Alcohol Outlets: Recreational Ethanol Availability and its Social Impact

Dalgarno Institute

Research Report on Liquor Outlets is an overview of current research investigating the impact of alcohol availability in the Australian context.

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Overview

There has been much research establishing the negative social impact and increased cost to communities from having a high number of licensed alcohol outlets in a given area. Studying changes over a period of years as alcohol outlet density increases (or decreases) has only been undertaken by a few researchers.

1. Effect of increasing alcohol outlet density over time.

We are fortunate in Australia to have had such research undertaken locally over a period of 9 years (1996 – 2005). The essential findings have shown that increasing alcohol outlet density leads to seemingly small, but significant and measurable increases in the amount of violence the community experiences. As expected the different types of alcohol outlets in a suburb have differing impacts as their numbers increase under more liberal licensing laws.

To find out more about this research, refer to the article in **Section One**: Alcohol Outlet Density and Assault, Michael Livingston, 2008.

2. Domestic Violence and the effect of increasing alcohol outlet density.

Using similar data for the same 9 year period, Michael Livingston (2011) has conducted research into the impact of increasing alcohol outlet density on reported cases of domestic violence. The analysis involved grouping like suburbs of Melbourne (identified by postcode) in order to establish what effect different alcohol outlet types might have for a particular socio-economic demographic. Again, the data established another positive relationship, this time between increasing alcohol outlet density and increases in domestic violence. For example, an increase of 10% in the density of premises licensed to sell packaged liquor lead to an increase of 3.3% in reported domestic violence.

Section 2, entitled "Alcohol Outlet Density and Domestic Violence" provides many of the findings in dot point form, along with an abstract of the paper and a full listing of references from the research (Michael Livingston, 2011).

3. Availability of alcohol and its effect on use, health and social-problems

In Section 3, we provide some salient facts and findings from a Power Point presentation given by Michael Livingston on research into alcohol availability and its impact on consumption, health and social problems. In essence, higher density of alcohol outlets in a neighbourhood is related to:

- Higher rates of domestic violence
- Higher rates of general assault
- Higher rates of very high-risk drinking amongst young adults

4. Adolescent alcohol consumption: the influence of alcohol outlet density

Despite the National Drinking Guidelines discouraging children and adolescents from consuming alcohol under the age of 18 (the legal age for purchasing alcohol), **61% of Australian children aged between 12 and 17 have consumed alcohol** *(White & Smith, 2009).*

Further, Australian children have high rates of alcohol use relative to children in the United States (Toumbourou et al, 2009) and consume alcohol at younger ages relative to children in Europe (Jonkman et al, 2012).

In Section 4, a study by Rowland et al (2014) on alcohol consumption of secondary school students in Australia, shows that the increased availability of alcohol has greater impact on early adolescents (aged from 12 to 14 years). However, for youth in this age range, density of 'on-premise' licensed establishments had the least impact on alcohol consumption while the prevalence of packaged licensed outlets was associated with the greatest increase in alcohol consumption.

Interestingly enough, the research also showed that increases in density were generally not associated with a significantly increased risk of consumption for individuals between the ages of 15 and 17.

For more details on these findings refer to the summary notes below in Section4 or to the research paper by Rowland, B., Toumbourou, J. W., & Stevens, C. (2003*). Preventing Drug Related Harm in Communities Characterised by Cultural and Linguistic Diversity. Melbourne: Drug Info Clearinghouse, Australian Drug Foundation.*

Dalgarno Comment.

The current and emerging evidences make clear that increased accessibility and availability of the legal drug of alcohol have direct and growing negative social and health impacts.

The evidence also underscores the already intuitive perceptions that alcohol misuse in social settings is only fuelled by this growing accessibility and availability.

The other public element in consumption escalation is the notion of *permissibility*. This of course is exacerbated by factors such as aggressive promotion of entitlement of consumption along with the culturally evolved memes that give alcohol a seemingly entrenched position in the social framework. However, these 'permissive' elements can be curtailed in the public policy space, if the social and politic will is present to do so.

