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This edition of Alcohol NZ is a timely reminder of the health and social effects of alcohol. We are all well aware of the acute harms that result from drunken behaviour for, unfortunately, such behaviour is evident in many of our cities and towns on the weekends with fights, accidents and drunken driving. Such behaviour is also often associated with relationship breakups, job losses and financial problems, again all of which can be very visible.

But the health harm and impacts on others from alcohol is less obvious. Such harm can develop over a longer period of time but the consequences are no less devastating both for the individuals involved and their families and whānau.

To address both the acute and longer term health harm from alcohol, we need to have a comprehensive range of strategies in place for as we know no single strategy can on its own change the way we drink.

HPA’s current social permission marketing campaign is one part of a comprehensive strategy aimed at changing our drinking culture. The campaign which extends the very successful ‘Ease up on the drink’ work was launched last month with a television commercial and will be followed up by local communities leveraging off the national campaign with their own initiatives.

The campaign uses the uniquely Kiwi expression ‘Yeah Nah’ to give New Zealanders social permission to be able to ‘Ease up’.

It is a way of giving New Zealanders a language or ‘verbal shorthand’ to allow them to refuse a drink in a way that is seen as more socially acceptable. It is a uniquely kiwi way of saying ‘no’ and affirms an individual’s decision not to drink. It’s a phrase that is already widely used and understood that has been adapted to the drinking environment.

Another closely related HPA campaign is the help-seekers’ marketing campaign which invites heavy drinkers to answer a few questions about the consequences of their drinking and call the Alcohol Drug Helpline if they find themselves answering ‘yeah’ more often than they would like. It ties in with the Say Yeah Nah campaign by using the terms ‘Yeah’ and ‘Nah’ and it is intended that each campaign will add value to the other.

Both campaigns extend the work of HPA’s predecessor organisation, ALAC, and reflect HPA’s commitment to alcohol work which makes up a big part of HPA’s work plan. This campaign sits alongside HPA’s policy, advice, research and community action work.

This year is a watershed year for alcohol reform with the implementation of the new Sale and Supply of Alcohol Act 2012 that was passed at the end of last year. For the first time in more than 25 years, we have passed legislation tightening up rather than loosening up the laws around the sale and supply of alcohol.

An objective of the new law is that the harm caused by excessive or inappropriate consumption of alcohol should be minimised. These harms include the immediate health and social harms, such as alcohol poisoning, violence and injury, and the longer-term health harms, such as liver disease and a range of cancers.

AlcoholNZ provides interesting reading with articles covering the potential impact of alcohol consumption on our future and current health as well as the impact of alcohol on others. As Associate Minister of Health responsible for HPA and also as a former nurse these are all areas I have a particular interest in. I encourage you all to read on.
The HPA leads and delivers innovative, high quality and cost-effective programmes that:

- promote health, wellbeing and healthy lifestyles
- prevent disease, illness and injury
- enable environments that support health and wellbeing and healthy lifestyles
- reduce personal, social and economic harm.

It also undertakes functions specific to providing advice and research on alcohol issues.

**Key areas of work are:**

- alcohol
- health education resources
- immunisation
- mental health
- minimising gambling harm
- more heart and diabetes checks
- nutrition and physical activity
- rheumatic fever
- sun safety
- tobacco control.
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RESPECT A MATE’S RIGHT TO SAY YEAH NAH AND EASE UP ON THE DRINK
Welcome to AlcoholNZ

Welcome to this issue of the Health Promotion Agency’s (HPA) AlcoholNZ magazine. AlcoholNZ provides quality, evidence-based articles and summaries of new alcohol-related research to update readers’ knowledge and to inform debate about the alcohol-related issues in New Zealand.

AlcoholNZ contributes to HPA’s statutory alcohol-related functions to:

• give advice on the sale, supply, consumption, misuse and harm of alcohol
• undertake, or work with others, to research the use of alcohol in New Zealand, public attitudes towards alcohol, and problems associated with, or consequent on, the misuse of alcohol.

This issue includes a range of articles covering the role of alcohol for specific health issues, such as cancer and diabetes. It also looks at the impact of alcohol on children and young people.

The positive side of alcohol is not neglected, with an article provided on the pleasure of alcohol. This issue also presents an overview of new research that has estimated the burden of death, disease and disability attributable to alcohol consumption in New Zealand. This research, from the University of Otago, on the Alcohol-attributable burden of disease and injury in New Zealand: 2004 and 2007 was commissioned by the Alcohol Advisory Council of New Zealand (ALAC) (whose functions are now undertaken by HPA) and is being published this month.
This issue of AlcoholNZ includes articles of some but not all of the aspects of the health and social effects of alcohol. Other areas are likely to be covered in future issues.

Further information, research, resources and online tools about the body and health effects of alcohol can found on HPA’s alcohol website.

www.alcohol.org.nz
George Bernard Shaw once said that “alcohol is the anaesthesia by which we endure the operation of life”. Although some might find this an overly pessimistic sentiment, alcohol is certainly the drug of choice in New Zealand, whether it is used as a stimulant, relaxant or an anaesthetic.

And whatever benefits alcohol has in facilitating social interactions and taking the edge off a hard day, the harm alcohol can do to our health and wellbeing should not be forgotten. Nor should it come as a surprise, for as well as functioning as a social lubricant, alcohol is also a carcinogen (causing cancer), a teratogen (causing abnormalities in the unborn child), an addictive substance (causing dependency), and a toxin (causing cell damage).

