patterns and reported harms is displayed in Figure 4 (see page 18).

While cancer and other chronic diseases are longer-term impacts associated with alcohol consumption, focusing on data for drinkers as young as 15 is important given that lifestyle choices and habits formed earlier, impact choices made later in life.

In Ontario, 20% of drinkers aged 15 and older are exceeding the national drinking limit guidelines and over 30% are at risk for associated harms.

More recently, the CAMH Monitor (50), the longest ongoing addiction and mental health survey, reported that the percentage of the total adult population drinking alcohol significantly increased between 2006 and to 2007 from 78% to 82% in Ontario. In particular, consumption increased among women (from 74% to 78%) and those aged 18 to 29 years (from 85% to 90%). The 2007 survey also showed that 23.4% of all Ontario adults drink above the current low risk drinking guidelines; 40.3% of young adults age 18-29 drank above the guidelines, and 27.1% of adults aged 30-39 (50).

* No more than 2 standard drinks (13.6g of alcohol) per day; no more than 14/week for men and 9/week for women).

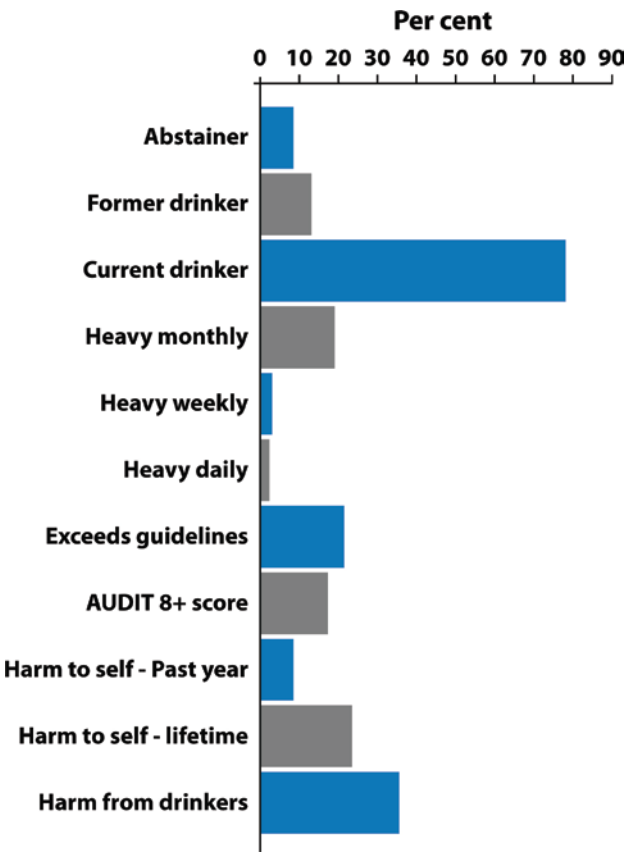

Figure 4: Overview of Patterns of Alcohol Use and Reported Harm Ontario, 2004†

†N = 1,000 respondents aged 15 and older

Furthermore, the 2007 estimate for heavy drinking* among 18 to 29 year-olds is the highest on record, increasing from 11% in 1995 to 26% in 2007. Indicators of hazardous and harmful drinking among the total population have also been increasing since 2001 (from 13% to 16%), most significantly among women and 18 to 29 year olds. Although 73.6% of adults 18 years and older in Toronto consume alcohol, this is significantly lower than the provincial average. Heavy drinking and hazardous and harmful drinking behaviours are also below the provincial average in Toronto.

More optimistically, 2008 data from the Canadian Alcohol and Drug Use Monitoring Survey (CADUMS) suggest fewer Canadians are reporting heavy drinking to be their usual consumption habits, as well as fewer Canadians reporting harm in their lifetime due to their alcohol use (18). However, the limitations with self-reported data, the low response rate in this survey, and under-reporting should be considered, suggesting the risk of hazardous drinking and alcohol-related cancer may be greater than indicated (20). In general, it is expected the burden from alcohol will continue to increase with the increase in overall sales (36).

6. Myths of alcohol & alcohol policy

In order to draw appropriate attention to alcohol-related risks for cancer and other chronic diseases, it is necessary to also consider some of the myths and misunderstandings that create barriers to an evidence-based perspective and harm-reduction orientation (32).

First, much of the public communication about alcohol – in the media, and elsewhere – tends to emphasize or endorse the health and social benefits of alcohol consumption, giving repeated support to the erroneous view that the health benefits outweigh the risks. There has been a myriad of media reports positioning specific types of alcohol as having a protective effect against heart disease and

* Heaving drinking defined as five or more drinks on a single occasion on a weekly basis.

diabetes mellitus. A recent review article (51) discusses the potential protective effects of moderate alcohol consumption particularly in relation to cardiovascular health, especially for those at high-risk for cardiovascular disease (2). In short, there is evidence that alcohol taken in small amounts has benefits for some older adults (mid 40s and beyond) in reducing their risk of cardiovascular disease and type 2 diabetes. However, the strength of the evidence on the health benefits of alcohol has been questioned (35) and recommended levels are a drink a day, or less. Furthermore, a number of the studies have failed to separate life-time abstainers from former drinkers (the latter including former heavy drinkers) in developing a comparison group, which likely leads to inflated estimates of health benefits among current lower level consumers (19, 52-54). This evidence, however, needs to be weighed with consideration of the associated risks of consumption, and the potential for supporting high-risk consumption (3, 55).

Second, there appears to be an assumption that support for alcohol control measures is synonymous with a requirement of personal abstention from alcohol in order to effectively advocate for alcohol policy, when in fact, existing recommendations call for a "culture of moderation". The alcohol issue is one that requires a nuanced and thoughtful perspective in order to better support evidence-based public health policies to reduce harm from alcohol.

Third, it is suggested that support for evidence-based controls on alcohol is a prohibitionist stance. As with the myth on abstention, the goal of effective policies is to give more thoughtful consideration to its availability and accessibility and to make changes that will reduce population-level risks to health and safety. As noted by Marmot (55), given the dichotomy between risk and probable benefits, recommendations should adopt a "pragmatic compromise" to be most effective.

F. REVIEW OF RECENT EVIDENCE ON ALCOHOL AND CANCER

1. Recent Canadian cancer statistics

According to the most recent Canadian Cancer Society statistics (56) an estimated 177,800 new cases of cancer will occur in 2011 across the nation of which 13,361 will be in Ontario. These numbers has increased since 2010. Cancer continues to be one of the leading causes of death and the leading cause of premature death in Canada. In Ontario, it is estimated that 27,800 people will die of cancer in 2011(57).