For example research indicates that the removal of alcohol advertising from all media platforms will impact that notion and consumption potentials too will diminish. Yet the permissibility policy that most desperately needs address is firmly in the planning space of public policy. The licensing regime, in Victoria in particular, has been predicated on the 1987 Policy review and recommendations, which launched the Night Time Economies agenda. Since then alcohol licensing has been ostensibly unfettered (in Victoria) and it is in this arena that things must change.

What needs to be noted too is that a growing numbers of communities are mobilising residents and the local population, to come out in significant numbers in protest of proposed liquor licence applications. Their voice is sometimes ignored by local government and in some instances, such as the City of Sale in Victoria the local government brazenly disregarded the petitioned pleas of a huge contingent of local residences. This decision by council only added to the 'reputation' of Sale as being one of (if not the most) over supplied communities in the nation!

Some local governments have given interim approval, but after much input from the community have withdrawn that approval.

However what is encouraging is that many local government instrumentalities that Dalgarno are aware of (and involved with in some instances) have tried to implement a more measured response to licensing. Many local governments have even refused planning permits for packaged liquor outlets. These decisions have been also affirmed by the residents of these communities, but it is the appeals process that has brought their restrictions undone.

Dalgarno Institute has been approached for assistance in 'combating' VCAT (Victoria Civil & Administrative Tribunal) decisions that have overturned a refusal of license at the appeals process – (Residences of the Cities of Seaford and Sale). Whilst VCAT may appear the 'bad guys' in all this, in reality it is the current legislative and policy framework that is the real culprit in this issue. The Tribunal may receive all the 'social impact' statements and research on said harms that is available, but the current review system doesn't allow them to consider that in the application process. The guidelines are very specific and don't permit that inclusion.

What is needed is for the current Victoria State Planning laws around liquor licensing to be changed and policy amended to include (and we'd add, make highest priority) social/community impact data in the deliberation for liquor license approval. This overhaul is not just the pleading of a growing number of agencies and communities, (Dalgarno Institute and its coalition's long time combatants in these battles) it is also the recommendation of the Auditor General:

> *The Auditor General's* report recommends that, local governments develop alcohol planning policies. State government bodies ''overhaul' the liquor licensing permit and planning processes'.* ***(*Victorian Auditor-General's Report 2012 Effectiveness of Justice Strategies in Preventing and Reducing Alcohol-Related Harm)***
>
> *Reducing availability of cheap packaged alcohol in outer-suburbs where people pre-load before travelling to the inner-city is also critical* [1]

This overhaul is way overdue, and whilst the current Victorian State government had implemented policy changes to the better, the key change needed is in this licensing space. It's time for the Victorian government to initiate these changes and empower local governments and communities to create healthier and safer communities for their residents. Many Local Governments are already working to facilitate this change and the Dalgarno Institute is actively supporting such endeavours.

Shane Varcoe – Executive Director.

[1] ***'Hyped up': Outer-suburban young adults and trouble in the inner-city night time economy***; *Sarah MacLean1&2 1 Centre for Heath and Society, University of Melbourne, Melbourne, Victoria, Australia 2 Centre for Alcohol Policy Research, Turning Point Alcohol and Alcohol and Drug Centre, Melbourne, Victoria, Australia*

Section One: (Synopsis of Research)

Alcohol Outlet Density and Assault

Michael Livingston (2008), A Longitudinal Analysis of Alcohol Outlet Density and Assault, Alcoholism: Clinical and Experimental Research Vol. 32, No. 6, pp1-6

Only a small number of studies have examined how changes in outlet density over time are related to changes in rates of violence. In part, this reflects a lack of data—traditional time-series methods require approximately 10 data points for each parameter being fitted, and changes in outlet density are generally not rapid enough for time periods of anything less than years. Thus, for time-series methods to be utilized, comparable licensing and assault data need to be available for a jurisdiction for at least 20 years. This is rare. Norstro¨m (2000) used time-series methods to assess whether 2 measures of criminal violence (investigations and convictions) were related to the density of alcohol outlets in Norway between 1960 and 1995 and found a consistent positive effect.

