

# Australian Alcohol Indicators

Patterns of Alcohol Use and Related Harms for  
Australian States and Territories

**1990 - 2001**



National Drug Research Institute

# **Australian Alcohol Indicators, 1990-2001**

## **Patterns of alcohol use and related harms for Australian states and territories**

*by*

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**Preventing harmful drug use in Australia**

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## Executive Summary

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### *National Alcohol Indicators for Australia, 1990 to 2001*

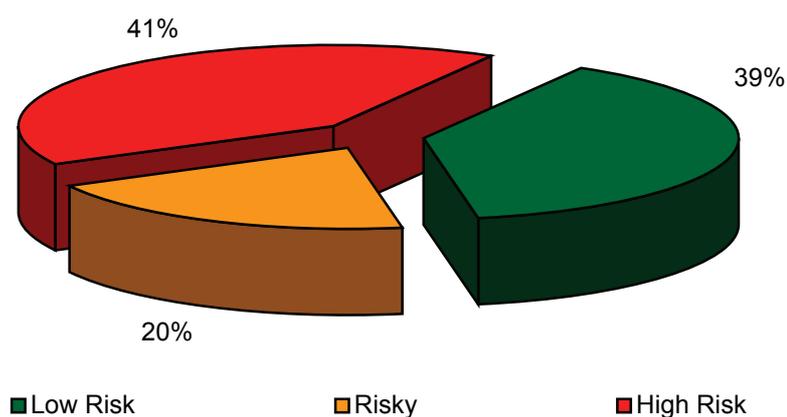
- This report presents health, road safety, industry and survey data to describe trends in risky alcohol use and serious alcohol-related harms for all Australian states and territories. It has been guided by principles set out in the World Health Organization's *International Guide for Monitoring Alcohol Consumption and Related Harm* (WHO, 2000).
- Trends in alcohol-caused deaths and hospitalisations for all states and territories have not previously been reported using consistent and comparable methods. A comparison between levels of risky alcohol use reported in the 1998 and 2001 National Drug Strategy Household (NDSH) surveys is also presented for the first time.
- The present report builds on and updates five earlier Statistical Bulletins from the National Alcohol Indicators Project (NAIP) concerning alcohol-caused deaths and hospitalisations, road crashes, alcohol-related violence and levels and patterns of drinking in Australia.

### *National trends and patterns of alcohol use*

- The average Australian aged 15 and over consumed 9.32 litres of pure ethanol in the financial year 2000/01. Australia is ranked 23<sup>rd</sup> for its per capita alcohol consumption among the 58 countries included in *World Drink Trends* (2003).
- Per capita alcohol consumption has remained stable for the past 10 years, following a significant decline in the early 1990s. While wine and spirit consumption has increased in the last decade, full strength beer consumption has declined. Slightly more than half of all alcohol consumed in Australia is still some form of beer, mostly beer with more than 4.5% alcohol by volume.
- As shown in Figure 1, of all the alcohol use reported to the 2001 NDSH Survey, 61% was drunk on days when the NHMRC Australian Alcohol Guidelines for minimising *acute* harm were exceeded (i.e. men drank more than six standard drinks and women more than four). Spirits (both neat and premixed), *regular* strength beer and fortified wine were the beverages most likely to be drunk on such days.

