# Patterns of alcohol consumption in Australia, 1998.

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## Summary Points

- **Estimates from a 1998 national survey were made of how much alcohol was drunk in Australia at risky levels for health.**
- **A large proportion (39%) was consumed at levels that posed health risks in the long term.**
- **Most (51%) of the alcohol consumed in Australia in 1998 posed short-term health risks to the drinker.**
- **9% of both male and female drinkers were at medium or high risk of long-term health problems due to alcohol (e.g. liver disease).**
- **46% of male and 32.5% of female drinkers were at risk of short-term harm from drinking (e.g. injury) at least once a month.**
- **People aged below 25 years had the riskiest drinking patterns.**
- **These estimates are very conservative since they account for less than half of the alcohol sold in Australia in 1998.**

**Introduction.** In this third Bulletin of the National Alcohol Indicators Project (NAIP), we introduce a new way of describing the prevalence of risky drinking. We report an estimate of the proportion of Australia's alcohol consumption that exceeds levels recommended in national drinking guidelines. We also provide estimates of the numbers of people drinking in excess of recommended levels. The source of these estimates was the 1998 National Drug Strategy Household Survey (AIHW, 1999). In each case these estimates are provided separately for drinking patterns known to cause acute (short-term) and chronic (long-term) harms. Further information about this approach is contained in the "*International Guide for Monitoring Alcohol Consumption and Related Harm*" (WHO, 2000).

The new (draft) Australian drinking guidelines from the National Health and Medical Research Council (2000) distinguish between levels of daily consumption that pose short-term health risks (e.g. injury and acute pancreatitis) and those that create long-term risks to health (e.g. liver cirrhosis and cardiovascular disease). For the long-term or 'chronic' health problems the draft guidelines are consistent with earlier guidelines (NHMRC, 1992) in recommending no more than 14 standard drinks (10g of ethyl alcohol) per week for women and no more than 28 standard drinks per week for men. For short term or 'acute' risks from intoxication, the draft guidelines suggest that up to 6 drinks for men and 4 for women on any one day are low risk provided the individual is not operating machinery, driving, working, using medication or suffering from certain physical conditions. The aim of this Bulletin is to provide estimates of how much drinking in Australia is above these levels.

According to World Drink Trends (1999) Australia was ranked 19th in the world in terms of per capita consumption with 7.6 litres of pure alcohol consumed per person. Underlying this simple statistic is an enormous variation in drinking levels and patterns some of which are low risk or even of potential benefit to health (NHMRC, 2000). The aim of this Bulletin is to estimate the proportion of Australia's total alcohol consumption that presents a medium or high risk to health. Ideally, comparisons between the results of the 1998 National Drug Strategy Household survey would be made against previous surveys. Unfortunately, changes in some of the alcohol questions in 1998 mean that such comparisons cannot be made with confidence. However, it is hoped that this Bulletin will provide a benchmark for the prevalence of risky drinking in Australia against which future assessments can be compared. Trends in national and state per capita alcohol consumption, will be reported in NAIP Bulletin 4.

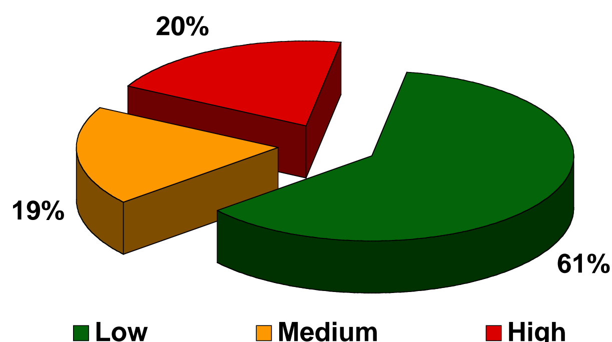


**Figure 1:** Percentage of alcohol consumed at low, medium and high risk levels for long-term (chronic) harm (e.g. liver disease, stroke).