The results of this study suggested that, on average, an increase in 1 outlet corresponded to an increase in approximately 0.9 investigated assaults per year.
Only one other recent study has examined the longitudinal relationships between outlet density and violence. Gruenewald and Remer (2006) used panel models to analyze outlet density and assault rates in 581 zip codes over 6 years. The study used a random effects model to assess the changes over this short time frame across the large number of regions. Using this method, the final model found a small but significant impact of changes in the number of bars and off-premise alcohol outlets on rates of violence, both locally and in neighboring areas. The authors' estimate that an average reduction of one bar in each of the 581 postal codes analyzed would have resulted in 290 fewer assaults over the 6 years studied. These 2 studies are the most recent and methodologically rigorous longitudinal studies directly examining the impact of outlet density on harm rates and support previous findings (summarized by Ma¨kela¨ et al., 2002) that suggest a positive link between changes in outlet density and rates of alcohol-related harm. While these studies both found positive results, there is still insufficient work across a variety of settings to assess the conditions under which changes in outlet density are most likely to affect alcohol-related harm rates.
In the most rigorous of these studies, Gruenewald et al. (2006), found that bars had a marked positive effect on violence in poor, unstable areas, but were actually protective in stable, wealthy areas. However, these differential effects of outlets in different types of neighbourhoods have only been examined in cross-sectional studies, and it is unclear how the effects of changes in outlet density vary across neighbourhoods with different characteristics.
License data are based on 3 license types: general, on-premise, and packaged. These licenses make up 67% of all licenses in Victoria over the study period, with the rest made up of club licenses, wholesalers, and wineries. General licenses, of which there were 793 in 2005, allow the licensee to sell alcohol for consumption both on and off the premises, and apply to taverns, hotels and pubs, often venues where alcohol consumption is the primary activity. On-premise licenses, of which there were 3,502 in 2005, allow the licensee to sell alcohol on the premises only, and generally apply to restaurants, bars, and nightclubs. Packaged licenses, of which there were 974 in 2005, allow alcohol to be

sold for off-premise consumption only and apply to retail liquor stores (including some supermarkets).
The results of the longitudinal analysis described provide additional evidence that changes in the number of alcohol outlets in a community are related to changes in the amount of violence experienced in that community. The results do not give clear indications that particular license categories are more problematic than others, with each license type examined related to violence in certain community types. This variety of effects suggests substantial differences in how different license categories are being used in particular neighbourhoods.
For example, it seems clear that hotel licenses are a particular concern in the inner-city, while packaged liquor outlets are more problematic in suburban areas. In some ways, these effects are
The overall effects found in this study reflect seemingly small impacts for alcohol outlets on violence. For example, the addition of an extra on-premise license in the postcodes examined is estimated to result in an increase of 0.25 assaults per year, while the addition of a general license is estimated to increase assaults by 0.90 per year and a packaged license by 0.39 per year. While these effects appear small, it is worth noting that the number of alcohol outlets in Melbourne has grown sharply in recent years. Between 1996 and 2005, the number of on-premise licenses in the postcodes analysed increased by 1,942, while the number of general licenses increase by 77 and the number of packaged licenses increased by 359. Based on the estimates from this study, such an increase is related to an extra 690 alcohol-related assaults per year.

Changes in the number of alcohol outlets in a community are linked to changes in the amount of violence the community experiences. This relationship varies across the clusters of suburbs examined, with packaged liquor outlets consistently associated with violence in suburban areas and general (hotel) and on-premise (nightclubs, restaurants, and bars) licenses associated with violence in inner-city and inner-suburban areas.

