

Alcohol Use and Tertiary Students in Aotearoa – New Zealand

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INTRODUCTION

On 20 June 2003 with funding from the Alcohol Advisory Council of New Zealand (ALAC), the inaugural meeting was held of the National Task Force on Tertiary Student Drinking. In December 2003 the Task Force agreed for ALAC to commission research into the international and New Zealand literature on tertiary education students, their attitude to and use of alcohol, and tertiary education institutions' strategies for reducing alcohol-related harm among this particularly vulnerable group.

ALAC supplied some literature, some was recommended by experts and stakeholders and the rest (the majority) was found through keyword searches of PubMed. This was supplemented by searches of other databases, such as ProQuest, Ovid, Te Puna and Conzuls.

The research will be used to inform organisations with an interest or involvement in tertiary students' welfare of the current knowledge on tertiary students' alcohol use, related problems and evidence-based strategies to reduce harm.

For further information, Appendix 1 on page 30 has more details on the demographics of New Zealand tertiary students, while Appendix 2 (page 33) covers alcohol and its place in New Zealand society. Appendix 3 contains membership details of the National Task Force and its objectives.

EXECUTIVE SUMMARY

Most research into tertiary student drinking comes from the United States; some is available from Canada, Europe and Australia. Four studies were found from New Zealand and all indicated:

- consumption levels well in excess of recommended limits
- first-hand and second-hand harms related to that consumption
- evidence of a general public health concern that needs management.

University life may actually promote drinking among students. Drinking has been described as intrinsic to the student culture and a more defining feature of tertiary study than academic work itself. High rates of drinking are seen by researchers as due to:

the peer nature of the tertiary education culture – alcohol allows you to fit in

- the need to prove masculinity and adulthood
- the high levels of unstructured free time available
- the promotion of alcohol to students.

‘Drinking stories’ play a part in maintaining group dynamics and are seen positively by students, which means drinking harms could actually be seen as a good thing. ‘Drinking games’ are also prevalent, with the aim of getting drunk quickly, socialising, controlling others and getting others drunk.

ALCOHOL-RELATED HARM

Harms related to alcohol consumption are connected with intoxication. There is a higher level of harm among people who occasionally become intoxicated than among dependent drinkers.

Research from New Zealand and overseas has demonstrated numerous harms associated with the alcohol consumption of others. These second-hand alcohol effects are prevalent in New Zealand and may have an effect on minority groups to a level not realised before.

SPECIFIC EVALUATED STRATEGIES

Internationally, few programmes have been evaluated, with those that have mostly coming from the United States. While these programmes may be beneficial, their applicability to the New Zealand context must be considered before any are implemented.

Reducing the Physical Availability of Alcohol

Some American campuses have moved towards total alcohol bans, with varying results. One study found no change in extreme drinking or alcohol-related harms, but reduced second-hand effects of drinking on alcohol-free campuses.

Internationally, the minimum legal drinking age has been demonstrated as one of the most effective policy options available. In New Zealand the Sale of Liquor Amendment Act 1999 set the minimum legal purchasing age at 18. Most tertiary students can therefore buy alcohol with few restrictions placed on them in licensed premises.

Studies have found high correlates between outlet density and heavy drinking, frequent drinking and drinking-related problems. Reducing outlet density near tertiary education campuses may be promising in reducing harms.

Brief Interventions

Brief intervention has been successful in targeting students identified as problem drinkers and motivating them to change their behaviour.

The short duration and low intensity of brief interventions mean they can be delivered to students by a cross-section of the student-support workforce, including peers. They can also be delivered in a range of media such as mailed feedback, personal diaries or self-help manuals and through a variety of strategies such as one-to-one motivational interviews or small-group information and assessment discussions.

Recent studies indicate an acceptability and appropriateness of experiential intervention programmes such as interactive monitoring at licensed premises or web-based motivational assessment. One New Zealand study found students would rather receive brief intervention from a computer than a health professional while an Australian study found students might favour a personal alcohol health risk assessment at student functions.

Changing the Drinking Context

By targeting bars, servers, door staff and marketers, the environmental factors of alcohol consumption can be changed, and with them the harms associated with hazardous consumption.

Using strategies such as increasing light sources in bars, improving ventilation, offering food, improving the flow of foot traffic and working to avoid aggression, a licensed premise can cease being a place for committed drinking sessions and instead become a social environment where alcohol is consumed safely.

A recent review of host responsibility places a greater emphasis on servers of alcohol in licensed premises to prevent intoxication. In addition, the Sale of Liquor Act 1989 carries offences for servers and managers who do not comply with the strategies of host responsibility.

Educative and Persuasive Strategies

Education strategies are not well supported by the literature. After a drug education programme, students were aware that alcohol was a dangerous substance, but were not motivated to change their

drinking patterns. Educative strategies have been employed using the media, computers and the internet to provide alcohol harm reduction messages to students.

The power of persuasion by parents, friends and other family members has also been investigated. Students felt more comfortable in intervening in friends' alcohol and drug use after completing drug education courses themselves. Work from the United States found that including parents in promotions might have more than beneficial results.

Although educative strategies may not work well in isolation, they do have a place as part of a comprehensive range of strategies.

Social norms approaches, which work by highlighting healthy norms about drinking, have been introduced to a wide range of United States campuses. Studies have shown the approach has promise but requires further evaluation.

Healthy Settings

The World Health Organisation (WHO) is developing healthy settings to solve health problems closer to their source. This holistic approach involves strengthening environmental health and health promotion and forging relationships with the community.

A health-promoting university integrates health into its culture, processes and policies. It includes strategies to encourage safe alcohol practices and the reduction of alcohol-related harm.

Institutional Policies

A number of New Zealand tertiary education institutions have alcohol policies. Many of these focus on regulations on what and where alcohol may be consumed. Research supports student involvement in policy development.

De-emphasising Alcohol

De-emphasising alcohol's role in the student milieu may be integral to solving some of the problems surrounding it.

For example, by adding compulsory classes on Fridays, students may be more likely to not drink on Thursday and Friday nights. Research also suggests using revenue from alcohol sponsorship to promote alcohol safety and making news about alcohol-related harm a priority for student newspapers.

Increasing social capital (by encouraging students to do volunteer and charity work) has been seen as a way of reducing alcohol-related harm. Campuses with higher rates of volunteering have lower rates of alcohol-related harm.

THE WAY FORWARD

The United States National Advisory Council on Alcohol Abuse and Alcoholism Task Force on College Drinking's publication *A Call to Action* (Task Force on College Drinking [TFCD], 2002a) recommends a '3-in-1 Framework' to address 'excessive college drinking'. The Framework focuses simultaneously on three audiences:

1. Individuals, including at-risk or alcohol-dependent drinkers.
2. The student body as a whole.
3. The college [university] and surrounding community.

The Framework is designed for the United States where many strategies are based around preventing under-age drinking, so may not apply directly to the New Zealand environment of a lower minimum legal purchasing age. Because restricting access is not a viable option in New Zealand's legal climate, harm-reduction methods may be more appropriate.