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- Eighty five percent of total consumption by females aged 14 to 17 years and 18 to 24 years was drunk at a risky or high risk level for *acute* harm, for males aged 14 to 17 years the estimate of such drinking was also high at 80%.
- Furthermore, 44% of all alcohol reported to the 2001 NDSH Survey was drunk by people who exceeded NHMRC guidelines for avoiding problems from the *chronic* effects of alcohol (i.e. an average of no more than four drinks per day for men and two for women).
- The different survey methods used to provide these estimates only accounted for between a half and three-quarters of known alcohol sales i.e. there was considerable under-reporting. A conservative estimate is that at least 80% of all alcohol consumed in Australia in 2001 put the health and safety of drinkers at risk of acute and/or chronic harm.
- It was estimated that 23% of all males and 18% of all females aged 14 years or more drank at risk levels for *acute* harm at least once a month. Persons aged less than 25 years, especially females, were most likely to drink this way. A smaller proportion of Australians aged 14 years and over put themselves a risk from the long-term or *chronic* effects of alcohol: 10% of males and 9% of females.
- While not previously reported, some comparable data were collected on patterns of alcohol use in the 1998 and 2001 NDSH surveys. Overall levels of risky/high risk use were similar between these years. For both men and women aged 14 and over, about 9% consistently drank in excess of NHMRC guidelines for harm from the *chronic* effects of alcohol.
- A striking increase was observed in the percentage of girls aged 14 to 17 years drinking at risky or high risk levels for long-term harm (i.e. an average of more than 2 drinks per day): a rise from 1% in 1998 to 9% in 2001. By contrast, males aged 18 to 24 years were less likely to drink at risky or high risk levels: dropping from 9% in 1998 to 6% in 2001.
- Alcohol-caused hospitalisation rates for these age groups confirmed these observed changes in drinking patterns. From 1998/99 to 2000/01 rates of these for females aged 15-19 years and 20-24 years also increased by about 4% and 7% respectively. Conversely, male rates of hospitalisation from 1998/99 to 2000/01 fell for both 15-19 (9%) and 20-24 year olds (10%).



**Figure 1:**  
Percentage of alcohol consumed at low, risky and high risk levels for acute (e.g. injury) harm in Australia, 2001

### *National trends in alcohol-caused deaths*

- At least 40 potentially fatal conditions are caused in whole or in part by alcohol. These include various cancers, liver disease, falls, road injuries and child abuse. Alcohol consumption, mostly at low levels, is also thought to have a protective effect against four conditions (ischaemic heart disease, hypertension, stroke and cholelithiasis). For each condition the extent of alcohol causation (or 'alcohol aetiologic fraction') was calculated separately for each state and territory and for each year considered using the 2001 NDSH Survey, estimates of per capita alcohol consumption and other epidemiological data (see Chikritzhs *et al.*, 2001; Chikritzhs *et al.*, 2002a).
- In the ten year period between 1992 and 2001, an estimated 31,133 Australians died from risky and high risk alcohol use. Of these, 23,430 (75%) were male and 7,702 female (25%).
- The leading causes of death were alcoholic liver cirrhosis (6,825), road crash injury (5,489), cancer (2,874) and suicide (2,495). More people died from the acute (16,756) than long term or chronic effects of alcohol (14,377), reflecting the more common pattern of drinking to intoxication.
- As shown in Figure 2, the trend in total alcohol-caused deaths between 1990 and 2001 was similar to that for adult per capita consumption with a marked fall in the early 1990's followed by only a slight decline after 1992. This pattern of decline over the study period was evident for all age groups.
- Trends for wholly alcohol-caused deaths (e.g. alcoholic liver cirrhosis) as well as in alcohol-caused road fatalities also closely followed adult per capita consumption of alcohol between 1990 and 2001.
- Deaths from acute causes were more common among young people, particularly those aged between 15 and 29 years, while deaths from chronic effects of alcohol were more common among those aged over 45 years.
- Rates of alcohol-caused deaths were consistently higher for residents of non-metropolitan than metropolitan areas (2.24 versus 1.67 per 10,000 persons aged 15 or over).

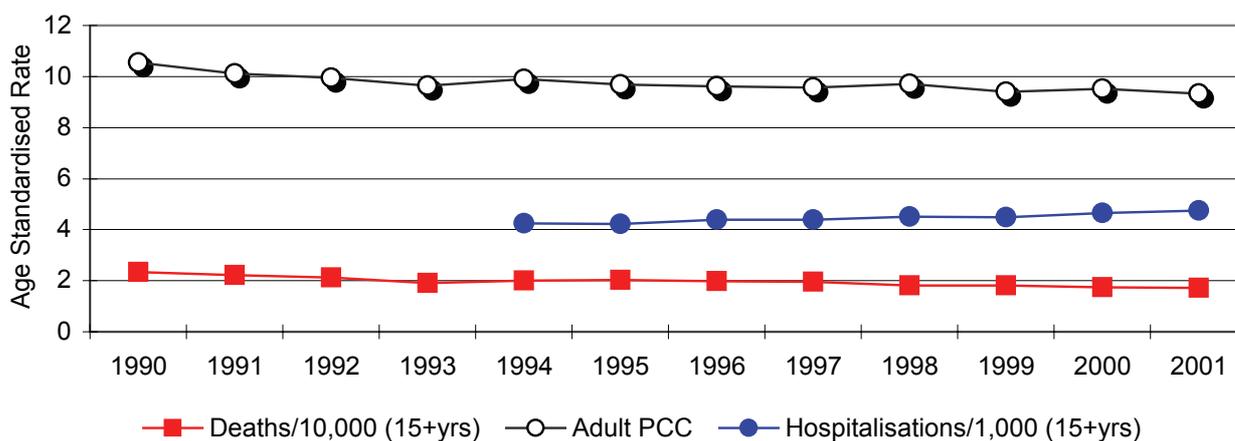
### *National balance of lives lost and lives saved*

