A review of rural and regional alcohol research in Australia

Peter Miller¹,², Kerri Coomber¹ and Petra Staiger¹

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¹ School of Psychology, Deakin University
² National Addiction Centre, Institute of Psychiatry, King's College London, UK
Alcohol in Australia

Most commonly used recreational drug in Australia

- Availability continuing to increase
- Between 1995 and 2005, risky or high-risk alcohol consumption within Australia significantly increased by 50% amongst males and 90% amongst females.
- However, alcohol consumption has gone down for the first time in 4 years due to alcopops tax (ABS data).
High risk levels of alcohol consumption are associated with:

- hospitalisation
- violent crime
- road accidents
- homicide, and
- suicide.

The approximate cost of alcohol-related harms to the Australian community in 2005 was estimated at more than $15 billion.
Alcohol-related harm

- Health problems
  - Pancreatic cancer
  - Liver cancer
  - Heart attack and stroke
  - Oral cancer,
  - Esophageal cancer,
  - Head and neck cancer,
  - Laryngeal cancer
  - breast cancer
  - bowel cancer
  - liver cirrhosis
  - Diabetes
  - Acute and chronic pancreatitis
  - addiction
  - And even HIV/AIDS

- Social order problems
  - 45% of homicides in Aus 2001-7
  - 47% assaults in Australia
  - 66% of perpetrator for sexual assault incidents in
  - 53.3 of sexual assault victims
  - 6,800 serious or fatal road injuries per year - Vic
  - 4,800 ambulance attendances in Melbourne 2006/7
  - 24,714 inpatient hospitalisations in Victoria 2006/7
  - 39% of all people seeking help for addiction
<table>
<thead>
<tr>
<th>Diagnostic group</th>
<th>Deaths</th>
<th>%</th>
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</thead>
<tbody>
<tr>
<td>Alcoholic liver cirrhosis</td>
<td>163</td>
<td>21</td>
</tr>
<tr>
<td>Motor vehicle accidents</td>
<td>92</td>
<td>12</td>
</tr>
<tr>
<td>Ischaemic stroke</td>
<td>77</td>
<td>10</td>
</tr>
<tr>
<td>Haemorrhagic stroke</td>
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<td>10</td>
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<tr>
<td>Alc related mental/behavioural</td>
<td>56</td>
<td>7</td>
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<tr>
<td>Suicide</td>
<td>51</td>
<td>7</td>
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<tr>
<td>Fall injuries</td>
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<td>5</td>
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<tr>
<td>Liver cancer</td>
<td>28</td>
<td>4</td>
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<tr>
<td>Hypertension</td>
<td>24</td>
<td>3</td>
</tr>
<tr>
<td>Oesophageal cancer</td>
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<tr>
<td>Female breast cancer</td>
<td>19</td>
<td>3</td>
</tr>
<tr>
<td>Assault</td>
<td>18</td>
<td>2</td>
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</table>
Violence associated with Alcohol in Victoria

Assaults occurring during high, medium and low alcohol hours, Victoria 2000/01 to 2006/07

Alcohol assault hospital admissions 1998/99–2007/08: Trend over time (Rates) by gender

RuraLife: Rural and Regional Responses to Alcohol, Gambling and Substance use
Even cardio-protective effect being disproved

Past association studies have been confounded by:

- sick ex-drinkers
- Declining drinking with increased illness
- Poor investigation of socio-economic influences

“Moderate alcohol drinkers display a more favorable clinical and biological profile, consistent with lower CV risk as compared with nondrinkers and heavy drinkers. Therefore, moderate alcohol consumption may represent a marker of higher social level, superior health status and lower CV risk.”

European Journal of Clinical Nutrition advance online publication 19 May 2010;
Relationship between alcohol intake, health and social status and cardiovascular risk factors in the urban Paris-Ile-De-France Cohort: is the cardioprotective action of alcohol a myth?
B Hansel1,2, F Thomas3, B Pannier3, K Bean3, A Kontush2, M J Chapman2, L Guize3— and E Bruckert1,2
It’ll even rot your teeth!

"Really, Kevin! You’ll ruin your teeth!"
What about non-metro?

Living in a rural or regional area has been associated with high-risk alcohol consumption.

Little research has been conducted which systematically examines this issue within the Australian context.

Recently released NHMRC guidelines did not mention differences between rural and urban drinking patterns and consequences.
Method - Comprehensive search

- Databases (e.g. Academic Search Premier; CINAHL; MEDLINE with Full Text; PsycINFO; Sociological Abstracts; Google Scholar; etc).

