Submission

Draft
National Alcohol Strategy
2018- 2026

11 February 2018
Table of Contents

Table of Contents..................................................................................................................2
About the Brewers Association...............................................................................................4
Executive Summary................................................................................................................5
Alcohol Consumption in Australia..........................................................................................7
  Australian consumption: the facts.......................................................................................7
  Youth consumption trends.................................................................................................8
The draft NAS is not evidence-based...................................................................................9
  Evidence on cultural and social issues .............................................................................9
  Evidence on marketing and sponsorship...........................................................................9
  Evidence on price..............................................................................................................12
Alcohol: No Ordinary Commodity highlights......................................................................16
Evidence on availability.........................................................................................................17
License density......................................................................................................................17
Correlation is not cause.........................................................................................................20
Evidence from “natural experiments” and longitudinal studies is also unconvincing............21
Nations with highly restrictive alcohol laws are among those reporting the highest levels of harm .....................................................................................................................................22
No relationship between density and underage misuse.....................................................23
Unintended consequences.....................................................................................................24
Outlet density – conclusion.................................................................................................25
Hours and days of trade.......................................................................................................25
If communities really want to deal with anti-social behaviour, they must tackle the underlying causes ..........................................................................................................................29
Actions cited in the draft NAS............................................................................................31
  Minimum floor price for all alcohol .................................................................................31
  Flat Volumetric Taxation .................................................................................................32
  Australians already paying highest tax on beer ..................................................................32
  Reducing consumption overall..........................................................................................32
  Bans on alcohol advertising and sports sponsorship.......................................................35
    Case Study: New Zealand.................................................................................................37
    Case Study: France..........................................................................................................37
  ABAC: effective industry regulation .................................................................................39
    Case Study: VB Blues promotional 2016 State of Origin can .....................................41
Prohibition (through dry zones and restricting access)...................................................41
New health warnings on labels (including pregnancy) ................................................. 41
Assumed links to harms .................................................................................................. 42
Failure to account for success to-date ........................................................................... 43
Exclusion from future consultation .............................................................................. 43
DrinkWise ...................................................................................................................... 45
Recommendations ......................................................................................................... 46
Consultative Group ........................................................................................................ 46
Contact ........................................................................................................................ 47
Appendix A: Detailed analysis of the evidence-base underpinning the draft NAS....48
Evidence on cultural and social issues ......................................................................... 48
Evidence on Marketing and Sponsorship ................................................................... 48
Evidence on price .......................................................................................................... 51
Evidence on availability ................................................................................................. 58
License density ............................................................................................................. 58
Correlation is not cause ................................................................................................. 61
Evidence from “natural experiments” and longitudinal studies is also unconvining .......... 62
Nations with highly restrictive alcohol laws are among those reporting the highest levels of harm .................................................................................................................. 63
No relationship between density and underage misuse ................................................ 64
Unintended consequences .............................................................................................. 65
Outlet density – conclusion .......................................................................................... 66
Hours and days of trade ................................................................................................. 66
Studies relied upon in the Consultation Draft ............................................................. 70
A critique of these sources ............................................................................................ 70
Annex A: detailed review of the evidence-base relied upon to argue for significant trading restrictions .................................................................................................................. 78
High population density is correlated with a high number of outlets ....................... 117
Opening hours are longer in high density areas ......................................................... 118
There is a correlation between lower prices and higher deprivation ...................... 118
About the Brewers Association

The Brewers Association of Australia is the peak industry body representing Australia’s premier beer makers.

The Association and its members – Carlton & United Breweries, Lion Beer Australia and Coopers Brewery – encompass 90% of all beer sales in Australia and, as such, have a longstanding commitment across a range of activities to promote responsible consumption of alcohol and minimise harm associated with alcohol misuse.

Brewers Association members make the most significant investment in cultural change and education initiatives across the Australian community through DrinkWise Australia to the tune of over $2.6 million a year.

DrinkWise is a not-for-profit organisation, supported by industry and seed funding from the Australian Government, which is achieving success in delivering a healthier and safer drinking culture through its well-recognised national information and education campaigns. DrinkWise campaigns have proven to be successful because they target at-risk groups in language they understand and through channels that are relevant to them. DrinkWise also provides practical resources to help inform and support the community about alcohol use.

With 95% of all beer sold in Australian being made in Australia, the brewing sector underpins over 94,000 full-time equivalent Australian jobs (over 128,000 jobs in total) and generates $15.6 billion a year in economic activity – accounting for 1% of GDP.

Australian agriculture is a major contributor to the success of the beer industry, producing a massive 1 million tonnes of barley a year across Australia for domestic beer production and 600 tonnes of Tasmanian and Victorian hops.

Australians pay among the highest excise on beer in the world, in addition to a 10% GST. In 2015-16, taxes on beer drinkers netted the Australian Government almost $2.4 billion – $2.005 billion in excise and $377 million in GST.

In fact, the most expensive ingredient in Australian beer is tax, with tax accounting for almost half (43%) of the price of a typical carton of full-strength beer. Australian tax rates on beer are also indexed to increase twice every year.

Australian beer is taxed at more than twice the OECD average.

In fact, along with Scandinavian countries and Japan, Australians pay among the highest beer excise in the world.

Australians pay over seven times more beer excise than Argentina, Belgium, Chile and Poland; over six times more than Austria, Hungary, the Netherlands and South Africa; almost five times more than Italy and Greece; double the beer excise paid in the US; and almost double that of New Zealand.

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1 Excise Taxes on Wines, Beers and Spirits: An Updated International Comparison, Table 4, University of Adelaide, September 2014.
Executive Summary

The Brewers Association of Australia recognises that the misuse of alcohol is a social issue that all levels of government, the medical profession, public health groups and industry have a responsibility to address.

Efforts to address alcohol misuse must be backed by sound, evidence-based programs and solutions. Many of the policy prescriptions in the Consultation Draft National Alcohol Strategy (NAS) are of questionable value in an Australian context, or their effectiveness is not borne out by evaluation of existing schemes in place around the world in similar OECD countries.

The Australian Ministerial Drug and Alcohol Forum (MDAF) should recognise that the overwhelming majority of Australians who drink, do so responsibly, and that levels of alcohol consumption have been steadily falling since the 1970s.

While there is clearly further work to be done in ensuring that harm mitigation efforts are targeting vulnerable groups, we note that significant gains have been made in improving Australia’s drinking culture, including reductions in underage drinking, an increase in the age of initiation, and reductions in harmful drinking patterns among young adults and the broader population.

The Brewers Association is dismayed that the Australian Government, through the MDAF, has chosen to exclude industry from the proposed Alcohol Reference Group, despite the industry’s history of targeting harmful use of alcohol through support for initiatives, such as DrinkWise Australia and the Alcohol Beverages Advertising Code.

This marks a major shift in Australian Government policy.

We welcome the opportunity to respond to the draft NAS and highlight some of the discrepancies between best-practice alcohol policymaking and the Consultation Draft in its current form. This submission will target flawed or out-of-date research and policy prescriptions that are out of step with community thinking in order to assist the MDAF in achieving its overarching objective of harm minimisation.

Currently the draft NAS falls short on the following points:

- It does not take into account demonstrable improvements in Australia’s drinking culture, particularly the improvements related to at-risk groups.
- There is no assessment of the previous National Alcohol Strategy and how it performed in terms of contributing measurably reducing alcohol-based harms.
- Many claims of the policy prescriptions are based on questionable assertions, or on research that is neither current nor peer reviewed.
- The research cited is not always relevant to Australians’ attitudes towards and experiences of alcohol, with many initiatives cited as successful in other markets having limited application in the Australian context.
- Although the draft NAS takes ‘harm minimisation’ as its guiding principle, the population-wide regulatory measures are not targeted at true harm minimisation but constitute an aggressive approach to decrease alcohol consumption among moderate drinkers.
The Brewers Association has taken the opportunity to comprehensively review the evidence-base underpinning the draft National Alcohol Strategy. This in-depth analysis is detailed at Appendix A in this submission.

The Brewers Association supports targeted policy interventions that genuinely reduce alcohol misuse. We do not support attempts to reduce population-wide consumption where it is in keeping with the current NHMRC Guidelines.

Implementing the draft National Alcohol Strategy in its current form would unfairly target the majority of Australians who consume alcohol sensibly and moderately, while not materially improving health outcomes for those individuals and groups still drinking at harmful levels.
Alcohol Consumption in Australia

The National Alcohol Strategy states that “Australia’s overall consumption of alcohol (on a per capita basis) … has either declined or remained stable between 2009 and 2016, with significant improvements observed among younger Australians,” but it goes on to over-index the pockets of harmful use that do exist in the community.

There is a lot more to do, and the National Alcohol Strategy refers specifically to the need to work more effectively to reduce harmful consumption among Aboriginal and Torres Strait Islanders, Australians in remote communities, Australians with mental health conditions, pregnant women, teenagers and young adults, Australians aged 70+, LGBTI Australians, and culturally and linguistically diverse communities.

We don’t disagree. But the draft does not take full account of the Australian Government’s own official, up-to-date and independent data detailing the consistent long-term decline in total alcohol consumption in Australia over more than 40 years, nor does it account for the consistent long-term decline in harmful drinking levels over the last 15 years.

Further, under the draft National Alcohol Strategy’s Aims (page 2) reducing harmful drinking is the only specific goal cited on alcohol consumption. Specifically:

“Targeting a 10% reduction in harmful alcohol consumption.

- alcohol consumption at levels that puts individuals at risk of injury from a single occasion of drinking, at least monthly.
- alcohol consumption at levels that puts individuals at risk of disease or injury over a lifetime.”

Yet, the content of the draft National Alcohol Strategy focuses on consumption overall, failing to provide targeted interventions to address those at risk of harms in ways relevant to their circumstances.

By underweighting the factors that precipitate harmful drinking and the societal drivers underpinning the causes of anti-social behavior, the draft National Alcohol Strategy risks perpetuating those problems by misdiagnosing and failing to address them.

Australian consumption: the facts

The draft National Alcohol Strategy's perception of Australians as heavy drinkers is simply not supported by modern experience.

Alcohol consumption peaked at 12.9 litres of pure alcohol per person in the mid-1970s; by contrast, the Australian Bureau of Statistics shows that consumption has fallen by 25% since then, to 9.7 litres today. For beer’s part, over the same period, consumption has fallen from 9.5 litres per capita to just 3.9 litres today.³

The World Health Organisation reports that Australia is at the low end of the spectrum when it comes to binge drinking and, when ranked against similar countries comes in at 31 out of 37 for instances of heavy episodic drinking.⁴

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⁴ WHO, Global Status Report on Alcohol and Health 2014.
Furthermore, according to the Australian Institute of Health and Welfare (AIHW) National Drug Strategy Household Survey (NDHS) just 6% of Australians drink daily – down from 9% in 20075.

Overall consumption has fallen dramatically and, among Australians who drink beer, there has been a seismic shift towards lower alcohol products.

In fact, Australia is a world-leader in this regard. The Australian beer sector has invested significantly in low- and mid-strength options to cater to increased consumer demand for greater choice in moderate consumption options, with these beers now accounting for one-quarter (24%) of all beer sold in Australia.6

Youth consumption trends

The draft National Alcohol Strategy makes specific reference to underage drinking, but does not take heed of the latest findings of the AIHW NDSHS, which demonstrate the dramatic modern, long-term decline in youth alcohol consumption in Australia:

<table>
<thead>
<tr>
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<th></th>
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<th></th>
</tr>
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<tbody>
<tr>
<td>Abstinence rates among 12-17 year olds</td>
<td>54.3%</td>
<td>56.5%</td>
<td>63.6%</td>
<td>72.3%</td>
<td>82%</td>
</tr>
<tr>
<td>Average age of first drink</td>
<td>14.7</td>
<td>14.9</td>
<td>15.2</td>
<td>15.7</td>
<td>16.1</td>
</tr>
<tr>
<td>Proportion of 12-17 year olds drinking at lifetime risky drinking patterns</td>
<td>6.4%</td>
<td>5.4%</td>
<td>4.2%</td>
<td>2.6%</td>
<td>1.3%</td>
</tr>
<tr>
<td>Proportion of 12-17 year olds at risk of drinking harm on a single occasion</td>
<td>17.2%</td>
<td>16.6%</td>
<td>14.1%</td>
<td>8.7%</td>
<td>5.4%</td>
</tr>
</tbody>
</table>


The drop in youth consumption trends is stark and speaks to the great strides forward on the part of governments, the health sector and alcohol industry, including DrinkWise, to effectively communicate the potential harms of alcohol to younger Australians.