These results, combined with previous studies that have shown significant effects for outlet density on violence rates over time, add to the research evidence that suggests greater attention to outlet density is necessary in liquor licensing regimes (Livingston et al., 2007). The results suggest that there is a need for greater control over the proliferation of alcohol outlets across a wide range of communities.

Section Two: (Synopsis of Research)

Alcohol Outlet Density and Domestic Violence

Michael Livingston (2011), A Longitudinal Analysis of Alcohol Outlet Density and Domestic Violence

Addiction. 2011 May;106(5):919-25. doi: 10.1111/j.1360-0443.2010.03333.x. Epub 2011 Feb 14. (Cited 10 Dec 2013 at http://www.ncbi.nlm.nih.gov/pubmed/21205052).

Source : AER Centre for Alcohol Policy Research, Turning Point Alcohol and Drug Centre, Fitzroy, VIC, Australia. michaell@turningpoint.org.au

Snapshot

- Over time, general and packaged liquor licence density are positively related to domestic violence rates
- Packaged liquor has the largest effect size when licence types are examined separately
- 10% increase in packaged liquor density -> 3.3% increase in reported domestic violence
- Likely to understate the magnitude of the actual effect (<25% of d.v. is reported to police)
- Some variation in effect sizes by postcode type, but packaged liquor the most problematic across all five clusters
- Reasonable evidence that changes to alcohol outlet density have led to changes in rates of domestic violence at the postcode level in Melbourne
- Packaged liquor appears to be particularly problematic
- This broadly fits within the routine activities framework outlined in Freisthler et al.'s studies of child maltreatment, with pubs linked to more problems on the street and bottle shops with problems in the home.
- Findings Alcohol outlet density was associated significantly with rates of domestic violence, over time. All three licence categories were positively associated with domestic violence rates, with small effects for general (pub) and on-premise licences and a large effect for packaged liquor licences.

A longitudinal analysis of alcohol outlet density and domestic violence

Michael Livingston (2011):
AER Centre for Alcohol Policy Research, Turning Point Alcohol and Drug Centre, Fitzroy, VIC. and School of Population Health, Melbourne, Australia

ABSTRACT
Aims A small number of studies have identified a positive relationship between alcohol outlet density and domestic violence. These studies have all been based on cross-sectional data and have been limited to the assessment of ecological correlations between outlet density and domestic violence rates. This study provides the first longitudinal examination of this relationship.

Design Cross-sectional time-series using aggregated data from small areas. The relationships between alcohol outlet density and domestic violence were assessed over time using a fixed-effects model. Controls for the spatial autocorrelation of the data were included in the model.

The study uses data for 186 postcodes from within the metropolitan area of Melbourne, Australia for the years 1996 to 2005.
Measures Alcohol outlet density measures for three different types of outlets (hotel/pub, packaged liquor, on-premise) were derived from liquor licensing records and domestic violence rates were calculated from police-recorded crime data, based on the victim's postcode.

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Section Three: (Synopsis of Research)

"*The effects of changes in the availability of alcohol on consumption, health and social-problems*."

Author: ***Michael Livingston***

A Snapshot (adapted from Michael's Power Point presentation).

The history of changes to liquor licensing laws shows increasing relaxation on restrictions. The Liquor Control Act of 1986 has been amended twice since and these laws make it easier for

1. Getting a licence
2. Getting permission for greater opening hours
3. Allowing more outlets (eg supermarkets)
4. Increased trading options
5. Stronger penalties