Any work in this area needs the leadership of the institution and support from the local community. By making tertiary student alcohol-related harm a community problem rather than a campus one, community leaders are more likely to lend their support.

Socio-cultural strategies, such as changing the drinking context and de-emphasising alcohol's role on campus, are positive steps forward. Harm-reduction methods, such as reducing alcohol outlet density, promoting the use of opportunistic brief intervention and supporting substance-free events, recognise that alcohol is part of the student culture, but the part it plays does not need to be great.

TERTIARY STUDENTS AND ALCOHOL

Tertiary students (especially those aged between 18 and 24 years of age) have a well-documented record of 'binge' drinking¹ (Clapp et al, 2002; Engs, 2002; Roche and Watt, 1999; TFCD, 2002a, 2002b; Walker, 2000).

Much of the research on the extent of student drinking has been done in the United States (Wechsler et al, 1993, 1994, 1995a, 1996), with some studies in Canada (Glicksman et al, 2002; Kairouz et al, 2002; Kuo et al, 2002), the United Kingdom (Webb et al, 1996) and Australia (Roche and Watt, 1999).

NEW ZEALAND STUDIES

Only a limited number of New Zealand studies have been undertaken. This report covers four studies: two at Waikato University and two at Otago University.

It is important to note that most of the information on tertiary student drinking is based on students enrolled at universities. The studies do not address the issues at other tertiary education institutions such as polytechnics, colleges of education, wananga and private training establishments. The conclusions drawn may not, therefore, apply to the tertiary student population as a whole.

In the Kypri et al (2002) study of 1480 Dunedin hall of residence students, 1231 reported alcohol consumption in the previous four weeks. Of these, male students drank more often and in higher quantities than females, and 60 percent of male drinkers and 58.2 percent of female drinkers typically drank above the ALAC upper limits for responsible drinking. Over a third of the males and 7.3 percent of the females reported alcohol consumption of 16 or more drinks in a single episode in the previous four weeks.

In a 2003 study of the secondary effects of alcohol use among Otago University students, Langley et al commented that a tenth of women and a fifth of men had been assaulted at least once in the four weeks preceding the survey and one-fifth of students had had their property damaged. Even non-heavy drinkers had experienced several effects, some serious.

Adam et al (2000) surveyed 500 Waikato University students who consumed alcohol. Of these, 38 percent reported drinking six or more drinks in succession at least weekly, 65 percent consumed six or more drinks at least monthly, and 87 percent reported suffering at least one alcohol-related harm in the previous year.

The most common harms were:

- spending more than anticipated on alcohol
- vomiting
- memory loss
- feeling sorry, guilty or embarrassed about actions while drinking.

¹ Binge drinking is defined as "a single drinking episode of shorter duration that usually results in intoxication" (Kypri, 2003, p1).

Twelve percent reported unprotected sexual intercourse with a new partner while intoxicated and 16 percent reported ending up in a sexual situation they were not happy about.

In 2001, Donovan et al conducted a follow-up study to Adam et al, focusing on hall of residence students (Adam et al had identified this group's drinking habits as of particular concern). This study found that:

- most students surveyed drank once or twice a week (42.7 percent) with 71.7 percent drinking at least weekly
- 7.3 percent of student drinkers drank four or more times a week
- males drank more often than females
- more males drank 10 or more drinks in one session than females, although females were more likely than males to drink five to six or seven to nine drinks in one session.

Donovan et al (2001) noted that students living in halls of residence drank:

- at halls of residence most often and in the largest quantities
- at other venues (nightclubs and pubs) to a lesser degree
- in flats, family homes and sports clubs less often again.

Hamilton's 1996 thesis, *One More for the Road: Drink Driving Among Young People in Gore and Dunedin*, compared Otago University students with a comparable population in Gore, Southland, focusing on drink-driving practices in rural versus urban areas and the construct of masculinity surrounding this. The paper comments: "Alcohol plays an important part in the social activities at Otago University, so much so that alcohol for many is an accepted part of everyday life."

ALCOHOL AS PART OF THE STUDENT CULTURE

Alcohol is ingrained in New Zealand's tertiary education system, with acculturation into heavy drinking habits coinciding with student arrivals at tertiary education institutions. In addition, the drinking patterns dominant early in a student's academic career remain for a considerable length of time afterwards (Adam et al, 2000).

A Culture of Consumption

Tertiary student drinking can be seen as a culture of consumption. Drinking is viewed as an intrinsic aspect of university life and is often presented as a more defining feature of being a student than academic work or study (Adam et al, 2000).

The Adam et al (2000) research at Waikato University found that students perceive alcohol consumption as integral to the student milieu, "positive in peer interaction and an important part of growing up". In addition, most students surveyed believed coming to university was the main influence in increasing their drinking. Adam et al comments:

"Students perceive drinking as something that is always done with peers – university culture is presented as one of companionship and alcohol forms a component of fitting in."

Hamilton (1996) suggests that university can be seen as the beginning of adulthood, and consuming alcohol a way to prove a student's adulthood and, for males, masculinity.

Patterns of Consumption

According to Skog (cited in Kypri, 2003), an individual's pattern of alcohol consumption should mirror those of their peers – so individuals in a high-alcohol environment will invariably become high-alcohol consumers and those from low drinking environments will consume less. The high-alcohol tertiary study environment may socially sanction and encourage students to become heavy drinkers.

This view is supported by Geller et al (1991) who found that among students randomly selected to receive either standard or low-alcohol drinks at a party, those with low-alcohol drinks did not consume any more than those with standard alcohol drinks. This indicates the social context of drinking may be more important to students than drinking itself.

Adam et al (2000) discovered that students see it as important to have a 'drinking story' where they talk about detrimental experiences of alcohol (vomiting or sustaining an injury etc) after the fact. Having a 'drinking story' is useful in maintaining group membership; harms are potentially being re-constructed as positive aspects of drinking.

DeJong (2003) states that students have few commitments outside university study and plenty of unstructured free time for socialising. Marketers have recognised this with a barrage of promotions ranging from 10 cent pint hours and two-for-one deals to ladies' nights out where drinks are cheap as long as purchasers can convince bar staff they are female. Work by Wyllie et al (1998) among New Zealand 18- to 29-year-olds provides a tentative link between alcohol advertisements, increased alcohol consumption and harms associated with this consumption.

Drinking Games

Some student drinking behaviour – such as 'drinking games' – reflects behaviour prevalent in the rest of New Zealand society. In his PhD thesis (1989), Hodges writes of the drinking patterns of southern New Zealand men, with a chapter devoted to this competitive, rapid ingestion of alcohol.

He writes that 'drinking games':

- are played in sports clubs, hotel bars, tour buses, university colleges and at mixed-gender parties
- are played closer to the beginning of the night, particularly in groups with a high proportion of strangers
- inevitably result in a situation where "at least one or two men in the group, but usually more, will consume large quantities of alcohol and get drunk" (p38).

