

Impact of Alcohol on the Population of Western Australia

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Report objectives



- Update previous report.
- Develop methodology using local and recent data.
- Information to support and develop strategies to reduce harm.
- Focus on harm associated with risky levels of drinking.
- Identify 'at risk groups'.

Population attributable fraction approach



- Proportion of a disease or condition that can be attributed to a particular risk factor.
- Strength of causal link between a risk factor and the consequences of a particular health problem.
- Describes the amount of mortality or morbidity that could be prevented if the prevalence of alcohol consumption was zero.

Two methods of deriving attributable fractions

- Indirect
- Direct

1. Indirect approach



Determined by the relationship between **relative risk** of disease development due to alcohol and **prevalence** of alcohol consumption at different levels.

Fractions were determined for each condition using prevalence and relative risk data specific for consumption levels by -

- age
- gender
- region
- Aboriginality

Prevalence of alcohol consumption risk levels



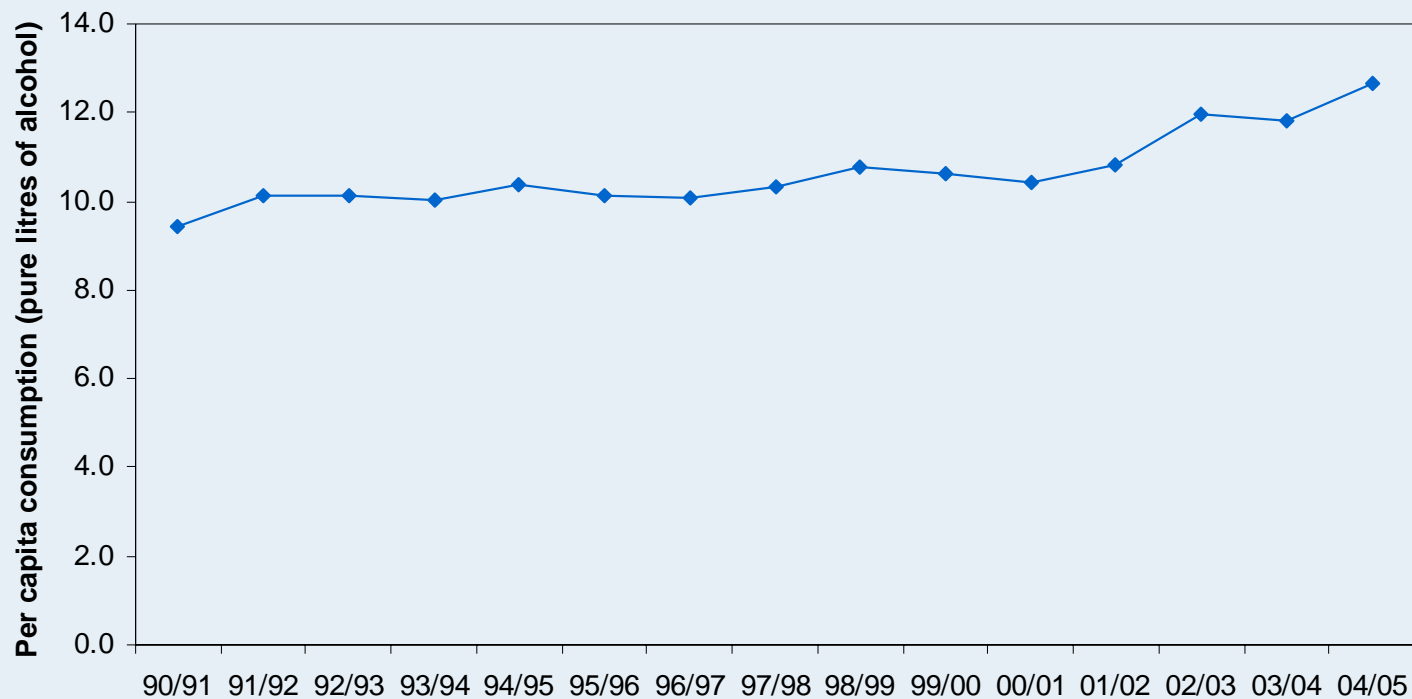
NHMRC guidelines (gms/day)

	Low	Hazardous	Harmful
Males	2.6-40	40.1-60	60.1+
Females	2.6-20	20.1-40	40.1+

Criteria for selecting sources of prevalence data

- Results reflective of known population alcohol consumption patterns and prevalence.
- Large numbers enabling comparison between gender, age groups and regions.
- Consistency with other surveys and with the same source over time.
- Able to match NHMRC guidelines.

