Alcohol

Tanya Chikritzhs, Richard Pascal, Wenbin Laing, Michaela Evans, Steve Allsop
Range of current studies and projects across the life cycle

- Monitoring
  - National Alcohol Indicators Project (NAIP)
  - Alcohol Etiologic fractions in ED admissions
  - Alcohol sales data
- Fetal alcohol spectrum disorders
- Impact of parental alcohol (and other drugs) use on infants (and hopefully beyond)
- Early intervention and engagement
- School based alcohol harm reduction
- School leavers use of alcohol (and other drugs)
- Impact of alcohol promotions on young people
- Brief interventions in trauma wards
- Interventions in Indigenous communities
- Alcohol and the ageing population
The need to base interventions on quality information
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• Belief that alcohol consumption steady
  – When in fact availability, consumption and harm are increasing
• Lack of quality data allowed poor commentary on “alcopops tax”
• Poor quality data, and limited currency, impairing capacity to invoke harm reduction and social impact elements of liquor licensing
• When quality data are available they tell an interesting story that has policy relevance
  – Alcohol consumption increasing
  – Some young people drinking more and young women catching up with young men
Estimated national proportion of population drinking at risky/high risk levels for acute harm (4F: 6M) at least monthly by age group and sex Source: AIHW 2008
When quality data are available they tell an interesting story that has policy relevance

- Alcohol consumption increasing
- Some young people drinking more and young women catching up with young men
- On average one underage child dies each week as consequence of alcohol use
- Liver disease increasing
- Hospitalisations increasing ....
% change in alcohol-attributable hospitalisations 1993/94 – 2003/04

% change

<table>
<thead>
<tr>
<th>State</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>NSW</td>
<td>22</td>
</tr>
<tr>
<td>Vic</td>
<td>67</td>
</tr>
<tr>
<td>Qld</td>
<td>5</td>
</tr>
<tr>
<td>SA</td>
<td>23</td>
</tr>
<tr>
<td>WA</td>
<td>14</td>
</tr>
<tr>
<td>Tas</td>
<td>32</td>
</tr>
<tr>
<td>NT</td>
<td>28</td>
</tr>
<tr>
<td>ACT</td>
<td>43</td>
</tr>
<tr>
<td>Average</td>
<td>29</td>
</tr>
</tbody>
</table>
What would we like

• Quality and current data on:
  – consumption
    • Best proxy – sales data
  – ED admissions
  – Impact on policing

• Use to inform liquor licensing decisions, to inform and measure impact of policy etc
Violence in the night-time economy: availability and amenity
Research indicates strongly that as alcohol becomes more available through commercial or social sources, consumption and alcohol-related problems rise. Conversely, when availability is restricted, alcohol use and associated problems decrease. (Babor et al. 2010, p 5)

There is strong evidence that substantial changes in the number of alcohol outlets result in significant changes to alcohol consumption and related harm. (p. 131)
Background: what is ‘outlet density’?

- Number of hotels for every 1,000 residents in a region
- Number of packaged liquor licenses for every hectare in a region
- Number of restaurants per kilometre of roadway in a region

OR

- Amount (volume) of alcohol sold/supplied within a region
## Changes in outlet density 2003 to 2005

<table>
<thead>
<tr>
<th></th>
<th>Outlet density rate /1000 March 03</th>
<th>Outlet density rate /1000 July 05</th>
<th>% variation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tasmania</td>
<td>2.90</td>
<td>3.57</td>
<td>23.18</td>
</tr>
<tr>
<td>Victoria</td>
<td>3.01</td>
<td>3.62</td>
<td>20.15</td>
</tr>
<tr>
<td>Queensland</td>
<td>1.62</td>
<td>1.90</td>
<td>17.87</td>
</tr>
<tr>
<td>SA</td>
<td>2.97</td>
<td>3.35</td>
<td>13.00</td>
</tr>
<tr>
<td>NSW/ACT</td>
<td>1.73</td>
<td>1.84</td>
<td>6.30</td>
</tr>
<tr>
<td>NT</td>
<td>2.55</td>
<td>2.59</td>
<td>1.48</td>
</tr>
<tr>
<td>WA</td>
<td>1.91</td>
<td>1.92</td>
<td>0.56</td>
</tr>
</tbody>
</table>
AIM

To investigate the effects of numbers of outlets, alcohol sales, and types of alcohol outlets on the risk of assault at different locations in Perth, Western Australia.