One interviewee states:

"There's a lot of pressure on. There's lots of bravado involved, with people taking big swigs out of it and looking at other people significantly." (Hodges, 1989)

In an American study Engs and Hanson (1993) describe 'drinking games' as part of youthful alcohol consumption. They found a correlation between game-playing and associated harms in light and moderate drinkers, but no such correlation in heavy drinkers. (Heavy drinkers were thought to be exhibiting alcohol-related problems anyway which may have masked the effects of game playing.) Meanwhile USA-based Bosari et al (2003) found that students saw 'drinking games' as a way of getting drunk quickly, socialising, controlling others and getting others drunk.

Predictors of High-Risk Student Drinking

Much research has been undertaken on the factors predicting heavy drinking among young people – from a family history of depression to risky childhood and adolescent behaviour and their living environments. However, a report by the United States-based TFCD (2002a) proposes that college [university] students are lighter drinkers in high school than their non-college-bound peers, and that their alcohol consumption increases only with the onset of tertiary education.

Kypri et al (2002) demonstrated that tertiary students were drinking more than their same-aged peers in the community.

Adam et al (2000) found that students living in Waikato University halls of residence displayed the highest rates of peer pressure associated with alcohol consumption, and that current hall policies had little effect on their levels of drinking.

They suggest that the higher levels of alcohol-related harm in halls of residence are associated with the ages of the people living there – high-risk, 18- to 21-year-olds in their first year of tertiary study. They also suggest that alcohol is perceived as a group activity and that the group dynamics operating in halls of residence accentuate the 'need' for students to drink.

In a contrasting study, Kypri et al (2002) found that alcohol consumption in Dunedin's general student population was higher than in halls of residence. They comment:

"The Dunedin halls of residence offer some of the features of the concentrated social milieu and sense of social identity provided by the American fraternity and sorority system but lack formal membership. As is the case for fraternities and sororities, certain halls have a reputation for scholarship; others for partying and some excel in both domains." (Kypri et al, 2002, p462)

ALCOHOL-RELATED HARM AMONG TERTIARY STUDENTS

The acute harms associated with alcohol use in tertiary students are mainly caused by intoxication, which is linked to accidents and injuries and to acute social problems. Intoxication can be linked to psychomotor impairment, lengthened reaction time, impaired judgement, emotional changes and decreased responsiveness to social expectations (Babor et al, 2003).

The effects of intoxication on tertiary students' academic performance have not been widely investigated. However, a study by Paschall and Freisthler (2003) compared prospective high-achieving students' alcohol consumption at university with changes in their grade point averages (GPAs). There was a moderate, but not significant, correlation between alcohol consumption and decreased GPA, although the authors recommend a more representative sample and a longitudinal study design for stronger conclusions.

Alcohol's Effect on Others

Tertiary students have reported drinking harms as a result of both their own drinking and the drinking of others (see Table 1).

Table 1

Harms associated with own drinking	Harms associated with others' drinking
Hangover	Being pushed, hit or assaulted
Emotional outburst	Property damage
Vomiting	Unwanted sexual advance
Heated argument	Study/sleep interrupted
Being physically aggressive to someone	Had a serious argument
Blackouts	Babysat a drunken student
Inability to pay bills as a result of drinking	Insulted/humiliated
Had unprotected sex	Sexually assaulted/raped
In a sexual situation that unhappy about	Found vomit in hallway or bathroom
A sexual encounter that was later regretted	Been a victim of another crime
Stealing public property	Driven in a car with a drunk driver
Committing an act of vandalism	
Removed or banned from a pub/bar	
Arrested for drunken behaviour	
Missed a class	
Failed to complete an assignment	
Impairment at a test or exam	
Physically hurt self	
Driven while intoxicated	

Sources: Wechsler et al, 1995b; Donovan et al, 2001; Langley et al, 2003.

Wechsler et al (1995b) found that:

"High levels of student drinking on campus can adversely affect students who are not engaging in heavy drinking and who may have their work and living environments degraded as a consequence of the drinking around them." (Wechsler et al, 1995b)

Kypri et al (2002) and Donavan et al (2001) support this in their research, while Hamilton's (1996) study on urban versus rural drink-driving found that half of all first-year university students surveyed had driven drunk and that most had done so in a rural area. Driving drunk was seen as a 'viable transport option' in rural areas and a male-oriented activity.

STRATEGIES TO REDUCE ALCOHOL-RELATED HARM AMONG TERTIARY STUDENTS

A number of strategies for reducing alcohol-related harm among tertiary students have been evaluated. Most are from the United States; few of the tertiary education programmes in New Zealand have been evaluated.

This section covers the key strategies from the National Alcohol Strategy (ALAC and Ministry of Health, 2001) and their likely effectiveness.

CONTROLLING ALCOHOL SUPPLY

This strategy is based on the theory that if alcohol is less accessible or convenient to consume, people will be less likely to consume it and problems will be reduced.

The physical availability of alcohol can be reduced by:

- restricting hours of sale
- banning or partially banning alcohol
- restricting who can buy alcohol
- reducing outlet density
- institutional policies.

Restricting Hours of Sale

Restricting days and hours of sale has had positive effects in reducing crime and vandalism, but there is little evidence of any great effect on consumption patterns or harms suffered by young people (Babor et al, 2003). In New Zealand, there are only some days of the year when alcohol is not permitted for sale, and then only in some situations (Sale of Liquor Act 1999).

Toomey and Wagenaar (2002) recommend that campuses restrict alcohol sales on campus to after normal work and class hours and to the weekends. This way alcohol sale and consumption are separated from the scholarly efforts of the institution as a whole.

Partial or Total Alcohol Bans

Tertiary education institutions often restrict alcohol availability by banning its use. Some United States campuses are totally dry while others place limitations on alcohol consumption on campus. A number of New Zealand tertiary institutions have alcohol restriction policies (University of Otago, 2003; Victoria University of Wellington, 2003). Some Otago University halls of residence have moved towards 'alcohol-free days' and, although they have not been evaluated, anecdotal results are promising.

An American study comparing universities that ban alcohol with those that permit it showed that alcohol-free campuses:

- were likely to have more abstainers
- had 30 percent fewer binge drinkers
- had fewer second-hand effects of drinking
- were not more likely to have drink-driving students

but...

- had just as much extreme drinking
- had the same rate of alcohol-related problems (Wechsler et al, 2001a).

“Substance-free events” also reduce the availability of alcohol. Many tertiary education institutions organise orientation events that under-18s can attend without consuming alcohol. However, a United States study by Correia et al (2003) indicates that students find substance-free events less pleasurable than events where alcohol is available.

Babor et al (2003) mention individual bans on ‘habitual drunkards’ and those convicted of serious assault, restricting their access to licensed premises. A similar method has been adopted in north Dunedin, where individuals banned from one licensed premise for misconduct are also barred from entering a number of other bars, pubs, clubs and off-licences.

Restricting Who Can Buy Alcohol

The most common method of restricting who can buy alcohol is the use of the minimum legal purchasing age (MLPA) or a minimum legal drinking age.