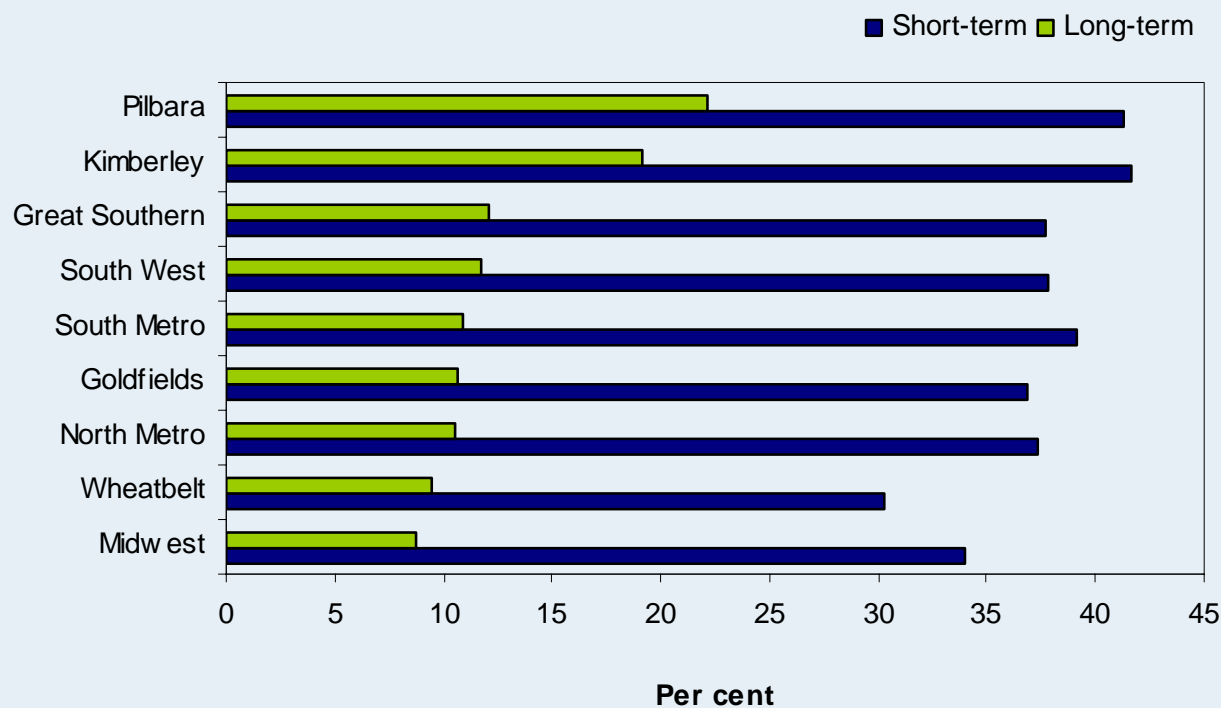
Alcohol consumption per capita



Source: National Drug Research Institute, Curtin University of Technology

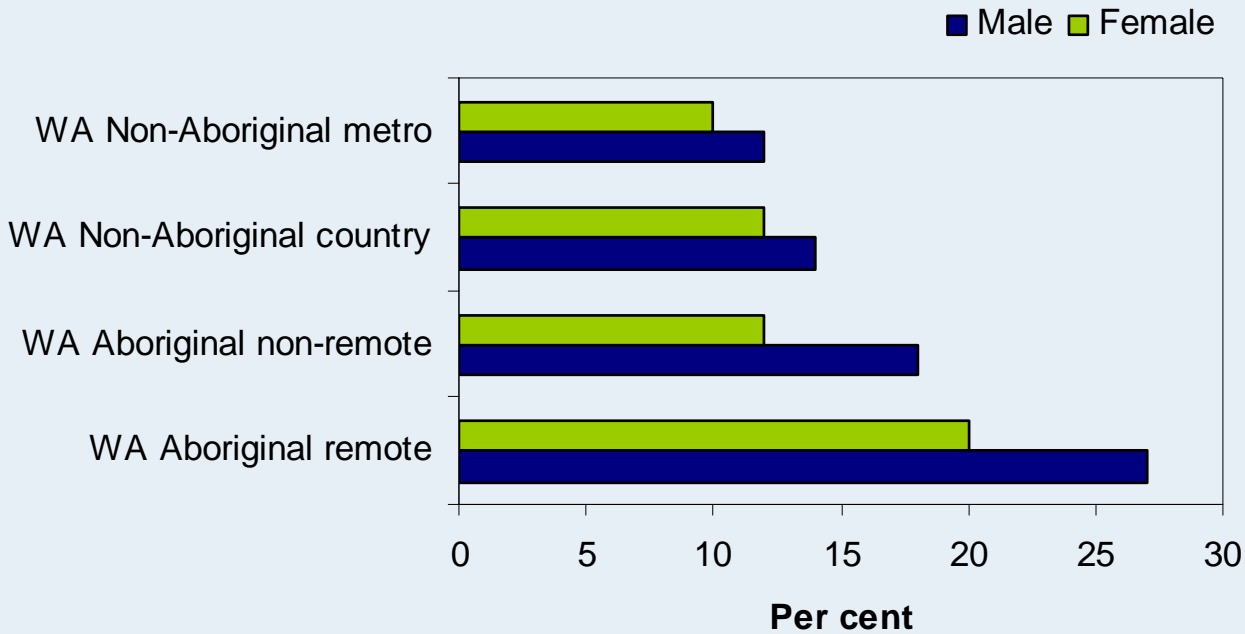


Risky levels of alcohol consumption



Source: National Drug Strategy Household Survey, 2004. AIHW. 2005

Risky levels of alcohol consumption



Sources: National Aboriginal and Torres Strait Islander Health Survey 2004-05. ABS.
National Drug Strategy Household Survey 2001 and 2004. AIHW.

Sources of prevalence data



National Drug Strategy Household Surveys 2001 and 2004

Metropolitan and Non-metropolitan prevalence among Non-Aboriginal population.

National Aboriginal and Torres Strait Islander Health Survey 2004-05

Remote and Non-remote as determined by ARIA classification among the Aboriginal population.

Relative Risks

The risk of an event (or developing a disease) relative to exposure. It is the ratio of the probability of the event occurring in the exposed group compared with the group not exposed.

RR > 1 Harmful
RR < 1 Beneficial

Sources of reviews of international studies

- Australian Burden of Disease Study, 2007. Australian Institute of Health and Welfare.
- Quantification of drug-caused mortality and morbidity in Australia, 2001. Australian Institute of Health and Welfare.
- Quantification of drug-caused mortality and morbidity in Australia, 1995. Commonwealth Department of Health and Human Services.



2. Direct approach

- Attribute alcohol use on the basis of case studies.
- Usually related to acute alcohol intoxication.
- Acute conditions - injury.
- Another group of conditions are wholly attributable to alcohol :
Alcoholic poisoning, alcoholic liver cirrhosis, alcohol abuse and dependence.
- Sources same as for the relative risks.



Applying fractions to mortality and hospitalisation data



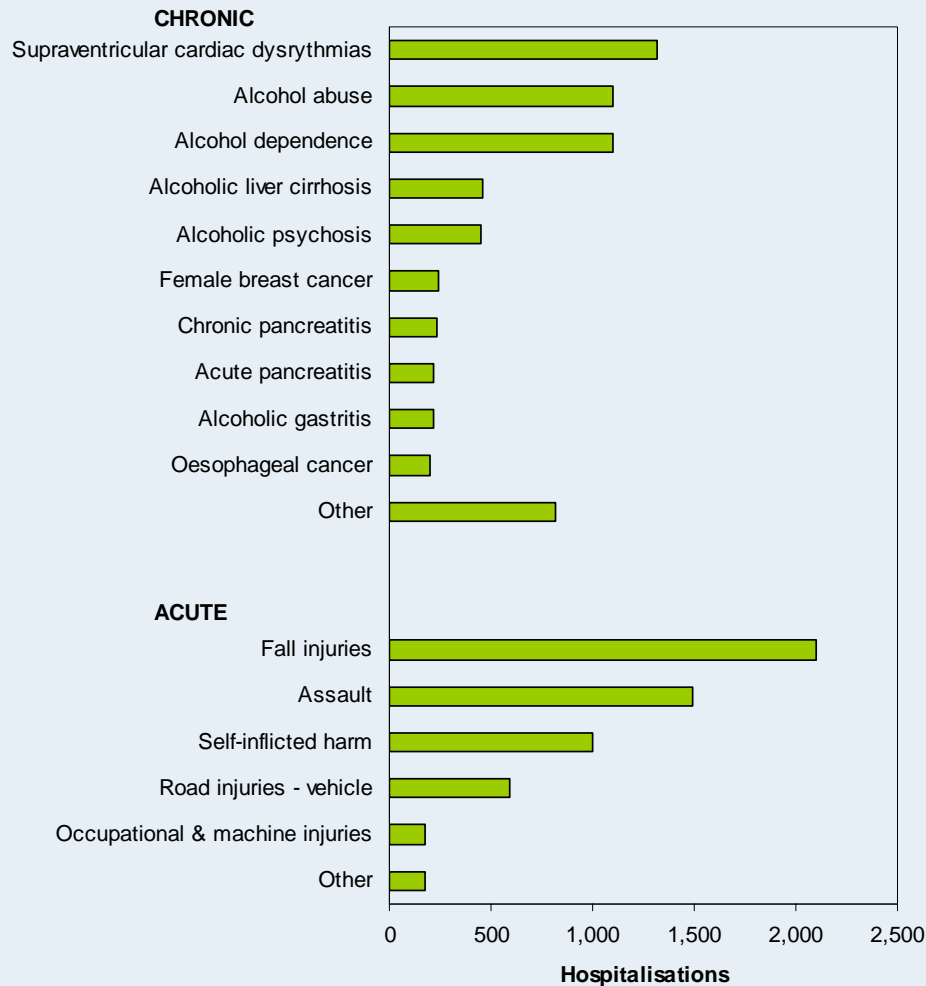
Derived fractions for each condition by disease, age and gender in:

- Non-Aboriginal metropolitan
- Non-Aboriginal country
- Aboriginal remote
- Aboriginal non-remote

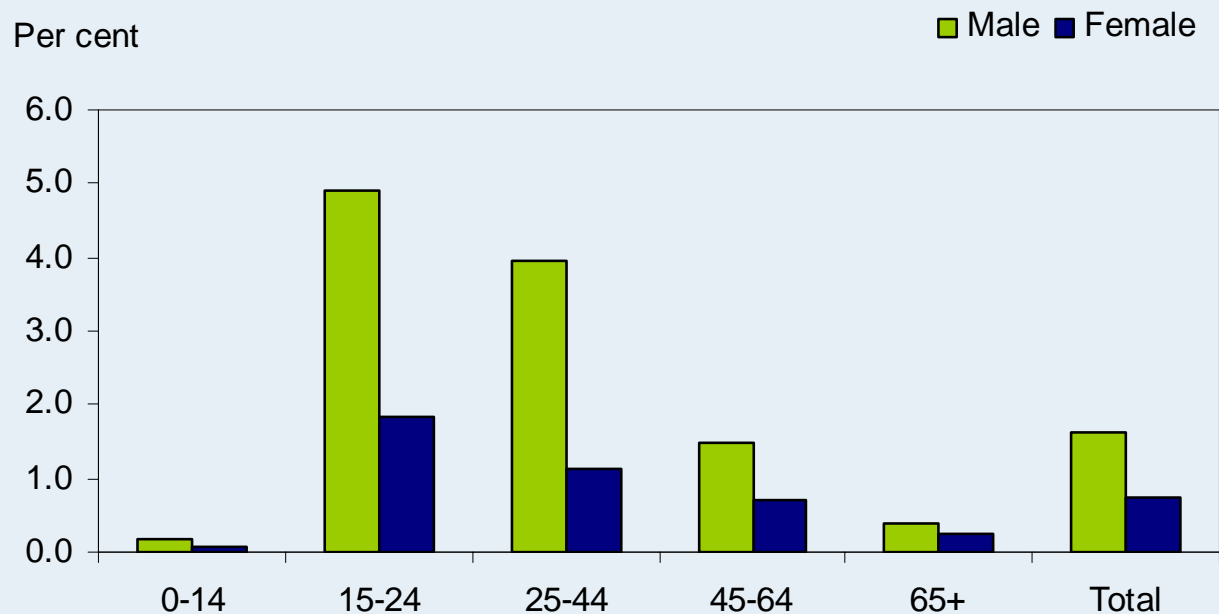
Alcohol-attributed deaths and hospitalisations were determined by multiplying the disease, gender, age, aboriginality and region specific fractions by the number of deaths and hospitalisations in the corresponding categories.