Currently, no "safe limit" of alcohol has been established. There is a dose dependent relationship between alcohol consumption and cancers of the breast, colon, prostate, liver and pancreas.

2. Current evidence on link between alcohol and cancer

Evidence linking alcohol to cancer has drastically increased over the past 20 years. Since 1988, when alcohol was first classed as a Group 1 carcinogen by the IARC, the WCRF and AICR summarized convincing evidence* in 1997 stating the link between alcohol and specific cancers. Further, in 2007 this group released an Expert Report concluding that there is both convincing and probable evidence on the association between alcohol and various types of cancers (2). Currently, no "safe limit" of alcohol consumption has been established (2). The following evidence is in line with the current WCRF/AICR systematic review.

Recent evidence demonstrates a dose-dependent relationship between alcohol consumption and increased incidence of breast (58-61), colon (58), prostate (62-64) liver (65), and pancreatic cancer (66, 67). Recent studies suggest alcohol consumption may increase risk of breast cancer reoccurrence (68) and risk in postmenopausal women (69). Limited evidence suggests inconclusive results for the potential link between alcohol consumption and ovarian (70) and esophageal cancer (72-73).

The evidence linking alcohol and cancer supports the need for a "culture of moderation".

For some cancers of the upper digestive tract, there is a noteworthy interaction between smoking and alcohol consumption (74). Three recent studies demonstrated the synergistic risk of alcohol consumption and smoking related to esophageal cancer (75-77).

One study (78) conducted a risk assessment of exposure to acetaldehyde, which is found naturally in alcohol beverages and is also a byproduct of ethanol metabolism. This study estimates that acetaldehyde in alcoholic beverages poses cancer risks that exceed the 1:1 million level, further supporting the importance in reducing overall alcohol consumption.

Overall, while moderate consumption of alcohol has demonstrated some protective effects with thyroid (79) and prostate cancer (80), type 2 diabetes in women (81), and ischemic heart disease (82), the risk associated with irregular heavy drinking occasions can erode these potential health benefits (8). As such, he risks associated with alcohol far outweigh potential health benefits of alcohol consumption at the population level (10). The evidence described here supports the need for a "culture of moderation" in order to reduce the risk of harms associated with alcohol consumption (54).

* "Convincing Evidence" is the highest form of evidence in this report as per WCRF/AICR.

G. CURRENT ALCOHOL POLICIES, STRATEGIES & RECOMMENDATIONS

This section examines current and recent alcohol strategies and recommendations related to reducing alcohol-related cancers. The search is inclusive of strategies that target chronic disease as it relates to alcohol consumption as well given the similar risk factors related to cancer.
Population-level interventions and policies that impact a range of different harms from alcohol will also have a health benefit for alcohol-related cancers. Conversely, interventions and policies that reduce the risk of alcohol-related cancers at the population level are expected to have a positive impact on other alcohol-related chronic diseases (47, 83).

1. Recommendations & areas of focus

Based on the key documents reviewed for this section, the recommendations have been grouped into five areas of focus building from the 2009 *WHO Handbook for Action to Reduce Alcohol-Related Harm* (84). These are targeted response areas that support the infrastructure needed for a comprehensive, effective alcohol strategy. The areas of focus are described and defined in Table 1.

Table 1: Recommendation areas of focus to reduce alcohol-related harm

Area of Focus	Definition
Policy Development & Legislation	Effective policy and legislation development supportive of alcohol-harm reduction.
Capacity Building, including Supportive Environments and Personal Skills	Support better understanding about epidemiology, health promotion, public health, evidence-based medicine and application of social science research. Supports include training opportunities in media and policy advocacy.
Public Awareness-Raising, including Assessment and Treatment	Focusing on awareness, knowledge dissemination and education on the risks of alcohol, as well as providing information about the availability of assessment and treatment to reduce harmful use.
Monitoring and Evaluation	Support alcohol-related data including, but not limited to, current and future alcohol trends, policies and their effectiveness, risk factors for alcohol-related harm, organizational and institutional challenges in implementing policies, governance and key contextual factors.
Cooperation and Coordination	Support horizontal collaboration among government and all affected sectors and stakeholders in alcohol policy making decisions.

2. Global alcohol policy, strategies & recommendations

The WHO has recently developed a Global Alcohol Strategy to reduce the harmful consumption of alcohol (15, 84). Alcohol policies are public policies that affect the production, supply, marketing and/or consumption of alcohol. The aim of these policies is to limit and/or prevent the harms associated with alcohol use directed at the availability or demand for alcohol as well as the societal impact due to its consumption.

In the past ten years, several key reports published from international departments of health and cancer councils and organizations have identified key recommendations to promote alcohol policy. The key reports along with their recommendations are found in Appendix 3. Canada is included separately in section 3 below.

The five areas of focus (Table 1) are represented across the evidence reviewed. In summary, greater effort is needed to support existing alcohol policies. At the same time, building capacity through the various sectors to support the development of new alcohol policy is needed, focusing specifically on availability, access, price, advertising and marketing (15). More stringent enforcement of criminal justice for drunken behaviour and sales to underage drinkers is also recommended in a national report from the UK (85).

Raising public awareness of risks associated with excessive alcohol consumption and harm reduction approaches is important – better awareness of the relationship between alcohol and cancer among health professionals is a key priority.

Most notably, all evidence supports raising public awareness of the risks associated with excessive alcohol consumption and harm-reduction approaches (i.e., evidence-based public health policies designed to reduce the harmful consequences associated with high-risk drinking activities) in assisting the current shift of knowledge, attitude and beliefs for alcohol consumption (15, 85-87). Better awareness of the relationship between alcohol and cancer among health professionals is also identified as a key priority (87) to strengthen attention on alcohol as a key modifiable risk factor. Capacity to support public awareness, policy development and the monitoring and evaluation of epidemiological trends and other key information sources in support of alcohol control is needed (85, 86), as is acknowledging the need for and local efforts across all levels of government and civil society (15, 85-87).