International research and experience suggest that lowering the purchasing age is accompanied by increases in alcohol-related problems and crime (Babor et al, 2003; Stockwell and Gruenewald, 2001). In 1999 New Zealand lowered its MLPA to 18, enabling a large section of New Zealand’s tertiary education population to access alcohol legally and in greater quantities.

Since 1999 Police crime statistics have shown an increase in alcohol-related problems in young people. The New Zealand Medical Association has also expressed its concern with the lower drinking age and increases in the number of young people requiring treatment for alcohol-related injuries and illness (Marriot-Lloyd and Webb, 2002). However, reviews by the Ministry of Justice indicate no overall effect (Lash, 2002).

Studies subsequent to many American states raising their minimum drinking age in the late 1980s showed that students still continued to consume alcohol at least occasionally, and that harms were actually reported at rates higher than before the age was raised. Overall, absolute quantity consumed did decrease, but it was accompanied by a shift to unmonitored and less controlled drinking environments and parties (Davis and Reynolds, 1990).

It is important to note that New Zealand’s MLPA is different from the American minimum legal drinking age. The United States legislates against minors **consuming** alcohol, while New Zealand legislates against minors **purchasing** alcohol.

Reducing Outlet Density

There is mixed evidence that 'clumping' alcohol retail outlets in an area increases alcohol consumption and related problems in the surrounding neighbourhood.

Most European studies have found that increasing outlet density does not increase alcohol-related problems, except among those with reduced access levels anyway (primarily women and the elderly). However, Babor et al (2003) state that the reduction of alcohol outlet density is one of the promising practices to reduce problems.

A large-scale study by the Harvard School of Public Health (Weitzman et al, 2003a) found a high correlation (and strong probabilities) between outlet density near college campuses and heavy drinking, frequent drinking and drinking-related problems. Women, under-age students and those who took up binge drinking at university were particularly affected. Restricting outlet density has not been trialled in New Zealand. This may be a potential area for intervention.

Institutional Policies

Many New Zealand tertiary education institutions have alcohol policies, often with a host responsibility focus and to cover the institution legally. However, while they prevent some access to alcohol and in turn prevent some alcohol-related harms, they do not advocate a change in student culture or in community policies that promote unsafe alcohol use.

Alcohol policies usually refer to alcohol consumption in bars on campus or to parties held by departments or schools (University of Otago, 2003; Victoria University of Wellington, 2003).

Many halls of residence have alcohol policies covering the permissible forms and quantities of alcohol, and penalties likely to result should the regulations be breached but they do not actively promote a reduction in alcohol-related harm. In the Adam et al study (2000), students at Waikato University saw hall of residence alcohol policies as having little effect on their drinking.

Campuses can choose to avoid alcohol sponsorship for social events or, if alcohol sponsorship is gained, use it in a tied-tax style arrangement, where the tax collected is directly used for activities to reduce alcohol-related harm among students. In a 1999 article, Gomberg recommends enlisting the help of campus media and newspapers in restricting alcohol advertisements and promotions, and in making alcohol-related problems a priority in reporting campus news (Atkin and DeJong, 2000; Gomberg, 1999 as cited in Toomey and Wagenaar, 2002).

Posavac (1993) advocates involving students in policy formulation. Recognising their views on excessive drinking may facilitate their endorsement of campus alcohol policies.

REDUCING DEMAND

Social Normative Theory and Social Marketing

American and New Zealand studies have shown that students grossly overestimate the quantities their peers drink and how often they do so. Kypri and Langley (2003) found that 80 percent of males and 73 percent of females overestimated the levels to which their peers drank.

The American research led to the 'social norms' movement, which works by highlighting latent healthy norms about drinking (Wechsler et al, 2003). Students are provided with positive messages such as 'Most students know how to party safely... Here's how they do it' which aim to highlight the norm for alcohol consumption on the campus.

A large number of United States campuses have applied the social norms strategy to harm-reduction programmes. The TFCD describes it as promising but requiring further evaluation (TFCD, 2002a).

Changing the Drinking Environment

The drinking context for students is largely social, with heavy drinking common only in social situations (Cashin et al, 1998; O'Hare, 1990).

Changing the drinking context means targeting not alcohol but the context in which it is consumed, such as licensed premises associated with aggressive behaviour and intoxication (Babor et al, 2003). Areas identified for change include:

- the drinking environment
- the serving practices of bar staff
- aggression and problem behaviour.

The drinking environment

Engs and Hanson recommend removing the stigma surrounding alcohol by "changing taverns from dark and furtive haunts to well-lit, cheerful places where people can get food as well as drink" (1999, p334).

Toomey and Wagenaar mention the work of Graham and Homel, which associates overcrowding, poor traffic flow, bad air quality and bad music with aggression. They suggest food can reduce aggression by slowing down alcohol absorption and creating an atmosphere where alcohol is not the focus (Toomey and Wagenaar, 2002).

Serving practices of bar staff

Training bar staff to serve alcohol safely and sensibly helps ensure the safety of drinkers and other patrons. Some American states require servers to have a licence for serving alcohol, gained through server training courses (see Table 2) that aim to ensure state-wide minimum standards of beverage service (Toomey and Wagenaar, 2002).

Table 2

COMPONENTS OF 'GOOD' SERVER TRAINING PROGRAMMES	
1.	Attitude Change: The benefits of preventing intoxication and not serving underage patrons are stressed so the bar staff and management will take responsibility to prevent intoxication.
2.	Knowledge: The effects of alcohol, the relationship between alcohol consumption and blood alcohol levels, the signs of intoxication, the laws and regulations related to serving alcohol, legal liability, strategies for dealing with intoxicated or underage patrons and refusing service.
3.	Skills: The ability to recognise intoxication, refuse service and avoid problems in dealing with an intoxicated person.
4.	Practice: Checking age identification of young patrons, preventing intoxication, refusing service to someone who is becoming intoxicated and arranging safe transport for intoxicated persons.

Source: Babor et al, 2003.

Managing aggression and problem behaviour

Training programmes for door and security staff help them to manage aggressive patrons and reduce their own aggressive actions. United Kingdom programmes include training door staff in relevant laws, the effects of alcohol and drugs, fire safety, first aid, teamwork and communication skills (Babor et al, 2003).

'Keg registration' is gaining favour on and near United States campuses. Rather than banning keg purchases, it ensures that kegs have specific identifiers that retailers record with the purchasers' names and addresses. Law enforcement authorities then have an identifiable person to contact should any problems result from the function for which the keg was purchased (Toomey and Wagenaar, 2002).

Host Responsibility in New Zealand

Host Responsibility was launched in New Zealand in 1991. It outlines a broad set of strategies designed to help create safer drinking environments.

Some aspects of *Host Responsibility* have now been incorporated into legislation, making them legal requirements. The programme was reviewed in 2003.

Host Responsibility incorporates six key concepts:

A responsible host:

- prevents intoxication
- does not serve alcohol to minors
- provides and actively promotes low and non-alcoholic alternatives
- provides and actively promotes substantial food
- serves alcohol responsibly or not at all
- arranges safe transport options.