Alcohol-attributed hospitalisations 2005

Conditions

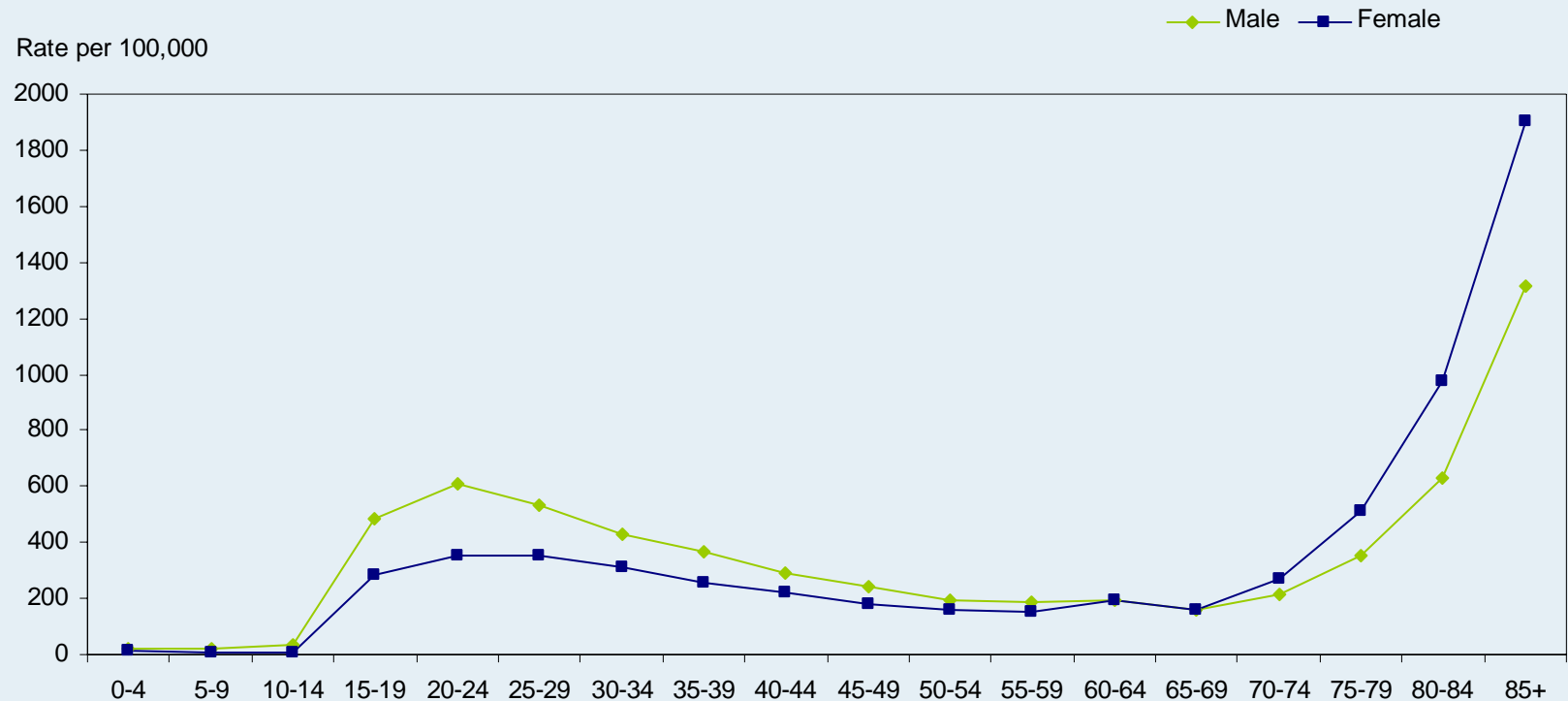


Proportion of total hospitalisations, 2005



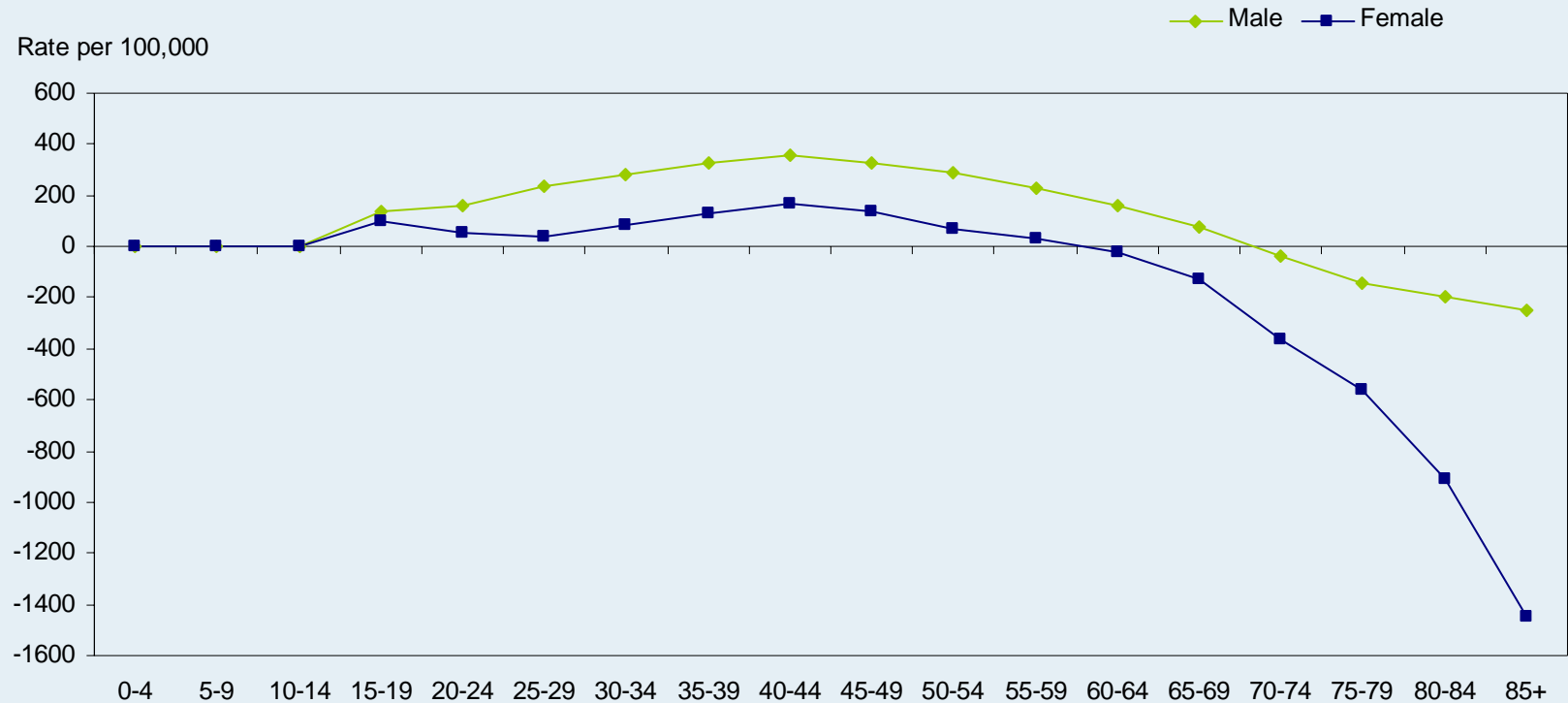
Age-specific alcohol-attributed hospitalisations, 2005

Acute conditions



Age-specific alcohol-attributed hospitalisations, 2005

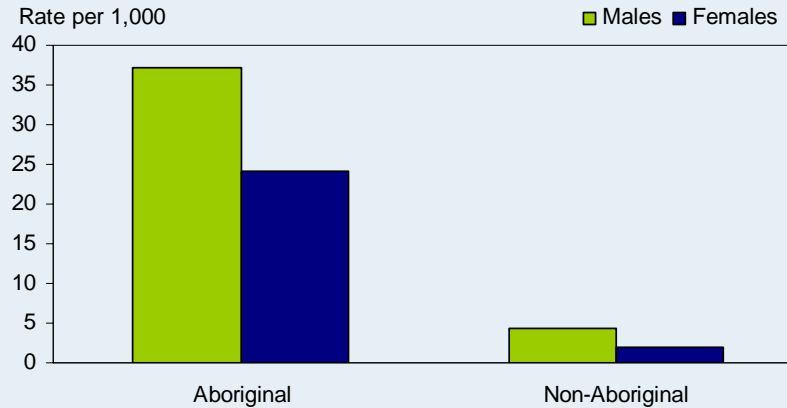
Chronic conditions



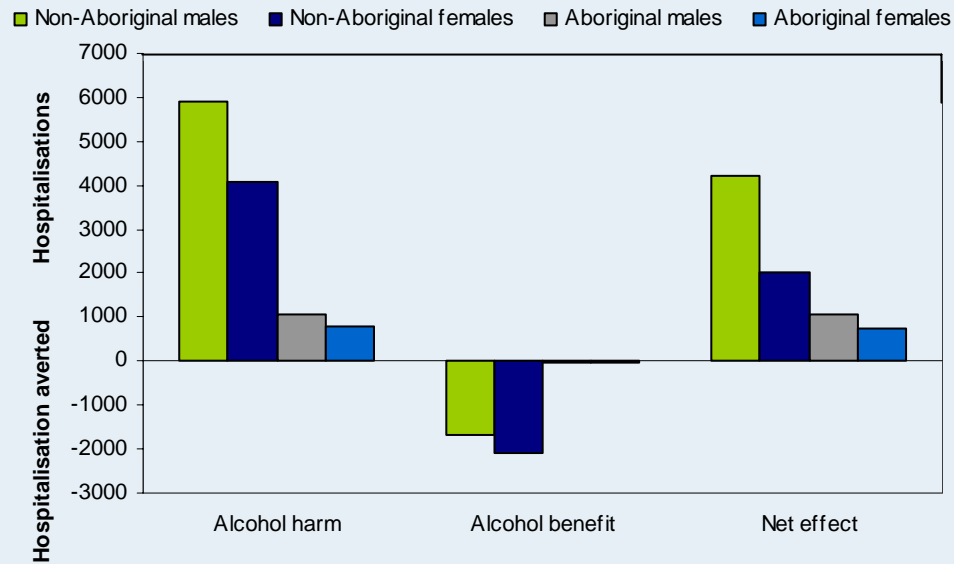
Alcohol-attributed hospitalisations by Aboriginality