The draft NAS is not evidence-based

Of the 64 footnotes in the draft National Alcohol Strategy, only 10 reference peer-reviewed studies. Of these 10 studies, only four have been published in the last five years.

Many of the reference points are overseas markets or global policy references that have limited application in the Australian context. The draft National Alcohol Strategy even cites media reports as evidence, without accompanying research to support the claims made.

Australia’s approach to alcohol policy must be informed by recent, credible and peer-reviewed evidence, with the goal to target alcohol misuse in Australia without unfairly affecting the majority of Australians who drink responsibly.

The Brewers Association has taken the opportunity to comprehensively review the evidence-base underpinning the draft National Alcohol Strategy. This in-depth analysis is detailed at Appendix A in this submission.

In this section, we examine some of the flaws in the draft National Alcohol Strategy.

Evidence on cultural and social issues

The draft National Alcohol Strategy claims that “Australia is regularly reported or casually referred to as having an ‘alcohol culture’ where not consuming alcohol can be viewed as being ‘unAustralian’”.

This assertion is based on three news articles from the Herald Sun, the ABC and news.com.au.

It is disconcerting that the tone of the draft National Alcohol Strategy is based on the opinion of the authors that Australians cannot be trusted to consume alcohol in moderation, despite significant evidence that Australians overwhelmingly consume alcohol sensibly.

Evidence on marketing and sponsorship

One of the key ‘harm minimisation’ planks of the draft National Alcohol Strategy is simply ‘reducing promotion’8. However, the evidence to support this is work developed for emerging markets in developing countries:

“Alcohol marketing may also have a substantial effect on alcohol consumption in lower and middle income countries, which have young populations, high rates of adult (and particularly female) abstinence, and emerging marketplaces for alcohol”9.

“The World Health Organization has identified that taxation, restricting availability and implementing bans on advertising are the most efficient strategies to minimise the harmful use of alcohol. They are highly cost-effective in reducing the alcohol-attributable deaths and disabilities at the population level.”

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7 See National Alcohol Strategy, p 7, footnotes 14 – 16.
8 National Alcohol Strategy, p 2, harm minimisation infographic.
The Babor study referenced in the draft National Alcohol Strategy is unduly critical of econometric studies while promoting a range of flawed and limited experimental studies.

Babor et al contains no original research. Instead, it is a review of existing research by a group of academics that tend to favour restrictive alcohol policy.

There is no reliable evidence in support of further restrictions on alcohol advertising. Babor et al's commentary does not represent an independent review of the available evidence. Such a review could be undertaken by a balanced Alcohol Reference Group.

The authors of the Babor study concede at regular intervals that the research base has significant limitations. Babor et al acknowledges that econometric studies have produced mixed results.

Babor et al also states: “Although bans on some aspects of advertising are not uncommon, there is a limited amount of evaluation research on their effectiveness,” before going on to acknowledge that studies found the lifting of advertising bans in Manitoba and British Columbia had no negative effect.

The Babor study claims “the use of expenditure on alcohol advertising as a proxy for exposure has been critiqued on a number of grounds. Expenditure on the measured media (usually broadcast and print) is known to have been an underestimation of the marketing effort even prior to the development of the new marketing techniques.”

National measured media statistics have historically very strongly correlated with overall marketing spend. Even now with the fragmentation of marketing platforms, measures of traditional media across the whole market would be a reliable proxy for trends in marketing spend as marketers generally run balanced marketing campaigns executed across multiple touch points contemporaneously.

With respect to underage drinking, Babor et al highlighted conflicting evidence that:

“The extent to which effective restrictions would reduce consumption and related harm in younger age groups must remain somewhat of an open question. The most probable scenario, based on the theoretical and empirical evidence available, is that extensive restriction of marketing would have an impact.”

And:

“The longitudinal studies have been subjected to systematic reviews. The strength of the association, the consistency of the findings, the temporal relationship, the dose-response relationship and the theoretical plausibility of the effect have led to the conclusion that alcohol advertising increases the likelihood that young people will start to use alcohol and will drink more if they are already using alcohol (Jernigan 2006; Smith and Foxcroft 2009; Anderson et al. 2009).”

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10 Babor et al; Alcohol: No Ordinary Commodity (2010, page 242).
11 Babor et al; Alcohol: No Ordinary Commodity (2010, page 233) referencing (Stewart and Rice, 1995).
13 Babor et al; Alcohol: No Ordinary Commodity (2010, page 244).
14 Jernigan D.H. The extent of global alcohol marketing and its impact on youth.
Anderson et al reviewed 13 studies and found that “twelve of the thirteen studies concluded an impact of exposure on subsequent alcohol use, including initiation of drinking and heavier drinking amongst existing drinkers”.

Smith and Foxcroft reviewed a similar body of literature and said that “the effect of alcohol portrayals and advertising on the drinking behaviour of young people is a matter of much debate” and claimed to have found a modest relationship between exposure to marketing and drinking among young people with variation in effect between individual studies.

The authors highlight that all reviewed studies “fall short of the current [methodological] recommendations as set out in the STROBE statement”\(^\text{17}\).

The study concludes with the question:

“Does this systematic review provide evidence that limiting alcohol advertising will have an impact on alcohol consumption amongst young people? Not directly: (...) we cannot rule out that the effects demonstrated in these studies are due to residual confounding”.

Most importantly, Nelson reviewed a body of literature almost identical to the one reviewed by Anderson et al. and Smith & Foxcroft. He concluded that a “brief review demonstrates that the evidence on alcohol advertising and youth is mixed, contradictory and inconclusive”. Although “studies present a conflicting set of results [...] they are cited in an uncritical manner”\(^\text{18}\).

In a 2010 comprehensive review of all the literature – not only the longitudinal studies – Nelson found evidence of a “selection bias in the interpretation and use of results by researchers and health policy interest groups [...]”. A main conclusion of Nelson’s meta-analysis is that “the effect of alcohol marketing on adolescent drinking is modest, but the evidence indicates that it may not exist at all for mass media and other exposures”\(^\text{19}\).

Some studies have used self-report questionnaires and followed young people over a number of years in an attempt to determine the effect of advertising on subsequent misuse. These studies often claim to have attempted to strip out confounding factors but the fact remains, even if you accept the accuracy of their results, they are unable to adequately separate correlation and causation. Even the authors of one of the most recent such studies confess that “causality cannot be verified.”\(^\text{20}\).

There is a wide range of studies seeking to do little more than prove adolescents are to some degree exposed to alcohol marketing. Exposure is not evidence of harm or even potential harm. Most evidence finds that the key determinants of underage drinking are parental and peer behaviour, rather than advertising and sponsorship.

\(^{17}\) The STROBE statement is a standard of research aiming at strengthening the reporting of observational studies in epidemiology. It consists of a series of check-lists for each type of research. www.strobe-statement.org/.


Evidence on price

The draft National Alcohol Strategy explicitly identifies “considering pricing and taxation reforms” as being a key part of their “harm minimisation” strategy\(^{21}\).

A number of Australian and international reports suggest raising the price of the cheapest forms of alcohol by setting a minimum floor price will have a significant impact on risky drinking.

The World Health Organization has identified that taxation, restricting availability and implementing bans on advertising are the most efficient strategies to minimise the harmful use of alcohol. They are highly cost-effective in reducing the alcohol-attributable deaths and disabilities at the population level.

In the paper cited in the Consultation draft, the WHO says: “A large body of literature has found raising the price of alcohol to be effective in reducing harmful use of alcohol among drinkers in general as well as among youth; the same literature has documented that as the price of alcohol increases, alcohol-attributable morbidity and mortality decline” (Wagenaar et al., 2009; 2010; Elder et al., 2010).

Wagenaar’s study combining a large range in international research suggests heavy drinkers respond to a 10% price increase by reducing consumption by 2.8% and as Byrnes et al show, this mostly comes from reducing drinking on low-drinking days and it would appear that they continue to drink excessively, for instance at the weekends.\(^{22}\)

An Australian study released in 2013 based on the Australian National Drug Strategy Household Surveys (NDSHS), conducted in 2001, 2004 and 2007, comprising a total of 79,545 respondents along with real alcohol prices compiled by Euromonitor International concluded:\(^{23}\)

“These results suggest that in response to price increases, Australian drinkers achieved an average reduction in their overall level of alcohol consumption mostly by increasing the number of occasions on which they do not drink at all and by decreasing the number of occasions of low-intensity drinking, rather than by significantly reducing their frequency of moderate- and high-intensity drinking”.

“Heavier and more frequent drinkers appear to be relatively less sensitive to changes in price.”

Even Babor et al concedes that there is limited evidence to support the idea that heavy drinkers are influenced by price:

“The extent to which adult heavy drinking and problematic drinkers are responsive to changes in alcohol prices has been the subject of a relatively small number of studies.”

Babor et al comments in terms of Fogarty (2006), Gallet (2007) and Wagenaar (2009b) that:

“All three reviews find similar results: alcohol demand is price responsive, inelastic and varies between beverage categories.”

\(^{21}\) National Alcohol Strategy, p 2, harm minimisation diagram.

\(^{22}\) Wagenaar 2009b.

\(^{23}\) Byrnes, Shakeshaft, Petrie and Doran; Can harms associated with high-intensity drinking be reduced by increasing the price of alcohol? Drug and Alcohol Review (January 2013), 32, 27-30.
“The overall similarities in the results presented in the reviews conceal substantial variation between the results of the underlying studies, with considerable deviation in own-price elasticities both between countries and over time.”

“Fogarty (2006) focused on variation across countries, finding no specific country effects – instead demonstrating that elasticity is related to market share. In other words, in a society in which beer is the dominant alcoholic beverage, beer will be relatively inelastic, while wine and spirits will be less inelastic. This finding, combined with the fact that the majority of studies of alcohol price elasticity have come from beer drinking countries, may explain the consistently lower price elasticity of beer found in the reviews discussed above.”

“This suggests that the dominant beverage in each culture is treated more as a basic dietary requirement like bread and is thus less responsive to changes in price than other beverages, which are treated more as luxuries or beverages not belonging to everyday diet.” (Österberg 1995, Leppänen et al 2001)

Both Fogarty and Gallet suggest alcohol has become less price elastic in recent years. Babor et al suggests that “this trend could reflect increasing affluence, although it has also been suggested that elasticity may be lower when per capita consumption is higher.” (Holder and Edwards 1995).

Australia is a relatively affluent nation and, therefore, price interventions, if effective anywhere else, are highly unlikely to be effective in Australia.

Babor et al says that “Only a few studies have studied the effects of abrupt changes in alcohol prices”. It then reports a range of mixed, unreliable and inconclusive results.

For instance, in respect of Mäkelä et al (2008) and Mäkelä and Österberg (2009) both of which present a summary of the impacts of alcohol tax decreases (along with increased traveller’s allowances) in Denmark and Finland suggest that:

“Analysis of individual-level data from a panel study found no detectable increase in consumption in either Finland or Denmark following the tax changes. According to aggregate level estimates, spirits consumption increased in Denmark, but overall consumption fell. In Finland total alcohol consumption increased by 10% Mäkelä and Österberg (2009).”

And:

“The considerable variation in elasticity values, including some instances where changes in taxes apparently had little or no effect, provides a caution that predictions of effects based on past studies are always conditioned on ceteris paribus: other things being equal”.

“Structural and cultural changes in a society are among the other factors which could influence the effect of a change in taxes on consumption. Variation in elasticity between countries is highly influenced by the cultural role of alcohol within societies, with cultures in which alcohol is more of a luxury likely to see larger price effects on consumption than cultures where alcohol is more an everyday product.” (Room et al 2009).

It seems much more likely that misusers in any community are price inelastic.