3. National, provincial and municipal alcohol policies, strategies & recommendations

Existing Policies & Strategies

Babor et al. (83) identifies best practices in alcohol control policies that have the potential to reduce consumption, modify drinking patterns to encourage lower risk drinking, and/or reduce harm associated with alcohol consumption. Best practices, noted in bold, can specifically target prevention of alcohol-related chronic disease, including cancer, as these relate to volume of alcohol consumed:

- Minimum legal purchase age
- **Government monopoly of retail sales**
- Restriction on hours or days of sale
- **Outlet density restrictions**
- **Alcohol taxes**
- Lower alcohol strength
- Random Breath Testing
- Lowered Blood Alcohol Content (BAC) limits
- **Brief interventions for hazardous drinkers**
- Treatment and detox
- Administrative license suspension
- Graduated licensing for novice drivers

These policies were used in a recent analysis of alcohol in Canada (88) and several of these policies are currently implemented at the federal, provincial/territorial and municipal levels in Canada.

A comprehensive list of alcohol-related policies for Ontario and other provinces and territories along with up-to-date information on progress of alcohol-related policy priorities can be found on the Alcohol Policy Network (APOLNET) website*. There are three recent Canadian examples of alcohol frameworks, one national and two provincial. Specific actions have also been recognized at the municipal level as strategies to reduce overall alcohol consumption.

* Alcohol Policy Network (APOLNET): http://www.apolnet.ca/Index.html

National

A recent scan by the Canadian Partnership Against Cancer documented cancer prevention policy and legislation as it relates to food, physical activity, alcohol and public education in Canada within a ten-year period (1997-2007) (89). The federal policies focus on warning labels and Criminal Code amendments. In 2007, the National Alcohol Strategy Working Group (NASWG) presented *Reducing Alcohol-Related Harm in Canada: Toward a Culture of Moderation – Recommendations for a National Alcohol Strategy* (14). It contained 41 recommendations focusing on a wide range of issues within five strategic areas for action: 1) heath promotion; 2) prevention and education; 3) health impacts and treatment; 4) availability of alcohol; and 5) safer communities. A summary of recommendations can be found in Appendix 3.

Provincial

British Columbia, Nova Scotia and most recently Québec have an alcohol strategy in place.

Provincially, public education, warning labels and signage, taxation and Liquor License Act amendments have been key areas of action. Provincial strategies aimed at reducing the impact of alcohol-related harm such as legislation, regulation and enforcement campaigns against drinking and driving also exist. Current provincial policies and legislation focus on the control of retail sale and production of alcohol, off-premise sales restrictions and level of enforcement, age limit for purchasing alcoholic beverages, taxation, limited restriction on sponsorship of youth events, and voluntary, partial or complete restrictions on alcoholic beverage consumption in public domains (90).

British Columbia (11), Nova Scotia (12), and most recently, Québec (13) are examples of provinces that have an alcohol strategy in place. Alberta has a background document in support of developing an alcohol strategy (91). Saskatchewan includes alcohol as part of their province-wide health promotion strategy (92).

In Ontario, alcohol is included as part of other strategies including work by the Ontario Chronic Disease Prevention Alliance through the Ontario Public Health Association (93), which recently published key messages to address high-risk alcohol consumption (94).

In Ontario, the Ministry of Health and Long Term Care is developing a Mental Health and Addiction Strategy (95) expected to be released in fall 2011. It is unclear at this point how many actions will be targeted to alcohol in the strategy, and whether population-level interventions and controls on access to alcohol or promotion will be essential components.

In addition, as mentioned in Section E, Background, alcohol is clearly identified in the most recent Public Health Standards, emphasizing the need for public health units to identify alcohol within their assessment and surveillance activities, and health promotion and policy development activities as it relates to chronic disease prevention and substance misuse and injury prevention (37). A provincial alcohol strategy would be a timely and effective tool to identify the potential synergy across these initiatives and provide impetus for future initiatives to effectively reduce alcohol-related harm. A summary of current provincial alcohol strategies and broad objectives is listed in Table 2.

Over the past 15 years, there have been several developments in Ontario with respect to alcohol regulation and control. Most recently, there has been a concerted effort against any proposed privatization of the Liquor Control Board of Ontario (LCBO) (96), building from previous joint efforts by CAMH, the APN, TPH and other health departments across Ontario (97, 98). Other changes include updates to the *Liquor License Act*, employer liabilities of alcohol in the workplace, responsible hosting, impaired driving programs and campaigns, and restrictions on access of alcohol in youth (including campus alcohol controls), health promotion and alcohol and substance abuse prevention (e.g., mandatory provincial public health programs, the introduction of Low-Risk Drinking Guidelines, the continued maintenance and establishment of addiction services in Ontario) and municipal alcohol policy development and resources supporting municipal policy development (36).

School and work-based policies focus on enforcement to ban alcohol from these premises and sources of assistance for broader substance misuse instead of education supporting responsible drinking practices.

Table 2: Current provincial alcohol strategies with implications for cancer and chronic disease

Province/Territory	Current Alcohol Strategy	Description
British Columbia	Public Health Approach to Alcohol Policy: An Updated Report from the Provincial Health Officer (2008) (12)	Describes the levels and patterns of alcohol consumption; rates and trends of alcohol related health and social harms; the current cost-benefit profile of alcohol in BC; best practice policies for managing alcohol in society; and the status of current alcohol policies in BC relative to these best practices.
Alberta	Developing an Alberta Alcohol Strategy: Background Information (2007) (95)	Provides an overview of current alcohol-related issues; the benefits and harm that is associated with alcohol use; a starting point for discussions to develop an Alberta alcohol strategy that protects the public interest as well as individuals' right to choice.
Saskatchewan	Healthier Places to Live, Work, Play: A Population Health Promotion Strategy for Saskatchewan (2004) (96)	Provides a framework for population health promotion at the local, regional and provincial levels.*
Québec	La consommation d'alcool et la santé publique au Québec: Direction du développement des individus et des communautés (2010) (14)	Describes the impact of alcohol consumption on the health and wellbeing of Québec natives; the trends in alcohol consumption in the province on the health condition and wellbeing of the population; the importance for public health policies to prevent alcohol related harm both provincially and nationally; recommendations for alcohol-related harm prevention.
Nova Scotia	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 (2007) (13)	Describes the process of leading a major cultural shift so that Nova Scotians who choose to drink will do so without harm to themselves, their families, or their communities. Key recommendations in the implementation of the alcohol strategy are outlined.

* NB: This report does not include a specific alcohol strategy to reduce consumption, but more broadly positions alcohol harm reduction as part of the province's health promotion strategy to reduce chronic disease. As a result, this document was not included in subsequent analysis.