Hospitalisation rate

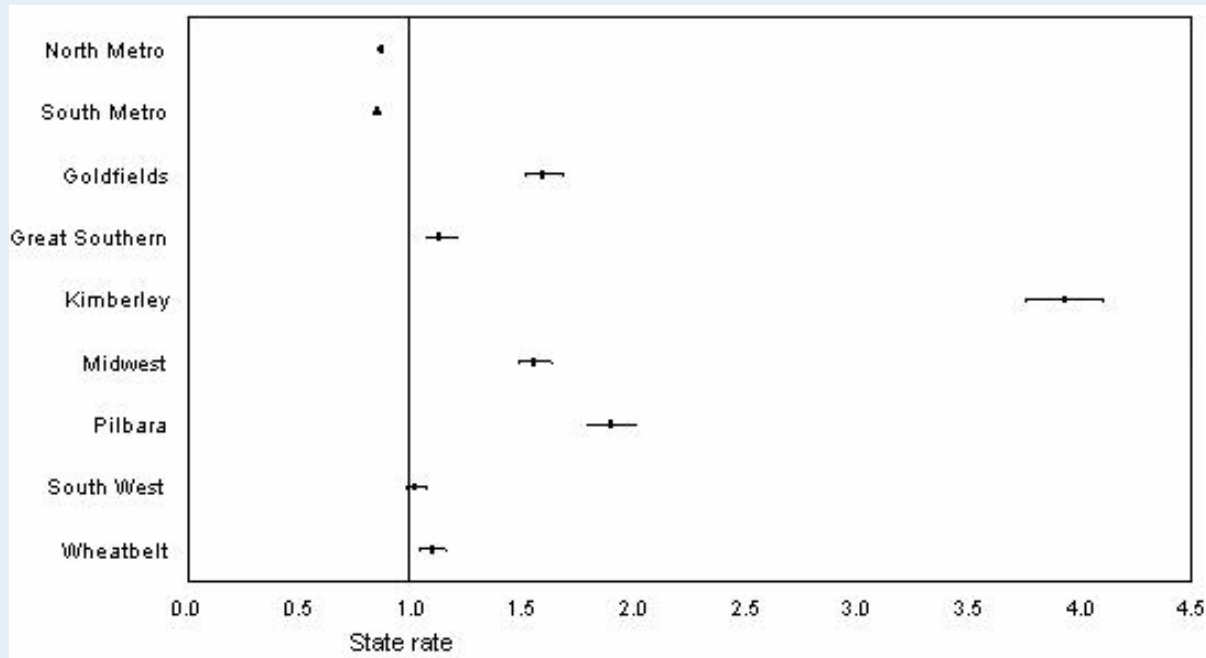


Number of hospitalisations



Regional comparisons hospitalisations, 2002-2006

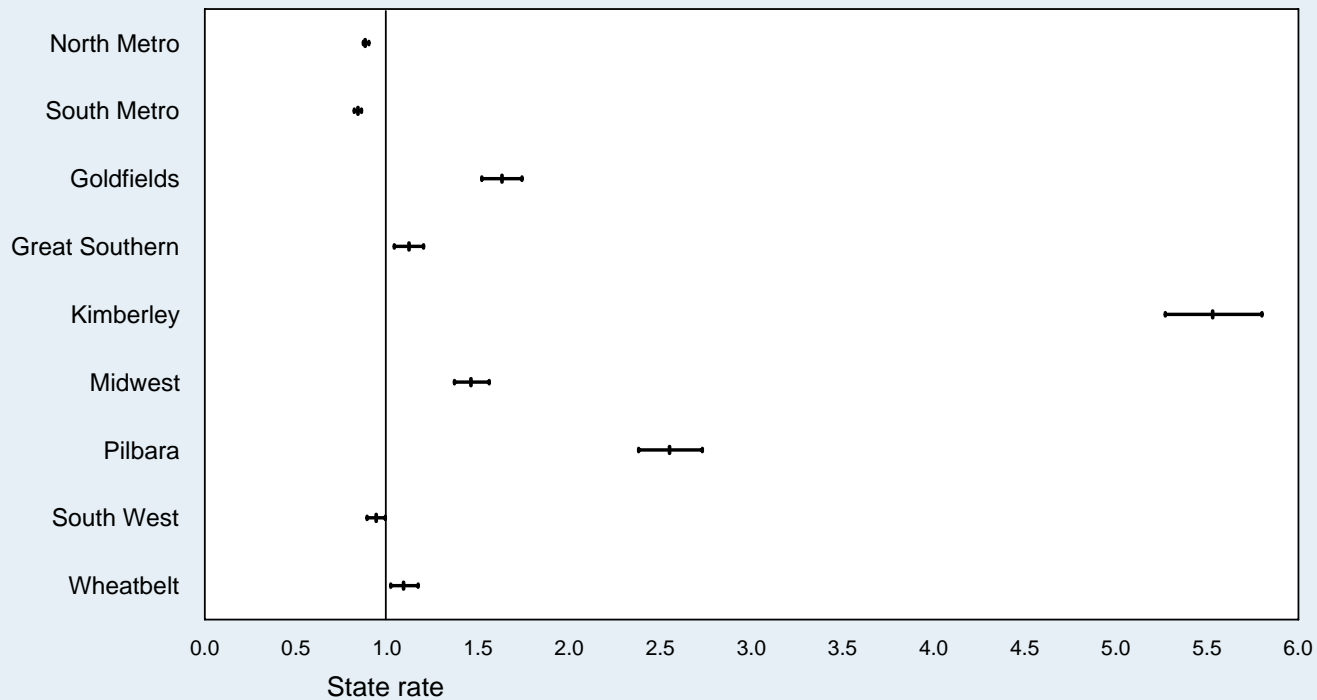
Males



Regional comparisons hospitalisations, 2002-2006

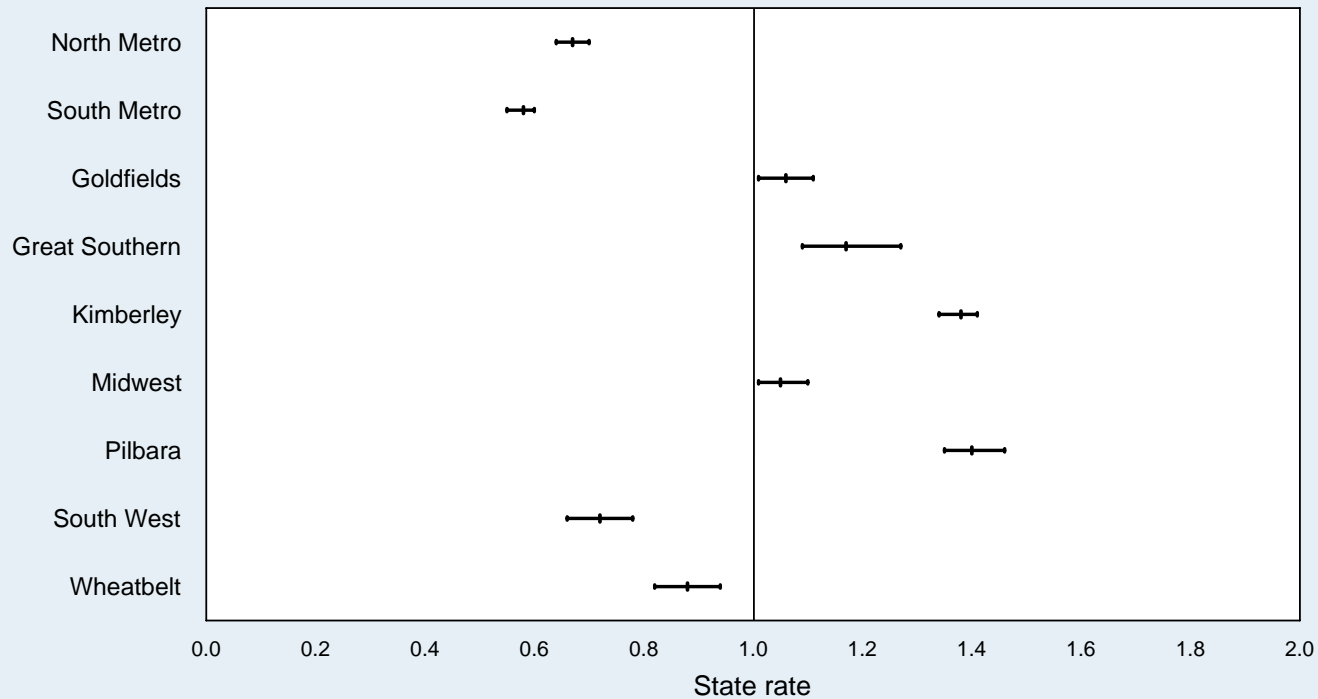