Babor et al states that:
“There has been little research into how price changes affect the amount of alcohol consumed on- and off-premises, although it has been shown that on-premises consumption is substantially less price-responsive than off-premises consumption and that there is significant substitution between the two.” (Huang 2003).

The promotion of measures to reduce overall consumption rather than target misuse is founded on a concept commonly referred to as the ‘prevention paradox’. This is an idea imported from a disease control model carrying a number of fatal limitations when applied to alcohol.

The ‘prevention paradox’ describes the seemingly contradictory situation where the majority of cases of a disease come from a population at low or moderate risk of that disease, and only a minority of cases come from the high-risk population (of the same disease). This is because the number of people at high risk is relatively small.

Translated to alcohol the theory goes that while the 10% of heaviest drinkers are at the highest risk of harm individually, more harm overall can be found among the 90% of normally moderate drinkers because of the greater scale of the sample despite the lower per capita risk.

The problems inherent in importing a disease control concept are clearly manifest. In the disease context, you either have malaria or you do not. There is no safe or beneficial level of malaria infection.

There are many drinkers who have a relatively high annualised per capita consumption level but a healthy drinking pattern. Equally, a large cohort of drinkers have a relatively low annualised per capita consumption level but binge at the weekends are at a high risk of harm.

When data on levels of harm are organized by patterns of consumption rather than per capita levels of consumption, we find that the majority of harm does in fact fall among the small minority of irresponsible drinkers – disproving the ‘prevention paradox’ when applied to alcohol and the Ledermann curve upon which it is based.

Dr Eric Crampton recently looked at the relationship between drinking patterns in various nations with the restrictiveness of their licensing and taxation approach.

As noted above, price and taxation are relevant because one of the key arguments on density (despite the fact studies don’t tend to show a correlation between density and consumption levels) seems to be that competition between outlets will drive down prices and increase consumption.

Crampton was commenting on some material from Alcohol Action NZ highlighting nations that have recently imposed various restrictions on availability (including price, density and licensing hours) or marketing or have resisted calls to do so. Interestingly, a number of these nations have traditionally pursued restrictive licensing practices with a couple of exceptions.

Crampton says:

“Ok. So Scotland, Finland, the US, Ireland, South Africa, France, Australia, Sweden, Norway, Poland and Japan are singled out as being super-awesome by anti-alcohol

http://offsettingbehaviour.blogspot.co.nz
campaigners.

“Let's check some outcomes.

“First, let's look at age-standardised prevalence of alcohol use disorders. The WHO puts New Zealand at 3.4% prevalence, lower than all countries in the Western Pacific Region other than Brunei (1.7%), Japan (3.3%), Malaysia (2.3%), and Singapore (0.9%). Were New Zealand in Europe, we'd be much lower than average: we're lower than any European country other than Italy (1.2%), Malta (3.2%), Netherlands (1.3%), Romania (2.6%), Spain (1.4%), Tajikistan (0.8%), and Turkey (2.6%).

“And how about those super-great campaigner countries? France (6.0%), Finland (7.7%), Ireland (7.3%), Sweden (9.9%), Norway (8.7%), Poland (8.7%), and Scotland (UK is 12.1%, no separate Scottish figure) all have worse rates of alcohol use disorders. Similarly, the USA (7.8%) and South Africa (5.4%) are worse than NZ. Only Japan (3.3%) is slightly below the NZ rate. If we fully replicated the experience of those countries with policies lauded by Alcohol Action NZ, we'd have worse rates of alcohol use disorders.

“Ok, maybe our problem isn't with alcohol use disorders. It's that nasty binge drinking. Let's look at the prevalence of heavy episodic drinking in the WHO figures. The table at page 312 of the appendix puts NZ at 4.3%. Why is this lower than the 4.5% listed above? Because it's age-standardised: some differences in drinking across countries depend on demographic differences. Let's again compare NZ with our neighbours, with Europe, and with those countries whose policies are lauded by Alcohol Action NZ.

“In the Western Pacific Region, Brunei (0.5%), Cambodia (1.2%), Kiribati (2.4%), Malaysia (0.3), the Philippines (1.6%), Singapore (4.2%) and Vietnam (1.3%) have lower rates; 13 countries including Australia, China, and Japan (18.4%!!) have higher rates.

In Europe, Turkey (0.2%), Tajikistan (1.0%), and Andorra (4.2%) have lower rates. Every single other country in Europe has higher rates of heavy episodic drinking. Every single one.

“Among those countries lauded by Alcohol Action, France (29.8%), Finland (35.9%), Ireland (36.5%), Sweden (24.3%), Norway (12.6%), Poland (5.4%), Scotland (UK figure of 27.1%), the USA (16.2%), South Africa (9.8%), and Japan (18.4%) ALL have higher rates of heavy episodic drinking. Every one of them.

“If we look at the WHO figures, it is utterly, utterly absurd to claim that New Zealand is some kind of binge drinking outlier. The Ministry of Health uses a different standard for potentially hazardous drinking and have higher figures; they also report that rates of hazardous drinking are declining, and especially among younger cohorts. MoH puts hazardous drinking rates at 19% of drinkers, with 80% of the population being drinkers. So 15.2% of the overall population. Even if we use that figure instead of the WHO one on heavy episodic drinking, we still get a lower rate than most of the countries lauded by Alcohol Action”.

While Crampton’s is not an exhaustive account and due to the complexity of drinking cultures one could always argue about specifics, the reality is that many nations with highly restrictive alcohol control regimes experience among the highest levels of misuse.

A similar picture is seen when we compare the prevalence of control policies
internationally with the rate of heavy episodic student drinking:

The arguments by some campaigners that the science supporting ‘control of consumption measures’ is established are, therefore, erroneous. While there is no doubt alcohol misuse places pressure on the health system and that needs to be tackled as effectively as possible, efforts to reduce consumption population-wide are likely to be misguided.

**Alcohol: No Ordinary Commodity highlights**

Despite claims coming from some commentators that there should be a flat rate volumetric tax on alcohol with all standard drinks taxed at the same rate, Babor et al, which is heavily relied upon by the draft National Alcohol Strategy authors, states that it is common internationally to discriminate:

“In many countries, alcohol taxation systems incorporate varying tax rates for different beverage categories. Usually this entails higher tax rates per litre of alcohol for distilled spirits than for wine or beer, reflecting particular concerns relating to spirits consumption but also the fact that production and distribution costs per centiliter of alcohol are lower for distilled spirits than for wine and beer. Therefore, similar excise duty rated for distilled spirits, beer, and wine would mean that one litre of alcohol would be sold cheaper in the form of distilled spirits than in the form of wine or beer”.

“Similarly, a number of countries have imposed special taxes on ‘alcopops’ (premixed sweetened beverages) following concerns about their popularity with young drinkers”.

And:

“Governments have often used differential taxation as a means to favour one beverage type over another. The most common differentiation have been a higher tax rate per unit of alcohol for strong spirits drinks. Such a differentiation contributed to all of the

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25 Alcohol: No Ordinary Commodity, Babor et al, 8.4.
Nordic countries eventually changing from spirits-drinking to beer-drinking countries in the course of the twentieth century – a change which is viewed in present-day Russia, for instance, as desirable from a public health perspective” (Treisman 2008).

In terms of minimum pricing, Babor et al states that:

“Although minimum pricing (or floor pricing) has been implemented in some jurisdictions (e.g. see Giesbrecht et al 2006 for a discussion on floor pricing in Quebec and Ontario), there has been almost no research into its impact on consumption or harm.”

Evidence on availability

Studies relied upon in the draft National Alcohol Strategy:

- There is a large body of research, mostly from Australia, New Zealand, the United States and Scandinavian countries where substantial alcohol deregulation has occurred, highlighting that increasing alcohol availability has resulted in increased risky drinking, assault rates, child maltreatment, drink-driving, car crashes and hospital admissions. (Freisther et al 2008), (Scribner et al 1994), (Guria et al 2003), (Kypri et al 2006) and (Chikritzhs and Stockwell, 2006).

- The World Health Organisation has identified that taxation, restricting availability and implementing bans on advertising are the most efficient strategies to minimise the harmful use of alcohol. They are highly cost-effective in reducing the alcohol-attributable deaths and disabilities at the population level. In respect of availability the WHO relies upon (Campbell et al., 2009), Hahn et al., 2010; Middleton et al., 2010).

License density

While proponents of greater licensing restrictions try to present the case for reducing or limiting the number of licenses in an area as an open and shut case, there is no compelling evidence that density has any impact on overall alcohol misuse levels or harm.

Indeed, a recent report by the New Zealand Law Commission acknowledged the flimsy evidence-base, saying:

“It must be acknowledged, however, that the studies on outlet density and neighbourhood-level alcohol consumption have shown mixed results.”

Further, many of the studies quoted by activists do themselves acknowledge the weakness of the evidence base. For instance Cameron et al comments that:

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“The international academic literature provides mixed results for the relationship between liquor outlet density and a range of outcome variables. There are studies showing that liquor outlet density has significant positive effects … However other studies show no statistically significant effects, or even significant negative effects. The wide range of results and methodologies employed makes it difficult to arrive at general conclusions about the relationship between outlet density and outcome variables. Further, it is likely that these relationships are highly context specific, as well as varying temporally, spatially and by the type of outlet considered”.

And:

“Considering all potential explanations for the effect of alcohol outlets on social harm, many studies adopt an ecological approach, i.e. they focus on environmental factors (one of which is alcohol outlet density) as an explanation of alcohol-related harm (Gruenewald et al., 2002). One potential problem with ecological studies is that they do not adequately separate the effect of liquor outlet density from other effects.

“For instance, neighbourhoods with high levels of alcohol consumption (and consequent levels of alcohol-related harm) will naturally attract liquor stores looking to profit from local demand for alcohol. This will tend to mask the true effect of liquor outlet density on alcohol-related harm, because high levels of alcohol-related harm would be present even without increased liquor outlet density. In other words, ecological studies cannot adequately explain why there may be an observed relationship between liquor outlet density and the outcome variable.”

The most often quoted paper in support of additional controls is Babor et al’s No Ordinary Commodity (NOC). Babor et al describe the object of availability limitation policies as to “reduce overall drinking in the population and thus drinking-related problems … when alcohol is readily available through commercial or social sources, consumption and associated problems increase … Conversely, when restrictions are placed on availability, alcohol use and associated problems reduce”.

License control policy is “based on the assumption that reductions in supply increase the full costs of alcohol and thereby reduce alcohol consumption (Chaloupka et al 2002). That is, as alcohol availability decreases, convenience costs to the consumer increase and vice versa. Thus physical availability has the potential to influence the consumer’s demand for alcoholic beverages as well as the supply”.

However, this line of argument is undermined by the fact that the majority of studies have not identified a relationship between license density and levels of drinking. Clearly, the lack of connection between outlet density and consumption suggests the causes of violence and anti-social behavior are somewhat more complex than alcohol consumption.

The lack of relationship is likely to be because all those who wish to drink, and particularly problem drinkers, are highly unlikely to be deterred by additional travel to the nearest outlet. Further, despite arguments of activists to the contrary, there is little evidence to suggest that outlet density inherently causes price competition.

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There is also a counter argument to suggest that fewer larger outlets – the inevitable result of a lower number of licenses – could have higher bargaining power versus suppliers and be able to pass on lower prices to consumers.

Moreover, the existence of a causal link between alcohol consumption and anti-social and violent behavior at an individual level is a subject of significant academic debate. Clearly, the vast majority of people will never become violent or behave in an anti-social manner regardless of their level of intoxication.

Evidence suggests that alcohol can be used as a socially sanctioned ‘license to transgress’ by individuals with a predisposition to anti-social and violent behaviour as opposed to removing the individual’s ability to control their behaviour or causing otherwise responsible people to behave entirely out of character.\(^{29}\)

Lipsey et al\(^{30}\) conducted a meta-analysis of a wide range of studies across the full range of research methodologies and concluded that:

“The research base relevant to the question of the causal role of alcohol consumption in violent behavior, despite its overall volume, is very unsatisfactory. It is permeated by problems of inadequate experimental and statistical control, questionable generalizability to socially important forms of violence, limited attention to individual differences and moderator variables, weak conceptualizations of the issue, and capricious operationalizations of the key variables. As a result, the causal issue is still cloudy and uncertain”

And:

“While a causal influence of alcohol consumption on violence cannot be ruled out with present evidence, it seems apparent that there is no broad, reliable, ‘main effect’ of alcohol on violence, analogous to the easily demonstrated and almost ubiquitous effects on motor and cognitive functioning that occur at sufficient doses. If alcohol has any causal effects on violence, they almost certainly occur only for some persons and/or some circumstances. The most important research question regarding the alcohol–violence relationship, therefore, is not one of global causal influence. Rather, it is the more focused question of what individual differences, moderator, and situational variables characterize circumstances in which alcohol might potentiate violent behaviour.”

