



Submission to:

**WA Education and Health Standing Committee
Inquiry into the Adequacy and Appropriateness of
Prevention and Treatment Services for Alcohol and
Illicit Drug Problems in Western Australia**

June 2010

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Key messages

- Alcohol use is a carcinogen, that is, a known cause of cancer.
- There is *convincing* evidence that alcohol use increases the risk of cancers of the mouth, pharynx, larynx, oesophagus, bowel (in men) and breast.
- Alcohol use *probably* increases the risk of liver cancer and, in women, bowel cancer.
- Alcohol use can also contribute to weight (fat) gain. Greater body fatness is a *convincing* cause of cancers of the oesophagus, pancreas, bowel, endometrium, kidney and breast (in postmenopausal women).
- Smoking and alcohol together have a synergistic effect on cancer risk, meaning that the combined effects of their usage are significantly greater than the individual risks added together.
- Alcohol use is also a cause of other serious health conditions, including alcohol dependence, mental illnesses, cirrhosis of the liver and stroke.
- Alcohol contributes to cancer risk on a dose response basis – that is, the greater the level of consumption, the higher the risk.
- Even low levels of alcohol consumption contribute (in a small way) to increases risk of some common cancers
- There is no protective effect of cancer for any form of alcohol and all forms of alcohol (regardless of beverage type) contribute to cancer risk
- Alcohol intoxication is a common contributing factor in car crashes, unintentional injuries, suicide, criminal activity and episodes of violence. It is also a significant cause of social disruption in some communities.
- The existing evidence does not justify the promotion of alcohol use as a way of preventing cardiovascular disease, as the previously-reported role of alcohol in reducing cardiovascular risk in light to moderate drinkers appears to have been overestimated.
- There appears to only be moderate levels of belief that alcohol increases cancer risk (10-15% unprompted and 30-50% prompted awareness)
- **Cancer Council Western Australia recommends that people avoid drinking alcohol.** For people who do drink alcohol, the recommended amounts are no more than two standard drinks on any day. A standard drink contains 10g alcohol, and is equal to 285mL full strength beer, 450mL of low-alcohol (light) beer, 100mL wine and 30mL spirits. •

Background

Alcohol use is widespread in Australia and is closely associated with a range of social and cultural practices. However, it is also a leading cause of illness, injury and death, whether resulting from short term episodes of intoxication, or from long term, chronic use. It is long-term chronic use that is related to cancer risk.

It has been known for more than twenty years that alcohol can cause cancer. In 1988, the International Agency for Research on Cancer (IARC) stated that “the occurrence of malignant tumours of the oral cavity, pharynx, larynx, oesophagus and liver is causally related to the consumption of alcoholic beverages” and classified alcoholic beverages as Group 1 carcinogens – known to cause cancer in humans.[1] Ethanol, the chemical present in all alcoholic beverages and which induces the altered physical and mental responses experienced with alcohol use, has also been listed as a Group 1 carcinogen.[2]

Epidemiological evidence

The most recent comprehensive review of the scientific evidence by the World Cancer Research Fund (WCRF) has concluded that there is *convincing* evidence that alcohol is a cause of cancer of the mouth, pharynx, larynx, oesophagus, bowel (in men) and breast, and *probable* evidence that alcohol increases the risk of bowel cancer (in women) and liver cancer.[3]

There is a dose-response relationship between alcohol and cancer for men and women. Studies have shown that the risk of cancer increases with increasing consumption of alcohol on a regular basis.[3-6]

Scientific research is continuing to identify other cancers which could be linked with alcohol use. For example there is some evidence that heavy alcohol consumption may be associated with a higher risk of prostate cancer.[7, 8]

There is no substantial evidence from studies in human populations that alcohol consumption provides protection against any types of cancer.[3] Rather, the evidence shows that there is no threshold (or “safe limit”) for alcohol consumption and cancer[3] and that the more alcohol is consumed over a lifetime, the greater the risk of developing alcohol-related cancers.[9]

Burden of disease and injury

Australian data show that alcohol is an important contributor to the overall burden of disease and injury in Australia.[10] Burden of disease and injury is measured in disability-adjusted life years (DALYs), which calculate the amount of time lost due to both fatal and non-fatal events; that is, years of life lost due to premature death coupled with years of “healthy” life lost due to disability.[10] In 2003, alcohol was ranked sixth after tobacco, high blood pressure, high body mass, physical inactivity and high blood cholesterol as a cause of burden of disease and injury in Australia.[10] Alcohol was responsible for 3.1% of the burden of disease and injury due to cancer, however these data pre-date confirmation that bowel cancers are caused by alcohol use and are therefore likely to be an underestimate.[10]

Because alcohol is frequently consumed in excess by young people, it is responsible for many lost years of life.[11] The financial cost of disease, injury and crime caused by alcohol in Australia has been estimated to be about \$15.3 billion.[12] The proportion of these costs which can be attributed to alcohol-related cancer is not specified.[12]