Municipal

Governments manage the availability of alcoholic beverages on municipal premises by implementing bylaws and other local ordinances, including guidelines for when and where alcohol can be served, the number of staff required at public events, entertainment tickets sales, warning signs, standard servings to limit intoxication, providing low-alcohol drinks and enforcement procedures for non-compliance.

The OPHS, directing work of local health units, supports healthy public policies for chronic disease prevention (37). A recent environmental policy scan for the Ontario Heart Health Network included an overview of municipal policies for alcohol control (99). There are several existing policies for the Central East region of Ontario (which includes Toronto and surrounding regions) that are in development or already implemented. These include policies pertaining to limiting the number of licensed permits (outlet densities) within a geographic area, safer bar training, and reducing service to minors or intoxicated patrons above the provincial requirements.

The City is also active in advocating for strong alcohol control policies, including the opposition of the LCBO privatization, lowering blood alcohol content (BAC) limits for driving and most recently zero BAC for drivers under 21, increased provincial taxes on alcohol and restricted advertising to youth (100).

Municipal Alcohol Policies (MAP) have also been adopted by the City to promote the health and safety of people at events on City property. The policy provides relevant information for individuals who obtain a Special Occasion Permit to prevent any dangerous situations involving alcohol for liability protection and to encourage low-risk drinking (101). The impact of such policies is positive. The Simcoe Muskoka Public Health District has demonstrated positive impacts with the implementation of MAPs. The frequency of alcohol-related problems decreased with their implementation, including illegal drinking, intoxication, police interventions and public complaints (102). The 2005 Toronto Drug Strategy (TDS) was the first municipal drug strategy adopted by City Council. TDS included a comprehensive range of actions to reduce the harms of substance use based on the integrated components of prevention, harm reduction, treatment and enforcement (103). Two status reports have been released on progress with the TDS recommendations, which are being implemented in partnership with a broad range of municipal, institutional and community partners (104).

Recommendations to support existing and new policies

National reports supporting and promoting existing alcohol policy along with their recommendations are listed in Appendix 4. As with the global recommendations, the five areas of focus (Table 1) are represented across the Canadian evidence reviewed. Three of the areas of focus - policy development and legislation, public awareness-raising and monitoring and evaluation - were highlighted across all reports. Recommendations for capacity building had a greater emphasis on reducing health inequalities and addressing the social determinants (33), as well as integrating health

promotion principles (e.g., empowerment). There was also greater emphasis placed on inter-provincial (105) and inter-sectoral coordination and integration as well as addressing alcohol-related disease through multiple strategies or "points of attack" (33).

H. DISCUSSION

There is strong evidence of alcohol as a risk factor for cancer, other chronic disease and injuries (1, 2, 3, 8, 47, 83). Given this impact, increased attention and support from all governments, public health units and organizations, non-governmental organizations (NGOs) and related charitable organizations, are needed (20, 29, 34, 105, 106). Currently, there is a great inconsistency between the evidence documenting alcohol-related harm and prevention and protection response efforts (51). This 'gap' may in part be due to the existing misconceptions of alcohol risks and benefits, as previously discussed.

The global public health goal is to reduce the proportion of the population who drink alcohol more than the recommended limit by one third, every ten years.

Building on existing recommendations

Immediate action is required to meet the global public health goal to reduce the proportion of the population who drink alcohol more than the recommended limit by one third every ten years (2). Given the extensive work underway at the municipal, provincial, national and global level, it is essential to build from existing initiatives to broaden the reach of alcohol harm reduction strategies and extend their impact as it relates to cancer prevention.

In reviewing the global and national evidence in support of alcohol policy and control, recommendations reinforced across the five identified areas of focus were collected and synthesized, as shown in Appendix 5.

In 2007, CAMH and the TCPC provided a seminar on recent research and emerging prevention opportunities related to alcohol, cancer and public policy. A collection of panel presentations outlined key recommendations for action and current programs, strategies and interventions in support of recommendations made to date (107). Areas for recommendation focused on policy development, supportive environments, personal skills, awareness, and assessment and treatment are included in Appendix 5.

In light of the evidence summarized from current global and national efforts and the most recent recommendations outlined by the TCPC for alcohol control, seven key recommendations were generated to support alcohol harm reduction specific to Toronto, and more broadly, Ontario.

Scope & Rationale

The scope of the recommendations for this report focuses on reducing the risk of cancer in the context of prevention versus cancer treatment. This is relevant especially given the preventable nature of alcohol-related cancers as well as the recent importance placed on cancer prevention worldwide (17, 108) and in Canada (83).

The recommendations focus on population-wide interventions (i.e., not focused on one specific demographic) given the broad impact alcohol-related harm among drinkers and non-drinkers. The recommendations are divided into short and long-term.

Recommendations also consider the target areas identified by Haydon et al. (109) for harm reduction. The authors of this report identify the current gaps in existing recommendations, given the emerging evidence and knowledge of alcohol-related chronic disease and cancer:

- **Goal setting** - Are there clear goals and are the resources accessible to achieve them?
- **Policy development** - Are most effective policies in place, implemented and enforced, and at all relevant levels?
- **Programs** - Are most effective best practices the most common? Are there mechanisms in place to facilitate coordination and avoid a duplication of effort?
- **Research** - Is there a good mix of multidisciplinary initiatives to assess causation of chronic diseases, and inform and evaluate interventions?
- **Monitoring and surveillance** - Is it adequate to capture inter-regional differences and sensitive to special populations?
- **Coordination** - Are there adequate resources for infrastructure development, training, and dissemination of best practices? Is there a clear understanding of who is responsible for what, how?

Multi-sectoral approach

A multi-sectoral approach is needed for the most effective response (106). A key leadership role is expected from several sectors and involving a range of specialists. Alcohol specialists, including both public health advocates and community workers, have a key role, as do researchers whose work focuses on alcohol epidemiology and evaluation of population level strategies. The Council of Ontario Medical Officers of Health have shown leadership on other health issues, such as tobacco control and policies and programs to reduce obesity and promote active living. In the past they have provided timely critiques of proposed changes in alcohol policy (e.g., privatization of the LCBO) that were expected to increase high-risk drinking and burden from alcohol. They have a critical opportunity to promote these recommendations and implement them. Non-profit agencies focusing on diseases and health issues where alcohol is a contributing cause, such as cancers and heart disease, to mention two, will find substantial benefits from taking an active role as part of collaborative effort.