Many of the ways alcohol affects our bodies are commonly known about. Almost everyone knows that too much alcohol can damage the liver and cause liver failure or even liver cancer. But how many people know that alcohol is classed as a carcinogen and also causes breast cancer, bowel cancer, oesophageal cancer and throat cancer? And while we often hear about physical and sexual assaults, injuries, accidental drowning and road crashes when these have led to arrests, hospitalisations or coroner’s inquests, less attention is given to the role of alcohol in family violence and child neglect, when these things happen behind closed doors. Although most people are aware of the advice about avoiding alcohol while pregnant, because this can harm the baby (even if this advice is ignored), probably fewer are aware that alcohol can reduce fertility, increase the risk of miscarriage and premature birth and lead to impotence in men.

Some health effects of alcohol are incontestable. Anyone who has drunk too much at a single session would be familiar, to a greater or lesser degree, with the symptoms of alcohol poisoning (acute alcohol intoxication). These start with changes in mood and behaviour, impaired judgement and social functioning, and one or more physical signs such as slurred speech, unsteadiness, lack of co-ordination, nausea and vomiting, and, at the extreme, loss of consciousness and death. In addition, nobody who has experienced a hangover will dispute the ability of alcohol, in large doses, to cause a variety of unpleasant symptoms, including headache, nausea, stomach pain, fatigue and irritability.

However, some health effects of alcohol are more complex or even contradictory. The effect of alcohol on the cardiovascular system is almost certainly the area of most controversy. The relationship between alcohol and stroke is just as complicated. Another area of debate, where the evidence can be confusing, and sometimes conflicting, is whether alcohol leads to obesity.
Effects on the body

Brain
Being drunk alters mood, impairs judgment and concentration, and in increasing amounts leads to drowsiness and coma. Long term alcohol use can damage the brain and nerves, leading to pain, weakness, difficulty walking, epilepsy (chronic fits), sleep disturbances, memory loss and dementia (loss of mental ability due to death of brain cells).

Heart
Light to moderate alcohol use may reduce coronary artery disease (which can cause heart attacks) in some people, but heavy drinking may increase the risk of coronary artery disease. Heavy alcohol use is also associated with sudden death, irregular heartbeats and chronic disease of the heart muscle, which leads to heart failure, where the heart can no longer pump blood around the body effectively. Alcohol use can also be linked to high blood pressure.

Liver
Long term alcohol use can damage the liver, causing alcoholic hepatitis (acute injury to the liver occurring after prolonged heavy alcohol use), cirrhosis (where liver cells are damaged and replaced by scar tissue) and cancer.

Pancreas
Alcohol use, particularly when heavy, can cause acute or chronic pancreatitis (inflammation and damage to the pancreas). Heavy alcohol use can also lead to dangerously low blood sugar or build up of acids in the body.

Sexual health
Being drunk increases the chances of having unsafe sex, sex that is later regretted or experiencing sexual assault as alcohol impairs judgment and lowers inhibitions. Chronic heavy alcohol use can lead to impotence in men and reduced fertility in both men and women.

Stomach and food pipe
Being drunk can lead to nausea and vomiting, diarrhoea, reflux (when acid from the stomach rises up into the food pipe) and gastritis (inflammation of the stomach). Long term alcohol use can cause cancer of the food pipe (oesophagus). Chronic heavy alcohol use can lead to chronic gastritis and bleeding from the stomach and/or oesophagus.

Hangovers
A hangover can be described as the body’s ‘rebounding’ from the effects of alcohol. It is partly due to dehydration, as alcohol directly stimulates the excretion rate of kidneys and the formation of urine.

Heavy Drinking
Chronic and heavy alcohol use increases the risk of death. Alcohol can cause death directly, e.g. from drinking too much in one session which can cause coma, reduced breathing and death or because it causes a fatal disease such as cancer, or indirectly, such as being a factor in violent death or suicide.
Alcohol – the Body & Health Effects

This resource provides a brief overview of the health and body effects of alcohol. Areas covered include the effects of alcohol on body parts, the health effects of acute alcohol use, the health conditions related to chronic alcohol use, and the effects of alcohol on other people and populations. It also outlines ALAC/HPA low-risk drinking advice.

This resource is available online and in hard copy from www.alcohol.org.nz or by contacting HPA.
The HEALTH IMPACTS of the way we drink in New Zealand
Background

Alcohol is a contributing cause of more than 200 illnesses defined by the International Classification of Diseases (ICD-10) and for most of these conditions the more alcohol consumed, the higher the risks for disease. Recently the Global Burden of Disease project has reported that alcohol is responsible for 5.5 percent of the global burden of ill-health, close behind high blood pressure (7 percent) and smoking (6.3 percent) (Lim et al., 2012). The diversity of effects of alcohol and high impact of alcohol on the health of the population means summaries of the overall effects of alcohol are valuable to inform prevention strategies and their priority.

Methods

This study uses methods adapted from the Global Burden of Disease 2010 Risk Factors Collaborating Group (see Box on page 17) and is very focused on the effects of alcohol on physical health, while acknowledging there is a range of other important impacts of alcohol that cannot be accounted for this way.

Key findings

**Mortality**

The report finds that, in 2007, there were 802 deaths of New Zealanders under 80 years of age that were attributable to drinking alcohol, representing 5.4 percent of all deaths in this age group. These deaths represent nearly 14,000 potential years of life lost (YLL) in this single year.

**Differences by Sex, Age Group and Ethnicity**

The major causes of alcohol-attributable deaths varied by sex, age group and ethnicity, but overall 43 percent were due to injuries (intentional and unintentional), 30 percent were due to cancer, and 27 percent to other chronic conditions.

Men were more likely to die as a result of alcohol consumption than women. The number of male deaths (537) was double the number of deaths in women (265) in 2007, and the estimated number of years of life lost was two and a half times higher in men than women. This finding that men were twice as likely to die as women was found for both Māori and non-Māori separately.

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1. Measured in disability-adjusted life years (DALYs).
For Māori, the proportion of all deaths that were attributable to alcohol was higher than for non-Māori and, once differences in age were accounted for, the alcohol death rate in Māori was two and a half times that of non-Māori.