Smoking and drinking: synergies for high risk

Smoking and alcohol together have a synergistic effect on upper gastrointestinal and aero-digestive cancer risk, meaning the combined effects greatly exceed the risk from either smoking or alcohol alone.[13] The synergistic effect of alcohol and smoking has been estimated to be

responsible for more than 75% of cancers of the upper aero-digestive tract in developed countries.[14]

Alcohol and heart disease

Earlier research which reported that low to moderate levels of alcohol consumption might reduce the incidence of coronary heart disease may be flawed.[15] A number of studies reported a “U- or J-curve” relationship between amount of alcohol consumed and mortality, in which non-drinkers and individuals who drank more heavily appeared to have higher mortality than low to moderate drinkers. These findings suggested that alcohol had a protective effect in low to moderate drinkers. Subsequent research has questioned the methodology used in these studies.

The putative benefits of moderate alcohol consumption on heart disease appear to be confined to the middle-aged and older. However, the ongoing debate over the potential impact of uncontrolled confounders on estimates of the size of cardio-protective effect and whether or not moderate drinking should be recommended for heart protection will be difficult to reconcile in the absence of randomised controlled trials for the general population. Acknowledging these issues, the World Health Organization has stated that “...from both the public health and clinical viewpoints, there is no merit in promoting alcohol consumption as a preventive strategy.”[15]

In Australia, the Heart Foundation explicitly recommends against the consumption of red wine and other types of alcoholic drinks for the prevention or treatment of cardiovascular disease.[16]

Alcohol and weight gain

From a nutritional viewpoint, alcoholic drinks represent “empty kilojoules.” In other words, alcoholic drinks are high in kilojoules but low in nutritional value, especially when added to sugary mixer drinks. Alcohol itself has a comparatively high energy content (29 kilojoules per gram) compared with other macronutrients (Table 1).[17]

Table 1: Food energy conversion factors

	kJ/g	kcal/g
Fat	37 kJ/g	9 kcal/g
Alcohol	29 kJ/g	7 kcal/g
Protein	17 kJ/g	4 kcal/g
Carbohydrate	17 kJ/g	4 kcal/g

Source: Food and Agriculture Organisation.[17]

If people drink alcohol in addition to their normal dietary intake, they are liable to gain weight. Alcohol provides extra kilojoules, and slows fat and carbohydrate oxidation.[18] On the other hand, if drinking replaces healthy eating patterns, it can lead to nutritional deficiencies and serious illness.[18]

Calculations based on average energy intakes from the *1995 National Nutrition Survey* have shown that four 375 mL cans or stubbies of beer (6 standard drinks) would contribute about 20% of average male energy intake, and four 375 mL cans of pre-mixed spirits (6 standard drinks) would contribute 43%.[18] In women, two average serves (3 standard drinks) of wine equated to 6-10% of average daily energy intake and two 375 mL cans of pre-mixed spirits (3 standard drinks) equated to approximately one third of daily energy intake.[18]

Given this, it is not difficult to predict that the cumulative effects of alcohol use can lead to weight gain. Therefore as well as being a direct cause of several cancers, alcohol might also contribute indirectly to those cancers associated with excess body fatness. There is *convincing* evidence that body fatness increases the risk of cancers of the oesophagus, pancreas, bowel, breast (in post-menopausal women), endometrium and kidney, and *probable* evidence that body fatness increases the risk of gallbladder cancer.[3]

Alcohol consumption in Australia

Adults

In 2007, 83% of Australians aged 14 or older had consumed at least one drink in the previous year ("recent drinkers").[19] Of recent drinkers, about half drank on a weekly basis, and one in ten drank daily. Seventeen percent of adults were either ex-drinkers or never-drinkers. Males were more likely to consume alcohol than females.[19]

Although most drinkers (61%) aged 14 years or older consumed alcohol at levels regarded as low risk to health in the short or long term, nearly one in 10 drinkers (8.6%) consumed alcohol at risky or high risk quantities to their health in both the short and long term.[19] These drinking patterns have persisted since 2001.[19] The majority of people classified as recent drinkers reported that they had made an effort to reduce their alcohol consumption. The most common reason given for doing so was because of health considerations.[19]

It is worth noting that the data on levels of personal alcohol consumption contained in these national surveys are based on self report by participants. When compared with the volume of alcohol known to be cleared for consumption (on the basis of statistics on sales figures, taxation and customs data) there is a significant shortfall. It is therefore probable that individuals under-report their personal levels of consumption.[21, 22]

Quantities of alcohol consumed by Australian adults aged 15 years or over appear to have remained relatively stable over the past fifteen years at just fewer than 10 litres per capita.[23] Compared with other countries within the Organisation for Economic Cooperation and Development (OECD), Australia is middle ranking on the basis of per capita alcohol consumption.[23] In 2008, apparent per capita consumption of alcohol in the population aged 15 years or more was 9.95 litres, about half of which was consumed in the form of beer.[24] Consumption of ready-to-drink, pre-mixed spirits increased between 2006 and 2007 but has since stabilised.[24] Consumption of undiluted spirits dropped between 2006 and 2007 and increased between 2007 and 2008.[24] It is likely that these trends reflect alcohol taxation policy in place at the time.