Source: www.alac.org.nz.

The programme now has a greater focus on promoting the fact that intoxicated patrons cannot legally be served. In line with the TFCD's (2002a) report, this indicates it is better to build on successful strategies than attempt to create new ones.

Education and Persuasion

Strategies using education and persuasion to reduce alcohol consumption are among the most common. They include involving the media, drug education programmes, and the reinforcement of messages by friends and family. These strategies are likely to be more effective when they are used in conjunction with other strategies.

The media

In interviews about the use of the media to prevent drink-driving, students said messages of greater relevance to them would be more effective such as messages covering their greatest drink-driving fear: getting caught (Gotthoffer, 1999).

Education courses

Education courses are seen as ineffective by some in the research community (Babor et al, 2003). Duitsman and Cychosz (1997) found students to be more aware of alcohol as a dangerous substance after participating in a drug education course, but their drinking patterns were not affected.

Messages from friends and family

Persuasion by friends and family can have an effect on drug and alcohol use. Smart and Studoto (1997) found that students were more confident to intervene in friends' alcohol, tobacco and drug use after completing a drug education course themselves. Weintraub and Chen (2003) investigated the effect of parental reinforcement and found that campus anti-alcohol campaigns that included parents as a target had potentially beneficial results.

De-emphasising Alcohol

De-emphasising the role of alcohol at tertiary education institutions – changing the focus from a drinking culture to one of scholarship and academia – is a strategy that has been used overseas (Toomey and Wagenaar, 2002).

For example, Toomey and Wagenaar (2002) describe a 1995 American initiative in which colleges scheduled compulsory course requirements on Fridays in an effort to prevent students going out and drinking on a Thursday night. Other de-emphasis strategies include:

- using sponsorship and the media to promote alcohol safety
- increasing 'social capital' on campus.

Increasing social capital on campus

Social capital is "...a contextual characteristic describing patterns of civic engagement, trust and mutual obligation among persons" (Lochner et al, 1999 as cited in Weitzman and Kawachi, 2000).

Weitzman and Kawachi (2000) compared levels of social capital on American campuses (measured by volunteering levels) with binge drinking on the same campuses. Binge drinking rates were lower at sites with higher rates of volunteering (social capital).

Other research has found that students who work, volunteer or undertake internships are less likely to take part in risky drinking practices (Chaloupka and Wechsler, 1996).

Healthy Settings

The World Health Organisation is promoting the development of 'healthy settings', which involve an inter-sectoral approach to identifying priority health problems in a given local setting and developing responses to address those problems. Responses must be both integrated and sustainable.

The World Health Organisation mission statement for healthy settings is:

"To improve the health and quality of life of people in specific settings. This involves strengthening environmental health and health promotion infrastructures. The application of the healthy settings approach aims to establish more effective working relationships between the health sector and other sectors to solve health problems closer to their source." (WHO, 2004)

In another initiative, Lancaster University founded the 'Promoting A Healthy Social Life' group. The group gave priority to mental health, alcohol, sexual health and the provision of social spaces, based on the belief that the university's social spaces were not suited to many sections of the student and staff population. However, specific issues of alcohol delivery were not covered as the university relied on alcohol sales to fund other welfare functions (Dowding and Thompson, 1998).

A campus can become a healthy institution by providing:

- accessible and appropriate health services
- appropriate waste management and recycling practices
- sport and recreation facilities
- support services for minority groups
- shade and green areas.

Source: www.wpro.who.int/themes_focuses/theme2/focus1/t2f1.asp.

In general, healthy settings have been run in conjunction with public health projects. There is potential to explore this work further in New Zealand.

PROBLEM LIMITATION

Brief Interventions

'Brief interventions' are characterised by their low intensity and short duration (Babor et al, 2003). They usually take place over one or two short sessions and are designed to access individuals before or soon after the onset of alcohol-related problems. "They should motivate high risk drinkers to moderate their alcohol consumption, rather than promote abstinence" (Babor et al, 2003, p212).

Heather (2001) notes the need for a distinction between brief treatment and opportunistic brief intervention: brief treatment is offered to people seeking help for an alcohol-related problem and is delivered in specialist treatment centres.

Opportunistic brief intervention is delivered by generalist workers to individuals identified as problem drinkers in settings they have attended for reasons other than to seek help for an alcohol problem. It aims to move drinkers from pre-contemplation and contemplation to preparation and action (Heather, 2001; Prochaska and DiClemente, 1992).

Studies of brief intervention have delivered differing results. While much seems successful, it may not be effective with alcohol-dependent individuals. The duration of the effect also remains unknown (Babor et al, 2003). However, opportunistic brief intervention has been successful with students with a great deal of positive evidence available.

The High Risk Drinkers (HRD) Project is an example of a successful brief intervention that has been developed into further programmes. Originally used to assess the efficacy of brief intervention with heavy-drinking American college students (Marlatt and Witkiewitz, 2002), it was used by Baer et al (1992) to investigate three forms of intervention with students:

- Small-group discussion on alcohol use and risks.
- A six-unit self-help manual.
- A single one-hour feedback and advice session.

Results were positive over all three interventions with reductions in drinking rates seen one to two years afterwards (Baer et al, 1992). Since then, the University of Washington has developed two programmes

based on HRD that have demonstrated reductions in alcohol consumption by students at four-year follow-up (Baer et al, 2001).

A study by Walters, Bennett and Miller (2000) aimed to measure the alcohol consumption of students, their attitudes to alcohol and any consequences associated with alcohol use. Students were assigned to a mailed feedback group; a motivation/information session combined with a mailed feedback group; and a control group. Rather than demonstrate that a motivation session along with mailed feedback was superior in reducing student drinking, mailed feedback only was seen as being most effective out of all three groups.

'Drink Smart' is an intervention programme implemented on university campuses in Queensland, Australia that may be appropriate for New Zealand tertiary students. 'Drink Smart' is a health promotion programme held at student functions which aims to increase knowledge of safe drinking levels and address the impact of heavy drinking on the student environment. The programme is positive and interactive and involves monitoring drinking and providing material that promotes safe drinking levels.

Developing programmes

Acceptability and appropriate strategies are important in ensuring a successful brief intervention programme. In a New Zealand survey of how students like to receive brief interventions, 81 percent of all students and 82 percent of hazardous drinkers favoured web-based brief intervention over other means (Kypri et al, 2003). This gives useful data on New Zealand tertiary students and what they see as acceptable in a programme to reduce hazardous drinking.

Studies have shown that a 'Student Alcohol Questionnaire' is a viable and useful tool for assessing students in accident and emergency departments (Shreve, 1998) and that individuals have a higher willingness to change after suffering the negative effects of alcohol (Apodaca and Schermer, 2003). Brief intervention in students injured in alcohol-related crashes has shown positive results, although whether this was due to the crash or the brief intervention is not clear (Somers et al, 2001). Similar work has been done with the general population, with significant reduction levels (Wright et al, 1998).