Amenity? Availability? or both?
Sales data collections

• **Sales data** - volume of wholesale alcohol purchases made by retailers from wholesalers

• WA, NT, QLD
Alcohol outlet density studies

- Measure the association between numbers of outlets and harm, e.g. violence, road crashes, hospitalisations, suicide, venereal disease
- Dominated by studies from the US
- Dominated by count-based studies – but not all outlets the same
Figure 1: Geographic distribution of total counts of licensed outlets, Local Government Areas, Western Australia, 2000/01
Profile: WA licensed outlets, numbers (N=2,576) and alcohol sales

% all outlets
% all alcohol sales

restaurants
hotels
liquor stores
social clubs
nightclubs

%
Analysis

Numbers of violent assault offences formed the dependent variable in all analyses arising in individual models:

• i) total assaults;
• ii) assaults at on-site outlets;
• iii) assaults at residential premises
• iv) assaults at ‘other’ places.
• All models simultaneously included measures of alcohol sales volumes and numbers of both on-site and off-site outlets as well as the full complement of potential demographic and socio-economic confounders.
### Results: Incidence rate ratio for on- and off-site numbers of outlets and average alcohol sales

<table>
<thead>
<tr>
<th></th>
<th>On-site (hotels, restaurants, social clubs, nightclubs)</th>
<th>Off-site (liquor stores)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Counts (per 1 outlet)</td>
<td>Alcohol sales (per 10,000 ltrs)</td>
</tr>
<tr>
<td>Total assaults</td>
<td>1.021*</td>
<td>1.021</td>
</tr>
<tr>
<td>On-site outlets</td>
<td>1.048*</td>
<td>1.049</td>
</tr>
<tr>
<td>Residential</td>
<td>1.008</td>
<td>1.028</td>
</tr>
<tr>
<td>Other places</td>
<td>1.027*</td>
<td>1.010</td>
</tr>
</tbody>
</table>
Summary

• In relation to violence, the amount of alcohol sold is the most important factor to consider for liquor stores/packaged liquor outlets (counting up liquor stores is of little predictive value)
• Alcohol sales by liquor stores/packaged liquor outlets predicts violence in the domestic settings and violence in the on-site licensed setting
• Neither alcohol sales nor counts of on-site outlets predicts violence in domestic settings
• Alcohol sales from liquor stores/packaged liquor outlets is a much stronger predictor of violence in and around the night time environment than numbers of on-site outlets
Implications

- **Sales data important**
- Outlet density measures which essentially rely on ‘counts’ of licensed premises necessarily assume that all licensed premises of a certain type, are equivalent – does not cover variable alcohol sales.
- In reality, this is not the case - size and capacity to influence overall consumption in a community may differ markedly between premises, neighbourhoods and communities.
- One average liquor store appears to have the potential to do a whole lot more harm in relation to violence in all kinds of settings than an average new hotel/restaurant or nightclub.
- Off-site outlets largely influence harm via economic availability and effect on behaviours such as pre-loading.
- Counting on-site outlets may be a better measure than sales – probably because on-site outlets influence violence largely via amenity effects than availability effects.
Alcohol protective effects
... the cause and solution to all of life's problems.

—Homer J. Simpson—

ischaemic stroke,
gall stones,
dementia/alzheimer's,
type II diabetes,

helicobacter pylori infection,

colon cancer,
prostate cancer,
melanoma,
leukaemia,

the common cold,
hearing loss, and ...
• Ischaemic Heart Disease (IHD)
Current ‘consensus’

• A substantial research literature (cast of thousands) supports the hypothesis that alcohol use protects against the incidence of heart disease (IHD) that is:

people of middle age or older, who do not drink, are at higher risk of IHD than people of the same age who drink at low risk levels (i.e. 1-2 standard drinks a day for women and 1-4 a day for men)
In 1988 Shaper and colleagues called for caution and suggested that the higher risk of heart disease among non-drinkers was created by the *reduction* or *termination* of drinking in older people due to increased illness, disability, frailty and/or medication use – the ‘sick quitters’ hidden among the ‘abstainers’.
Despite being dismissed by many analysts, the effect of potential misclassification error has never been resolved, so the team tested the hypothesis …
• contamination of non-drinker groups by ‘sick quitters’ and unwell occasional drinkers could explain the apparent ‘protective effect’
What did they find?

• No evidence of a protective effect for low risk drinking on IHD mortality among the good studies.

• When misclassification error was introduced to a protective effect was artificially ‘created’ and showed same results as the ‘chaff’.

• All the chaff studies showed protective effects.
Interpretation

• This study *does not* and *cannot say* that: ‘there is no protective effect of alcohol on IHD’

• What this study does say is that the jury is ‘still out’ on whether alcohol consumption protects against death from IHD in the general population
Supported by NIH (USA) funding

- Have recently reviewed evidence on ischaemic stroke, with similar findings to IHD
- Now looking at diabetes and dementia and NIH have recently indicated they are likely to provide funding for major extensions of this work
- Policy relevance particularly because health benefits have often been factored into guidelines and cost-benefit analyses
What to do?

• Price matters
• Availability matters
  – outlet density, hours of sale, age of purchase
• Increasing evidence of impact of promotion especially on ‘naïve markets’
• General preventives
  – adult, school, community engagement etc
• Better access to treatment and reconsideration of location of interventions
Just as no single factor contributes to the development of alcohol related problems, no single approach is likely to be sufficient. The evidence suggests the need for combined approaches.
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E.g. long-term social marketing
price and physical availability controls
strategies targeting at-risk and vulnerable populations (e.g. young people)
strategies targeting risky contexts/behaviours
access to treatment