This evidence would tend to support interventions targeted at the underlying drivers of behaviour for the hardcore of anti-social and violent individuals, rather than population-wide availability interventions designed to reduce levels of alcohol consumption across the population.

In searching for an explanation, Babor et al acknowledge the “precise mechanisms behind this relationship is unclear” but goes onto quote ‘routine activities theory’ which suggests that outlets bring together more people “who can fulfil the roles of both victim and aggressor which increases overall levels of violence”.

\(^{29}\) Dr Anne Fox (2008) Sociocultural Factors that Foster or Inhibit Alcohol-related violence, Alcohol and Violence: Exploring Patterns and Responses.

While no-one would disagree that more violent people in an area would be likely to cause more violence, the suggestion that there is some kind of ‘multiplier effect’ is highly speculative and not supported by evidence.

Any reasonable observer would suggest the most plausible explanation for the lack of correlation between density and consumption is that density alone is not a driver of misuse.

**Correlation is not cause**

Most studies seek to do little more that prove that in places where there are more venues and outlets, there are higher levels of incidents.\(^{31}\)

Such research tells us very little. It confuses correlation with cause.

Obviously, there are more licensed outlets and venues in higher density areas to service the larger populations who live there. They tend to trade longer to service the critical mass of people with different lifestyles and occupations. Clearly it does not follow, therefore, to simply rely on data that correlates outlet density or trading hours with harms and to suggest a causal relationship.

These limitations suggest that cross-sectional studies which prove little more than there are more assaults in more populous areas should be set aside in the debate on licensing policy. Indeed, the decision to use some of this research in Babor et al reflects the overall weakness of the evidence-base.

Even so, the results from these surveys are inconsistent. In a number of cases, additional outlets of certain types (for instance bars) are actually correlated with lower harm.\(^{32}\)

Pollack et al found no relationship between outlet density and alcohol consumption tended to be greater in higher socio-economic neighbourhoods even though more liquor outlets were concentrated in lower socio-economic areas.\(^{33}\)

Some have used this research to argue that there is a causal relationship between density and harms, but it is just very different across different localities and therefore local regions will need to take a different approach to deal with it.

While it makes perfect sense for local authorities to manage licensing to create the kind of culture their constituents wish to live in, policy-makers should be aware that the most likely explanation for the broad range of results is that the number of licenses is not the driver of local harms.


\(^{33}\) C E Pollack, C Cubbin, C Ahn and M Winkleby “Neighbourhood deprivation and alcohol consumption: Does the availability of alcohol play a role?” (2005) 34 International Journal of Epidemiology 772.
The real underlying drivers of the amount of violence and anti-social behaviour in an area are likely to be population density (the bigger the place the more violent people), demographic socio-cultural factors, including potentially the level of local deprivation, mental health standards and family and parenting dysfunction.

Some might argue that because there are more people and, therefore, more violent and anti-social people in higher density areas, alcohol supply should be minimised to ensure it cannot exacerbate the issues. There is no evidence to support this approach and there are a number of problems with this line of argument.

- First, the vast majority of studies show no relationship between consumption levels in an area and harm.
- Second, problem drinkers tend to source alcohol regardless of price and license density – travelling a little further to the nearest venue or outlet is no deterrent to the determined drinker.
- Third, those anti-social or violent people that intend to drink to intoxication do so whatever the opening hours applied in the on-premise environment – they simply change the time they start drinking or drink more quickly within constrained timeframes.
- Fourth, as outlined below, the development of informal supply sources is a likely result of a significant reduction in formal sources.
- Fifth, a larger number of well-designed venues with a high responsible service of alcohol ethos is likely to play a role in limiting harm.

**Evidence from “natural experiments” and longitudinal studies is also unconvincing**

There are a very small number of studies that seek to measure the effects of a change in policy or correlate changes in license density with harms over time.

Despite the arguments made in NOC, there have been very mixed results from such “natural experiments” and longitudinal data studies and it is simply incorrect to suggest that they provide reliable evidence of a link between outlet density and harm.

One of the challenges in analysing real world policy changes is that there is no means to adjust results for other policy initiatives implemented at the time of change and throughout the research period.

Such changes are rarely introduced in a vacuum and tend to reflect a broader suite of policy and attitude changes at the time of implementation. Further, in respect of longer time series analysis, a range of broader cultural and socio-economic changes and influences are at play.

Nations, cities and suburbs change – they urbanise, gentrify, increase in population density – and this affects the number of outlets, age profile and socio-cultural

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background of the people who live or socialize there etc.

Other changes occur in social attitudes, law, policing policy, statistics collection and social changes like the breakdown of traditional family structures. There is no way to effectively control for these variables and in the very small number of longer-term studies its clear these factors are at play.

Again, these studies fail to deal with the fact that outlets service demand rather than cause it. If an area urbanises and population density increases, this will result in greater demand for venues and outlets. It is also plausible that increased density will correlate with higher levels of violence and anti-social behaviour.

Changes in the nature of an area as an entertainment or retail destination over time may have the effect of attracting people away from other areas to the area.

**Nations with highly restrictive alcohol laws are among those reporting the highest levels of harm**

Dr Eric Crampton recently looked at the relationship between drinking patterns in various nations with the restrictiveness of their licensing and taxation approach as outlined above.

Price and taxation are relevant because one of the key arguments on density (despite the fact studies don’t tend to show a correlation between density and consumption levels) seems to be that competition between outlets will drive down prices and increase consumption.

While Crampton’s is not an exhaustive account and due to the complexity of drinking cultures one could always argue about specifics, the reality is that many nations with highly restrictive licensing regimes experience among the highest levels of misuse.

Policy-makers should ask themselves how this could be if density and trading hours are major drivers of misuse?

There are other practical examples of relevance to Australia. In a nation with many cultural similarities to large parts of the Australian population, the United Kingdom, for many years employed restrictive trading hours that allowed very limited late night trading. These were accompanied by very high-level binge drinking in advance of 11pm last drinks restrictions and were relaxed as a consequence in the last decade.

While, clearly, any level of misuse or anti-social behavior is undesirable and reasonable steps should be put in place to tackle it, it is simply inaccurate to suggest that current Australian regulation is not working well when compared to international comparisons. While misuse is a function of culture, the fact many of the nations which apply the most restrictive licensing arrangements also experience very high levels of harm compared to Australia should demonstrate to policy-makers that licensing restrictions are no silver bullet.

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35 [http://offsettingbehaviour.blogspot.co.nz](http://offsettingbehaviour.blogspot.co.nz)
No relationship between density and underage misuse

There is little compelling evidence to suggest that ‘exposure’ to alcohol marketing outside stores or venues is in any way a driver of underage drinking.

Studies are included in Babor et al which prove little more than areas with higher outlet density are populated by a higher number of youth and young adult misusers. Clearly, more venues equal more people, which means more younger people as a proportion of the total local population. This does not prove that the density causes the underage drinking or young adults to drink excessively. It simply proves there are more people of all ages in high-density areas and that venues tend to be in higher density areas.

One of the common refrains is that ‘exposure to’ alcohol venues, stores and advertising ‘normalises’ alcohol consumption for young people. This line of argument should be dismissed as a distraction. Young people are exposed from birth to a range of powerful immediate influences, most importantly their parent and family role modelling behaviours.

They attend all aged social and community events. They are exposed to non-paid media and the arts. As they approach the legal drinking age, they are influenced by elder siblings, their siblings’ peers and, of course, their own peers.

Intuitively, the mere sight of stores, pubs and restaurants in the street could never play a particularly powerful role in the context of this powerful socio-cultural complex.

International research indicates that by far the major influences on underage drinking are deep-seated cultural factors, most notably, peer group norms, parental drinking behaviour and their ability to access alcohol, which is quite a different matter to them simply seeing stores or pubs as they roam the streets and is largely addressed by effective enforcement of the purchase age.

Clearly, this reinforces what we intuitively know – that socio-cultural factors drive underage drinking.

Donovan’s review of the risk factors for adolescent alcohol initiation concluded that “the most consistent antecedent risk factors for starting to drink in adolescence were parental and peer approval and models for drinking”.36

Evidence from overseas jurisdictions where partial or complete advertising bans have been implemented demonstrates no impact on consumption or alcohol related harm. Virtually all econometric, cross-sectional, and case studies on advertising restrictions have found that marketing has no or very modest effects on alcohol consumption.37

Any belief we can cosset our young people from the real world is at best unrealistic and more likely counter-productive.

Parents need to be trusted to parent and help young people interpret the various cultural signals. As well, parents need to be encouraged to role model and, therefore, normalise moderate and responsible consumption with their children.

Unintended consequences

In changing the licensing rules, there is evidence to suggest that all we achieve is to displace violent and anti-social individuals to other locations, including the home or grow the number of patrons attending a smaller number of licenses.

For instance, in NSW across 2007 and 2008 a range of factors, including the economic slowdown and smoking legislation appear to have caused a significant shift from on-premise drinking to drinking in domestic situations.

This would appear to have shifted the location of violent acts from public places to the home.\footnote{Homel and Clark, (1994); Graham et al. (1980).}

With respect to on-premise licences, given the evidence suggests that consumption levels are unrelated to density, it is reasonable to believe that more people would pack into fewer venues in the event the number of licenses was reduced.

There are studies that suggest increased patronage for venues may have led to greater levels of crowding that may in turn lead to increased levels of violence, not only within the venue but also in the immediate vicinity where patrons queue for limited transport services. Several studies have identified that one of the major situational factors that contributes to patron frustration and aggression in licensed environments is overcrowding.\footnote{BOSCAR, NSW, Australia.}

There is also a school of thought that suggests policing is easier if venues are closer together as opposed to highly dispersed. This is supported by the experience in Christchurch, New Zealand, following the 2011 earthquake and the subsequent shutdown of the central city bars and nightclubs when complaints about noisy parties in suburban areas nearly tripled. The Christchurch City Council received more than 15,000 noise complaints in the year to June 2012.

Christchurch City Council’s inspections and enforcement officer, Gary Lennan says during that period, the number of complaints for parties also significantly increased,
with almost all coming from residential areas: “Party and band noise seem to be leading these increases and it is thought that the quakes have influenced this by reducing the number of official venues and bars, causing more celebrations to occur at private homes.”

Further, good venue operators are committed to being a positive influence in the local community and more likely to reduce issues than add to them. It is likely that the addition of a good licensee will reduce rather than add to harm.

**Outlet density – conclusion**

With respect to both on- and off-premise licenses, the argument of the anti-alcohol campaigners would appear to be that the average Australian has such poor impulse control that the mere sight or convenient proximity of a store or venue is likely to result in the start of a drinking session and that should they drink, they will cause harm to themselves or others.

In reality, as outlined above, drinking behaviour is driven by culture, family and environmental influences such as the quality of the drinking environment and who we are with as opposed to the immediate proximity of a store or venue.

People who wish to drink will drink. Regardless of the level of overall density, there will always be a reasonably proximate venue for those who wish to do so. Most on-licence drinkers plan ahead, select a venue to meet friends or maintain a regular ‘local’.

Off-licence drinkers are attracted to venues on the basis of convenience to home, travelling routes or the place they buy food or go out for dinner.

That the nearest option is no longer a few hundred metres down the road is unlikely to have a major impact beyond slightly inconveniencing responsible drinkers. Problem drinkers will inevitably source alcohol or find venues to consume regardless of trading hours or the number of licenses in an area. Misuse is caused by socio-cultural factors. Unless you tackle them, you risk simply shifting the problem. Indeed, problem drinking is largely unaffected by price, marketing and availability of alcohol.