- Against the estimated 31,133 deaths, alcohol consumption *above* levels recommended by NHMRC was also estimated to have prevented 3,576 deaths between 1992 and 2001. This was mostly due to the assumed protective effects of alcohol against cardiovascular disease.
- Cardiovascular protection is thought to be greatest at *light* consumption levels - up to one drink a day for women and 2 for men being optimal (NHMRC, 2001). Many more deaths would have been prevented if all Australians drank within the NHMRC guidelines for low risk drinking.
- It was estimated that in 2001 alone, 6,193 premature deaths were *prevented* due to the protective effects of *low-risk* alcohol consumption. Low risk consumption was also estimated to *cause* 2,050 deaths, mainly from cancers. The net benefit of low-risk consumption was therefore estimated to have been 4,143 deaths prevented (917 male, 3,226 female) with an average of 7 years of life saved per person.
- In marked contrast, risky and high risk drinking was estimated to cause 3,004 premature deaths (2,272 male, 732 female) and prevent only 319 deaths (185 male, 134 female) in 2001. This amounts to a net loss of 2,685 lives at an average of 18.1 years of life lost per person
- The overall net benefit from low-risk alcohol use was estimated to be 29,138 years of life *saved* compared with 48,703 net years of life *lost* from risky or high risk drinking, an overall net loss from all alcohol consumption of 19,565 years of life.

- It can be concluded that low-risk drinking appears to chiefly benefit women aged over 45 years of age while risky and high risk drinking mostly takes the lives of men, both young and old. Furthermore, the markedly different outcomes between low risk and riskier consumption levels are more significant than the final *net* balance sheet for all drinking patterns combined.

*National trends in alcohol-caused hospitalisations*

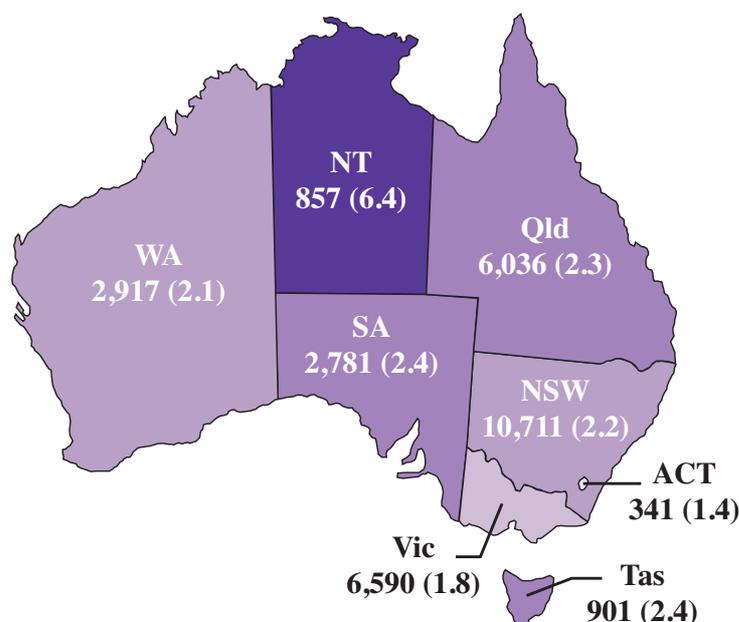
- As with alcohol-caused deaths, the aetiologic fraction approach was used to estimate the extent of alcohol-caused hospitalisations with adjustments being made for each state and territory and for each year to reflect variations in the extent of risky and high risk alcohol use.
- Reliable data on completed hospital episodes were only available nationally from the financial year 1993/94 onwards.
- Over half a million completed hospital episodes (577,269) were estimated to have been caused by risky or high risk drinking in Australia in the eight years between 1993/94 and 2000/01.
- Nearly 70% of all alcohol-caused hospital episodes were for acute conditions, mostly injuries, caused by occasions of intoxication. The most common specific diagnoses were alcohol dependence (87,186), injuries caused by violence (76,115), road crash injuries (47,167) and alcoholic liver cirrhosis (26,592).
- Rates of alcohol-caused hospitalisations were consistently higher for residents of non-metropolitan (48.4 per 10,000) than metropolitan areas (37.0 per 10,000).
- As shown in Figure 2, unlike trends observed for per capita consumption and alcohol-caused deaths during this time period, rates of alcohol-caused hospitalisations steadily increased in Australia between 1993/94 and 2000/01.