Taken together, these sex and ethnicity patterns mean that Māori men were the group with the highest rates of alcohol-related mortality and years of life lost.

**Alcohol and Injuries**

Most of the sex and ethnic disparities were due to differences in injury deaths. As expected, injuries were responsible for a large share of the alcohol-attributable deaths, but there was a marked sex difference, with 280 injury deaths in men and 66 in women. Injuries made up 73 percent of all years of life lost from drinking in men and 42 percent in women.

**Leading Causes of Alcohol Deaths**

Overall, injuries were the dominant cause of alcohol-attributable deaths in adults from 15 to 44 years. For 15-29 year old men and women, and for 30-44 year old men, more than 90 percent of all alcohol deaths were due to injuries. In each of these groups, road traffic injuries and self-inflicted injuries were the first and second ranked causes of death due to alcohol.

With increasing age, there was a transition from injury as the main cause of alcohol mortality to chronic conditions such as cancer, cardiovascular disorders and digestive disorders.

For Māori and non-Māori men over all ages, road traffic injuries were the most common cause of alcohol deaths, with other leading causes including self-inflicted injuries, non-traffic unintentional injuries and alcoholic liver cirrhosis.

In contrast, for both Māori and non-Māori women breast cancer was the leading cause of alcohol-attributable death, with cirrhosis, traffic injuries and haemorrhagic stroke also featuring prominently.

**Contribution of Alcohol to Non-Fatal Conditions**

The contribution of alcohol to total morbidity and disability was even higher than for mortality. In this new report, disability-adjusted life years (DALYs) are used to combine fatal and non-fatal health effects of alcohol on disease and injuries.

The estimates given are for the year 2004, as this was the most recent year for which DALY outcome data was available from the World Health Organization (WHO). One DALY lost indicates the loss of one year of full health, as DALYs combine years of life lost due to premature death with ‘healthy’ life lost due to disability as a proportion of each year with the condition.

Overall, more than 28,000 DALYs (years of healthy life) were lost by New Zealanders under 80 due to alcohol, representing 6.5 percent of all DALYs lost.
The differences between the effects on men and women were again seen, with double the number of DALYs lost in men than women (19,000 vs 9,500) and double the proportion of DALYs lost that were attributed to alcohol in men compared with women (8.8 percent vs 4.3 percent). It was not possible to estimate DALYs separately for Māori and non-Māori using the WHO data.

Alcohol use disorders (abuse and dependence) were responsible for a large part of the DALY burden from alcohol, making up 43 percent in men and 50 percent in women. The contribution of alcohol use disorders was almost entirely from non-fatal effects on health, that is, years of life living with reduced health status due to the condition.

Combining all types of injuries together, these made up another 42 percent of DALYs lost due to drinking in men and 22 percent in women. Among women, breast cancer was responsible for 12 percent of alcohol DALYs lost, that is, 12 percent of all loss of health from alcohol use.

While alcohol use disorders were the dominant cause of alcohol-attributable DALYs lost in men and women over 30 years old (and overall), in the younger age group road traffic injury was the leading cause.
Interpreting the findings

Quantitative studies always have limitations that affect the interpretation of the findings, and these are outlined in detail in the full report of this work. However, there are a few general issues that need to be considered.

The findings are not directly comparable with those of the previous report, which was undertaken by the University of Auckland for ALAC and published in 2005 (Connor, Broad, Rehm, Vander Hoorn & Jackson, 2005). This is because the methods have changed in several respects, as outlined in the ‘Methods’ box.

While the previous study covered the whole New Zealand population, the update only includes people up to 80 years of age. This is simply due to the lack of reliable data on alcohol consumption and on risks from drinking among older New Zealanders. It means the new estimates are likely to be more reliable, but cover fewer of the population. There have also been changes in the list of conditions included in the study, and changes in some of the methods for calculating the fractions of different conditions that are attributable to alcohol. These changes were informed by the Global Burden of Disease 2010 study and the new epidemiological evidence available.

There are also limitations common to all studies of this type. What gets included will partly depend on which impacts of alcohol have been most studied. Therefore the focus is largely on physical conditions and the effects on the drinker him/herself rather than others. One might draw the conclusion from this work that the health of men is more affected by the current patterns of drinking in New Zealand than that of women, but, without further research on the health impacts of drinking on people other than the drinker, this remains in doubt.

Studies like this one can inform prevention by providing an account of health loss different from that provided by a disease-by-disease analysis. They demonstrate that:

• alcohol consumption is one of the most important risk factors for avoidable mortality and disease in early and middle adulthood, and contributes substantially across the life course
• heavy drinking, regular or irregular, makes the biggest contribution
• there are lesser-known health effects of alcohol, such as cancer, that are substantial
• the health burden of alcohol continues to fall inequitably on Maori

A clear picture emerges of a large public health issue that contributes to health disparities, and which will require substantial population-wide change to consumption patterns to address.

“the health of men is more affected by the current patterns of drinking in New Zealand than that of women”
We used World Health Organization (WHO) comparative risk assessment (CRA) methods to measure the impact of alcohol on the health of New Zealanders. The contribution of alcohol consumption to the health burden was quantified for each age/sex/ethnicity subgroup and each alcohol-related condition/injury. Alcohol-attributable fractions (AAFs) were calculated by combining New Zealand alcohol consumption data with the best available risk estimates for different levels of drinking. The mortality and morbidity AAFs estimated the proportions of death and disability, respectively, that would have been prevented if alcohol consumption was eliminated from a given subgroup.

Death and disability due to alcohol consumption were then estimated for New Zealand subgroups by applying the mortality AAFs to New Zealand 2007 mortality data, and morbidity AAFs to WHO’s 2004 disability estimates for New Zealand.