- Relevant Australian government and organisational websites (e.g. Australian Institute of Health and Welfare, the Australian Bureau of Statistics).

- Grey literature

- Reference lists of relevant articles were also hand searched for additional citations.
Search Terms

Australia, drink driving,
regional, assault,
rural, accidents,
remote, homicide,
alcohol, health,
drinking, suicide,
vioence, road trauma.
Inclusion criteria

(i) population under study could be identified as being rural, remote or regional Australian

(ii) full text of the article was available in English

(iii) study referred directly to alcohol-use or alcohol-related harms
Exclusion Criteria

(i) research was not empirical research
(commentaries etc)

(ii) article did not refer explicitly to alcohol use
and/or related harms

(iii) population under investigation was specifically
indigenous Australian
RESULTS

4,222 publications were identified,
- 18 studies fulfilling the selection criteria

Approximately half of the articles found were published within the last two years
- the remaining articles published in the late 1990s.
Main studies

data from two prominent alcohol monitoring measures:

the National Drug Strategy Household Survey (NDSHS) (n=5)

the Victorian Youth and Alcohol Drugs Survey (VYADS) (n=one)
Large scale surveys - limitations

- Lend themselves to detailed analysis of groups
  - Information about alcohol consumption and related harms within specific rural towns cannot be isolated,
  - Direct comparisons between rural towns cannot occur.

- Both surveys rely on self-report data
  - Under-reporting due to social desirability
  - Individuals underestimate alcohol consumption
**ALCOHOL CONSUMPTION**

People living in non-urban areas are more likely to engage in high-risk alcohol consumption than people living in urban areas.

Short-term risky alcohol consumption increases with remoteness:

- 19% in metropolitan areas,
- 23% in rural areas, and
- 31% in remote/very remote regions.
**Alcohol Consumption (2)**

- Approximate odd ratios for high-risk drinking in rural areas are 1.2-1.4, as compared to urban ratio of 1.0.

- Being a male with a rural residence predicts high-risk alcohol consumption in youth and young offenders.

- Alcohol use within rural youth has also been increasing at a rate that exceeds that of metropolitan youth.
Hospitalisation

Hospitalisation rates are generally higher in rural areas than metropolitan areas.

Up to 24.7% of men living in rural or remote areas experience hospitalisations due to alcohol-related disease (such as cirrhosis of the liver) and alcohol-related injury (such as road injuries) as compared to 17.6% of men from metro areas.

Women living in rural or remote areas also had a higher rate of hospitalisations due to alcohol-related injury.
Morbidity

Hospitalisation rate for chronic alcohol-related physical health conditions is higher within rural areas than urban areas.

Medium/High risk drinkers: significantly more problems with mobility, pain/discomfort and anxiety/depression.

Very-high risk drinkers: lowered health outcomes in relation to self-care, usual activities, pain/discomfort and anxiety/depression.
Interpersonal Violence

Alcohol-related emergency presentations for assault and violence within rural Victoria continue to increase faster than the Victorian average for the past three years.

Coincides with a relative decrease in hospitalisations within metropolitan areas.

Seasonal trends:

- a doubling in alcohol-related incidents and hospital costs within warmer months (Broken Hill)
Alcohol assault emergency presentations 1998/99-2007/08: Trend over time (Rates) by geographical location - high alcohol hours
Alcohol assault emergency presentations 2007/08: Trend over time (Rates) by geographical location - high alcohol hours
Drink-Driver

In 2008, 54% of alcohol-related road fatalities (driver BAC >0.05g/100ml) were on country roads.

In 2001, 14 to 19yr old drunk driving:

- drive a motor vehicle (10.3% rural, 7.4% metro)
- operate hazardous machinery (3.4% rural, 1.3% metro).
Mortality

acute and chronic alcohol-related death rates were higher within non-metropolitan than metropolitan areas

Age-standardised mortality rate per 10,000 adults (depending on the state):

- Metro: 0.74 - 2.42
- Rural: 0.95 - 4.07
Conclusions

Too few studies of this major health risk, but:

- People living in rural Australia are more likely to experience alcohol-related harm through violence, drink driving, and acute and chronic health problems.

No studies able to differentiate between different types of rural communities (i.e. coastal, farming or mining).

A need for targeted research examining alcohol use and related harms in rural Australia.