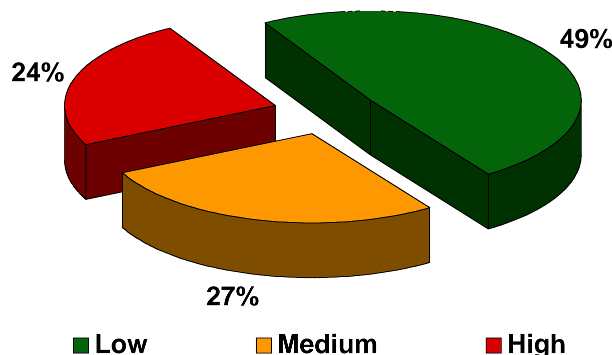


**Figure 2:** Percentage of alcohol consumed at low, medium and high risk levels for short-term (acute) harm (e.g. injury).

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**Method.** The raw data for this Bulletin was obtained from the 1998 National Drug Strategy Household (NDSH) survey. This survey of 10,030 people aged 14 and older includes questions about lifetime use of alcohol, use within the last year, quantity and frequency of usual consumption as well as amount usually consumed on a single drinking occasion. Responses to these questions were used to determine the number of people consuming alcohol at the risk levels defined below. Some adjustments of the data were made using age, gender and household size weights as determined by the Australian Institute of Health and Welfare (AIHW, 1999) to ensure that the results were nationally representative.

*Definition of a 'drinker' and a 'drink'*

The use of the term 'drinker' or 'current drinker' in this Bulletin means someone who had at least one drink of alcohol in the previous 12 months. A 'standard drink' or 'drink' here refers to one containing 10g of ethyl alcohol.

*Definitions of risk levels*

The definitions of low risk alcohol consumption for acute and chronic harms were made as consistent as possible with the new draft NHMRC guidelines for responsible drinking (NHMRC, 2000). However, in order to provide a distinction between medium and high risk drinking (not mentioned in the new draft guidelines) we have also drawn upon other sources (NHMRC, 1992; WHO, 2000). The definitions of low, medium and high risk drinking used in this Bulletin are summarised in Tables 1 (chronic) and 2 (acute).

'Chronic' health problems are those resulting mainly from long term excessive alcohol consumption. Low risk consumption for chronic health problems is defined by NHMRC (1992, 2000) as up to 14 drinks per week for females and up to 28 drinks per week for males. Additionally, for the purposes of this document, consumption of 15 to 28 drinks per week for women and 29 to 42 drinks per week for men was classified as 'medium' risk and higher weekly intake as 'high' risk (see Table 1) in accordance with the 1992 NHMRC Guidelines.

**Table 1:** Weekly intake of standard drinks (=10g of ethyl alcohol) defined as low, medium and high risk to **chronic** (long-term) health problems.

| RISK* | Males | Females |
|---|---|---|
| ● Low | 1-28 | 1-14 |
| ● Medium | 29-42 | 15-28 |
| ● High | 43+ | 29+ |

** Consistent with NHMRC (1992, 2000) and WHO (2000)*

The new (draft) NHMRC guidelines define low risk consumption for acute harm as up to 4 drinks on any one day for females and up to 6 drinks on any one day for males (NHMRC, 2000). However, these guidelines provide no definition of medium as opposed to high risk drinking. For the purposes of this Bulletin high risk drinking was defined as 9 or more drinks in a day for males and 7 or more for females, in keeping with available response options in the NDSH survey.

**Table 2:** Daily intake of standard drinks (=10g) designated low, medium and high risk for **acute** (short-term) health problems

| RISK | Males | Females |
|---|---|---|
| ● Low* | 1-6 | 1-4 |
| ● Medium† | 7-8 | 5-6 |
| ● High† | 9+ | 7+ |

**Consistent with NHMRC (2000) and WHO (2000)*
*†The distinction between 'medium' and 'high' is based only on categories available in the 1998 NDSH survey*

*Proportion of alcohol consumed at risk levels for **chronic** harm*

To calculate the proportion of all alcohol consumed which placed drinkers at risk of chronic harm, items concerning the quantity and frequency of alcohol consumption were combined to determine average numbers of drinks per day for males and females separately. This amount was summed for all respondents whose average consumption exceeded low risk levels. The resulting total of all medium and high risk consumption was divided by the total amount of alcohol consumed by all respondents.