Since the publication of the previous report, the Global Burden of Disease 2010 Risk Factors Collaborating Group has revised some of the alcohol burden calculation methods. This means that any differences in results between the reports are due to a combination of several factors and must not be interpreted as having occurred solely due to changes in alcohol consumption or behaviour of New Zealanders. Some changes to the methods used in this report were:

• the inclusion of four new causes of alcohol-attributable mortality and morbidity (colon cancer, rectal cancer, tuberculosis and pneumonia)
• the use of alcohol consumption estimates from surveys with differing data collection methods
• limitation of the analysis to New Zealanders aged 0-79 years
• consideration of abstainers and ex-drinkers separately
• the use of updated relative risk estimates to calculate AAFs
• the incorporation of detailed drinking pattern data into ischaemic heart disease AAF calculations.
Cancer & alcohol

Although cancer is the leading cause of death in New Zealand (Ministry of Health, 2012), the fact that alcohol causes cancer appears to be poorly appreciated by many consumers.

For example, in a survey of over 26,000 Europeans, commissioned by the European Union in 2009, only two-thirds agreed that alcohol can increase the risk of cancer and half of these people only ‘tended’ to agree. One in ten people were unaware that alcohol causes cancer and one in five did not believe it at all (TNS Opinion & Social, 2010). In contrast, 97 percent of respondents agreed that alcohol increases the risk of liver disease. Professor Ian Olver (2012), from the Cancer Council of Australia, comments on similar ignorance over the Tasman, saying that “while the short-term harms of alcohol are well-documented, [how many people] know that more Australians die from alcohol-related cancer than they do from melanoma?”

Although such a survey hasn’t been done in New Zealand, it seems likely that a high percentage of New Zealanders also either don’t know that alcohol is carcinogenic or don’t care.

What is the evidence that alcohol is a carcinogen?

This lack of awareness is not due to lack of evidence. The International Agency for Research on Cancer (IARC) investigates hundreds of substances for their cancer-causing potential, including betel nut, jet fuel, and, of course, alcohol. IARC first recognised that alcohol caused certain cancers in humans in 1988, when it found sufficient evidence that alcohol caused cancers of the oral cavity, pharynx, larynx, oesophagus and liver (International Agency for Research on Cancer [IARC], 1998). This list was expanded to include colorectal and breast cancer in 2007 (IARC, 2010).

IARC uses international expert working groups to evaluate whether a substance causes cancer, and assesses evidence from a wide range of studies. ‘Sufficient evidence’ means that a causative relationship between alcohol and cancer has
been established, based on high-quality studies which are unlikely to be affected by chance, bias or confounding. IARC also reports on evidence for lack of carcinogenicity and notes that alcohol does not cause cancer of the kidney or non-Hodgkin lymphoma. For some other cancers, the evidence is still inadequate or unclear, and it is possible that alcohol will be shown to cause some other types of cancer in the future. For anyone who may be unconvinced by IARC, other independent researchers back up their conclusions (World Cancer Research Fund & American Institute for Cancer Research, 2007; Rehm, Patra, & Popova, 2007).

**How does alcohol cause cancer?**

Alcohol may cause cancer through a number of mechanisms (IARC, 2010). Ethanol, the primary type of alcohol found in alcoholic beverages, is metabolised to a substance called acetaldehyde, which binds to DNA and interferes with cell replication and increases the risk of DNA mutations (which increases the risk of cancer). In addition, ethanol can open the door for carcinogens to enter cells. Alcohol can also affect hormone levels (e.g., increasing the levels of the hormone estrogen, to raise the risk of breast cancer). Its direct toxic effects on the liver, which can lead to permanent liver damage (cirrhosis), may also lead to liver cancer. These cancer-causing effects can occur with all types of alcohol, from wine to spirits. Smoking and alcohol together are a potent combination, and smokers who also drink alcohol are at a higher risk of cancer (Cancer Council of Australia, n.d.).

**Alcohol and breast cancer**

The link between alcohol and breast cancer is one of the newest to be recognised and probably one of the least well known by the general public. This is despite the fact that breast cancer is New Zealand's third most common cancer, accounting for more than 600 deaths every year, and the most common cancer in women (Ministry of Health, 2012).

There is strong evidence that alcohol causes breast cancer, from pooled or meta-analyses that use data from over 100 epidemiological studies. Pooled analyses are an effective way to identify risk factors for disease, by bringing together results from thousands of individuals from many different studies. These analyses have consistently found a linear increase in the risk of breast cancer for women, corresponding to an increase of around 7-10 percent per 10g of alcohol/day (one standard drink) (World Cancer Research Fund & American Institute for Cancer Research, 2010; Collaborative Group on Hormonal Factors in Breast Cancer, 2002). Around a third of the studies included in these pooled analyses are cohort studies, which provide the strongest proof of causal associations, in the absence of randomised controlled trials. Randomised trials, or experiments, are not feasible in this situation, as they would require participants to be randomly assigned to different levels of alcohol consumption (including abstinence).
Those who are identified as hazardous drinkers can then be offered brief advice about changing their drinking patterns, including discussing the possible harms from alcohol (and cancer risk).”

Raising awareness of the link between alcohol and cancer

Since the evidence is clear, more can be done to increase awareness and acceptance of the link between alcohol and cancer. We can learn from the experience with tobacco. It can take years before evidence of health risks from a favoured recreational drug is widely accepted, amongst health professionals as well as the public. Meaningful action to mitigate these risks takes even longer.

Professor Ian Olver (2013), of Cancer Council Australia, has some advice on getting the message out, through disseminating evidence-based information and debunking poor information. He says, “We can’t aim to control cancer if people continue to smoke, drink at risky levels, get too much sun exposure, are physically inactive and have a poor diet. Unfortunately, too often people pay attention to cancer myths, and so disregard important messages about these scientifically proven causes of cancer.”