- International research (since 1990) shows density of alcohol outlets is linked to:
  - drink driving and traffic accidents;
  - assault, homicide and other violent crime
  - child abuse and neglect;
  - property damage and vandalism
  - personal injury; etc
- Alcohol – 3.5% of the burden of death and injury in Australia is caused by alcohol
- Youth trends
  - Harm rates are increasing more quickly than the general population.eg. 200+% increases in emergency presentations in ten years
  - Risky consumption rates fairly stable or declining. However, there are some indications of increases in very heavy drinking Heavy Drinking peaks in 18 – 24 year old age group in Australia
- Packaged liquor outlets were strongly associated with rates of chronic alcohol-caused disease. A 10% increase in packaged liquor outlets from mean levels -> ~2% increase in rates of admission to hospital for alcohol-caused chronic conditions. The chronic disease findings point to an effect of packaged liquor density on alcohol consumption
- Cross-sectional studies have demonstrated that neighbourhoods with higher densities of outlets have:
  - Higher rates of domestic violence
  - Higher rates of general assault
  - Higher rates of very high-risk drinking amongst young adults
  - Increased amenity issues

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Section Four: (Synopsis of Research)

"Associations between alcohol outlet densities and adolescent alcohol consumption: A study in Australian students."

Authors: *B. Rowland, J.W. Toumbourou, L. Satyen, G. Tooley, J. Hall, M. Livingston & J.Williams.*

Addictive Behaviors 39 (2014) 282–288 *(Cited 7 Feb 2014 on web page: https://webmail.netspace.net.au/index.php/mail/viewmessage/getattachment/folder/INBOX/uniqueId/13628/filenameOriginal/Rowland%2Bet%2Bal%252C%2B2013%2Bdoi.pdf)*

Introduction

In Australia, the National Drinking Guidelines discourage children and adolescents from consuming alcohol under the age of 18, the legal age for purchasing alcohol *(NHMRC, 2009).*

Despite this recommendation,
61% of Australian children aged between 12 and 17 have consumed alcohol *(White & Smith, 2009).*

Further, Australian children have high rates of alcohol use relative to children in the United States *(Toumbourou, Hemphill, McMorris, Catalano, & Patton, 2009)* and consume alcohol at younger ages relative to children in Europe *(Jonkman, Steketee, Toumbourou, Cini, &Williams, 2012).*

In many countries, adolescent consumption increases with age *(AIHW, 2011; Johnston, O'Malley, Bachman, & Schulenberg, 2011).*

The early uptake and consumption of alcohol by adolescents are associated with an array of poor physical, psychological, and psychosocial outcomes. These include:

- greater risk of progressing to heavier adolescent alcohol use *(Mason et al., 2011),*
- poor academic outcomes *(Koch & McGeary, 2005),* greater risk of becoming dependent *(Bonomo, Bowes, Coffey, Carlin, & Patton, 2004),*
- problem drinking in adult life *(McCambridge, McAlaney, & Rowe, 2011),*
- and adversemental and physical health in the adult years *(Andreasson, Romelsjo, & Allebeck, 2006).*

Given these consequences, it behoves us to identify modifiable factors that may influence alcohol use by this population group.

Although research examining adolescents is lacking, cross-sectional and longitudinal studies in adults have shown strong evidence for an associations between the density of alcohol outlets and the levels of alcohol consumption and alcohol related harm *(Gruenewald, 2007; Livingston et al., 2007; Stockwell & Gruenewald, 2004).*

Further evidence for this association comes from natural experiments, where alcohol related behaviour is measured in locations where alcohol outlets have increased or decreased in number due to changes in legislation *(Babor et al., 2010).*

In Australia, data gathered over 9 years (1996–2005) in the southeastern state of Victoria, found that more relaxed alcohol policy regulations led to increased density of alcohol outlets within the community and that this was associated with both increased violence *(Livingston, 2011)* and an increase in the rate of physical assault *(Livingston, 2008).*

Two Australian studies examining the relationship between outlet density and consumption, found significant associations between off-premise outlet densities and heavy episodic drinking in adults *(Kavanagh et al., 2011; Livingston, Laslett, & Dietze, 2008).*

The evidence linking densitywith adolescent consumption is gradually building. Studies in New Zealand and the USA have shown an association between density and the typical amount consumed, binge drinking, and the driving after drinking *(Huckle, Huakau, Sweetsur, Huisman, & Casswell, 2008; Truong & Sturm, 2007).*

Further, recently, large national studies in Switzerland (*Kuntsche, Kuendig, & Gmel, 2008)* and the USA *(Stanley, Henry, & Swaim, 2011)* controlling statistically for "perceived availability", a proxy measure for the degree to which families and the community may be more permissive of adolescents consuming alcohol have been undertaken. **These studies have shown significant associations between the density of alcohol outlets and adolescent consumption**.