Both traditional and non-traditional stakeholders are needed to uptake and apply recommendations that will help reduce the risk of alcohol-related cancer.

Notably, uptake and application of recommendations would benefit from support of "non-traditional" stakeholders, including the general public, facilitated through the media to encourage greater awareness and action in reducing the risk of alcohol-related cancer. The WCRF/AIRC Policy and Action document (110) acknowledged that concerted and integrated action by multiple actors is required for cancer prevention at all levels, as no single approach is sufficient on its own. Applied to theme of this paper, the TCPC recognizes the need for integrated action focused at the community, municipal and provincial levels. As such, the key recommendations identify relevant sectors required to move alcohol policy forward. Response, however, is not limited to the identified groups. It is important to highlight two limitations.

- First, while recommendations may seem broad in scope, their impact is directed towards the multiple conditions contributing and associated with alcohol use. These recommendations are intended to reduce population risk of cancer with associated benefits to chronic disease and injury prevention. By decreasing consumption and limiting socio-cultural influences related to high-risk drinking behaviours, these recommendations are expected to reduce population-level risks of cancer and also a number of other risks associated with alcohol, such as chronic diseases, trauma and social problems.

- Second, while it is important to implement all recommendations, it is clear that enactment and enforcement within the jurisdiction of a municipality is not always present. However, where the recommendations are in the provincial domain, local public health leaders, and municipal authorities can still play a key role in advocating for change and by indicating how risk-taking

and harm from alcohol in their local jurisdiction will be reduced through enlightened provincial public health policies on alcohol control.

Given the current context and progress to date on alcohol control, short-term recommendations are those that are targeted for implementation within one to three years. The longer-term recommendations can be considered important foci for the next 10 years and would be essential contributions as part of the provincial alcohol strategy for Ontario.

1. Short-term recommendations

a. The Province of Ontario provide strong support for targeted alcohol control strategies focused on limiting availability, access and consumption, and including controls on alcohol advertising and marketing, especially targeted to youth or high-risk drinkers. This is designed to reduce alcohol-related cancer, chronic disease and other risks associated with easy access to alcohol. (Policy Development & Legislation)

Given the strong research demonstrating the effectiveness of policies restricting alcohol availability and access as well as the efforts to reduce consumption, this recommendation is a key component of an alcohol control strategy. A recent review (111) speaks to the impact of the availability of alcohol on overall alcohol consumption, drinking patterns and damage from alcohol. With increased alcohol outlet density and hours and days of sales, a greater negative impact is expected on otherwise preventable alcohol-attributable harm. Focusing on specific at-risk groups and settings where excessive alcohol consumption is normalized will increase the potential impact of these strategies. Anderson et al. (35) enforce the need for more stringent alcohol policies in order to limit the rapid global increase of alcohol-related harm. Strategies focusing on limiting availability and access – and by extension, affordability and marketing – are both effective and cost-effective.

b. Relevant non-governmental organizations, in collaboration with health professional organizations, addictions specialists and public health units, to increase awareness among health professionals of the risks associated with excessive alcohol use. The purpose is to facilitate cancer and chronic disease prevention, through networks, alcohol-working groups and policy statements. (Capacity Building; Raising Public Awareness)

Recommendations from Canadian-based reports also stressed the shift required for health professionals to accept alcohol as a key modifiable risk factor for chronic disease. As discussed, alcohol is currently not a priority risk factor among other more common diet-related modifiable risk factors and the current myths associated with alcohol are a limiting step in advancing alcohol policy. Addressing these myths using accurate, evidence-informed information is important. Acceptance among health professionals is needed before attempting acceptance among the public. This includes health professionals across all sectors and levels of government. In addition, in order to develop greater capacity to deal with alcohol issues, special training courses are required to facilitate opportunities for policy development, promotion and knowledge exchange.

c. Public health units use targeted social-marketing strategies to clarify and increase public awareness of the risks – such as cancer and other diseases – associated with excessive alcohol consumption. The goal is to create greater capacity and interest in prevention of alcohol-related cancers, other chronic diseases and injuries. (Raising Public Awareness)

Recent evidence points towards the importance of disseminating accurate information on the risks associated with alcohol consumption. This will also contribute to dismantling the current myths of the benefits of alcohol and restrictive strategies for alcohol control. Furthermore, accurate information dissemination will help normalize the 'culture of moderation' as an accepted social norm for alcohol consumption. These strategies are also effective in increasing attention to alcohol on public and political agendas, while being cost-effective.

d. The Province of Ontario support comprehensive monitoring and evaluation of alcohol use and related harms. This is critical to assessing the efficacy of existing prevention, health promotion, and treatment policies and programs. At the same time, the province along with other stakeholders should collaborate to promote a combination of population-based and setting-specific interventions to reduce high-risk alcohol consumption. These activities are expected to provide resource material and evidence for fine-tuning interventions, training and planning next steps. (Monitoring and Evaluation; Capacity Building)

Several reports call for action to evaluate existing programs and strategies before 'reinventing the wheel' for alcohol control. Greater monitoring and surveillance efforts are needed to eliminate potential for duplication and inefficient use of resources, while continuing to build the evidence base on alcohol use and related harm to further inform alcohol policy. This includes capturing the differences that exist among special populations of interest to ensure relevance and impact as well as the social impacts of alcohol-related behaviours. Furthermore, collecting and disseminating information on the effectiveness of policies and programs, challenges in their implementation, contextual factors, opportunities for and constraints on change are key, as is a wide range of access among all sectors, including researchers, health professionals, decision-makers and policy advocates.

e. The Province of Ontario, in collaboration with relevant stakeholders, facilitate the development and dissemination of a comprehensive provincial alcohol strategy. This will provide a much-needed focus and priority-setting tool, drawing attention to the issue and pointing to effective next steps. (Cooperation and Coordination)

As noted earlier, alcohol is a major risk factor for chronic disease, trauma and social problems. A population level response is required in order to reduce the burden from high-risk drinking, whether regular or episodic, and also alcohol dependence. A provincial alcohol strategy is essential to highlight the burden from alcohol and to galvanize, focus and coordinate initiatives. Alcohol use and its related harms impact individuals across the spectrum of substance use and as a result, population-wide strategies are required that are specific to alcohol.