**Hours and days of trade**

The research presented to support restrictions on trading hours is weak.

Babor et al acknowledge Scotland’s decision to deregulate in the 1970s produced “mixed results” and also say that other UK studies found no increase in chronic problems such as liver cirrhosis, alcohol dependence, total alcohol related deaths, alcohol pancreatic disease and hospital admissions. It seeks to explain this by saying that changes “would not be expected with only one hour increase in trading hours.” Clearly, hospital admissions would be likely to be correlated with violence, personal injury, drink driving and other forms of anti-social behaviour in the absence of any other changes affecting the data set.

Not mentioned by activists is research suggesting that longer drinking hours lead to

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40 Fairfax (2012) Rowdy parties move to suburbs.
41 Duffy and Plant 1986; Duffy and Pinot de Moira 1996.
lower consumption as people pace themselves and do not succumb to fast drinking within restrictive trading hours.\textsuperscript{42}

Other evidence suggests longer trading hours prevent the mass exit at a single time, enabling police to better control and patrol high-risk areas at high-risk times.\textsuperscript{43}

Marsh and Kibby looked at an effort to reduce street violence in the Netherlands with various localities allowing premises to determine their own trading hours, thereby staggering closing times and creating an environment where alcohol was continuously available. Police and authorities noted reductions in the levels of public disorder brought about by patrons moving between early and late trading venues.

With respect to the more recent UK move to 24 hour trading, a report produced for the UK Home Office\textsuperscript{44} compared the periods before and after the change and found a 1% rise in the overall number of violence, criminal damage and harassment incidents between 6pm and 6am in a data set which has a history of similar minor fluctuations.

Indeed, Babor et al reference another study, Hough and Hunter 2008,\textsuperscript{45} which found similar increases in nighttime incidents "yet concluded that expanded opening hours had little effect on crime".

Interestingly, Babor et al reference that there has been a “limited uptake of extended trading hours by licensed premises” despite the relaxation of the regime. This suggests it is not possible to simply create demand where it does not exist by creating new outlets.

However, having dismissed the UK evidence based on the fact it related only to a one-hour change, Babor et al do place significant emphasis on a range of Studies led by Chikritzhs and Stockwell that look at a one-hour change in licensing hours in Western Australia. These include the study by Chikritzhs and Stockwell referred to in the draft National Alcohol Strategy.\textsuperscript{46}

Indeed, activists in both Australia and New Zealand generally tend to point to work by Chikritzhs and Stockwell and also two Australian studies by Miller et al as evidence for restrictions in trading hours.

Chikritzhs and Stockwell looked at the extension of trading from midnight to 1am from 1993 until 1997 in a relatively small number of venues in Perth, Western Australia. Given the significant population increase during the period of the study, socio-cultural changes and a change in Police Commissioner toward the start of the study, there is cause to question whether the increase in assault statistics recorded in venues that decided to trade for an additional hour could have been caused by factors other than the one-hour change in licensing hours.

\textsuperscript{42} Raymond 1969.
\textsuperscript{43} Marsh and Kibby 1992.
\textsuperscript{44} Babb 2007.
\textsuperscript{45} The 2003 Licensing Act’s impact on crime and disorder: A evaluation. Criminology and Criminal Justice 8, 239-60.
\textsuperscript{46} Chikritzhs and Stockwell 2002, The impact of later trading hours for Australian public houses (hotels) on levels of violence; (2006) The impact of later trading hours for hotels on levels of impaired driver road crashes and driver breath alcohol levels, Addiction 101, 1254-64; (2007) The impact of later trading hours for hotels (public houses) on breath alcohol levels of apprehended impaired drivers.
Miller et al\textsuperscript{47} conducted two studies, one with the acronym DANTE and the other POINTED. The DANTE study is a five-year case study looking at the effectiveness or otherwise of various interventions in two smaller Australian cities – Newcastle and Geelong. The places were chosen because they were thought to be similar.

The POINTED study is a one-time data collection and statistical analysis across five Australian cities, including Geelong, Melbourne, Perth, Sydney and Wollongong. The study involved analysis of harm and crime statistics, short patron interviews and in some cases testing for blood alcohol concentration (BAC) and drug toxicity.

Both studies are focussed on the on-premise drinking environment and offer no insights whatsoever on the impact of off-license trading hours or license density.

The DANTE study is interpreted to suggest that March 2008 restrictions in Newcastle (often referred to as section 104 conditions) which included among other measures restrictions to 3.30am closing and 1.30am lock-outs and concluded they were likely to be the only measures to have caused a reduction in harm, apparently evidenced by a reduction in assaults and injury-related emergency room presentations during hours where drinking is common.

These conclusions are highly speculative. In reality, similar decreases in harm from around 2008 were seen across NSW as shown in the graph above. Miller et al failed to adequately consider major changes in Newcastle itself during the study period and also to look beyond Newcastle to understand the context for the Newcastle changes and take full account of a range of other factors including new smoking restrictions across NSW and the economic slowdown, which reduced on-premise drinking.

Geelong, which again was chosen because of its similarity exhibited much lower levels of harm at the beginning of the study reflecting years of voluntary action on behalf of local hoteliers in partnership with community and law enforcement stakeholders. There is strong cause to believe the ‘low hanging fruit’ may already have been picked in Geelong.

Further, there is evidence that in the early days of the s. 104 conditions in Newcastle little changed (it is widely accepted that the data remained unchanged for around 9 months), but subsequently hoteliers united in an attempt to deal with violence and anti-social behaviour and police increased bail checks on repeat offenders and these factors are therefore likely to have been the most significant influencers on the data not canvassed in DANTE.

An objective interpretation of the POINTED study suggests there is no relationship between the licensing regime and trading hours in place and the average level of intoxication of people in or around licensed premises. It provides no evidence whatsoever to suggest restricting trading hours or reducing the number of licenses will reduce harms.

In reality, there is nothing in this report that supports the proposition that licensing

\textsuperscript{47} NDLERF Patron Offending and Intoxication in Night-Time Entertainment Districts (POINTED) FINAL REPORT A/Prof Peter Miller et al Monograph Series No. 462013; Miller et al (2012) Dealing with alcohol-related harm and the night-time economy (DANTE), NDLERF Monograph no. 43, Deakin University.
regimes, opening hours or license density are drivers of misuse, injury, property
damage or aggressive behaviour.

The only sensible conclusion from this research would be that a combination of factors
are driving the individual drinking cultures in various cities in Australia, most
significantly socio-economic, weather and cultural factors. As the reports introduction
concedes, the sites differ substantially in terms of their demographics, cultural make-
up, the licensing regimes and their levels of enforcement.

Assuming the data is reliable, the main conclusion that can be drawn is that people will
find a way to drink the amount they wish to drink regardless of the licensing regime.

In terms of both opening hours and venue density, Melbourne is the most liberal
regime in Australia. The number of licences in Victoria rose from 4,000 in 1986 to
19,300 at the time of the survey. Despite this, respondents said they had been out on
average for broadly the same amount of time as respondents in Wollongong who
experienced the shortest trading hours.

At the time of survey (before the recent changes to the Sydney CBD drinking hours,
Sydney also had a large number of late trading venues and high license density. 
Mean BAC in Sydney was the lowest of the cities surveyed at 0.33, Melbourne
second lowest at 0.048 and Wollongong was broadly on par with Geelong and Perth
at 0.66. So, despite the most heavily restricted trading hours with most venues
closing around midnight, we see Wollongong record significantly higher BAC that the
least regulated environments.

The data suggests they simply start earlier and drink harder to get to their desired
level of drunkenness. Indeed Wollongong drinkers get drunker than Sydney and
Melbourne drinkers and as drunk as Geelong and Perth drinkers in slightly less time
in all probability because of the constrained licensing hours.

This phenomenon is further supported by time series data that suggests just under
45% of Wollongong drinkers had a BAC of greater than .10 at 12pm, second only to
Geelong at any point throughout the night.

Indeed, the researchers themselves concede that:

“While the trading hours are earlier in Wollongong, the patterns of intoxication are very
similar to those of other cities. They do occur earlier in the evening suggesting that
earlier trading hours may shift drinking cultures to the evening rather than late-
night/early morning economy”

In reality, there are significant differences in levels of intoxication at different times of
night in different places – most likely driven by a combination of culture, trading
regimes and socio-economic factors.

In Melbourne, despite it being the most de-regulated trading environment in Australia –
with the highest number of licenses and more 24-hour trading, we never see
proportions of .10 being higher than a peak of 30% at 2am and for the rest of the night
doesn't get above 25% and indeed declines most 2am and remains lower until 4pm.

Melbourne is the only Australian city to have been designated a Safe Community by
the WHO. Despite the proliferation of licenses and significant increase in the number of patrons on the City of Melbourne area, the number of offences committed has trended down over the last decade.

It’s also worth noting that the timing of the very small number of incidents witnessed by researchers was relatively early in the evening. Researchers themselves observed only 14 aggressive physical incidents in almost 900 hours of fieldwork and of those, none happened after 2am. Indeed, while again major questions exist on the statistical reliability of the sample, two occurred between 11pm and 12pm, nine between 12pm and 1am and three between 1am and 2am.

A theory not floated by the researchers is that there would be a large number of venues closing between 12pm and 1am in all the cities featured and a combination of large numbers of people leaving venues at the same time coupled with limited transport options and venue design limitations etc. may cause a concentration of incidents at that time.

This of course would be an argument for longer trading hours to spread out the timing of departures and minimise pressure on exits and transport infrastructure at peak times.

If communities really want to deal with anti-social behaviour, they must tackle the underlying causes

Evidence suggests that violence and anti-social behaviour in the night-time economy will be reduced by addressing the following:

- Repeat offenders with high levels of social dysfunction – these offenders need to be carefully managed to reduce the risk to the community.  
- Deprivation and low socio-economic circumstance is correlated with some forms of violence and anti-social behavior, although it is far from a perfect or entirely direct relationship. For instance Rutter et al’s extensive summary of the evidence on this matter concluded that: “… the weight of evidence suggests that social disadvantage and poverty are involved as distal factors in the causal processes that lead to anti-social behavior; however, insofar as the risks are environmentally mediated, the more proximal mechanisms involve the adverse patterns of parenting engendered by parental depression, which in turn derive from the family stresses involved in the broader adverse social situations. It is important to appreciate, however, that the finding that most of the effects of poverty are indirect does not negate its role in the causal chain. The National Youth Survey longitudinal analyses showed that relief of poverty

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48 Dr Anne Fox (2008) Sociocultural Factors that Foster or Inhibit Alcohol-related violence, Alcohol and Violence: Exploring Patterns and Responses
brought benefits in family functioning.” As this current paper demonstrates, great care should be taken in presuming that correlation equals cause. However, there would appear to be a case to further explore the relationship between inequality and deprivation, family stress, poor parenting, social dysfunction and levels of violence and anti-social behavior and considering how far local communities could reduce anti-social behavior by tackling these factors.

- Excessively macho cultures – much violence and anti-social behavior is caused by a combination of misguided displays of manliness in front of the peer group (for instance, the ‘you spilled my drink phenomenon’), a quest for status or control over another person (often among those who feel disempowered by other parts of their lives) and mistaken ideas of chivalry in defence of the honour of a woman or the like – this needs to be attacked through campaigns to change the social norms and stigmatise this kind of behaviour. Clear social rules of behaviour are needed along with real and strongly perceived social and punitive consequences for breaking them.  

- Licensing regimes that encourage and support good operators to thrive and to potentially acquire or open more outlets. Among other factors, such operators apply high standards of Responsible Service of Alcohol and design and present their venue well.

- Drinking environments should be designed with conflict reducing features and without ‘frustration factors’ like poor exits, toilets and transport options.

- Communities should seek to avoid placing a large number of patrons out onto the street at the same time with limited access to transport and amenities. There is a case for less specific closing restrictions which allow a staged departure over time, ensuring good quality public transport, decent public place licensing and careful management of local food outlets to minimize trouble spots outside the licensed environment.

- Consistent and fair application of Responsible Service of Alcohol can make a real difference.

- Stop allowing violent offenders to blame drinking and take full responsibility for their actions, including via the law.