Reducing cancer risk by identifying people with hazardous drinking

Health professionals have a prominent role to play in increasing awareness of alcohol as a carcinogen. A role for health professionals, particularly in primary care, is to ask all patients who present for health care (even for problems unrelated to alcohol) about their alcohol use, using a validated alcohol screening tool such as CAGE¹ or AUDIT². Those who are identified as hazardous drinkers can then be offered brief advice about changing their drinking patterns, including discussing the possible harms from alcohol (and cancer risk). Some may require a referral to more specialised alcohol treatment services.

Such routine screening and brief intervention (SBI) practice has been effective in reducing hazardous alcohol use and harms from alcohol in overseas studies (Kaner et al., 2007).

The SBI approach has also been tested in New Zealand, in 15 general practices belonging to the Whanganui Regional Primary Health Organisation (Maynard & Paton, 2013) and also through a web-based intervention offered to University of Otago students with harmful drinking (Kypri, Langley, Saunders, Cashell-Smith, & Herbison, 2008). These show that SBI can be successfully integrated into routine primary care, with the right supports in place.

At present, many doctors are far less forward in asking patients about their alcohol use than their smoking status. A recent study of Wellington general practitioners (GPs) found that questions about alcohol were not commonly asked in patient consultations and screening tools for hazardous drinking were rarely used (Mules et al., 2012). This may be because GPs are stretched for time, being already expected to screen for half a dozen other risk factors or diseases, and are uncomfortable challenging the popular drinking culture (Sellman, Connor & Robinson, 2012).

The Cancer Society of New Zealand has provided guidance for consumers of alcohol, because, as Dr Jan Pearson, Health Promotion Manager, Cancer Society, points out, “there is a lot of media around injuries and road deaths from alcohol but alcohol-related cancer deaths are also high”. The Cancer Society recommends that all individuals limit their intake of alcohol, since there is no clear threshold below which alcohol is not carcinogenic.

This article was prepared for HPA by Dr Fiona Imlach Gunasekara, Public Health Medicine Specialist, with input from the Cancer Society of New Zealand.

¹ CAGE is derived from the four questions of the tool: Cut down, Annoyed, Guilty, and Eye-opener.
² Alcohol Use Disorders Identification Tool.
Over 200,000 people in New Zealand have been diagnosed with diabetes, and perhaps another 100,000 have the disease and do not yet know about it (Ministry of Health, n.d.). There are several different types of diabetes. Type 1 diabetes develops because the pancreas fails to produce enough insulin, a hormone that regulates the movement of glucose from the blood into cells. Type 2 diabetes is more common, and develops because either the body doesn’t produce enough insulin or the cells in the body don’t recognise the insulin that is present. In some cases, Type 2 diabetes can be prevented by staying active, reducing weight and eating healthily. In both types of diabetes, high blood glucose levels can permanently damage kidneys, nerves and blood vessels and may even be fatal. Diabetes can usually be well managed with diet and, if necessary, oral medication and/or injectable insulin that reduce blood glucose levels.

Diabetes & alcohol

Making sensible choices about alcohol use is important for everyone, but it is especially important for people with diabetes. Diabetes is diagnosed when a person has too much glucose (sugar) in the blood and treatment for this condition aims to keep blood glucose levels within a safe and healthy range. For some, the combination of diabetes and alcohol can lead to dangerously low or high blood glucose.

Over 200,000 people in New Zealand have been diagnosed with diabetes, and perhaps another 100,000 have the disease and do not yet know about it (Ministry of Health, n.d.). There are several different types of diabetes. Type 1 diabetes develops because the pancreas fails to produce enough insulin, a hormone that regulates the movement of glucose from the blood into cells. Type 2 diabetes is more common, and develops because either the body doesn’t produce enough insulin or the cells in the body don’t recognise the insulin that is present. In some cases, Type 2 diabetes can be prevented by staying active, reducing weight and eating healthily. In both types of diabetes, high blood glucose levels can permanently damage kidneys, nerves and blood vessels and may even be fatal. Diabetes can usually be well managed with diet and, if necessary, oral medication and/or injectable insulin that reduce blood glucose levels.

Alcohol and blood glucose levels

Managing diabetes is about balancing the highs and lows – both high blood glucose and low blood glucose (hypoglycaemia) are potentially life threatening. Drinking a moderate amount of alcohol with meals or snacks has no immediate effect on blood sugar levels in most people with diabetes. However, excessive alcohol (three or more drinks a day), taken on a regular basis, can increase blood glucose (American Diabetes Association, 2008) and hypoglycaemia can sometimes occur even with moderate alcohol intake.

The signs of hypoglycaemia start when the brain becomes short of glucose (the essential energy source for all organs in the body, but particularly the brain). Signs include confusion, difficulty speaking, a racing heart, and feeling sweaty, shaky, hungry, nervous, anxious and dizzy.
The symptoms of alcohol intoxication are very similar. Hence, for people with diabetes who drink alcohol, there is a risk that others may assume they are drunk, instead of in urgent need of carbohydrates (which are broken down by the liver into glucose). Wearing an alert bracelet or similar, which warns others about their diabetes in an emergency, may help avert such mistakes.

Hypoglycaemia can occur in anybody who drinks a lot of alcohol in one sitting, even if they do not have diabetes. The risk increases if alcohol is consumed on an empty stomach or after taking diabetes medication. If you don’t have diabetes, your body naturally produces less insulin when blood glucose levels drop, but this can’t happen if you have diabetes and have taken insulin or sulphonylureas (medicines which stimulate the pancreas to make insulin). The insulin will keep moving glucose from the blood into the body’s cells but the liver won’t release more glucose, because this only happens when insulin levels decline. This is why alcohol-induced hypoglycaemic episodes in people on insulin can be prolonged and severe.

