



Alcohol outlet density and harm

Reviewing the Evidence



Outline of presentation



- Brief summary of the broad research literature linking alcohol outlet density and alcohol-related harm
- Summary of Victorian studies focussing on violence, domestic violence and very high-risk drinking amongst young adults.



Alcohol outlet density

- Increasing concerns over the effect of large numbers of premises in local areas
 - “Ensure that the cumulative impact of both existing and proposed licensed premises is a valid amenity consideration for planning permit applications”
(Victoria’s Alcohol Action Plan)
 - “Develop a standard statewide framework for inclusion in local planning policies to define licensed premise cumulative impact benchmarks and the criteria by which this can be measured.”
(Inner City Entertainment Precincts Taskforce Discussion Paper)



Alcohol outlet density

- Incorporated into policy in the USA and UK
 - California restricts on- and off-premise licences on a per-capita basis (e.g. one on-sale general licence per 2,000 people living in a county)
 - Violent Crime Reduction Act (2006) in the U.K. includes provisions to make licensees pay the costs of alcohol-related crime in ‘Alcohol Disorder Zones’ where a concentration of premises has led to high rates of problems

The research literature on alcohol outlet density

- Studies predominantly in urban U.S.A. settings
- Some Nordic research
- Some recent Australian and New Zealand studies

The research literature on alcohol outlet density

- Links between outlet density and:
 - consumption and drinking patterns,
 - drink-driving and traffic accidents,
 - assault, homicide and other violent crimes,
 - child abuse and neglect,
 - sexually transmitted diseases,
 - drunkenness and neighbourhood disturbances,
 - property damage and vandalism, and
 - personal injury

The research literature on alcohol outlet density

- Two main strands:
 - Cross-sectional analyses of outlet density, consumption levels and harm rates using geographical units (e.g. states, neighbourhoods, street blocks)
 - Longitudinal studies examining the relationship between changes in outlet density and alcohol consumption and harms

Outlet density – consumption and drinking patterns

- Mixed evidence that outlet density is related to alcohol consumption
 - Big changes in density (e.g. Allowing beer to be sold in grocery stores) do affect consumption
 - Results for small differences in density are less clear
 - Increasing evidence that outlet density is related to risky/binge drinking amongst youth and young adults (e.g. College students in the U.S., teenage drinking in New Zealand)
 - In Victoria, outlet numbers have more than doubled in the last decade, with overall consumption levels fairly steady

Outlet density – drink driving and accidents

- Initial studies suggested higher outlet-density was related to lower rates of motor vehicle crashes due to reduced driving distances
- Some more recent studies from the U.S. have found significant positive relationships between outlets and crashes although others have not
- No Australian studies have been undertaken examining this issue

Outlet density – domestic violence and child maltreatment

- Growing evidence of a relationship between outlet density and child protection issues, both cross-sectionally and over-time (although all studies so far are from the U.S.)
- Similarly, studies linking outlet density and domestic violence are suggestive of an effect, including one exploratory analysis from Western Australia



Outlet density– neighbourhood disturbances and property damage

- Analysis in New South Wales found a strong relationship between high outlet density and experience of neighbourhood problems (drunkenness, property damage)
- In the U.S., it has been shown that outlet density is positively related to experiences of neighbourhood disturbances around colleges



Outlet density - violence

- Most consistent area of the literature, with dozens of studies finding significant relationships between outlet density and measures of violence (e.g. Police recorded assaults, hospital admissions etc)
- Most studies are from the U.S., but similar findings have been reported in Sweden and Australia
- An increasing number of longitudinal studies have been published, providing the strongest evidence of a causal link between density and violence rates

Victorian studies #1 – high-risk drinking amongst 16-24 year olds



- Data from 2003 and 2004 Victorian Youth Alcohol and Drug Surveys (VYADS)
- Telephone survey of ~ 12,000 Victorians aged 16-24.
 - Study examined individual and community-level factors that were related to very high-risk drinking
 - Very high-risk drinking defined as more than 20 drinks at least 12 times a year for males and more than 11 drinks at least 12 times a year for females
 - Around 20% of drinkers reported this drinking behaviour
 - Community based on postcode of residence

Victorian studies #1 – high-risk drinking amongst 16-24 year olds



- Individual-level factors
 - 18-21 year olds were most likely to drink this way
 - Family problems were positively related to very high-risk drinking
 - Spending money was a significant factor (more spending money -> more high-risk drinking)
 - Early initiators (i.e. Started drinking aged 13 or younger) were more likely to drink at very high-risk levels

Victorian studies #1 – high-risk drinking amongst 16-24 year olds



- Community level factors
 - Socio-economic status of neighbourhood was not related to very high-risk drinking
 - Young people living in regional or remote areas were more likely to drink at very high-risk levels
 - Packaged liquor outlet density was significantly related to very high-risk drinking
 - The effect was small but significant – each extra outlet increased the probability of a young resident drinking at these levels by around 4%

Victorian studies #1 – high-risk drinking amongst 16-24 year olds



- Study is only cross-sectional
 - Packaged liquor outlets may be related to some unmeasured socio-economic or demographic factor
- Limited number of community-level variables included in the model
 - E.g. It may be the overall amount of drinking in the community that is related to very high-risk drinking behaviour
 - Many other relevant community-level factors (e.g. Bond, Thomas, Toumbourou et al. 2000), although few are available at postcode level