The draft National Alcohol Strategy should be re-evaluated with an emphasis on gathering credible, up-to-date data to inform policy options that can actually address the underlying causes of alcohol harms and misuse.

50 Dr Anne Fox (2008) Sociocultural Factors that Foster or Inhibit Alcohol-related violence, Alcohol and Violence: Exploring Patterns and Responses.
51 Ibid.
Actions cited in the draft NAS

Contrary to the stated aim of:

“Targeting a 10% reduction in harmful alcohol consumption.

- alcohol consumption at levels that puts individuals at risk of injury from a single occasion of drinking, at least monthly.
- alcohol consumption at levels that puts individuals at risk of disease or injury over a lifetime.”

The draft National Alcohol Strategy proposes price rises, flat volumetric taxation, new health warnings on labels, restricted advertising and reduced access to, and availability of, alcohol. It also proposes to support communities to declare themselves as ‘dry’ communities and mandating the types of drinks that can be purchased after a set time.

Minimum floor price for all alcohol

If there is a minimum alcohol unit price of $1.50 (as proposed by the anti-alcohol lobby and recently recommended in a report to the Northern Territory Government) there will be a significant increase in the price of beer.

For example:

A 30-can carton of VB presently sells for $53.95 at Dan Murphy’s. The minimum price for that carton (at $1.50 per unit of alcohol) would be $65.24 (43.49 units x $1.50). This is an increase of more than $11.

A 24-can slab of VB presently sells for $46.95 at Dan Murphy’s. The minimum price for that carton (at $1.50 per unit of alcohol) would be $52.19 (34.79 units x $1.50). This is an increase of more than $5.

While the Brewers Association recognises that the Northern Territory faces unique circumstances in dealing with local social issues and is working with the Northern Territory Government on a practical, workable solution, those extreme circumstances are not replicated in others States and Territories across the country.

As the significant body of scientific evidence the Brewers Association has provided in this submission clearly indicates, simply increasing the cost of alcohol is unlikely to have any impact on those who misuse alcohol, however, will adversely affect the overwhelming majority of ordinary Australians who drink responsibly.

Overwhelmingly, the issue seeking to be addressed through minimum pricing is access to cheap, bulk, high-alcohol products. Typically, these products are less expensive than water and triple the alcohol content of full-strength beer.

Governments need to be careful in pursuing such an option. Not all alcohol products are equal and one size does not fit all.
Flat Volumetric Taxation

The draft National Alcohol Strategy fails to address the reality that a move to a single or flat volumetric tax on all alcohol is likely to have dangerous unintended consequences.

Such a regime favours predominantly imported spirits over Australian manufacturers, but also does not take into account the potential for harmful use of very high alcohol spirits.

With higher alcohol contents and often sweet flavour profiles, these products are preferred by young people and a dramatic drop in price will likely see perverse outcomes via fuelling a switch to these products with potentially damaging social consequences.

This would run counter to the Australian Government’s stated health objectives.

Australians already paying highest tax on beer

The draft National Alcohol Strategy makes no reference to the fact that Australians already pay the highest excise on beer in the world, in addition to a 10% GST. In 2015-16, taxes on beer drinkers alone netted the Australian Government almost $2.4 billion. A typical 24-carton of full-strength beer at 4.9% alcohol costs $47.99. Of that, $16.49 is excise, then add $4.36 in GST. The tax component is $20.85.

At almost half (43%) of the retail price the most expensive ingredient in beer, is tax.

Australia’s beer taxes consistently rank in the top tier globally. Further, the Australian Government automatically increases beer tax every six months. Consumers then pay 10% GST on top of that.

Reducing consumption overall

A key goal of under Priority 2 of the draft National Alcohol Strategy is to use “higher prices to decrease both alcohol consumption and alcohol-related harms”.

Firstly, this priority is in stark contrast to the stated aim of the draft National Alcohol Strategy to target “harmful alcohol consumption”.

Secondly, the scientific evidence cited in the draft National Alcohol Strategy to support this policy response has been discredited, however, the body of credible evidence provided in this submission shows such a policy to be flawed and potentially dangerous by misdiagnosing the real drivers of alcohol misuse.

Further, the population-wide premise under Priority 2 is erroneous in that it ignores that alcohol consumption in Australia has fallen, decade on decade, for more than 40 years – a 25% reduction since the mid-1970s.

Furthermore, according to the Australian Institute of Health and Welfare (AIHW) National Drug Strategy Household Survey (NDHS) just 6% of Australians drink daily – down from 9% in 2007.
Using the current official Guidelines, the number of Australians drinking at risk of greater harm over a lifetime when compared with abstinence is around 17%.

Around 26% of Australians aged 14+ exceeded the 2009 guidelines with respect to their lifetime risk of injury on a single occasion at least once in the last year.

All data sets suggest a significant decline in risky drinking in recent years and across all age groups.

As well as levels of misuse trending down over time, Australian drinking patterns are relatively responsible when compared to similar cultures.

While any level of excessive consumption is regrettable, WHO statistics suggest Australia sits at the lower end of the spectrum in terms of heavy episodic drinking (sometimes referred to as binge drinking) compared to culturally similar countries.

The WHO also rates Australia as relatively low risk (2 out of 5) in its patterns of drinking scores.

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52 WHO; Global Status Report on Alcohol and Health 2014; Patterns of consumption; % drinking 6+ standard drinks in a session in last 30 days; Data is from 2010.
As well as being a nation of responsible drinkers in global terms, underage drinking is also steeply declining in Australia. Those minors that do drink are doing so at less risky levels.

The number of Australian’s aged 12-17 abstaining from alcohol altogether has increased significantly – from 54.3% in 2004 to 82% in 2016.

The percentage of those aged 12-17 who drink at lifetime risky drinking levels against the 2009 Guidelines has reduced to 1.3%. The percentage drinking at risk of harm on a single occasion is down to 5.4%.

The average age of consumption of a first drink is now 16.1 years. This data includes all consumption, including under parental supervision.

Evidence indicates clear positive trends about the drinking of young adults, despite a focus on the behaviour of this group.

Less young adult drinkers are drinking at risk of harm over a lifetime and we are seeing significant reductions in excessive consumption. Among the 18-24 year old demographic lifetime risky drinking has reduced from 21.3% to 18.5% between 2013 and 2016.

In the 25-34 year old and 35-44 year old demographics a similar trend occurred.

All these improvements are seen across both men and women, although there was a slight uptake in females across the two age groups.

Despite the focus on underage and young adult consumption, the 40-49 year old demographic is now most likely to exceed the 2009 Guidelines on lifetime risk and males aged 44-54 and 55-64 are more likely than other demographics to breach those guidelines.

The rate of 'binge drinking' (defined as 11 or more standard drinks in a single session at least monthly), declined in the 18-24 demographic from 17.8% in 2013 to 15.3% in 2016, although that demographic remains most likely to drink to excess in a single session.

**Lifetime risky drinking risk – 2009 Guidelines (More than 2 standard drinks per day on average)**

![Graph showing lifetime risky drinking risk over 2007 to 2016](image)

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Overall consumption has fallen, and among Australians who are drinking, we’re seeing a greater shift towards lower alcohol products. The Australian beer sector has invested significantly in low- and mid-strength options to cater to increased consumer demand for greater choice in moderate consumption options, and these categories now account for 24% of all beer sold in Australia.

It is notable that these major improvements occurred over a period where alcohol advertising has increased in volume, and expanded its reach through digital and online media.

If there were a causative relationship between advertising and uptake, the findings from Australia’s most authoritative national alcohol surveys would be tracking in a very different direction.

**Bans on alcohol advertising and sports sponsorship**

The draft National Alcohol Strategy claims a “strong association between exposure to alcohol advertising and young people’s drinking”. This is demonstrably wrong.

The beer industry engages in advertising for the same reasons as any other product or service: to compete for consumers and, in the case of beer, to promote its products against its competitors.

In the 1960s beer was 75% of alcohol consumed in Australia – today not only has the total volume of alcohol consumed per capita declined, but beer’s share of that market has fallen to 39.9%.\(^5^4\)

The beer industry recognises that some people misuse its product, which is why it places so much value on marketing beer responsibly. Individually, and collectively through the Brewers Association, Australia’s biggest beer companies – CUB, Lion and Coopers – commit to the strict rules that govern alcohol advertising.

Effective regulation of advertising strikes a balance between adult consumers’ right to information, societal concern, and the ability of companies to advertise their products.

Furthermore, evidence shows bans have only a negligible, if any, effect on alcohol abuse and youth consumption. It is, however, evident that societal factors, such as parent, sibling and peer attitudes, are key drivers in young people’s attitudes to alcohol.

The evidence of 17 OECD countries\(^5^5\) where long-standing bans on alcohol advertising have been in place shows that bans did not result in:

- a reduction in the number of new drinkers,
- a reduction in alcohol consumption overall, or
- a reduction in rates of alcohol misuse.

Rather, economic and deep-seated cultural factors are more important determinants of national drinking patterns.

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\(^5^4\) Australian Bureau of Statistics, Apparent Consumption of Alcohol, 2015-16.

Australian research demonstrates that alcohol advertising is not a driver for uptake or drinking behaviour.

Instead, the predictors of frequent alcohol consumption among adolescents denotes drinking behaviours and attitudes of parents, friends and/or siblings.

Therefore, banning alcohol advertising is not effective in addressing the issues raised by the draft National Alcohol Strategy but, worse, that it would send the wrong message – namely by misdiagnosing the issues, this measure risks perpetuating societal problems by masking the real drivers of harmful drinking and anti-social behaviour.

The draft National Alcohol Strategy asserts that existing codes are “ineffective with over 94% of Australian students aged 12-17 reporting having seen alcohol advertising on TV and around half of all alcohol advertising being screened during children’s viewing times”.

But this ‘association’ with having seen advertising and young people amounts to no more than basic awareness. As the record of major declining trends in alcohol consumption by this age cohort demonstrates, this so-called association is null and void.

Over a long period of alcohol advertising increasing in volume, and reach across digital and online media, alcohol consumption among young people has fallen dramatically.

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</thead>
<tbody>
<tr>
<td>Abstinence rates among 12-17 year olds</td>
<td>54.3%</td>
<td>56.5%</td>
<td>63.6%</td>
<td>72.3%</td>
<td>82%</td>
</tr>
<tr>
<td>Average age of first drink</td>
<td>14.7</td>
<td>14.9</td>
<td>15.2</td>
<td>15.7</td>
<td>16.1</td>
</tr>
<tr>
<td>Proportion of 12-17 year olds drinking at lifetime risky drinking patterns</td>
<td>6.4%</td>
<td>5.4%</td>
<td>4.2%</td>
<td>2.6%</td>
<td>1.3%</td>
</tr>
<tr>
<td>Proportion of 12-17 year olds at risk of drinking harm on a single occasion</td>
<td>17.2%</td>
<td>16.6%</td>
<td>14.1%</td>
<td>8.7%</td>
<td>5.4%</td>
</tr>
</tbody>
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Norway prohibits alcohol advertising but consumption continues to increase in that nation’s population. Significant advertising restrictions in Iceland, Sweden, Russia and Switzerland have not reduced harm. This is in contrast to Italy, where alcohol advertising is permitted, yet per capita consumption is decreasing.
Case Study: New Zealand

In New Zealand, statistics have demonstrated no correlation between inflation-adjusted alcohol advertising expenditure and consumption levels.

Over the past 27 years, both NZ advertising expenditure and consumption have varied widely but independently of each other. For example, 1998 was the year of the highest marketing spend and also the lowest consumption. Over the period between 1987 to 2013, per capita consumption for New Zealanders aged 15+ has reduced by 9.8%.

Per capita consumption in New Zealand began a long period of decline from February 1992 while at the same time the previous de-facto ban on radio and television advertising was removed. Given that TV and radio continue to enjoy the broadest reach of any media, despite the media fragmentation that began in the mid-2000s, the example of New Zealand’s experience underlines the lack of any consistent relationship between levels of advertising and consumption levels.


Case Study: France

The Loi Evin bans alcohol advertisements on television and in cinemas, as well as sponsorship of sports and cultural events. There is strict control over content of messages and images, and mandatory inclusion in all advertisements of a message that alcohol abuse is dangerous to one's health.