Females

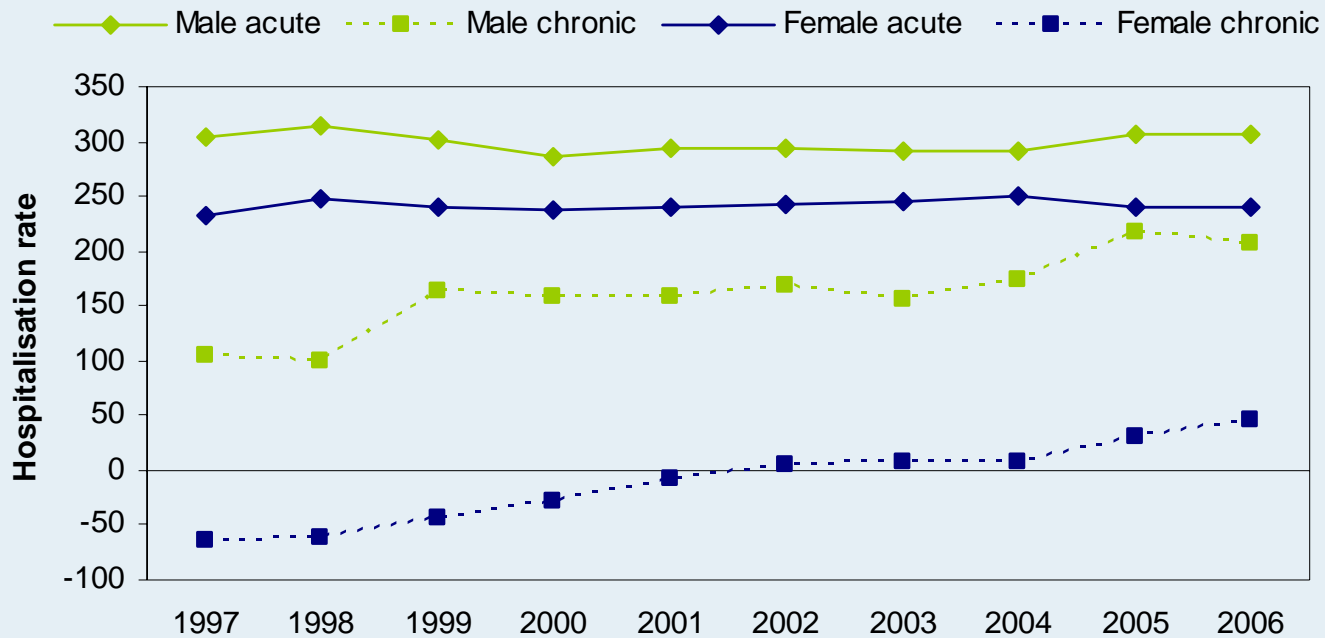


Regional comparisons hospitalisations, 2002-2006

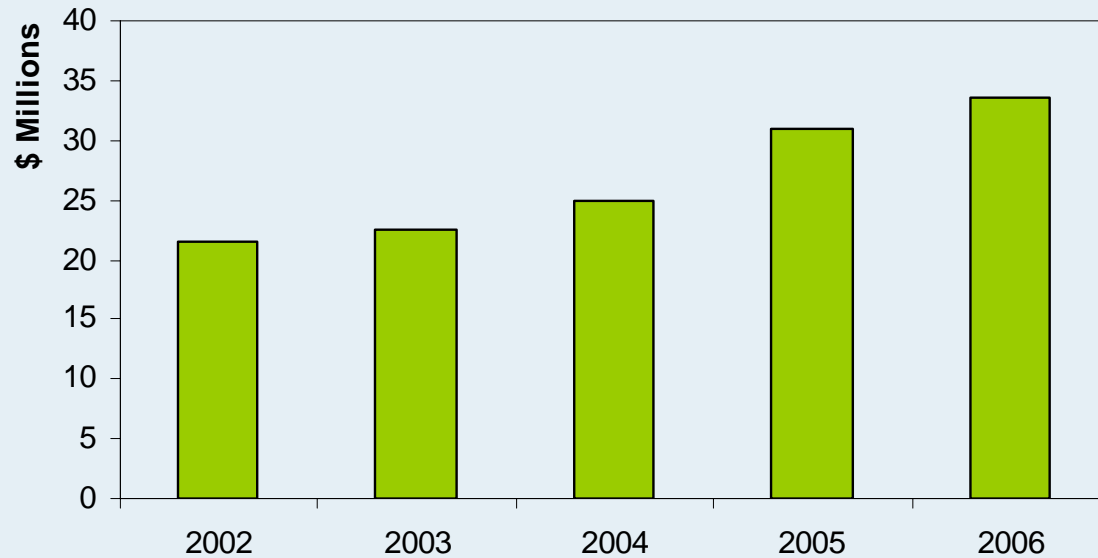
Aboriginal



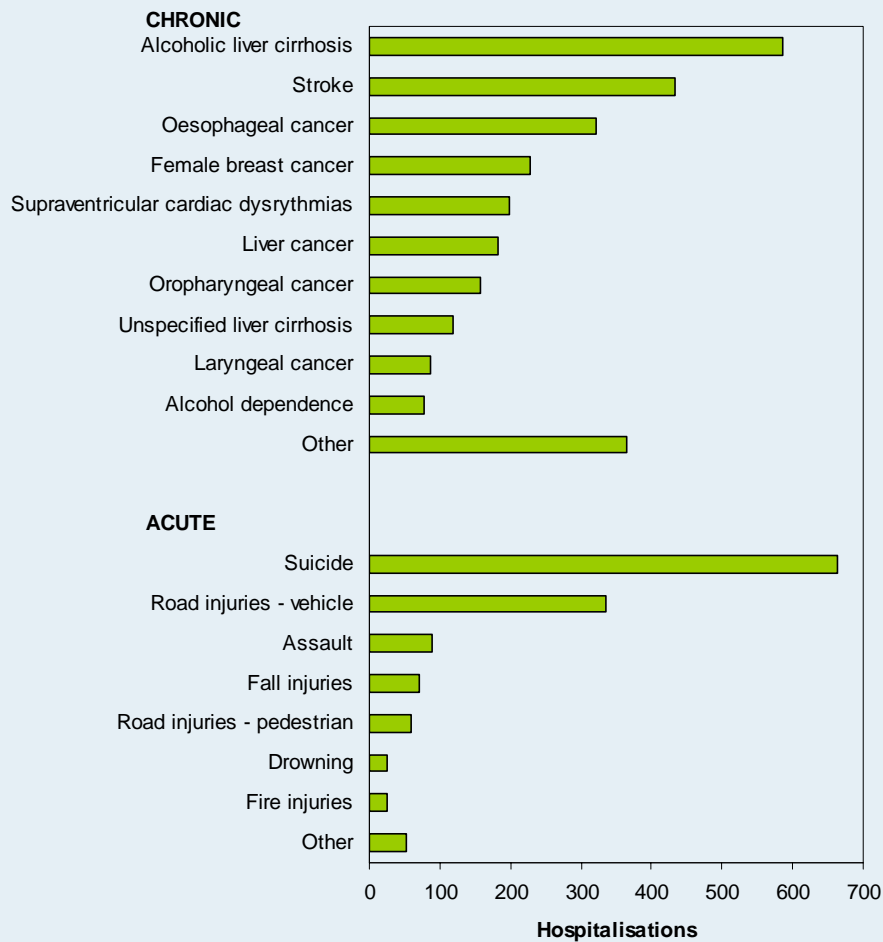
Trends in alcohol-attributed hospitalisations, 1997 to 2005