Disciplinary Methods

A small section of the literature focuses on the success of disciplinary actions in curbing student drinking on campuses. Institutions have powers of discipline over their students which, depending on severity, include fines, community work, suspension and expulsion.

In one initiative, the University of New Mexico has moved away from judicial penalties, using a brief intervention and personalised mailed feedback to students who come to the attention of authorities for alcohol-related crime. However, the results so far are not showing high reductions in alcohol-related problems (Walters et al, 2001). Meanwhile, Dartmouth College (USA) has 'Good Samaritan Laws', where, if a student seeks help, disciplinary action is not taken against them for being intoxicated or against any other student who provided the alcohol that caused the intoxication (Meilman, 1992).

Preventing Drink-Driving

The sobriety of designated drivers is the subject of research in the United States. Work by Timmerman et al (2003) found that male designated drivers were more likely than females to be under the influence of alcohol. Designated drivers of a large group were also more likely to have consumed alcohol than designated drivers from a smaller group.

Australia has since the 1980s used a strategy describing designated drivers as 'skippers'. According to an article by Stevenson et al (2001) that evaluated the programme in Western Australia, 26 percent of students drove as a designated driver while feeling the effects of alcohol. Much of this was due to students believing they were unlikely to be caught by Police while driving intoxicated. Random drug testing was the only variable (found by multivariate analysis) to be positive in preventing 'skippers' from driving under the influence.

CONCLUSIONS

Tertiary campuses around the world use a range of strategies to reduce the harm caused by student alcohol consumption. However, a combination of strategies is likely to be most successful.

The TFCD (2002a) offers two pieces of advice:

- Use proven strategies.
- Fill research gaps.

It also recommends that strategies follow a '3-in-1 Framework' by targeting:

- individuals, including at-risk or alcohol-dependent drinkers
- the student body as a whole
- the college [university] and surrounding community.

Tertiary education institutions are respected and economically important parts of our society and can take a leadership role in their communities. The TFCD notes that it will be impossible to reduce the culture of consumption without the support of institutional leaders.

In combating the harm associated with excessive alcohol consumption, institutions can adopt strategies that include:

- reducing alcohol's availability on campus
- reducing alcohol outlet density near campuses
- promoting host responsibility strategies on campus
- supporting treatment and prevention services in implementing opportunistic brief interventions
- using alcohol sponsorship on campus for safe-drinking programmes
- encouraging a 'health-promoting campus'.

Partnerships with alcohol and drug treatment and public health services should be encouraged as these services can:

- challenge dangerous practices on campus and in the community
- support server and door staff training programmes
- provide comprehensive alcohol screening
- provide opportunistic brief intervention
- ensure that information and services provided to students are both appropriate and accessible.

Socio-cultural strategies such as changing the drinking context and de-emphasising alcohol's role on campus are positive steps forward. Harm-reduction methods include reducing alcohol outlet density, promoting the use of opportunistic brief intervention and supporting alcohol-free events.

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APPENDIX 1 – THE TERTIARY STUDENT

Tertiary education is study undertaken with the purpose of achieving a post-school qualification. In 2001, 393,209 students were recorded as enrolled at public or private institutions in New Zealand.

Socio-demographics

People studying at tertiary education institutions come from vast and varied backgrounds so it is not possible to develop a conclusive description of the 'typical tertiary student'. However, below are the socio-demographic characteristics of the New Zealand tertiary student population.

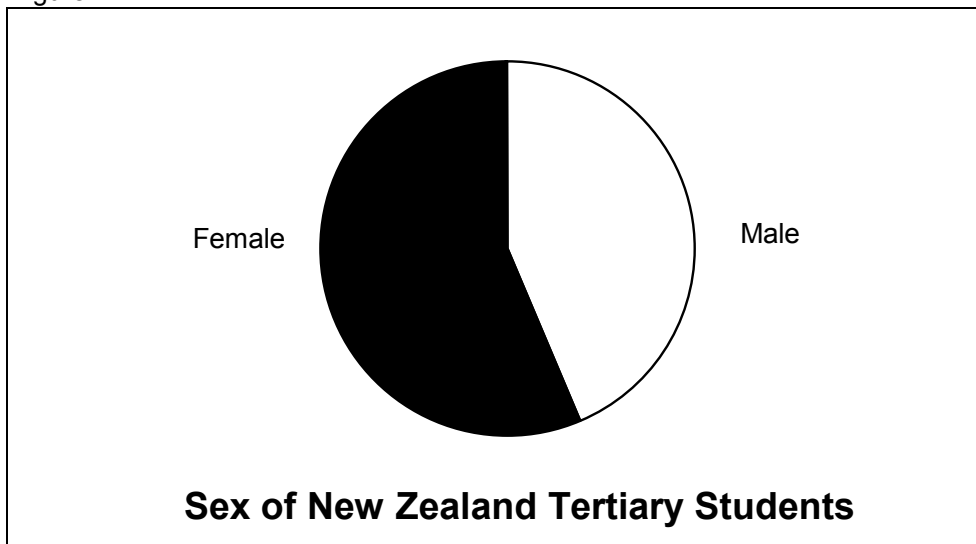
In 2002, 56.3 percent of tertiary students were female, a percentage that has been increasing over time (Ministry of Education, 2002). Fifty-nine percent of tertiary students identified themselves as New Zealand European/Pakeha, 23 percent as Maori, 5 percent as Pacific, 8 percent as Asian and 3 percent from other ethnic groups.

Most tertiary students fall into the 18- to 24-year-old age bracket. Some start university at the age of 16 or 17, but this percentage is small; almost everyone is aged 18 by the end of their first year (Ministry of Education, 2002).

In the New Zealand University Students' Association (NZUSA) 2001 Income and Expenditure survey, students were asked where they lived. Most (56 percent) lived in a rental home or flat, 22 percent lived at home, 11 percent lived in their own home, 4 percent lived in private board and 7 percent lived in a hall of residence or hostel (NZUSA, 2001).