Children

Experience with alcohol is common among teenagers, and likelihood of use increases with age.[25] *The Australian Secondary Students' Alcohol and Drug (ASSAD) survey (2005)* shows that by age 15 about 90% of students had tried alcohol, and by age 17, 70% of students consumed alcohol in the month prior to the survey.[25] The proportion of students drinking in the week prior to the survey increased with age, from 10% of those aged 12 to about half of 17-year-olds.[25] About 5% of 12- to 15-year-olds and 20% of 16- and 17-year-olds had consumed alcohol at levels which could lead to short term harm during the week prior to survey. Teenagers were most likely to drink alcohol in the form of pre-mixed drinks or spirits.[25]

Indigenous Australians

Although Aboriginal and Torres Strait Islander Australians are more likely to abstain from alcohol use than the non-Indigenous population, of those who do drink, a higher proportion drink at risky or high-risk levels.[26] In 2004-05, 29% of Indigenous Australians had not had a drink in the previous 12 months, about twice the prevalence of non-Indigenous Australians (15%).[26] Among the populations who had consumed alcohol, however, 34% of Indigenous Australians had consumed at long-term risky or high-risk levels, compared with 22% of non-Indigenous Australians.[26]

The effects of alcohol use are felt especially heavily in this population. In 2003, drinking caused 8% of all Indigenous deaths and was responsible for 6% of the total burden of disease and injury for Indigenous Australians,[27] approximately double that for the total Australian population.[10] Liver cancer, and cancers of the lip, mouth and pharynx occur at more than twice the rate in Indigenous Australians compared with non-Indigenous Australians.[28] The higher rates of liver cancer are likely to be attributable to elevated rates of infection with the hepatitis B virus and excessive alcohol consumption in some Indigenous males.[28] The likelihood of developing

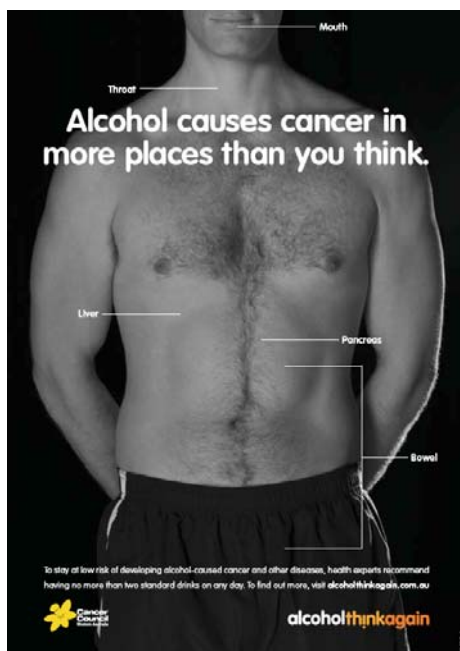
cancers of the lip, mouth and pharynx is elevated in people who use tobacco and who drink alcohol; and the risk is much higher in people who use both substances.[28] As well as risky drinking, smoking is more prevalent among Indigenous people than in the non-Indigenous population.[26]

Public perception of alcohol and cancer risk

In Australia there appears to be moderate levels of belief that alcohol increases cancer risk (10-15% unprompted and 30-50% prompted awareness). However, this belief is not strongly held and it is not salient. Notably, beer is perceived to increase cancer risk to a lesser extent than ‘alcohol’, and red wine is often perceived to decrease cancer risk. It may well be that media coverage of the “protective” health effects of red wine in terms of cardiovascular disease appear to be generalised to or confused with cancer.

In Australia, alcohol harm-reduction communication messages have focused almost exclusively on the adverse health and social consequences of drink driving and excessive alcohol consumption (i.e., binge drinking) mainly among young people. There has been limited promotion of the message that alcohol increases cancer risk as a motivator to reduce alcohol consumption.

Cancer Council Western Australia strongly supports the “alcohol. think again” campaign run by the Drug and Alcohol Office (Western Australia). The most recent phase of this campaign, launched in May 2010, focuses on the link between moderate alcohol consumption and cancer risk, primarily in women.



Cancer Council Western Australia policy positions

Cancer Council Western Australia endorses the following Cancer Council Australia policy positions:

- Consumer information and labelling of alcohol
- Marketing and promotion of alcohol

<http://cancer.org.au/Healthprofessionals/PositionStatements/alcohol.htm>

Cancer Council Australia strongly supports the following Alcohol Policy Coalition (Victoria) policy positions:

- Physical Availability Position Statement
- Pricing and Taxation Position Statement
- Supply of Alcohol in Private Settings

http://alcoholpolicycoalition.org.au/?page_id=69

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