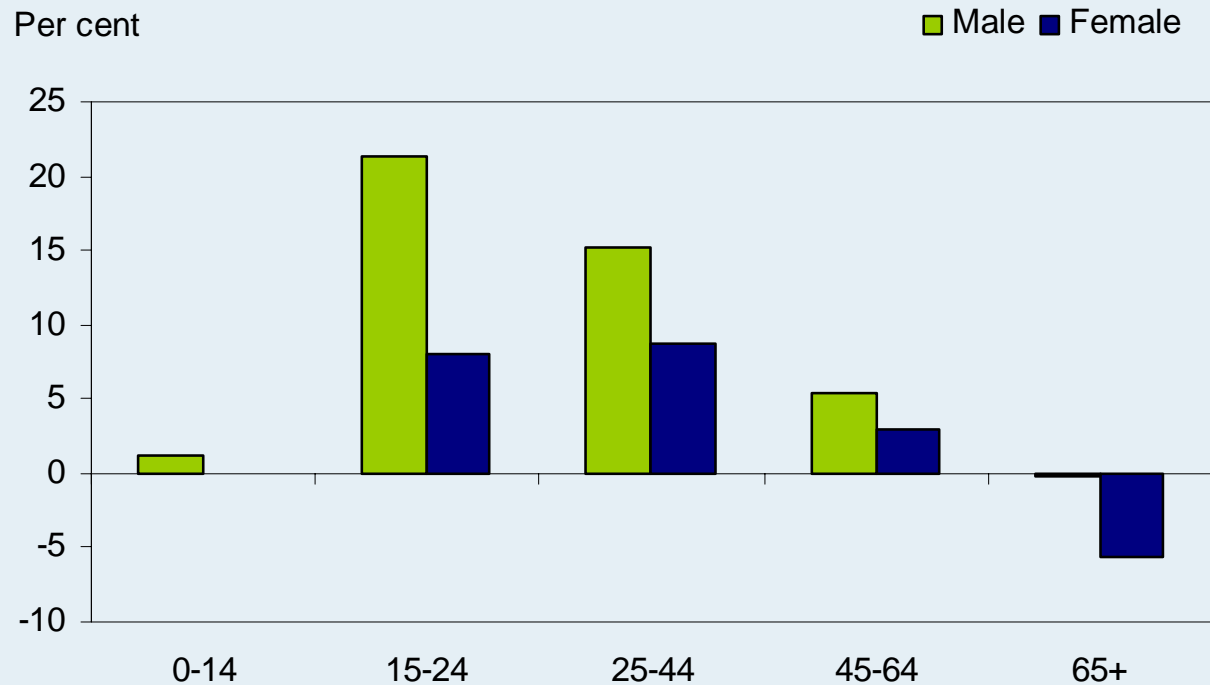
Alcohol-attributed hospital costs, 2002 to 2006



Leading causes of alcohol-attributed deaths 1997 to 2005

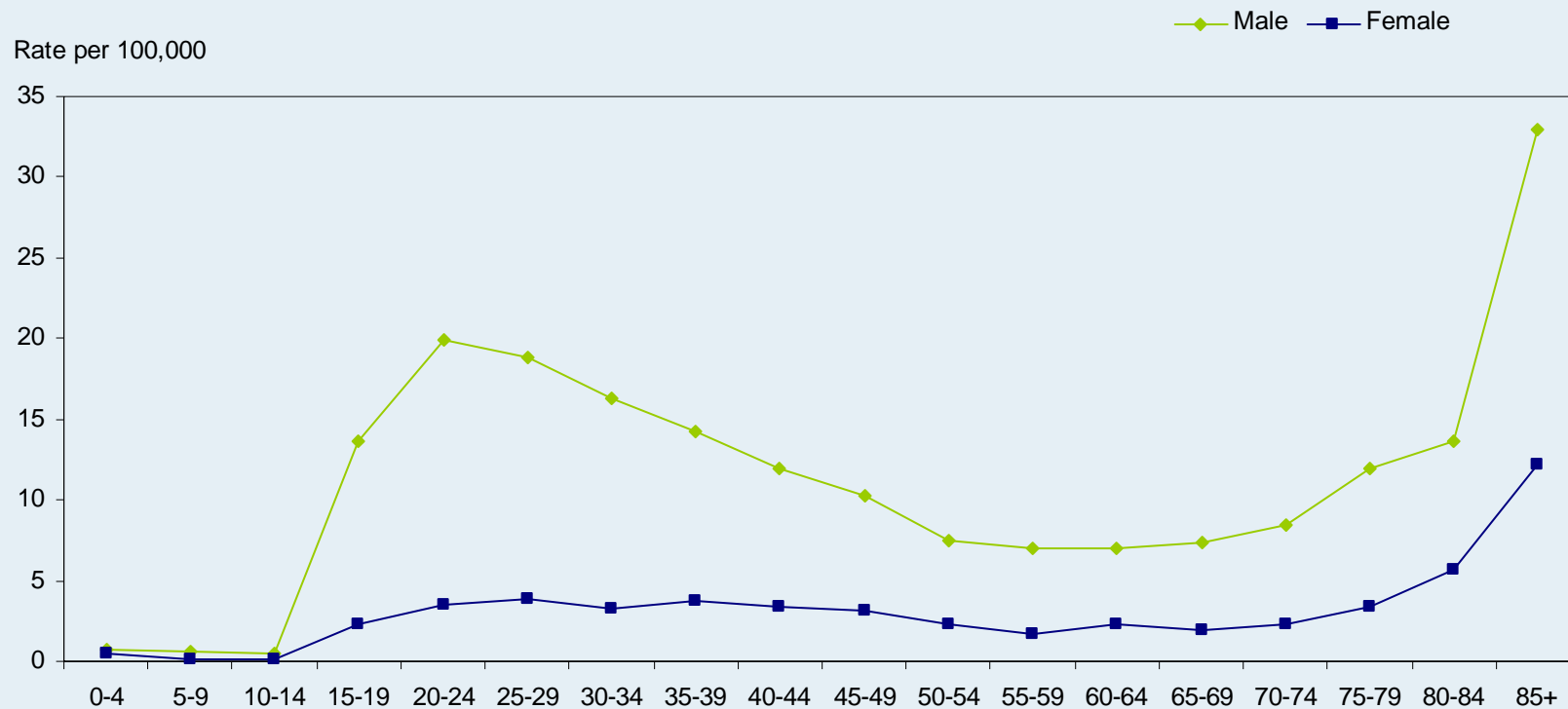


Proportion of all deaths 1997 to 2005



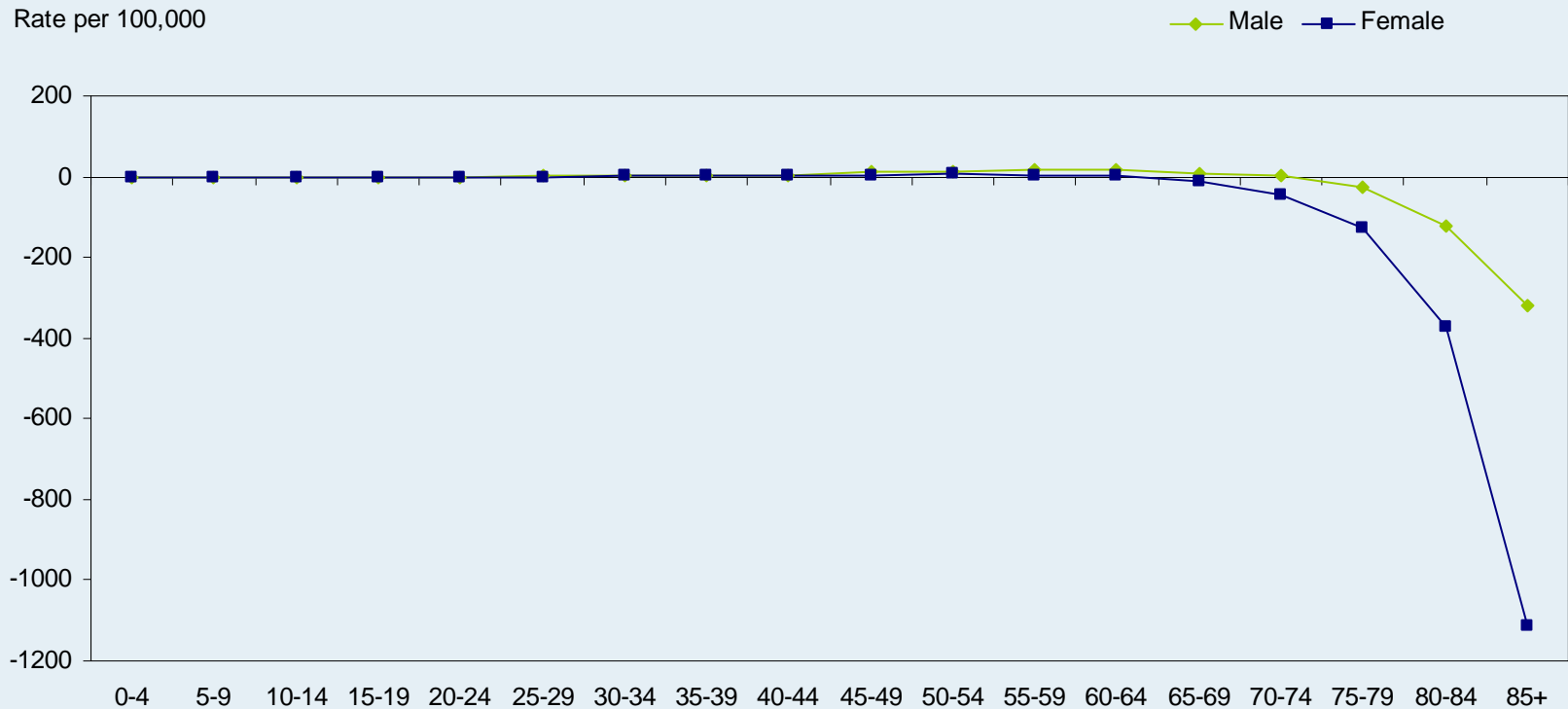
Age-specific alcohol-attributed deaths, 1997 to 2005