French alcohol consumption per capita decreased from 18.46 litres in 1981 to 14.88 litres in 1991. Since Loi Evin was enacted in 1991 consumption has levelled off to 13.24 litres per capita. And despite Loi Evin the French consume more litres of alcohol per capita than in the UK (11.54).

Among young people, risky drinking, including heavy episodic drinking and repeat drunkenness, has increased considerably.

The Government’s official Evaluation Report in 1999 stated that:
- *Loi Evin* has been ‘ineffective’ in reducing high-risk drinking patterns
- A comparison of the respective evolution in consumption and ad spend in several countries leads to the conclusion that a link between the two ‘cannot be demonstrated’
- This absence of a link is also found by studies for several other countries including the Netherlands, Sweden, the UK, Germany, the US and Canada

Even the French anti-alcohol NGO ANPAA accepts that the effects of the law are ‘weak’. Nonetheless they advocate regulation along the lines of the *Loi Evin* on symbolic grounds.

Despite the advertising ban, rates of heavy episodic drinking by French youth (under 18) increased from 30% in 2003 to more than 40% in 2011 and are among the highest levels in Europe.


The claim is that sports sponsorship by alcohol companies must be banned because it targets youth and, therefore, correlates with underage drinking. However, the reality is quite different.

The claims in the draft National Alcohol Strategy that “exposure to children is a concern” and “is not addressed by current arrangements” are incorrect.

The facts belie such claims.

If this were true, in an age where sports sponsorship is the lifeblood of many major codes, regional competitions and local club survival, the trends in underage drinking would be the exact opposite of what they are today.

Across live free-to-air sport in 2017, adults accounted for a minimum 87% of audiences. This reality dispels the myth that sports sponsorship or advertising during sporting events targets youth. Typically, the 0-17 age group are not watching live sport on free-to-air television.

In reality, the vast majority of people watching television at all times are 18+ and the audience continues to age:

<table>
<thead>
<tr>
<th>Time</th>
<th>0-17</th>
<th>18-24</th>
<th>25-39</th>
<th>40-54</th>
<th>55+</th>
</tr>
</thead>
<tbody>
<tr>
<td>19:30 - 20:30 TOTAL TV</td>
<td>20%</td>
<td>15%</td>
<td>8%</td>
<td>5%</td>
<td>25%</td>
</tr>
<tr>
<td>20:30 - 21:30 TOTAL TV</td>
<td>15%</td>
<td>12%</td>
<td>8%</td>
<td>6%</td>
<td>26%</td>
</tr>
<tr>
<td>06:00 - 23:59 TOTAL TV</td>
<td>16%</td>
<td>11%</td>
<td>7%</td>
<td>4%</td>
<td>23%</td>
</tr>
</tbody>
</table>

Again, according to OzTAM data covering 5 January 2014 to 28 March 2015, across all timeslots for the NRL season, viewership on Channel 9 averaged 90% aged 18+ and the viewers of the AFL season on Channel 7 averaged 89% aged 18+.

Further, over 2017, viewers 18+ years of age across all live free-to-air timeslots made up the following audience for each sporting code:

- Australian Open Tennis 93%
- Cricket 87%
- NRL State of Origin Series 89%
- NRL Season 89%
- AFL Season 87%
- Super Rugby 92%

Source: OzTAM Data 2017.

These viewership numbers are above the Alcohol Beverages Advertising Code’s minimum 75% adult audience threshold, which is based on international best practice.

The clear strategy of sports sponsorship is supporting sports across all levels, from amateur leagues to professional codes, and to influence brand choice over competitor products in the drinking repertoire of the predominantly adult audience.

Sports sponsorship, like advertising, is about product differentiation among the adult drinking population.

**ABAC: effective industry regulation**

Another omission from the draft National Alcohol Strategy is the Alcohol Beverages Advertising Code (ABAC), in which the federal Department of Health is a direct partner and active participant.

The draft National Alcohol Strategy (Page 18) calls for:

“… a single national advertising code which covers placement and content across all media which provides consistent protection of exposure to minors regardless of programming.

“Implement regulatory measures to reduce alcohol advertising exposure to young people (including in sport and online). Regulatory measures to prevent promotion of discounted/low priced alcohol including bulkbuys, two-for-one offers, shopa-dockets and other promotions based on price.

“Effective controls on alcohol promotion to protect at-risk groups including youth and dependent drinkers.”

However, industry and Australian Governments past and present have been instrumental in ensuring that a robust advertising code exists to portray responsible drinking and limit children’s exposure to alcohol.

Australia has a co-regulatory system for alcohol marketing, with marketing guidelines agreed with government and consumer complaints handled independently, with all costs are borne by industry.
The Alcohol Beverages Advertising Code provides for strict regulation of alcohol advertising, marketing and social media. This robust independent system includes government representation, and complements and adds to the Australian Association of National Advertisers’ system by providing specific and significant restrictions on the content of alcohol advertising, including:56

- Only portraying responsible and moderate use of alcohol beverages.
- Responsibility towards minors (under the age of 18) including that advertisements must not have strong or evident appeal to minors or use actors that may appear to be underage (actors are required to be 25 years or older).
- Responsible depiction of the effects of alcohol by not portraying alcohol as a means to sexual or social success, or change in mood.
- Not depicting the use of alcohol where it may reduce safety.

As of 1 November 2017, the ABAC Scheme has been further strengthened to respond to community expectations around placement of advertisements, in addition to the existing restrictions on content as outlined above. The new ABAC provisions include:57

- Mandatory age gating – where age restriction controls are available, these must be used to exclude minors.
- If age restriction controls are not available, adults are expected to comprise at least 75% of the audience.
- Advertisements cannot be placed within programs or content primarily aimed at minors, even if the placement technically complies with the relevant industry code.
- No electronic mail advertising can be sent to minors.
- Better alignment between existing media codes, for example if the Commercial Television Industry Code of Practice, or the Outdoor Media Association Alcohol Guidelines, are breached, this will also now be a breach of ABAC.

Regular evaluation of ABAC decisions is undertaken with the community to ensure that the code is meeting community expectations. The most recent round of community research was undertaken in March 2017 by Colmar Brunton Social Research.

An online survey of 1,225 Australians across locations, ages and genders measured community perceptions on 12 advertisements reviewed by Complaints Panel, seven of which were deemed by the Panel to breach the Code and were removed from circulation as a consequence.

One of these advertisements was deemed inappropriate by the community on an unprompted basis, i.e. before respondents had reviewed the Code; on a prompted basis a further four advertisements were considered inappropriate based on respondents’ reading of the Code.58

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Case Study: VB Blues promotional 2016 State of Origin can
The ABAC Panel forced a recall of the VB Blues promotional can as part of the 2016 NRL State of Origin series, on the basis that the can’s NSW Blues jersey design may have appealed to some children.

However, the blue can packaging on an unprompted basis was deemed acceptable by 67% of viewers, with just 22% deeming it unacceptable. Even after The Code was reviewed by viewers, 62% remained committed to the blue can promotion being acceptable.


The 2017 Colmar Brunton research indicates that ABAC’s current system of alcohol advertising regulation is robust and, if anything, conservative when compared to community expectations.

It also demonstrates that ABAC has teeth. There is 100% industry compliance with ABAC rulings.

Alcohol advertising meets community expectations. The Advertising Standards Bureau reports that alcohol advertising makes up just 1.5% of all advertising complaints, with just 0.6% of those actually requiring ASB determination.

Prohibition (through dry zones and restricting access)
The draft National Alcohol Strategy provides for the prohibition of alcohol across suburbs/regions, effectively seeking effective dry zone declarations.

This is an extreme measure inconsistent with community values and attitudes to alcohol.

It would irreparably damage the reputation of affected areas, reduce economic activity and employment opportunities, negatively impinge on the majority of adults who drink responsibly, and constitute an unjustified overreaction at a time when Australians have demonstrably moderated their drinking behaviour.

Meanwhile, as the detailed scientific research provided as part of this submission illustrates, it would have little to no impact on those seeking to acquire alcohol, while doing absolutely nothing to address those at-risk of alcohol harms or misuse.

New health warnings on labels (including pregnancy)
Brewers Association members, encompassing 90% of all beer sales in Australia, are 100% compliant with the existing voluntary system for pregnancy warning labels and have been for several years.

The AIHW notes that rates of abstention among pregnant women have increased dramatically – up from 40% in 2007 to 55.6% in 2016.

And, that of those women (aged 14-49) who did consume alcohol during pregnancy, they are doing so at low levels, with 97.3% consuming no more than 1-2 standard drinks over the course of their pregnancy in 2016.
The AIHW found that the percentage of women consuming at higher rates than 1-2 standard drinks over the course of their pregnancy in 2016 was too small to record with accuracy.

The advent of apps, backed by websites, means that in 2018 there is no shortage of health/nutritional information for consumers. Through mobile devices consumers can scan barcodes or QR codes to have all the information they could ever want literally at their fingertips. The label is simply out-dated.

The bid via the draft National Alcohol Strategy to revive 2009 Blewett Review recommendations for warning labels is ill-advised and fails to account for the dramatic uptake among major beer producers of modern technology in communicating information to consumers.

Information on alcohol products produced by CUB, Lion and Coopers is available via apps and online with full descriptions of ingredients and nutritional content.

Further, industry marketing experience in the provision of consumer information indicates that the more information that is added to labels lessens the effectiveness of the message. Due to clutter, it may also detract from existing information, such as pregnancy warnings, number of standard drinks, allergen information, DrinkWise messages, and so on.

Outdated 2009 thinking should not be used to implement a solution in 2018. Technology has significantly advanced since 2009 and consumer information campaigns should keep pace with modern communication techniques.

**Assumed links to harms**

The draft National Alcohol Strategy asserts that “the impacts from the drinking of others... at one end of spectrum, Australians are affected by reduced amenity and anti-social behaviours (such as street noise, having to avoid public parks, or petty costs from damaged property)... at the other end harms can be severe such as child abuse and neglect or physical violence or death”.

Even in the cases where alcohol may be a factor, it is never the cause of such behaviours.

Magistrates do not accept defences that alcohol (or anything else) is to blame, other than the individuals involved. The National Alcohol Strategy should not be any different.

The vast majority of Australians drink responsibly. In fact, the World Health Organisation puts Australia at the low end of the spectrum of alcohol abuse – ranking 31 out of 37 comparable countries for heavy episodic drinking.

Yet, despite the continuing decline in harmful drinking in Australia, high-risk consumption does still exist among some individuals and in some groups. The reasons for alcohol misuse and its associated impacts are complex.

When it comes to violence in the community, alcohol can be a contributing or exacerbating factor, but it is not the sole or root cause.
Failure to account for success to-date

The draft National Alcohol Strategy fails to measure the success or otherwise from the previous iteration of the Strategy.

In fact, with official Australian Government key indicators on alcohol consumption declining over the last decade or decades, it is incumbent on the Commonwealth Department of Health to undertake a full analysis on why this has been the case.

The Australian Bureau of Statistics has charted dramatic declines in consumption per capita – which has fallen, decade on decade, for more than 40 years. Australians drink 25% less alcohol today than in the 1970s.

The Australian Institute of Health and Welfare records underage drinking at its lowest level on record, with 82% of teens putting off drinking until after legal age – up from 54% in 2004.

Even among those teens who unfortunately did try alcohol, they are doing so later with the age of first drink now at 16 years – up from 14 years in 2004, and those drinking at lifetime risky levels plummeting from 6.4% to 1.3% over the same period.

Importantly, 83% of Australians who drink do so within the prescribed guidelines.

Meanwhile, the World Health Organisation in 2014 recorded Australia at the low end of the spectrum of binge drinking.

By any objective reckoning, these results are extraordinary and go to Australians being better informed and better equipped regarding alcohol consumption than ever before. Yet, the Commonwealth Department of Health is offering no insights into these achievements as part of its new nine-year National Alcohol Strategy.

This is an extraordinary oversight.

Before any future measures are undertaken, a full analysis of the measures to date – especially in light of the dramatic changes in alcohol consumption patterns over the life of the previous Strategy – must be the starting point.

Exclusion from future consultation

Several references in the draft National Alcohol Strategy stipulate the responsibilities of industry to contribute to solutions, yet insists there is no role for industry in further consultation or contributing to decisionmaking.