*Proportion of alcohol consumed at risk for **acute** harm*

The proportion of alcohol consumed causing medium risk of acute harm was calculated by multiplying the frequency of medium risk drinking days by the average number of drinks consumed on such days. This figure was then divided by the total number of drinks consumed by all men or women (as appropriate) on an average day. For the proportion of all alcohol consumed at high risk of acute harm this process was repeated using the higher risk levels defined in Table 2.

*Proportion of Australian drinkers at risk of **chronic** harm*

The number of *drinkers* at low, medium and high risk levels was calculated from (i) the frequency of drinking in terms of days per week, month or year and (ii) the number of drinks a person reported they usually had on a day when they drank. The totals resulting from multiplying answers to these two questions were used to classify drinkers into the low, medium and high risk drinking categories

*Proportion of Australian drinkers at risk of **acute** harm*

The number of people consuming alcohol at a medium risk level for acute harm was calculated on the basis of responses to the question: "In the past 12 months how often have you had more than 6 (4 drinks if female) standard drinks in a day?". There was no equivalent question in the 1998 NDSH survey for high risk drinking. An estimate was made, however, on the basis of those people who answered positively to the above question *and* also reported drinking at least 8 drinks (males) or 6 drinks (females) to another question: "When you drink more than 4 drinks in a day (males, 2 for females), how many standard drinks do you usually have?". This method slightly underestimates the true number.

Throughout this Bulletin the highest category for the number of drinks consumed was "13 or more drinks" which in every case, was coded as 13. This produces a conservative estimate of the proportion of all alcohol that was consumed above low and medium risk levels as some people will have consumed more than 13 drinks.

## Findings

*Coverage of total alcohol consumption*

Respondents to the NDSH survey reported drinking on average 357.5 standard drinks in the previous 12 months – or one drink per day. This translated to 4.47 litres of pure alcohol per person. By comparison, World Drink Trends (1999) estimated Australia's per capita consumption to be 7.6 litres in 1997/1998, based on national sales data. When adjusted for the population aged 14 or over, per capita consumption for 14+ year olds becomes 9.61 litres per person. Thus the percentage coverage of actual alcohol consumption accounted by this national survey was only 46.5%. Clearly the figures reported here significantly under-estimate the true amount of alcohol consumed that year in Australia. This is a usual finding for surveys of alcohol use (WHO, 2000).

*Proportion of alcohol consumed at risk levels for **chronic** harm*

An average of 9,897,675 standard drinks was consumed each day in 1998 by males and 3,763,686 standard drinks consumed each day by females. While most were consumed at low risk levels for long term health problems, as many as 39% (see Fig 1) were consumed by people who regularly exceeded these levels (45% for women, 36% for men). The total proportions of all men and women who drank at high risk levels were 21% and 17% respectively.