Acute

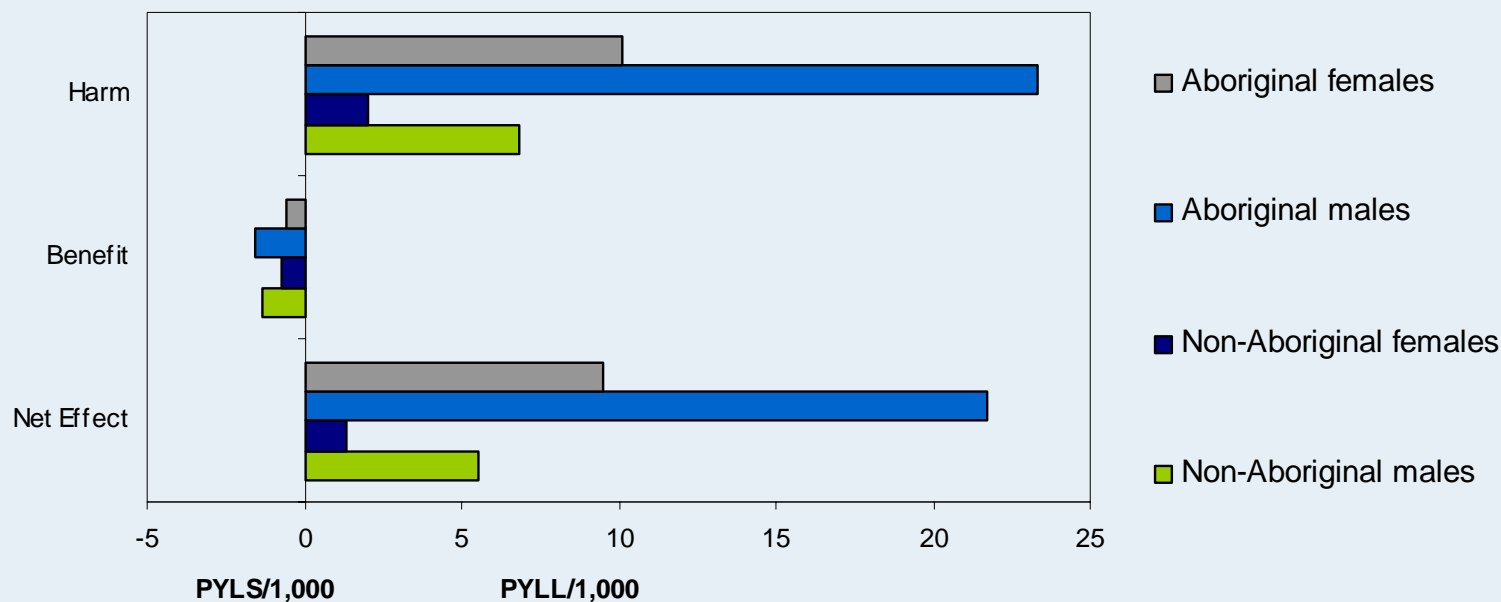


Age-specific alcohol-attributed deaths 1997 to 2005

Chronic



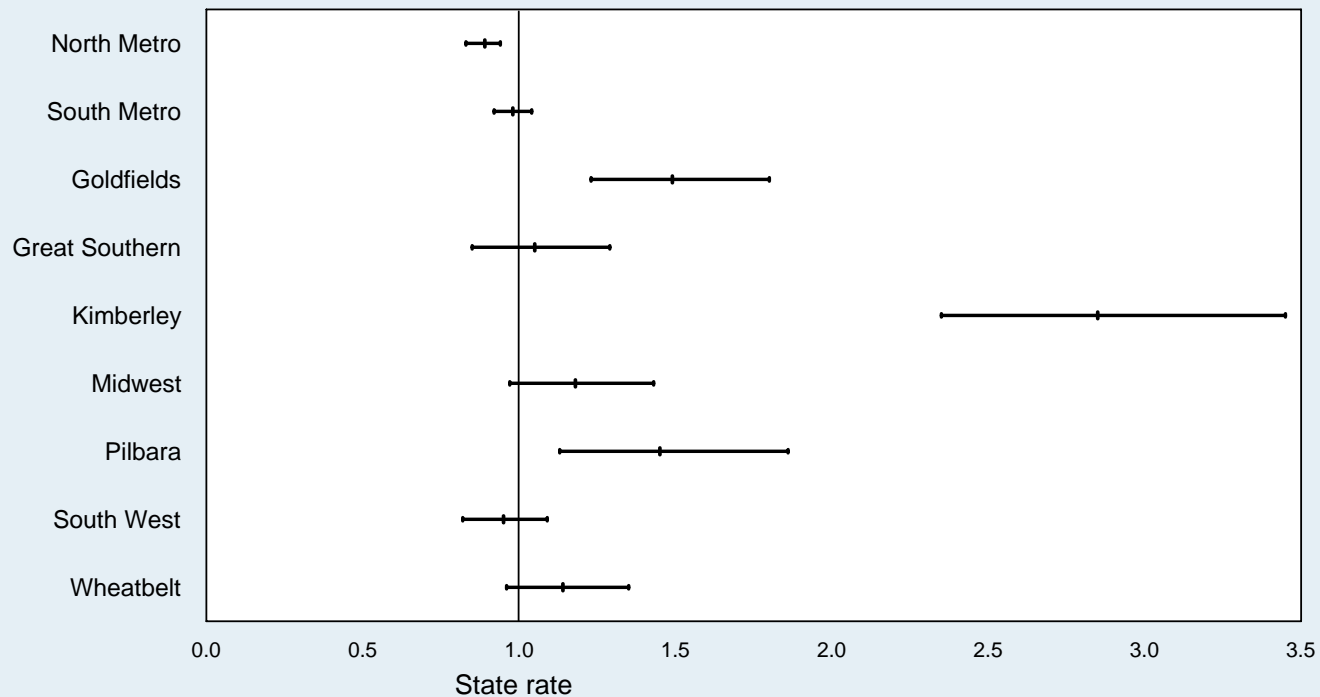
Potential Years of Life Lost by Aboriginality and gender 1997 to 2005