Given the current high level and growing evidence of alcohol-related harm, a policy strategy focusing specifically on alcohol is required to reflect the extent of the years of life lost and other disability

associated with its consumption. Recent developments in other jurisdictions signal the importance of an alcohol strategy. These developments include the approval of the WHO's Global Alcohol Strategy (15) and the implementation of a National Alcohol Strategy for Canada (14), along with the existing provincial strategies (11-13, 91, 92).

2. Long term recommendations

f. The Province of Ontario to coordinate health policies and strategies across all sectors – including non-traditional stakeholders such as the media and public – to integrate alcohol as a key risk factor in cancer, chronic disease and injury prevention, as well as prevention of other alcohol-related harms. This will reduce 'siloed' activities and duplication and will generate synergy and cost-reduction. (Policy Development & Legislation; Capacity Building; Raising Public Awareness)

Much of the evidence supports the need to shift the current alcohol paradigm, including the knowledge, attitudes and beliefs of the current perception of alcohol as an immediate risk factor as opposed to its long-term chronic impact. As alcohol becomes integrated as a 'mainstream' modifiable risk factor, it will facilitate the ability to obtain long-term funding support for alcohol control strategies. Haydon et al. (109) speak to the need for coordination to reduce any duplication of effort, thereby promoting synergy of action towards a common health goal. As such, this recommendation will also assist in promoting a 'culture of change' to reduce social acceptance of high-risk and heavy episodic use of alcohol.

g. Relevant governmental agencies and non-governmental organizations coordinate the efforts of national, provincial and local cancer and chronic disease prevention organizations, including the Canadian Partnership Against Cancer, Canadian Cancer Society and Cancer Care Ontario, to develop and support a focused alcohol, chronic disease and cancer prevention agenda for the next 10 years. This builds on earlier recommendations and reinforces a coordinated, focused response. (Cooperation and Coordination)

The evidence supports the need to develop a coordinated alcohol and chronic disease and cancer prevention agenda, which include all relevant sectors. This requires a substantial increase in resources as well as commitment across all sectors. Once a strategy has been approved, it will be necessary to develop a detailed action plan that outlines specific actions, roles that partners can play and feasibility studies of most effective scenarios for rolling out the specific components of the strategy.

3. Challenges in recommendation implementation

The current literature identifies several challenges in moving alcohol policies and strategies forward. Giesbrecht and McAllister (113) describe challenges implementing the National Alcohol Strategy in Canada and provincial strategies in British Columbia and Nova Scotia. Specifically, there are key challenges in the revenue associated with alcohol purchases and sales, as well as the necessary buy-in with the implementation of the recommendations.

Collaborative action is needed to address the several challenges limiting recommendation implementation.

Getting alcohol on the overall health agenda

There are challenges to get alcohol on the overall health agenda and to engage public health networks and communities on this issue. Despite economic imperatives to further normalize drinking, a full accounting of the direct and indirect costs associated with drinking is necessary. Highlighting that costs exist beyond health care and have broader implications – such as those to the labour force and enforcement, as well as the human costs to individuals, families and communities – is critical. Conversely, while alcohol itself is revenue generating for the Province, obtaining provincial resources to reduce the harms associated with alcohol use is very difficult.

Leadership and commitment are needed

In addition to the funds required, a substantial increase in leadership and commitment on this issue remains a challenge. Commitment among health professionals and other relevant sectors is key in advocating for further funds to support a comprehensive alcohol strategy. Insufficient political will and investment are also barriers to action. The WHO and other health organizations are taking leadership on this issue, including drawing attention to alcohol as a key risk factor for disease.

While several challenges exist as they relate to revenue generation, prioritizing alcohol as a key risk factor, and strengthening leadership in this area, it is imperative to work collaboratively in creating a 'culture of moderation' with respect to alcohol use is achievable.

I. RECOMMENDED ROLES OF TORONTO PUBLIC HEALTH TORONTO CANCER PREVENTION COALITION

Moving forward, the TCPC aims to provide leadership in coordinating a comprehensive approach to reduce the health risks associated with alcohol consumption and high-risk drinking behaviours, with an emphasis on cancer prevention. The TCPC Steering Committee will take the lead in advocating for the recommendations put forward in this report, in collaboration with identified stakeholders at the municipal, provincial and national levels, as we work together to reduce the incidence of cancer in Ontario and make the province the healthiest possible.

The following initial action steps are proposed for the Toronto Cancer Prevention Coalition:

- To develop detailed action plans for selected recommendations that include priorities, impact indicators and estimates of resource requirements. Toronto Public Health will provide input and support for action plans.

- To stimulate an enhanced interest in alcohol issues, and specifically alcohol and cancer, among Medical Officers of Health and public health units across Ontario, with Toronto Public Health providing leadership.

- To use this report as a basis and resource to develop a province-wide alcohol strategy for Ontario.

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APPENDIX 1: MANDATE OF THE TORONTO CANCER PREVENTION COALITION

Vision

As a leader in cancer prevention, reduce the incidence of cancer in the city of Toronto.

Mission

The Toronto Cancer Prevention Coalition will:

- Provide leadership in the primary prevention of cancer by developing and advocating for healthy public policy to support the broader determinants of health (in the city of Toronto); and

- Sustain a high profile, multi-stakeholder coalition to advance the primary prevention of cancer through accomplishing objectives which are beyond the scope of any one organization.

Goals

In the city of Toronto, we will:

1. Increase the number of public policy decisions that support the primary prevention of cancer through education, policy development and advocacy;

2. Increase the opportunity for stakeholder engagement in strategies and activities to support the primary prevention of cancer; and

3. Focus on equity and accessibility in our cancer prevention initiatives, to meet the needs of the diverse Toronto community and support the broader determinants of health.