Who can drink alcohol

Alcohol-induced hypoglycaemia is more likely to occur in people with diabetes that is not well controlled. Also, hypertension or high triglyceride levels can be aggravated with alcohol. Anyone with these issues, as well as pregnant women, those with diabetic nerve damage or erectile dysfunction and those with a history of pancreatitis or alcohol dependency, is advised to avoid alcohol (Mann et al., 2004).

Most people with well-controlled diabetes and no diabetic complications can drink alcohol. To mitigate the risk of hypoglycaemia, Professor Jim Mann, endocrinologist and Professor in Human Nutrition and Medicine at the University of Otago, advises those with diabetes to:

• only take alcohol in moderation (one drink per day for women and up to two drinks a day for men)
• always eat some food containing carbohydrate (eg bread, potatoes, pasta, fruit) when drinking alcohol, especially if on insulin
• monitor blood glucose while drinking (Mann et al., 2004).

Professor Mann also offers another caution – alcohol-induced hypoglycaemic events can be delayed, often unpredictably, and may occur hours after the consumption of alcohol. To prevent night time hypoglycaemia, it is particularly important to consume food when drinking alcohol in the evening and monitor blood glucose before going to bed.

Alcohol, diabetes and driving

The combination of hypoglycaemia and driving is a dangerous one, especially with the addition of alcohol. The New Zealand Transport Agency recommends that people with diabetes do not drink any alcohol if they are going to drive (New Zealand Transport Agency, 2011). Drivers who have an accident while hypoglycaemic can lose their licence. The risks of driving with low blood glucose were highlighted in a coroner’s report in 2012 that investigated the cause of a fatal car crash involving a driver with diabetes (Diabetic state cause of crash, 2012). Although no alcohol was involved, the coroner concluded that hypoglycaemia was a probable contributing factor. He warned that hypoglycaemia not only impairs a person’s ability to drive safely but also hinders their judgement about whether they are fit to drive.
Alcohol, diabetes and weight

Obesity greatly compounds the risk of developing Type 2 diabetes (Diabetes UK, 2005). For overweight people with type 2 diabetes, losing weight can improve control of blood glucose and reduce the need for medication. In addition, if you drink a lot, you are likely to have a diet higher in salt and calories (Breslow, Guenther, Juan, & Graubard, 2010; Hetherington, Cameron, Wallis & Pirie, 2001). For these reasons, people with diabetes need to take account of the calories in alcohol when calculating their daily energy intake (Mann, 2009).

One 10g standard drink contains around 290kJ (New Zealand Nutrition Foundation, n.d.), which is close to half the energy of a can of soft drink.

Some observational studies have found an association between moderate drinking and a lower risk of diabetes. However, these results have not been convincing enough for the American Diabetes Association to recommend alcohol consumption for individuals at risk of diabetes, particularly as heavy drinking (more than three drinks a day) may increase the risk (American Diabetes Association, 2008).

Diabetes New Zealand suggests that there is no reason why most people with diabetes can’t enjoy a drink, if the advice above is followed. Knowing the risks of mixing alcohol and diabetes, and how to avoid these risks, is important for anyone who has friends, family or workmates with this condition. Whatever decision someone with diabetes makes about consuming alcohol, they need the support of those around them, so they can drink safely or abstain gracefully.

This article was prepared for HPA by Dr Fiona Imlach Gunasekara, Public Health Medicine Specialist, with input from Diabetes New Zealand.
As a community paediatrician, I see the harm caused by alcohol every day – resulting in youngsters who may never reach their full potential as adults. In 2011, the Child and Youth Mortality Review Committee (CYMRC), a statutory committee administered by the Health Quality and Safety Commission (HQSC), released a special report into the role of alcohol in the deaths of children and young people in New Zealand. The report showed that the misuse of alcohol continues to be a major contributing factor in the deaths of our children and young people.

This report, *The involvement of alcohol consumption in the deaths of children and young people in New Zealand during the years 2005–2007* (CYMRC, 2011), examined the role of alcohol in the dramatic increase in the rate of death by injury after the age of 15, with many young people becoming victims of their own drinking or the drinking of others.

IT MADE FOR BLEAK READING.

**The impact of alcohol on children & young people**

Alcohol-related harm can begin before birth, affecting the developing brain and body of the foetus when the mother drinks. Alcohol impacts on the quality of parenting, contributes to family violence, and leads to under-supervision of vulnerable infants and children.

**Nick Baker** is the Chair of the Child and Youth Mortality Review Committee. He is a general and community paediatrician in Nelson and a senior lecturer on Community and Child Health for the University of Otago.
As a community paediatrician, I see the harm caused by alcohol every day – resulting in youngsters who may never reach their full potential as adults.”

The report looked at 357 deaths from injury of children and young people aged between four weeks and 24 years, during the years 2005-07. In 87 of these, the death was attributable to alcohol, or alcohol clearly contributed to the death. Of these 87 deaths, 49 involved a motor vehicle, 16 involved assault and 11 were due to drowning. Most of these deaths related to young people aged 15-24 years.

It is normal and healthy for young people to take risks, explore and push boundaries; it is a necessary part of growing up. Unfortunately the environment where this occurs today, created by adults, results in a very high risk of injury or death from the age of 15 to 24. A major contributor to this dangerous environment is alcohol. It alters the user’s mental state, increasing impulsivity and aggression, while impairing judgement. This is a highly lethal mixture for anyone, but especially for young people, and in the context of fast cars, dangerous water or crowded places, hazards increase still further.

Unfortunately alcohol abuse has become linked to ‘having a good time’, a behaviour modelled by adults. As a community, we need to model responsible use of alcohol, for instance, removing links between healthy activities such as sport and alcohol, in much the same way as has already happened for other unhealthy acts like smoking.