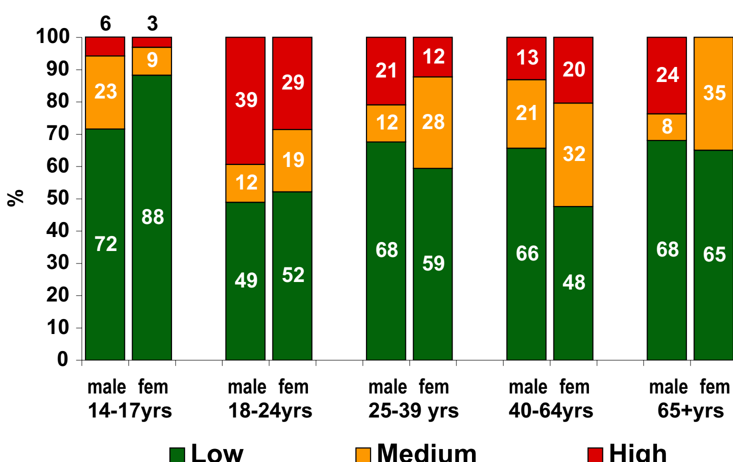


**Figure 3:** Proportion of alcohol consumed at low, medium and high risk levels for **chronic** harm by age and sex.

*Proportion of alcohol consumed at risk levels for **acute** harm*

An average of 5,259,248 drinks per day were consumed by males in drinking sessions exceeding 6 standard drinks i.e. above low risk levels. This represented 53% of all drinks consumed by Australian males each day. There was an average of 1,769,928 standard drinks consumed by women on drinking occasions exceeding 4 standard drinks in a day, accounting for 47% of female alcohol consumption. It is striking that the 14 to 17 year age group had the highest proportion of alcohol consumed in a risky fashion (medium/high) for acute harm at 71%. The 18 to 24 year olds were next highest with 66%. See Fig 4. for proportions by sex.

Using the higher cut-offs designated here as high risk for acute harm, 27% of all alcohol consumed by men and 17% of the alcohol consumed by women was high risk. For all respondents this was 24%.

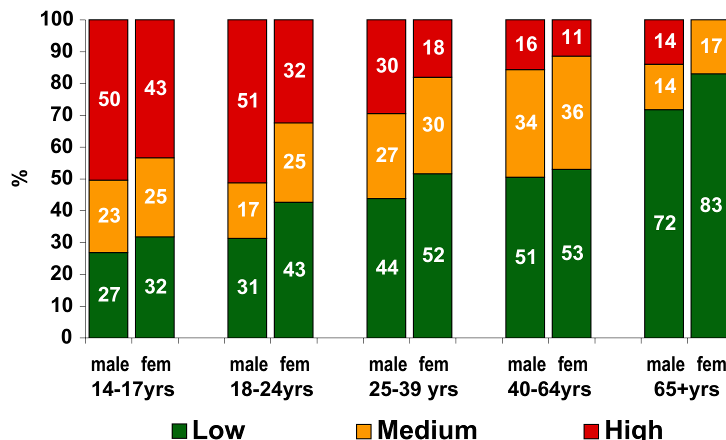


**Figure 4:** Proportion of alcohol consumed at low, medium and high risk levels for **acute** harm by age and sex.

*Proportion of the population that drinks alcohol*

One in five persons aged 14 or over reported abstaining from alcohol: half of these (9.6%) were life-time abstainers and half had not had a drink for at least 12 months (10.3%). Males were slightly more likely to be current drinkers (84.2%) than were females (76%). Persons aged 18 to 24 were also most likely to be current drinkers (87.5%), while persons aged 65 or over (66%) and those aged 14 to 17 (62%) were least likely to be current drinkers.

*Proportion of drinkers at risk of **chronic** harm*

Alcohol was consumed at low risk levels for chronic harm by 91.2% of current drinkers, at medium risk levels by 5.7% and at high risk levels by 3.1% (see Table 3). Drinkers aged 18 to 24 were most likely to be high risk drinkers (8.7% of males; 4.9% of females). When comparing male and female consumption, it needs to be borne in mind that medium and high risk consumption are defined differently for each sex.