Research and Results

This research paper is the first such study to be undertaken in Australia.
A cross-sectional representative sample of secondary school students from Victoria, Australia (N= 10,143), aged between 12 and 17 years, self-reported on alcohol use in the last 30 days in 2009. The density of alcohol outlets per local community area was merged with this information as the basis for analysing the results.

The 2009 survey provides information regarding alcohol consumption by age group from 12 to 17 years of age, answering whether they consumed alcohol in last 30 days and if "ever consumed alcohol". **Approximately 36.70% (3,594) had reported using alcohol in the 30 days prior to the survey. Approximately 60% of the sample (5,912) reported to have drunk more than a few sips of alcohol in his/her lifetime.**

The proportion of individuals who reported to have consumed alcohol in their lifetime increased with age. For, individuals who reported to have drunk alcohol in their lifetime, 8.78% (n=488) indicated that they had bought the alcohol themselves; **85.06% (n =4724) reported they had it either bought for them, or given to them**; 3% (n = 189) indicated they got it from home without permission.

Data provided by the survey undertaken in 2009 also showed whether alcohol was brought from licensed retail outlet or provided by an adult, broken down by age. The findings showed that adolescents purchasing their own alcohol increased with age. **A greater proportion of adults provided alcohol to children between 12 and 14 (approx. 88%–90%), compared to children between the ages of 15 and 17 (approx. 83%–77.85%).**

After controlling for risk factors, multilevel modelling (MLM) revealed a statistical interaction between age and density on alcohol consumption. While older adolescents had higher alcohol consumption, increases in the density of alcohol outlets were significantly associated with increased risk of alcohol consumption only for adolescents between the ages of 12 and 14.

Community-level alcohol availability on drinking, density was measured as outlets per 10,000 residents of a given local government area. Alcohol outlets were classified according to their licence type: Alcohol density outlet was organised into four categories based on their type of alcohol licence: general density (GD); packaged outlet density (PO); on-premise density (OP); and club density (CD). General outlet density was defined as public bars (pubs), packaged liquor outlets was defined as shops that sold takeaway liquor such as bottle shops; on-premise alcohol outlets were defined as restaurants or venues that sold food (e.g. café) and alcohol; licensed clubs were categorised as venues where membership was required to drink at the venue.

Conclusion:

Increased alcohol availability was associated with an increased risk of alcohol consumption specifically for early adolescents (12 and 14 years).

Overall, statistical modelling indicated that for every 10% increase in alcohol density outlet, **a significant increase in adolescent alcohol consumption occurred for children between the ages of 12 and 14 years of age.** While older individuals were at an increased risk of alcohol consumption in some statistical models used to analyse the results, the research results from this study indicated that **increases in density were generally <u>not</u> associated** with significantly increased risk of consumption **for individuals between the ages of 15 and 17**.

The largest proportional change in risk of consumption was with the packaged alcohol outlet density. Increases between 3.03% (14 year olds) and 5.30% (12 year olds) were observed for every 10% increase in packaged outlet density.

The smallest change occurred with on-premise density and general density; statistical modelling estimates of increased consumption ranged between 0.74%and 1.68%. For each type of outlet the effect was the greatest with younger individuals (12 year old) and the least with older individuals (13 and 14 year olds).

Potential mechanisms as to how density is associated with direct and indirect alcohol availability, such as through parents or older siblings, need to be explored in future research.

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