APPENDIX 2: GLOBAL ALCOHOL-ATTRIBUTAL BURDEN OF DISEASE BY SEX AND CAUSE IN 2004 (4)

	Men (%)*	Women (%)*	Total
DISEASES FOR WHICH ALCOHOL HAS A DETRIMENTAL EFFECT			
Maternal and perinatal disorders (low birth weight)	64 (0.1%)	55 (0.5%)	119
Cancer	4,732 (7.6%)	1536 (13.5%)	6,268
Diabetes mellitus	0 (0.0%)	28 (0.3%)	28
Neuropsychiatric disorders	23,265 (37.6%)	6,417 (30.1%)	26,682
Cardiovascular diseases	5,985 (9.7%)	939 (8.3%)	6,924
Cirrhosis of the liver	5,502 (8.9%)	1,443 (12.7%)	6,945
Unintentional injuries	15,697 (25.4%)	2,910 (25.6%)	18,604
Intentional injuries	6,639 (10.7%)	1,021 (9.0%)	7,660
Total detrimental effects attributable to alcohol	*61,881 (100.0%)*	*11,349 (100%)*	*73,231*
DISEASES FOR WHICH ALCOHOL HAS A BENEFICIAL EFFECT			
Diabetes mellitus	-238 (22.2%)	-101 (8.1%)	-340
Cardiovascular diseases	-837 (77.8%)	-1145 (91.9%)	-1,981
Total beneficial effects attributable to alcohol	*-1,075 (100.0%)*	*-1,246 (100.0%)*	*-2,321*
All alcohol-attributable net DALYs	60,806	10.104	70,910
All DALYs	799,536	730,631	1,530,168
Percentage of all net DALYs attributable to alcohol	7.6%	1.4%	4.6%
CRA 2000 (for comparison)	6.5%	1.3%	4.0%

APPENDIX 3: SELECTED CURRENT GLOBAL ALCOHOL & CANCER PREVENTION RECOMMENDATIONS*

Source	Target Audience	Policy Development & Legislation	Capacity Building	Public Awareness-Raising	Monitoring and Evaluation	Cooperation and Coordination
WHO Global Alcohol Strategy (2009)	Member States Stakeholders	▪ Drink–driving policies and countermeasures ▪ Availability of alcohol ▪ Marketing of alcoholic beverages ▪ Pricing policies	▪ Community action	▪ Awareness and commitment ▪ Harm-reduction approaches ▪ Health services' response ▪ Reducing the public health impact of illegal or informal alcohol	▪ Monitoring and surveillance data increased	
WCRF/AICR (2007)	Multinational bodies Civil Society Organization Government Industry Media Schools Health & Other Professionals People	▪ Economic globalization; ▪ Availability and price; ▪ Food and drink processing; ▪ Product advertising and marketing	▪ Strategy targeting various ethnicities and culture ▪ School and work (settings)	▪ Individual, family and communities; ▪ Knowledge, attitudes and beliefs; ▪ Physical psychological stages ▪ Personal characteristics		▪ Multinational bodies and government ▪ Civil societal

* Full report citations are listed the References section of this report.

Source	Target Audience	Policy Development & Legislation	Capacity Building	Public Awareness-Raising	Monitoring and Evaluation	Cooperation and Coordination
Department of Health – United Kingdom (2007)	Allied health professionals Government Crime and Disorder Reduction Partnerships Alcohol Industry	▪ Sharpened criminal justice for drunken behaviour; ▪ Toughened enforcement of underage sales;	▪ Trusted guidance for parents and young people;	▪ Increases in the public's awareness of the risks associated with excessive consumption and how to get help ▪ Trusted guidance for parents and young people; ▪ Public information campaigns to promote a new 'sensible drinking' culture; ▪ More help for people who want to drink less;		▪ Public consultation on alcohol pricing and promotion; and local alcohol strategies.
Cancer Council of Australia (2007)	The Cancer Council Australia and its members (the state and territory cancer councils)	▪ Promote healthy policies in relation to alcohol consumption		▪ Increased awareness of the link between alcohol and cancer among the general public and key health professionals ▪ An increased capacity to monitor epidemiological trends ▪ An increased capacity to monitor behavioural trends	▪ An increased capacity to monitor epidemiological trends ▪ An increased capacity to monitor behavioural trends	▪ Effective coordinated policy development and implementation
Centre for Disease Control – United States (2000)	National (US) Health Agencies and Organizations Other health stakeholders as identified			▪ Adverse consequences of substance use and abuse ▪ Risk of substance use and abuse ▪ Treatment for substance abuse		▪ State and local efforts

APPENDIX 4: CANADA: SELECTED CURRENT STRATEGIES WITH ALCOHOL POLICY RECOMMENDATIONS *

Source	Target Audience	Policy Development & Legislation	Capacity Building	Public Awareness-Raising	Monitoring and Evaluation	Cooperation and Coordination
Canadian Cancer Society & Cancer Care Ontario: Cancer 2020 Action Plan (2006)	Politicians and bureaucrats at all levels of government Volunteers and staff of cancer Organizations, of members of the medical and public health community, Private sector Ontarian public	▪ Promote policies and interventions that will curtail the current rising level in the overall rate of alcohol consumption and reduce the proportion of Ontarians who drink at high-risk.			▪ Increase research funding for primary prevention and screening. ▪ Build a well-developed, long-term research agenda to guide investment on population-based cancer research and on risk factors that have traditionally received less attention (including alcohol)	▪ Coordinate provincial cancer prevention efforts with groups who have an interest in similar diseases and risk factors (e.g., diabetes, heart disease, tobacco use, obesity and high-risk drinking).
Centre for Addiction and Mental Health (CAMH): Alcohol and Cancer Best Advice (2007)	Government NGOs			▪ Develop effective information dissemination strategies	▪ Promote monitoring, research and prevention planning ▪ Promote Effective Interventions	▪ Put alcohol on the agenda of chronic disease and cancer prevention. ▪ Build more effective links with mainstream cancer organizations

* Full report citations are listed the References section of this report.

Source	Target Audience	Policy Development & Legislation	Capacity Building	Public Awareness-Raising	Monitoring and Evaluation	Cooperation and Coordination
Alcohol Policy Network – Alcohol and Chronic Disease: An Ontario Perspective (2007)	Policy makers Practitioners	▪ Need to develop health policy across sectors. ▪ All relevant proximal and distal factors in the development of alcohol related chronic disease need to be included. ▪ Strategies should be evidence-based where possible	▪ Address health inequalities and health inequities, (types of alcohol consumption and consequences) ▪ Empowering communities ▪ Funding and support needs to be available in the long-term	▪ Raise awareness of alcohol as a risk factor for chronic disease and promote action on this risk factor — in combination with other risk factors — in chronic disease prevention initiatives.		▪ Incorporate multiple determinants of health and consider multiple "points of attack" in addressing alcohol-related chronic disease. ▪ Capacity building needs to come through both horizontal and vertical integration and comprehensive institutional organization.
Changing the Culture of Alcohol Use in Nova Scotia (2007)	Policy makers Practitioners	▪ Healthy Public Policy	▪ Community Capacity and Partnership Building	▪ Communication and Social Marketing ▪ Strengthening Prevention, Early Intervention, and Treatment	▪ Research and Evaluation	
Developing an Alberta Alcohol Strategy (2007)	Policy makers Practitioners	▪ Population-based approaches, including regulation, enforcement, legislation and taxation	▪ Health promotion and prevention strategies, including education	▪ Targeted interventions focused on harm reduction, treatment		