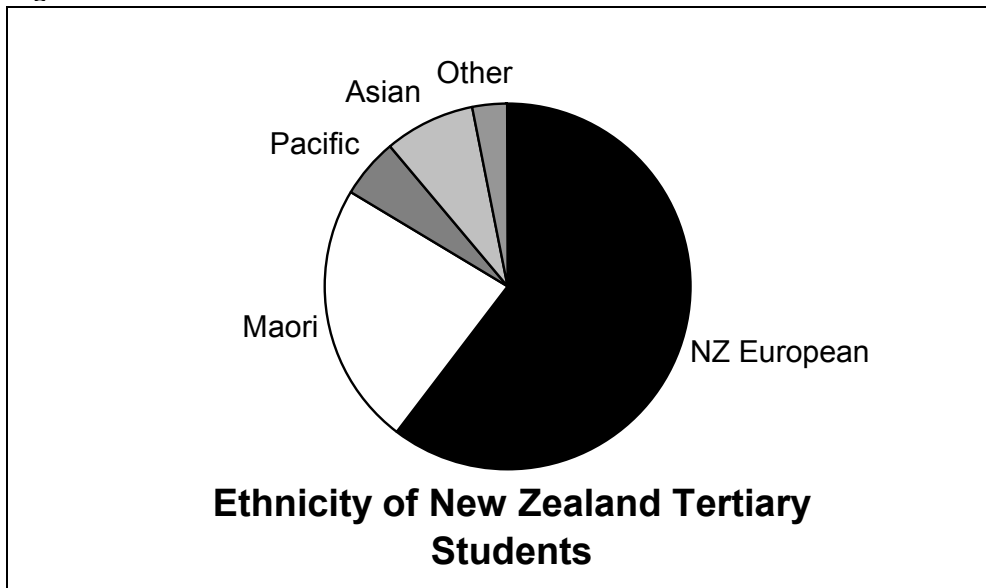
At some campuses (such as Otago and Lincoln Universities) most students live either on campus in halls of residence or near campus in campus housing or flats. On other campuses, a higher percentage of students commute for study while living at home.

Figure 1



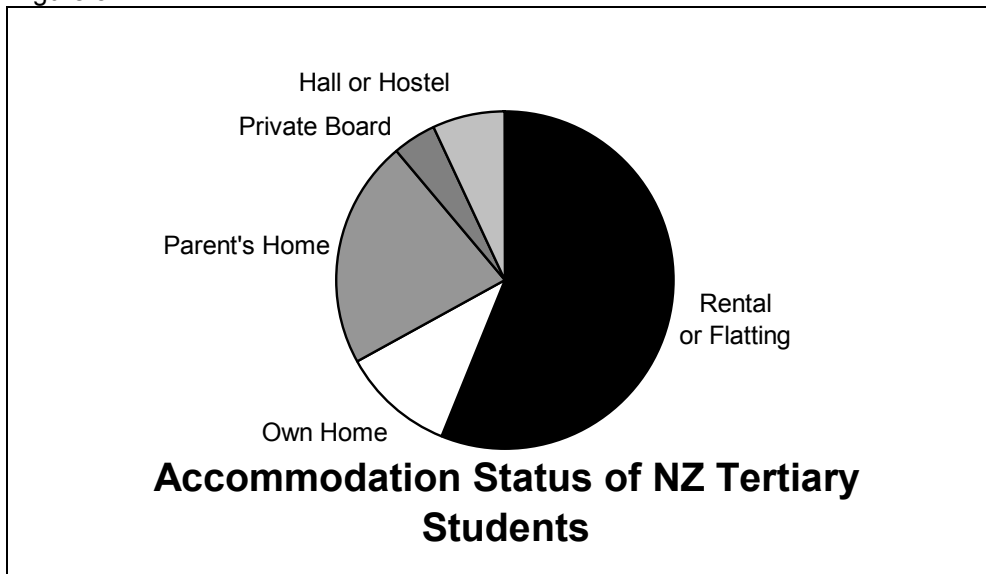
Source: Ministry of Education 2002.

Figure 2



Source: Ministry of Education 2002.

Figure 3



Source: NZUSA 2001.

The NZUSA 2001 survey also revealed that most students were not in full-time work. They earned their income from a range of sources including:

- part-time work
- income saved from summer holiday work
- the Student Allowance
- student loans
- monetary gifts from parents
- scholarships
- other forms of benefit (eg: the DPB).

Source: NZUSA, 2001.

The 2001 survey found a 9 percent increase in student expenditure since the previous survey in 1998. The most commonly paid-for items were food, accommodation and travel, with a median 2001 expenditure of \$180 per week.

The survey did not specifically investigate students' spending on alcohol (this was probably included in the 'entertainment/going out' category) but found that students spend more on average on entertainment than they do on personal items such as soap and razors.

APPENDIX 2 – ALCOHOL AND THE NEW ZEALAND CONTEXT

Ethanol is the organic compound in alcoholic beverages.

In New Zealand, alcohol is measured in percentage alcohol by volume (ABV), which is used to quantify a 'standard drink'. Standard drink definitions vary among countries, but in New Zealand it is any drink with 10g of ethanol, which is equivalent to 12.7ml of pure alcohol or 330ml of ordinary strength beer (4 percent alcohol) – a standard can or stubby (Kypri, 2003).

Alcohol's effect on individuals depends on the quantity of alcohol drunk and the rate of consumption, the person's size and weight, their age and gender and whether it is consumed with other drugs (Centre for Education and Information on Drugs and Alcohol, 1997).

In moderate quantities, alcohol can cause euphoria and pleasant feelings of relaxation and detachment. With higher intake, alcohol slurs the speech, reduces inhibitions and leads to uncoordinated movements. At extreme volumes, it causes aggression and vomiting and suppresses the central nervous system, causing respiratory depression, unconsciousness and death due to poisoning. Long-term alcohol use at dangerous levels can lead to liver cirrhosis and brain damage and may cause memory loss and depression (Alcohol and Drug Council of Australia, 2003; Babor et al, 2003).

"It [alcohol] has the potential to affect every organ and system of the body. No other commodity sold for ingestion has such wide-ranging adverse physical effects." (Babor et al, 2003, p21)

BINGE DRINKING

Binge drinking was originally defined as drinking large quantities of alcohol in sessions lasting several days (Kypri, 2003). However, the term is now applied to "a single drinking episode of shorter duration that usually results in intoxication" (Kypri, 2003a, p1).

Measuring and defining the stage at which binge or heavy drinking is reached has proved a challenge. Researchers in American colleges use five or more drinks (in the USA a standard drink is 15g of ethanol), while in New Zealand ALAC defines the upper limits for heavy drinking on one occasion as six standard drinks for men and four for women (in this case a standard drink is 10g of ethanol).

Binge drinking increases the risk of multiple negative consequences, including hangovers, fights, driving while intoxicated, vandalism and being the victim or perpetrator of sexual violence (Wechsler et al, 1994; Clapp, Shillington and Seagars, 2002).

ALCOHOL CONSUMPTION IN NEW ZEALAND

Alcohol is New Zealand's most popular drug. The 2001 National Drug Survey showed 85 percent of respondents had consumed alcohol in the previous year, with the top 5 percent of drinkers found to consume one-third of New Zealand's total alcohol (Wilkins et al, 2002).

Maori have lower consumption rates than the total New Zealand population, with 75 percent of Maori reporting alcohol consumption in a 12-month period (Moewaka Barnes et al, 2003). However, those Maori who do drink appear to do so more heavily (Alcohol and Public Health Research Unit, as cited in Brown, 2002).

The 1996/97 New Zealand Health Survey investigated drinking habits in Pacific peoples and those of 'other' ethnic origin. The survey found that Maori, Pacific and other groups were less likely to consume alcohol than those of European origin. However, male and female Maori drinkers had higher rates of hazardous drinking patterns. Men of Pacific origin had similar rates of hazardous drinking to Europeans and Pacific females and those of 'other' ethnic origins had the lowest rates of hazardous drinking.