**Figure 2:** Trends in age standardised rates of alcohol-caused deaths (per 10,000 adults) and alcohol-caused hospitalisations (per 1,000 adults) due to risky and high risk drinking and adult per capita alcohol consumption (PCC) in Australia, 1990-2001

*State and Territory variations in alcohol use and related harms*

- Between 1991/92 and 1995/96, the Northern Territory had the highest level of per capita alcohol consumption estimated from liquor licensing returns while Victoria and Tasmania had the lowest.
- Only Western Australia, Northern Territory and Queensland have collected wholesale alcohol purchases data since 1995/96 due to a 1997 High Court ruling disallowing the collection of state tobacco and alcohol taxes.
- Western Australia was the only state to show an overall increase in per capita consumption between 1991/92 and 2000/01.
- The Northern Territory had the highest percentages of people aged 15 years or older who drank at risky or high risk levels for acute harm (30% at least monthly) and also chronic harm (17.7%) in 2001. Consistent with the above per capita consumption data, Western Australia and Queensland were ranked in the top four jurisdictions on these measures.
- In all states and territories between a half and two-thirds of all the alcohol use reported to the 2001 NDSH Survey occurred on days when men drank more than six standard drinks and women more than four standard drinks i.e. above low risk guidelines for avoiding acute harm. This figure ranged from 53.4% for the Australian Capital Territory up to 69.1% for Tasmania.
- The Northern Territory consistently had the highest alcohol-caused death and hospitalisation rates of all jurisdictions. Western Australia and Queensland also had high rates of alcohol-caused deaths and hospitalisations compared to other states.
- As shown in Map 1, in terms of numbers of estimated alcohol-caused deaths from 1992 to 2001 (10 years), New South Wales had 10,711, Victoria 6,590, Queensland 6,036, Western Australia 2,917, South Australia 2,781, Tasmania 901, Northern Territory 857 and the Australian Capital Territory 341.

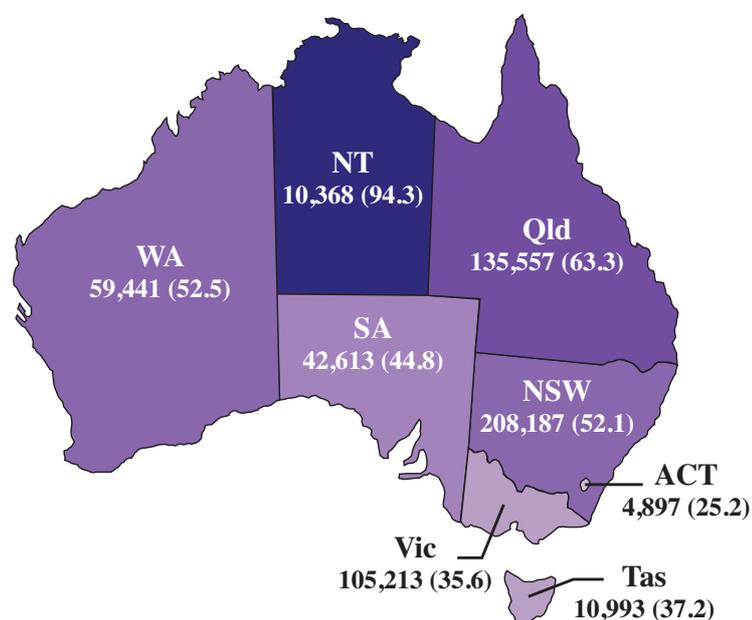


**Map 1:**

Estimated number of alcohol-caused deaths and crude rates/10,000 (15+ yrs) due to risky and high risk drinking in Australian states and territories over ten years, 1992-2001