**Table 3:** Proportion of current drinkers consuming at low, medium and high risk levels for **chronic** harm by age and sex.

| | % | | | | | |
|---|---|---|---|---|---|---|
| | 14-17 | 18-24 | 25-39 | 40-64 | 65+ | TOTAL |
| **Males** | | | | | | |
| Low risk | 95.7 | 86.4 | 92.8 | 90.1 | 93.6 | 91.1 |
| Medium risk | 3.8 | 4.9 | 3.5 | 7.0 | 2.4 | 4.9 |
| High risk | 0.5 | 8.7 | 3.7 | 2.9 | 4.0 | 4.0 |
| **Females** | | | | | | |
| Low risk | 98.4 | 90.0 | 92.2 | 89.6 | 91.7 | 91.2 |
| Medium risk | 1.3 | 5.2 | 6.5 | 7.8 | 8.3 | 6.7 |
| High risk | 0.3 | 4.9 | 1.3 | 2.6 | 0.0 | 2.1 |
| **Total** | | | | | | |
| Low risk | 97.1 | 88.1 | 92.5 | 89.9 | 92.8 | 91.2 |
| Medium risk | 2.5 | 5.0 | 4.9 | 7.4 | 5.0 | 5.7 |
| High risk | 0.4 | 6.8 | 2.5 | 2.8 | 2.2 | 3.1 |

*Proportion of drinkers at risk of **acute** harm*
Persons at risk of acute harm were taken to be males who drank in excess of 6 drinks on a single occasion (4 drinks for females) at least once a month in the past year. When only current drinkers were considered 46% of men and 32.5% of women indicated high risk consumption at least once a month, with the highest proportion evident amongst 18-24 year olds (see Fig 5). It was also estimated that at least 7.8% of drinkers were at high risk of acute harm (11.5% of males, 4% of females).

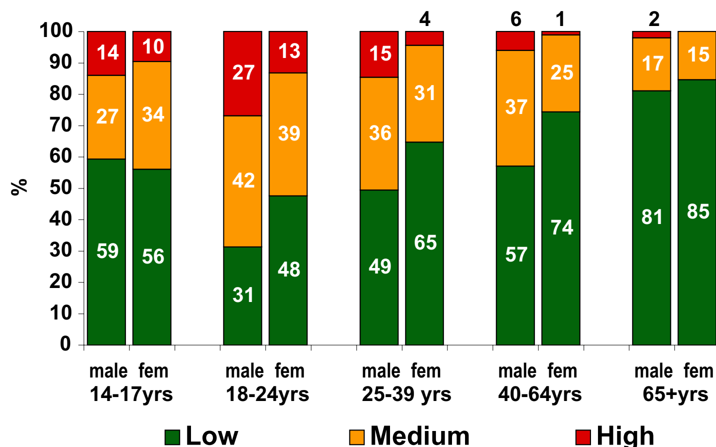


**Figure 5:** Proportion of *current* drinkers at low, medium and high risk levels for **acute** harm at least once a month, by age and sex.

**Conclusions**. The above results suggest that at least two-thirds of the alcohol consumed by people under 25 years of age poses a risk of short-term or acute health consequences – as does around half of all the alcohol consumed by all Australians aged 14 or over. A significant but smaller amount of this consumption also poses a risk of long-term health problems (e.g. liver cirrhosis, stroke and cancer). There has been debate about whether prevention policies should be targeted at the whole population of drinkers or just some high risk groups (e.g. Kreitman, 1986). These results suggest that prevention of alcohol-related harm is an issue for most drinkers and not just a small minority. Prevention policies which impact upon the whole population such as limiting the general physical and economic availability of alcohol need to be given serious consideration.

It is known that estimates of alcohol use made from household surveys underestimate true consumption due to factors such as poor recall, under-reporting and sample bias (WHO, 2000). In this case less than half the alcohol known to have been sold in the financial year 1997/8 was accounted for by the levels of consumption reported in the NDSH survey. This suggests that the actual prevalences of medium and high risk alcohol consumption in Australia are substantially higher than the estimates presented here.

This Bulletin clearly indicates the extent of risky alcohol consumption in Australia. The methods used and the results presented provide a useful benchmark against which future patterns of high risk alcohol consumption and compliance with national drinking guidelines may be compared. It will, however, be necessary to modify the next NDSH survey so that the alcohol questions correspond more closely to the new national drinking guidelines.

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