Limiting access to alcohol for our most vulnerable younger members of society by cost and legislation, and limiting the hours of availability are also very important. It is very hard to imagine what benefit society receives from the ability to purchase alcohol into the early hours of the morning. Only those liquor outlets with an excellent safety record and responsible behaviours should be allowed the privilege of remaining open after midnight.
In addition, we have a particular responsibility to put as much separation as possible between alcohol, cars and young people. Cars and alcohol should never go together. That’s why the CYMRC supports the Government’s introduction of a zero blood-alcohol limit for teenage drivers, and enforcement of legislation to prevent young people from breaching the conditions of their driving licences. Where the car is owned by an adult, they too have a responsibility to ensure its safe use.

The CYMRC report observed that women and younger men tend to die because of other people’s drinking, rather than their own, especially when they get into cars driven by intoxicated people. We need to support our young people to better assess risks and make good choices that can keep them alive.

It’s too easy to blame bad choices by young people, when we as adults need to be taking a good hard look at our own drinking behaviours and the drinking culture of the environment we have created for young people.

It’s important to remember that it’s not just teenagers that are at risk of harm from alcohol. Alcohol is an extremely potent ‘brain poison’, frequently causing permanent damage to the brains of babies whose mothers drink. The babies that then survive infancy may be set up to be raised in an environment of alcohol-impaired parenting and risk becoming alcohol abusers themselves, continuing intergenerational harm.

There is very little real information about the impact of alcohol on the supervision and care of infants and children, and CYMRC was surprised to discover that police only have a mandate to test for alcohol-related impairment whenever a child is injured or dies on the roads. So the true contribution of alcohol to other types of deaths is hidden.

The following types of scenarios are typical of the situations I have encountered:

- a parent or caregiver who is impaired by alcohol accidentally suffocating their infant during sleep
- a child growing up in a household where alcohol misuse is the norm, who later misuses alcohol
- a fatal car crash where the driver is alcohol-impaired and the children were not using car safety restraints
- a house fire caused by a parent drinking who then is not able to rescue the children
- a child under five drowning while being supervised by parents who are impaired by alcohol.

The truth of the matter is that every baby and child needs a sober caregiver who is able to respond to their needs and keep them safe.
The PLEASURE of alcohol

By Dr Sarah Wright, HPA Researcher
When discussing alcohol’s effects on the body, scholars, journalists and health promoters tend to focus on the harmful outcomes, like injury and disease. It can be easy to overlook that a primary motivation for drinking alcohol is pleasure. This article explores the pleasurable effects of alcohol on the human body and the ways alcohol is connected to many of our pleasurable experiences.

It perhaps goes without saying that people don’t drink alcohol with the intention of getting sick or to experience an injury; they drink because it makes them feel good. So why is consuming alcohol pleasurable? There is no denying that some of us like the acidic sweetness of a good Pinot Gris, whereas others favour the gritty richness of dark ales. The alcohol industry knows this, and markets its products accordingly. However, alcohol can make us feel pretty nice after it’s gone down too. While alcohol is essentially a depressant substance, after a drink or two we can feel energised, more self-confident and sociable, even joyous. A recent study by the Ernest Gallo Clinic and Research Center at the University of California might explain why. The study found that drinking alcohol leads to the release of endorphins in areas of the brain that produce feelings of pleasure and reward (Mitchell, O’Neil, Janabi, Marks, Jagust, & Fields, 2012). Jennifer Mitchell, Clinical Project Director at the Gallo Center, argues that the study “provides the first direct evidence of how alcohol makes people feel good” (O’Brien, 2012).

Feeling good is, however, dependent on how much alcohol is in one’s bloodstream (measured by one’s Blood Alcohol Content or BAC). A BAC of between 0.03 percent and 0.059 percent has been described as ‘the pleasure zone’ (University of Rochester, 2013) and can be achieved and maintained by consuming about one standard drink per hour. A higher BAC and a drinker will begin to feel the depressive, less pleasurable effects of alcohol. However, the pleasure of drinking goes beyond psychoactive and bodily sensations. Our experiences of pride, excitement, relief and other feelings such as sexual attraction are bound up with the consumption of alcohol. We celebrate, clock off from the working day, and catch up with friends with alcohol. We relax and reward ourselves with alcohol. We employ alcohol to facilitate social bonds that might otherwise be hard to initiate.

1. This is dependent, however, on an individual’s ability to metabolise alcohol, whether they’ve eaten, how quickly they drink, their body type, how frequently they drink alcohol, and their age, sex and ethnicity (Lohr, 2005; Zakhari, 2006).
Alcohol also generates social relations and feelings of community belonging and is a key factor in initiating the ‘togetherness’ of an evening out with friends and in generating the wider experience of, say, ‘a Saturday night’ with other revellers (Hubbard, 2005). Gatherings around alcohol have been an important element in our history. Race days, shearing competitions, and provincial anniversaries were (and still are) celebrated with alcohol (Eldred-Grigg, 1984). For European settler men in New Zealand’s early colonial period, the pub was associated with warmth and camaraderie (Phillips, 1996), and has continued as a significant space in community life in many of our provinces.

Often too, our first engagement with alcohol is to feel pleasure. Studies find that young people drink foremost for fun and to enjoy themselves, and in the “pursuit of excitement” (Hayward & Hobbs, 2007, p. 446; see also Ameratunga et al., 2011; Hutton, 2012; Kuntsche, Knibbe, Gmel, & Engels, 2005; Lindsay, 2009; McEwan, Campbell, & Swain, 2010; Measham, 2004; O’Malley & Valverde, 2004). Young people recount that alcohol makes them feel ‘giddy’, ‘silly’, ‘happy’, and ‘fuzzy’, as well as ‘courageous’ and ‘affectionate’ (Lindsay, 2009).