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- For most jurisdictions, the trend in total alcohol-caused deaths followed the trend in per capita consumption.
- For most jurisdictions, there was a swift decline in both per capita consumption and alcohol-caused deaths in the early 1990's, followed by continued but slower declines.
- Western Australia and Queensland showed evidence of both increasing consumption and limited evidence of decline in alcohol-caused deaths until the mid 1990's.
- Trends in hospitalisation rates between 1993/94 and 2000/01 showed gradual increases for all jurisdictions with the exception of Queensland where rates were stable.
- Map 2 shows that in terms of numbers of estimated alcohol-caused hospitalisations between 1993/94 and 2000/01 (8 years), New South Wales had 208,187, Queensland 135,557, Victoria 105,213, Western Australia 59,441, South Australia 42,613 Tasmania 10,993, Northern Territory 10,368 and the ACT 4,897.



**Map 2:**

Estimated number of alcohol-caused hospitalisations and crude rates/10,000 (15+yrs) due to risky and high risk drinking in Australian states and territories over eight years, 1993/94-2001/02

- Tasmania showed the largest percentage increase in alcohol-caused hospitalisations between 1993/94 and 2000/01.

### *Conclusions and Recommendations*

- Alcohol consumption in excess of the NHMRC Australian Alcohol Guidelines is the norm in Australia with the great majority (at least 80%) of all alcohol being consumed in ways that put the drinker at risk of acute and/or chronic alcohol-related harm.
- While per capita alcohol consumption has been relatively stable since 1993, there have been recent fluctuations in drinking patterns among younger Australians with teenage girls aged 14 to 17 greatly increasing their consumption and men aged 18 to 24 decreasing their consumption.

## Executive summary

- Levels and trends in per capita consumption are unknown for New South Wales, Victoria, South Australia, Tasmania and the ACT after 1995/6 as these jurisdictions opted to cease collecting the necessary wholesale alcohol sales data after that year. Per capita consumption was increasing in Western Australia, stable in the Northern Territory and decreasing in Queensland between 1995/96 and 2000/01.
- The toll in Australia from risky and high risk alcohol use has been substantial with an estimated 31,133 deaths from 1992 to 2001 and 577,269 hospitalisations between 1993/94 and 2000/01. By contrast, *low risk* alcohol use was estimated to have prevented at least 6,000 premature deaths per year during this period, mostly among elderly Australians.
- Rates of alcohol-caused death and hospitalisation were higher in non-metropolitan than metropolitan areas, in the Northern Territory and, though to a lesser extent, also in Western Australia and Queensland. The bulk of this alcohol-attributable harm was associated with the effects of intoxication.
- Nationally, there was a gradual downward trend in alcohol-caused deaths for all age groups between 1990 and 2001, most evident among men. By contrast there was an overall increase nationally in recorded alcohol-caused hospitalisations which was most pronounced in Tasmania.
- In most comparisons made across different places and times, trends and levels in per capita alcohol consumption were closely associated with those for alcohol-caused deaths.
- It is recommended that consistent and comparable monitoring of indicators of serious alcohol-attributable harms continue to occur. This will enable states and territories to better target harm reduction and prevention programs and also to evaluate their effectiveness. It is recommended that methods previously established by the NAIP group for applying these indicators for policy evaluation purposes be applied (e.g. Stockwell *et al*, 2001).
- It is also recommended that future epidemiological and economic studies of alcohol-caused harm report the costs and benefits associated with different patterns of alcohol use *separately* and do not report *net* effects. In particular, estimated lives saved and lost should be reported separately *both* for low risk and for risky/high risk drinking patterns as defined by NHMRC (2001).
- The National Alcohol Indicators Project is currently investigating the feasibility of extending the indicators of alcohol-related harm so that they are applicable to Indigenous Australians.