Regional comparisons 1997 to 2005

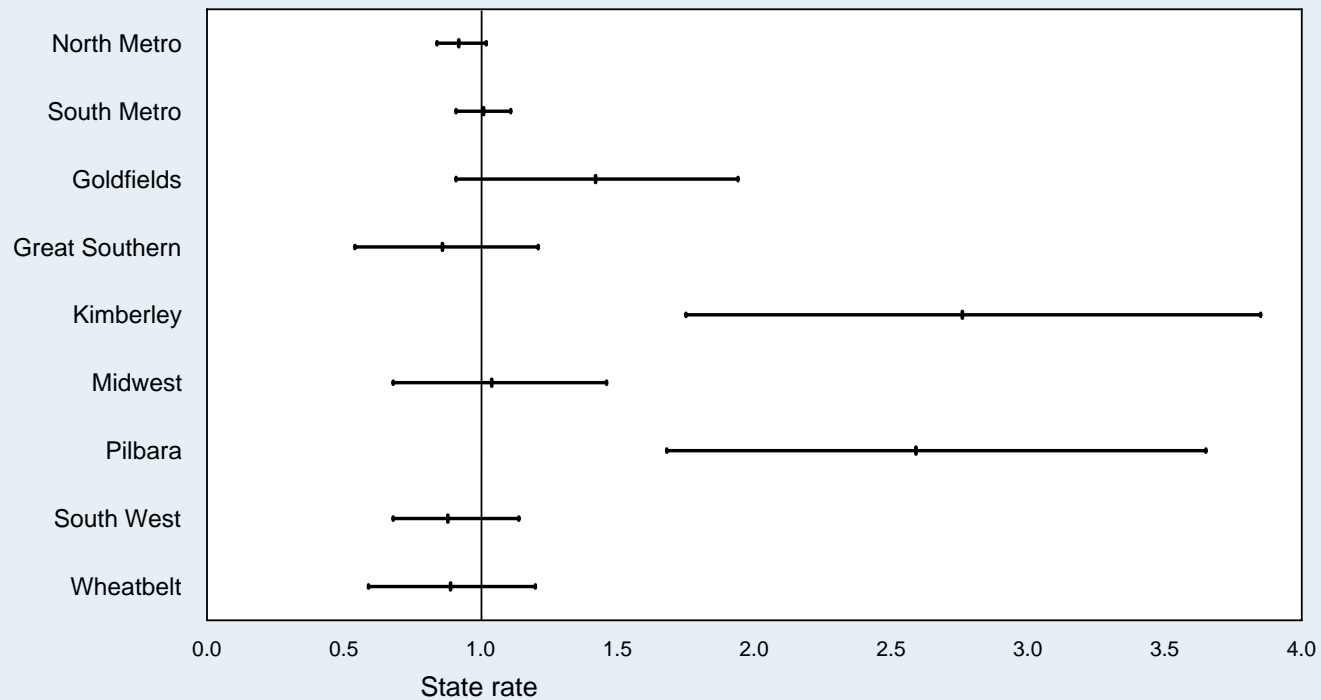


Males



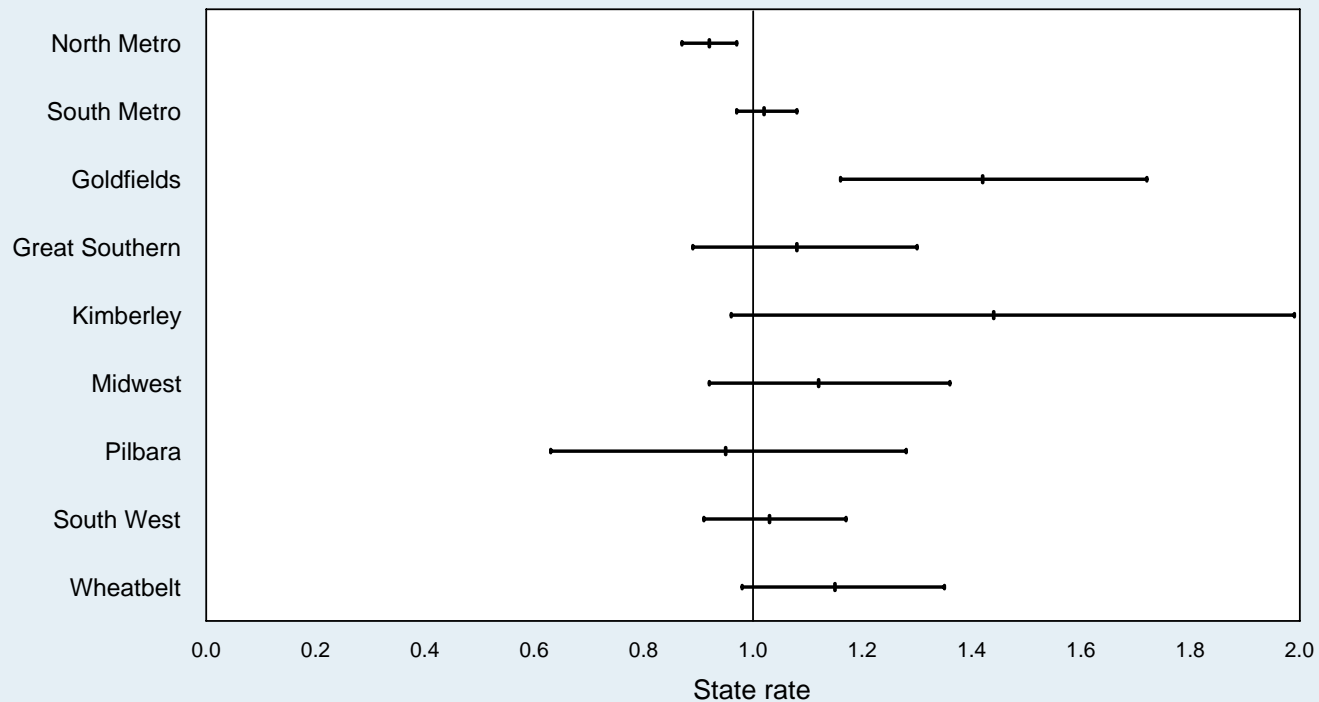
Regional comparison 1997 to 2005

Females

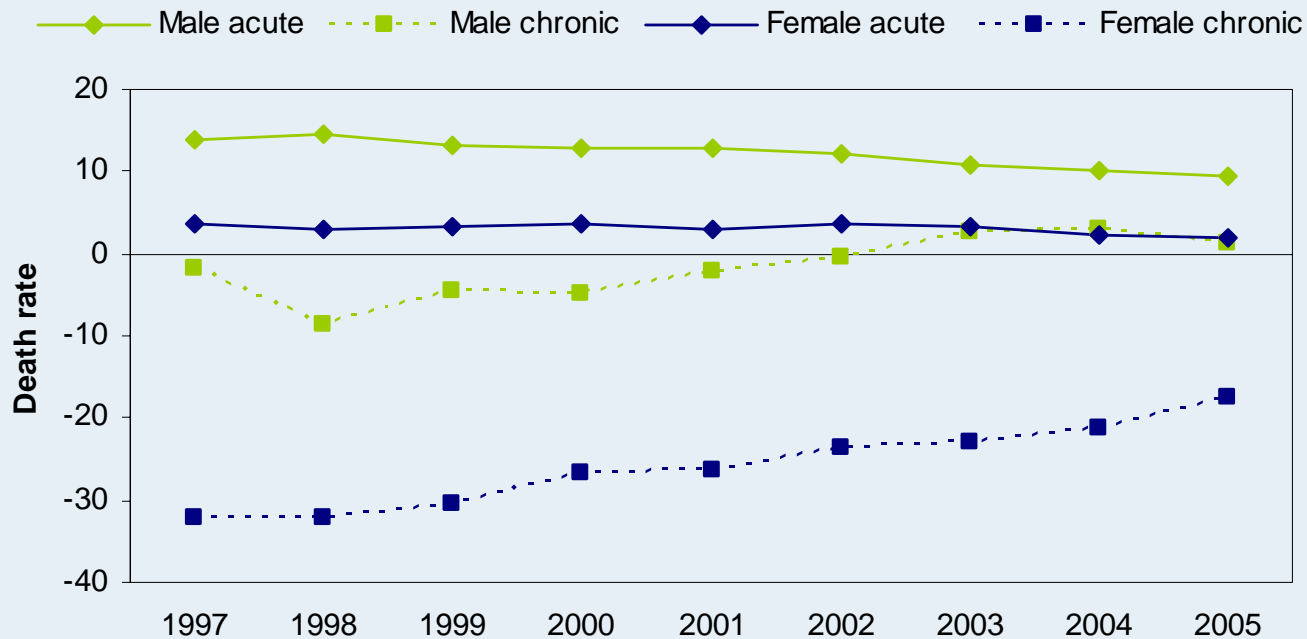


Regional comparison 1997 to 2005

Aboriginal



Trends in deaths rate of alcohol-attributed diseases, 1997 to 2005



Alcohol-related Emergency Department attendances



Issues

- Only metropolitan hospitals.
- Coding not complete resulting in an underestimate.
- No external cause coded and unable to identify alcohol-related injuries

Alcohol-related Emergency Department presentations



Excluding injuries

- 1% of all attendances alcohol-related (3,342 in 2006) costing \$1.1 million.
- Alcohol intoxication, toxic effect of alcohol, poisoning, blood alcohol testing.
- Peak times for presentation were evening and night.
- Peak days were Sunday and Monday.
- Most presentations between October and January.

Injuries

- In 2005/06, 30,202 alcohol-related injury and assault attendances accounting for a further 7.8% of total attendances and estimated to cost \$7.1 million.

Summary

- WA specific attributable fractions reported increased harm and hospitalisation costs on previous reports.
- Alcohol-related chronic diseases hospitalisation and death rates increasing.
- Alcohol-related acute conditions death rate decreasing among males.
- Mortality and morbidity burden highest among the young, males, Aboriginal people and regional areas.
- Hospital costs associated with alcohol were estimated at \$33 million in 2006. Costs increased significantly from 2002 to 2006.
- Emergency Department attendances estimated to cost around \$8 million in the metropolitan area.





Questions