According to the Alcohol and Public Health Research Unit's 2002 Publication *Drug Use in New Zealand*, males are more likely than women to report binge drinking at least once a week and drinking enough to feel drunk at least once a month. Males in the 18 to 24 age range had the highest rates of binge drinking and of drinking until feeling drunk, but female rates were only slightly lower. Males aged 18 to 19 showed the riskiest drinking behaviour, reporting drinking until feeling drunk and having more episodes of binge drinking than any other group (Wilkins et al, 2002).

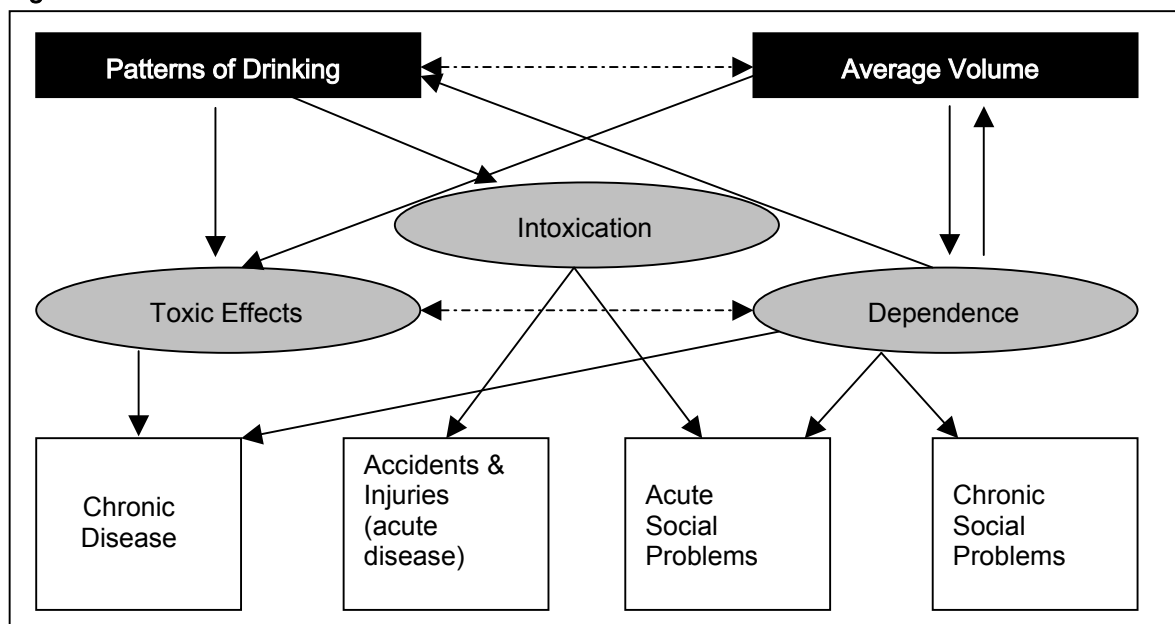
"Alcohol consumption and related problems are part of a continuum, not a dichotomy of alcoholism versus social drinking/abstinence. Alcohol is a leading cause of disease and mortality globally, and alcohol-related problems are experienced by a significant proportion of New Zealanders." (Kypri, 2003)

ALCOHOL-RELATED HARM

Kypri (2003) calls the misuse of alcohol "one of New Zealand's major social and health concerns". Although precise estimates for New Zealand's burden of disease are unavailable, alcohol misuse is estimated to have cost New Zealand \$16.1 billion in 1990, 4 percent of gross domestic product (Easton, 1997).

Babor and colleagues (2003) suggest there are three mechanisms by which consumption leads to problems: toxic effects, intoxication and dependence (see Figure 1).

Figure 4



Source: Babor et al, 2003, p20.

Although alcohol-related harm focuses largely on dependence, alcohol intoxication is the main cause of alcohol-related harm in the general population (Babor et al, 2003). Indeed, the acute harms associated with alcohol use in tertiary students are related to intoxication rather than to alcohol toxicity and dependence.

Responding to Alcohol-Related Offences

In 2002 the New Zealand Police published a report by Marriot-Lloyd and Webb. *Tackling Alcohol-Related Offences and Disorder in New Zealand* notes alcohol's significant role in assaults, road accidents and public disorder, and states that the lowering of the minimum legal purchasing age to 18 years in 1999 has resulted in increased under-age drinking and an associated rise in alcohol-related disorders.

The Police and Ambulance Services spend a significant amount – in money, energy and resources – in responding to alcohol misuse. It is estimated that out of the \$790 million Police budget in 2000/01, \$100 million was spent on responding to alcohol-related incidents (Marriot-Lloyd and Webb, 2002).

Unfortunately, there is no specific data on tertiary students and their apprehension by the Police for alcohol-related offences. The same applies to ambulance services and emergency departments.

GOVERNMENTAL POLICIES

Government concern about alcohol-related harm is reflected in the New Zealand Health Strategy and its place as a priority population health objective:

"To improve the health of the population by minimising the harm from alcohol and other drugs."

Alcohol is also covered in the National Drug Policy, the National Alcohol Strategy and in *Youth Health: A Guide to Action*, all published by the Ministry of Health in partnership with other organisations.

APPENDIX 3 - NATIONAL TASK FORCE ON TERTIARY STUDENT DRINKING

Objectives:

1. To collate relevant data available from New Zealand and other countries and disseminate this in appropriate forms to stakeholders and decision makers.
2. To develop a set of 'best practice' guidelines for creating safe environments and reducing alcohol-related harm among tertiary students.
3. To give a strong national identity to and provide leadership on the goal.
4. To explore the role that tertiary institutions have in marketing themselves and how this may impact on reducing alcohol-related harm.
5. To support and encourage national, regional and local networks and initiatives in order to promote greater coordination and communication about the policies and programmes that are likely to reduce alcohol-related harm.
6. To support the use and development of the 'Health Promoting Campus' concept and other relevant evidence-based programmes and projects.

Membership:

Roz Connelly	New Zealand University Students' Association
Andrew Kirton	New Zealand University Students' Association
Anna Maxwell	Alcohol Healthwatch
Rebecca Williams	Alcohol Healthwatch
Chris Griffiths	Health and Counselling Centre, University of Otago
Fiona Mannington	Students Against Driving Drunk (SADD)
Greg Oates	Halls of Residence, Auckland University
Debbie Netley	Halls of Residence, Auckland University
Karen Elliot	Public Health South, Dunedin
Karen Price	Victoria University Students' Association
Kypros Kypri	University of Otago
Caroline Mason-Rogers	Auckland University of Technology (AUT)
Lisbeth Alley	Auckland University of Technology (AUT)
Stella MacFarlane	Auckland University of Technology (AUT)
Sheri Marander	Auckland University
Phillip Parkinson	Alcohol Advisory Council of New Zealand (ALAC)
Sandra Kirby	Alcohol Advisory Council of New Zealand (ALAC)
Ron Tustin	Alcohol Advisory Council of New Zealand (ALAC)