Victorian studies #1 – high-risk drinking amongst 16-24 year olds



■ Conclusions

- Hard to draw definitive conclusions from a single cross-sectional study
- Findings point to link between alcohol availability and problem drinking amongst youth and young adults
- This has also been found in studies of university students in New Zealand and the USA
- Some caution in increasing the number of packaged liquor licences is warranted

Victorian studies #2 – Outlet density and assault



- Cross-sectional and longitudinal analyses of the link between alcohol outlet density and night-time assault in greater Melbourne
 - Longitudinal findings the focus of the presentation today
 - 186 postcodes in Melbourne that did not change substantially between 1996 and 2005
 - Assault data and licence numbers available across the 10 year period
 - Limited socio-economic/demographic data available at postcode level over the period

Victorian studies #2 – Outlet density and assault

- Genuine time-series methods require t to be much greater than 10
- Therefore, panel methods are used – basically combining 186 small time-series (one for each postcode) to provide the statistical power to detect changes
- Overall trends are controlled for using dummy variables – we're only interested in patterns within postcodes

Victorian studies #2 – Outlet density and assault

- Three kinds of outlets examined (general, on-premise, packaged)
- Overall results
 - All three licence types were positively associated with assault rates (i.e. in general as licence numbers of each type go up/down in a postcode, assaults go up/down)
 - General licences (pubs/hotels) had the largest impact on assault rates with each new licence associated with around 1 extra assault per year

Victorian studies #2 – Outlet density and assault

■ Results explored for particular types of postcodes

Cluster	N (%)	Characteristics	Examples
1	7 (3.8)	Central suburbs. High rates of overseas born residents, high public-housing, high tourism, small area, high population density, high mobility, high licence rates, moderate SEIFA index.	CBD, Southbank, Fitzroy
2	23 (12.4)	Inner-urban suburbs. High SEIFA index, high population density, high mobility, moderate tourism, moderate licence rates, high rates of overseas born residents.	Brunswick, Carlton North, Richmond
3	80 (43.0)	Advantaged-suburban. High population, high SEIFA index, moderate population density, moderate rates of overseas born residents.	Camberwell, Glen Iris
4	34 (18.3)	Fringe. Low population, v. low population density, high SEIFA index, low mobility, low rate of overseas born residents, low licence rates, low public housing	Keilor, Beaconsfield, Diamond Creek
5	42 (24.6)	Disadvantaged-suburban. High population, low SEIFA index, moderate population density, low mobility, high rate of overseas born residents, low tourism, moderate public housing, low licence rates	Craigieburn, Frankston, Footscray

Victorian studies #2 – Outlet density and assault

■ Results explored for particular types of postcodes

- Central suburbs – general licences related to assault
- Inner-urban – general and on-premise licences related to assault
- Advantaged suburban – general licences
- Fringe – general licences
- Disadvantaged suburban – on-premise and packaged licences

Victorian studies #2 – Outlet density and assault

■ Conclusions

- Hotel licences seem to be particularly problematic
- There is some variation across suburbs, with packaged liquor outlets linked to assault rates in disadvantaged areas
- On-premise outlets had some links with assault, but the combination of restaurant/cafe/bar/nightclub licences into a single category makes interpretation difficult
- Results tally broadly with the cross-sectional study (although the c-s analyses found no effect for packaged liquor outlets)
- Detailed licence information not available, meaning factors such as capacity, opening hours etc are not included

Victorian studies #3 – Outlet density and domestic violence

- Study using the same data and methods as the previously discussed assault study (again, both cross-sectional and longitudinal analyses)
- Outcome variable is police recorded 'family incident' rates
- Few previous studies of outlet density and domestic violence – one in the U.S. finding no connection and one which found a positive relationship.
 - A preliminary study in Western Australia found that the volume of alcohol sold in a region was related to d.v. rates

Victorian studies #3 – Outlet density and domestic violence

- Cross-sectional results:
 - Socio-economic disadvantage was a very strong predictor of d.v. rates
 - Postcodes with higher proportions of people from non-English speaking backgrounds had lower rates of d.v.
 - General licence density was positively related to d.v. rates
 - On-premise density was negatively related to d.v. rates

Victorian studies #3 – Outlet density and domestic violence

- Cross-sectional results:
 - It's unclear why restaurant density would be negatively related to d.v. – possibly an unmeasured socio-demographic factor which correlates with both restaurant density and d.v.
 - Similarly, it's not clear that the positive effect for general licences is due to the outlets themselves or to other correlated factors
 - No effect for packaged liquor outlets?

Victorian studies #3 – Outlet density and domestic violence

- Longitudinal results:
 - Over time, general and packaged liquor licence density are positively related to domestic violence rates
 - There remains some negative effect for on-premise outlets (although this may be due to correlation with other licence categories)
 - Packaged liquor has the largest effect size when licence types are examined separately

Victorian studies #3 – Outlet density and domestic violence

- Conclusions
 - Reasonable evidence that alcohol outlet density is related to rates of domestic violence at the postcode level in Melbourne
 - This relationship persists when socio-economic disadvantage is controlled for
 - Similar patterns across space and across time



Overall conclusions

- The international evidence and a series of studies in Victoria have linked alcohol outlet density and a range of harms (predominantly violence)
- Large increases in outlet density in Victoria in recent years in a fairly deregulated liquor licensing environment



Overall conclusions

- Increasing concern at local and state level about policy responses
- Specific policies are difficult to implement on the basis of the current data – very broad findings do not allow for a very sophisticated examination of risk
 - E.g. Problem venues, venue characteristics related to problems etc.