For this population, the experience of ‘fun’ can, however, go beyond a few drinks. Research shows that the ‘pleasure zone’ for many young people is understood as a space where intoxication facilitates freedom (Fry, 2011; Harrison, Kelly, Lindsay, Advocat & Hickey, 2011; Measham & Brain, 2005). Young people speak of the ‘fantastic fun’ of losing one’s inhibitions (Griffin, Szmigin, Bengry-Howell, Hackley & Mistral, 2013) and the enjoyment of letting one’s hair down (Lindsay, 2009). Scholars argue that patterns of consumption like these are particular to a ‘new alcohol order’ (Brain, 2000; Measham & Brain, 2005) where individuals are encouraged to “play with the parameters of excitement and excess” (Hayward & Hobbs, 2007, p. 438).

It is important to acknowledge and understand alcohol as something people consume for pleasure, and the many ways pleasure is intertwined with alcohol. Otherwise, as Measham (2004) suggests, we run the risk of conceptualising the use of alcohol as irrational and undesirable, particularly if that use is excessive. And to do so might risk us talking past those who should be listening the most.

The study found that drinking alcohol leads to the release of endorphins in areas of the brain that produce feelings of pleasure and reward.”
REFERENCES

Health impacts


Cancer


Children & Alcohol


Diabetes & Alcohol


The Pleasure of Alcohol


AUSTRALIA

1 Aussies tally $ cost of misusing alcohol

Alcohol misuse cost Australia more than $A14 billion in 2010, according to an Australian Institute of Criminology study.

The Societal Costs of Alcohol Misuse in Australia: Trends and Issues in Crime and Criminal Justice updates estimates from a 2005-06 report and for the first time disaggregates the cost of alcohol misuse across the criminal justice and health systems. It also examines cost impacts on worker productivity.

The report’s authors say the data could guide discussion on where resources could best be allocated to reduce alcohol-related harm.

They also argue that more of the $A5.4b in alcohol tax raised in 2010, including $A1.4b in customs duty, $A3.2b in excise duty, and $A703m from a wine equalisation tax, “could be used to implement strategies aimed at further reducing the social costs associated with alcohol misuse”.


2 Report summarises GLBT alcohol use

Over 500 published papers on alcohol-related problems among Gay, Lesbian, Bisexual and Transgender (GLBT) groups have been summarised in a report published by the University of New South Wales’ National Drug and Alcohol Research Centre.

The report examines the prevalence of mental health disorders, including alcohol problems, among GLBT populations and the effectiveness of interventions to redress these issues.


UNITED KINGDOM

3 Alcohol-related cancers on the up

Admissions to English hospitals for alcohol-related cancers have jumped 28 percent in eight years, says Alcohol Health Alliance UK (AHA).

In a new report, the AHA, which represents more than 30 leading health organisations, says alcohol-related cancer hospital admissions rose from 29,400 in 2002-03 to 37,600 in 2010-11.

Many people were not aware alcohol was a risk factor in developing cancer, and the UK population continued to drink substantially more than 50 years ago, the AHA said.

“The more a person drinks overall the higher their risk of developing cancer, yet even drinking within current guidelines can increase the risk for certain cancers.”

“Despite these risks, the solution is clear: reducing how much people drink overall will reduce their risk of cancer,” the report concludes.

http://www.rcplondon.ac.uk/resources/alcohol-and-cancer-report-alcohol-health-alliance-uk

CANADA

4 Targeted pricing reduces alcohol consumption

Targeted pricing can cut alcohol consumption, Canadian Centre on Substance Abuse researchers say.

A recently released, three-part price policy series entitled Reducing Harm to Canadians, produced by the Centre, examines levels and patterns of alcohol use in Canada, analyses alcohol beverage sales and discusses price policies as a way of reducing alcohol-related harm.

Lower drinking age associated with binge drinking

People who grew up in states where it was legal to drink alcohol before the age of 21 are more likely to binge drink later in life. Washington University School of Medicine study researchers tracking the long-term drinking behaviour of more than 39,000 people who began drinking alcohol in the 1970s found that lower minimum drinking ages were associated with more frequent binge drinking decades later.

Researchers found that, while people who had lived in states with lower minimum drinking ages did not drink more alcohol overall, or more frequently, than those from states where the drinking age was 21, they were more likely to drink heavily when they did drink.


In contrast, the report puts the number of female alcohol-related deaths at around 12,500, or 5 percent of female deaths in France.

About 40 percent of alcohol-related deaths in France involved people under the age of 65, according to the report.

http://www.euractiv.com/health/alcohol-problems-france-worse-pr-news-518267

Indian women drinkers big business

The Indian Government’s Centre for Alcohol Studies estimates 30 percent of men and 3 percent of women consume at least one drink a year, meaning Indians are currently among the world’s lowest consumers of alcohol.

But rising affluence appears to be causing traditionally conservative Indian women to become more experimental in their attitudes to alcohol, prompting speculation that alcohol sales to Indian women could grow 25 percent over the next five years.

Quoting a Reuters article, the European Centre for Monitoring Alcohol Marketing (EUCAM) relates that in India the female market segment of drinks consumers is growing twice as fast as the overall sector, representing a significant growth opportunity within the country’s $US10 billion drinks industry.

The article also quotes an Indian marketing and innovation director at the world’s largest producer of spirits, UK-based multinational Diageo, as saying rising aspirations and exposure to different lifestyles appeared to be driving Indian women to experiment with alcohol.

For help, contact the Alcohol Drug Helpline on 0800 787 797

Free confidential information, insight and support for you and your family.

Māori line
0800 787 798
Free confidential information, insight and support for you and your whānau.

Whaka-tu-tangata
stand tall – It's your call

Pasifika line
0800 787 799
Free confidential information, insight and support for you and your family.

It's your call

For up-to-date statistics and information check out:
alcohol.org.nz
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Health Promotion Agency
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