Source	Target Audience	Policy Development & Legislation	Capacity Building	Public Awareness-Raising	Monitoring and Evaluation	Cooperation and Coordination
National Alcohol Strategy - Reducing Alcohol-Related Harm **In Canada: Towards a culture of moderation (2007)**	F/P/T Governments NGOs Alcohol and hospitality industries Colleges Universities First Nations Communities	▪ Implement and enforce effective measures that control alcohol availability	▪ Create safer communities and minimize harms related to intoxication.	▪ Raise public awareness about responsible alcohol use, and enhance the resilience of individuals and communities and their capacity to participate in a culture of moderation. ▪ Reduce the negative health impacts of alcohol consumption		
British Columbia's Public Health Approach to Alcohol Policy (2008)	Policy makers Practitioners	▪ Economic availability ▪ Physical availability				
Cancer Care Ontario's GTA Cancer Prevention & Screening Network: Alcohol – Canada's Favourite Drug (2009)	Public health agencies and institutions		▪ Capacity of response networks (i.e., knowledge transfer, training and resource allocation) need to be enhanced	▪ Capacity of response networks (i.e., knowledge transfer, training and resource allocation) need to be enhanced ▪ Myths pertaining to alcohol to be addressed ▪ Focus on provincial/territori	▪ Monitoring and tracking systems on the impact of alcohol and chronic disease and trauma ▪ Acknowledge challenges with large profit and revenue generation associated with	▪ Application of tobacco control movement experiences (i.e., generic lessons, and models) to be adapted for alcohol-harm reduction

Source	Target Audience	Policy Development & Legislation	Capacity Building	Public Awareness-Raising	Monitoring and Evaluation	Cooperation and Coordination
				al and local levels to reduce social, economic and health damage from alcohol regarding taxation, evidence-based drinking and driving policies and implementation of the recommendations of the National Alcohol Strategy	alcohol sales; highlighting costs associated with human, social, labour and health care costs. ▪ Controlling overall alcohol consumption and high-risk drinking; reducing alcohol-related harm requires public health groups, NGOs and various charities to acknowledge alcohol as a risk factor	
Toronto Cancer Prevention Coalition: 10 year anniversary report (2008)	City of Toronto (along with community partners and other levels of government)	▪ Support restricted access to alcohol		▪ Support the dissemination of accurate and current information to the public about the link between drinking and cancer ▪ Support targeted education to reduce alcohol related cancer		
La consommation d'alcool et la santé publique	Policy makers and Practitioners in Québec and Canada	▪ Support restricted access to alcohol through price control and taxation, strict		▪ Public acceptability of alcohol promotional practices	▪ Research on the trend of alcohol prices and consumption across socio-	▪ Reaffirm the social corporate responsibility for responsible drinking

Source	Target Audience	Policy Development & Legislation	Capacity Building	Public Awareness-Raising	Monitoring and Evaluation	Cooperation and Coordination
au Québec: Direction du développement des individus et des communautés (2010).		marketing ▪ Maintain the privatization of alcohol ▪ Reinforce laws of drinking and driving, including lowering acceptable BAC			economic groups ▪ Epidemiologic monitoring of alcohol consumption and harms	

APPENDIX 5: SUMMARY OF EXISTING KEY RECOMMENDATIONS FOCUSING ON ALCOHOL

(2, 11, 12, 17, 18, 20, 27, 29, 30, 31, 85-87, 91, 105) *

Area of Focus	Recommendations
Policy Development and Legislation	▪ **Continue to support existing alcohol control strategies focusing on availability and access, including price and taxation** ▪ **Promote existing alcohol policies aimed at reducing alcohol consumption** ▪ Develop health policy across all sectors which includes a comprehensive integration of alcohol as a key risk factor in cancer and chronic disease prevention ▪ **Collaboration with Alcohol Industry for tighter alcohol control and outlining of associated risks of consumption**
Education and Capacity Building	▪ Target specific actions to reduce alcohol consumption with at risk groups (e.g., youth, social inequalities) and settings (e.g., workplaces, colleges and universities) ▪ Obtain long-term funding support for alcohol control strategies to reduce consumption and promote alcohol as a key risk factor for cancer and chronic disease prevention ▪ Support role model and skill building during adolescence and youth ▪ **Promote brief interventions for excessive alcohol consumption that are setting specific (e.g., workplaces, colleges, universities)**
Public Awareness-Raising	▪ **Increase public awareness on the risks associated with excessive consumption of alcohol, how to decrease risk of substance abuse, and how to get help** ▪ **Increase awareness among health professionals on the risks of excessive alcohol consumption, and incorporate alcohol as a risk factor into existing chronic disease prevention and health promotion strategies** ▪ Develop effective information dissemination strategies targeted to specific groups (i.e., social marketing) that do not stigmatize drinkers and are contextually relevant given social norms ▪ Disseminate accurate information about alcohol and address the current myths ▪ Expand focus of current alcohol paradigm of immediate risks to include cancer and chronic disease, to promote a "culture of moderation" for alcohol consumption
Monitoring and Evaluation	▪ **Support monitoring and evaluation of alcohol consumption and associated harms** ▪ Support monitoring and evaluation of existing prevention and treatment programs ▪ Develop a long-term research agenda for alcohol control and support further research to establish larger evidence-base for the relationship between alcohol and cancer ▪ Address challenges of alcohol sales profit weighed with human, social, labour and health care costs
Cooperation and Coordination	▪ Develop an alcohol and chronic disease and cancer prevention agenda ▪ Coordinate provincial cancer prevention efforts with other diseases with similar risk factors and mainstream health promotion strategies ▪ Horizontal and vertical integration across local, provincial/territorial and federal governments, NGOs, Alcohol Industry, cancer and chronic disease institutions and organizations .

* The recommendations highlighted in bold relate specifically to alcohol-related cancer prevention with respect to decreasing overall alcohol consumption.

Toronto Cancer Prevention Coalition