For example the draft National Alcohol Strategy states (Page 24):

“While industry organisations have been involved in consultation processes to support the identification of priority areas for this strategy, Australia does not support any ongoing role for industry in setting or developing national alcohol policy. This Strategy does recognise, that industry bodies have a responsibility to contribute to efforts preventing and minimising alcohol-related harms”.

Further (Pages 4-5)...
“Preventing and minimising alcohol-related harms in Australia cannot be achieved by governments alone. A strength of Australia’s approach to reducing alcohol-related harm has been the strong and enduring partnerships developed between governments, non-government organisations and community groups. This Strategy seeks to further strengthen these partnerships, including through the establishment of a new Alcohol Reference Group (Reference Group) (involving non-government and government sector representatives).

“Membership of the Reference Group will be drawn from representatives of all levels of government (Commonwealth, state and territory and local governments), as well as non-government, health, policing and research sectors. Membership of the Reference Group will be determined by the National Drug Strategy Committee (NDSC). The proposed role of the Reference Group is detailed later in the Strategy (see Governance).

“The alcohol manufacturing industry, wider retail and hospitality industries, advertising, broadcasting and sporting industries play a significant role in Australia’s economy and social fabric. These industries also have a responsibility in supporting and taking appropriate action to prevent and minimise alcohol-related harms through the lawful, responsible supply of alcohol and their ability to influence drinking behaviours.

“While acknowledging the relevance and responsibility of the alcohol industry and associated industries to contribute to the prevention and minimisation of alcohol-related harms, it is also acknowledged that they will not be eligible for membership of the Reference Group.”

This exclusionary attitude ignores the significant experience that industry can bring to the table when it comes to mitigating harm.
**DrinkWise**

In Australia, industry-led initiatives have achieved significant success in changing attitudes around harmful consumption of alcohol. Australia's major brewers are founding members and the major funders of DrinkWise Australia, a not-for-profit organisation dedicated to changing Australia’s drinking culture.

DrinkWise was established in 2005, with Australian Government and industry funds, to harness the power of evidenced-based social marketing to bring about a healthier and safer drinking culture in Australia. DrinkWise applies a whole-of-community approach involving industry, government, health and education professionals and the broader community.

Governed by an independent Board of seven community and six industry representatives, the structure of DrinkWise is unique as it brings together the preventive health sector, community and industry.

DrinkWise is focused on promoting evidenced-based information and practical solutions that encourage moderation and responsible consumption. It does this through targeted campaigns, education initiatives and resources that inform and support the community.

These campaigns have seen significant success over recent years, which is reflected in improving safe consumption trends. Most notably, the 'kids absorb your drinking' campaign has had an impact on the views of parents with respect to alcohol.

DrinkWise recently concluded a 10-year review of its programming and activities since 2007. Among its findings, the research found:

- In 2017, 63% of drinkers usually consume no more than two standard drinks, as compared to 48% in 2007
- In 2017 just 16% of drinkers usually consume five or more standard drinks in a session, down from 24% in 2007
- In 2017 20% of Australians choose to abstain from alcohol all together, up from 11% in 2007
- Just 6% of Australians drink daily, down from 9% in 2007
- 37% of Australians drink weekly, down from 47% in 2007
- 87% of Australians believe pregnant women should not drink alcohol
- 80% of Australians believe kids under 18 should not drink alcohol
- Fewer Australian parents believe it is acceptable for their children to drink alcohol as long as they have supplied it (37% compared to 47% in 2007).

These figures reinforce the important strides that industry, government and the health sector have made in addressing harmful alcohol consumption in Australia, especially among under 18s. The research reflects the fact that a holistic approach involving all community stakeholders is most effective at achieving cultural change and reduce the significant individual and community harms associated with alcohol misuse.

The Brewers Association and its members will continue to support DrinkWise and its work.

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Recommendations

The Draft NAS has a number of insurmountable shortcomings. The process for serious evaluation of current alcohol policy and, thereby, charting a workable policy response for the next nine years, should be re-evaluated.

Consultative Group

We submit that governments – as part of the Australian Ministerial Drug and Alcohol Forum, establish a Consultative Group that includes health, community and industry representation, in order to engage all parties in a concerted effort to create a workable, evidence-based National Alcohol Strategy.

The Brewers Association proposes that this Consultative Group provide ongoing and rigorous input into the development of a final National Alcohol Strategy over the next few months.

1. Ensure the Consultative Group includes representatives from:
   - Academia
   - Organisations working directly with a range of at-risk groups.
   - Representatives from at-risk groups, including e.g. representatives from indigenous, young people and midwifery groups.
   - Cultural change organisations, such as DrinkWise Australia, FARE, Wake Up, Sammy D Foundation, Hello Sunday Morning.
   - The alcohol advertising regulator – the Alcohol Beverages Advertising Code.
   - Public health advocates.
   - Federal, State and Territory governments.
   - Alcohol and hospitality industry members and associations.

2. Appoint an independent chair of the Consultative Group who can ensure rigorous discussion of evidence, success and failures and the policy options to be considered.

3. Task the Consultative Group with addressing the weaknesses of the Draft National Alcohol Strategy as detailed in this submission, including:
   - Ensuring the National Alcohol Strategy reflects the Australia Government’s official data demonstrating the improvements in Australia’s drinking culture, particularly the improvements related to at-risk groups.
   - A broader, more rigorous and reliable evidence-base on which to identify harms and at-risk groups, and to develop strategies and policy options which would target those identified harms and groups.
   - Reviewing current effective strategies, including cultural change programs, and evaluating how they have contributed to current successes in reducing harms.

4. Appoint this Consultative Group as the ongoing Alcohol Reference Group proposed in the draft National Alcohol Strategy.
Contact

The Brewers Association looks forward to continuing to work with the Australian Government throughout the development of the National Alcohol Strategy.

For more information, or to follow up on any aspect of our submission, please do not hesitate to contact me.

Kind regards,

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M: 0467 650 020
E: brett.heffernan@brewers.org.au
Appendix A: Detailed analysis of the evidence-base underpinning the draft NAS

Evidence on cultural and social issues

The draft National Alcohol Strategy claims that “Australia is regularly reported or casually referred to as having an ‘alcohol culture’ where not consuming alcohol can be viewed as being ‘unaustralian’”.

This assertion is based on three news articles from the news.com.au, the Herald Sun and ABC news.

It is disconcerting that the tone of the draft National Alcohol Strategy is based on the opinion of the authors that Australians cannot be trusted to consume alcohol in moderation and that the bureaucracy and/or government knows best, despite significant evidence that Australians overwhelmingly consume alcohol sensibly.

In the absence of evidence, a straw man has been created from media reports and supposition that Australia has a ‘problem’ with alcohol. The tone of the Strategy is set at this point and never recovers to a balanced view of the public policy issues at hand.

Evidence on Marketing and Sponsorship

One of the key ‘harm minimisation’ planks of the draft National Alcohol Strategy is simply ‘reducing promotion’. However, the evidence to support this is work developed for emerging markets in developing countries:

“Alcohol marketing may also have a substantial effect on alcohol consumption in lower and middle income countries, which have young populations, high rates of adult (and particularly female) abstinence, and emerging marketplaces for alcohol.”

“The World Health Organization has identified that taxation, restricting availability and implementing bans on advertising are the most efficient strategies to minimise the harmful use of alcohol. They are highly cost-effective in reducing the alcohol-attributable deaths and disabilities at the population level.”

The Babor study referenced in the draft National Alcohol Strategy is unduly critical of econometric studies while promoting a range of flawed and limited experimental studies.

Babor et al contains no original research. Instead, it is a review of existing research by a group of academics that tend to favour restrictive alcohol policy.

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60 See National Alcohol Strategy, p 7, footnotes 14 – 16.
64 National Alcohol Strategy, p 2, harm minimisation infographic.
There is no reliable evidence in support of further restrictions on alcohol advertising. Babor et al's commentary does not represent an independent review of the available evidence. Such a review could be undertaken by a balanced Alcohol Reference Group.

The authors of the Babor study concede at regular intervals that the research base has significant limitations. Babor et al acknowledges that econometric studies have produced mixed results.

Babor et al also states: “Although bans on some aspects of advertising are not uncommon, there is a limited amount of evaluation research on their effectiveness,” before going on to acknowledge that studies found the lifting of advertising bans in Manitoba and British Columbia had no negative effect.66

The Babor study claims “the use of expenditure on alcohol advertising as a proxy for exposure has been critiqued on a number of grounds. Expenditure on the measured media (usually broadcast and print) is known to have been an underestimation of the marketing effort even prior to the development of the new marketing techniques”.67

National measured media statistics have historically very strongly correlated with overall marketing spend. Even now with the fragmentation of marketing platforms, measures of traditional media across the whole market would be a reliable proxy for trends in marketing spend as marketers generally run balanced marketing campaigns executed across multiple touchpoints contemporaneously.

In respect of underage drinking, Babor et al68 outlined conflicting evidence that:

“The extent to which effective restrictions would reduce consumption and related harm in younger age groups must remain somewhat of an open question. The most probable scenario, based on the theoretical and empirical evidence available, is that extensive restriction of marketing would have an impact.”69

And:

“The longitudinal studies have been subjected to systematic reviews. The strength of the association, the consistency of the findings, the temporal relationship, the dose-response relationship and the theoretical plausibility of the effect have led to the conclusion that alcohol advertising increases the likelihood that young people will start to use alcohol and will drink more if they are already using alcohol (Jernigan 2006; Smith and Foxcroft 2009; Anderson et al. 2009).”

Anderson et al reviewed 13 studies and found that “twelve of the thirteen studies concluded an impact of exposure on subsequent alcohol use, including initiation of drinking and heavier drinking amongst existing drinkers”.

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68 Law Commission Report: Alcohol in our Lives: Curbing the harm, Page 26 [19.18].
69 Babor et al; Alcohol: No Ordinary Commodity (2010, page 244).
Smith and Foxcroft reviewed a similar body of literature and said that “the effect of alcohol portrayals and advertising on the drinking behaviour of young people is a matter of much debate” and claimed to have found a modest relationship between exposure to marketing and drinking among young people with variation in effect between individual studies.

The authors highlight that all reviewed studies “fall short of the current [methodological] recommendations as set out in the STROBE statement”\(^\text{73}\).

The study concludes with the question:

“Does this systematic review provide evidence that limiting alcohol advertising will have an impact on alcohol consumption amongst young people? Not directly: (...) we cannot rule out that the effects demonstrated in these studies are due to residual confounding”.

Most importantly, Nelson reviewed a body of literature almost identical to the one reviewed by Anderson et al. and Smith & Foxcroft. He concluded that a “brief review demonstrates that the evidence on alcohol advertising and youth is mixed, contradictory and inconclusive”. Although “studies present a conflicting set of results [...they] are cited in an uncritical manner”\(^\text{74}\).

In a 2010 comprehensive review of all the literature – not only the longitudinal studies – Nelson found evidence of a “selection bias in the interpretation and use of results by researchers and health policy interest groups [...].” A main conclusion of Nelson’s meta-analysis is that “the effect of alcohol marketing on adolescent drinking is modest, but the evidence indicates that it may not exist at all for mass media and other exposures”\(^\text{75}\).

Some studies have used self-report questionnaires and followed young people over a number of years in an attempt to determine the effect of advertising on subsequent misuse. These studies often claim to have attempted to strip out confounding factors but the fact remains, even if you accept the accuracy of their results, they are unable to adequately separate correlation and causation. Even the authors of one of the most recent such studies confess that “causality cannot be verified”\(^\text{76}\).

There is a wide range of studies seeking to do little more than prove adolescents are to some degree exposed to alcohol marketing. Exposure is not evidence of harm or even potential harm. Most evidence finds that the key determinants of underage drinking are parental and peer behaviour, rather than advertising and sponsorship.

There is a wide range of studies seeking to do little more than prove adolescents are to some degree exposed to alcohol marketing. Government should not mistake these for evidence of potential harm.

\(^{73}\) The STROBE statement is a standard of research aiming at strengthening the reporting of observational studies in epidemiology. It consists of a series of check-lists for each type of research. www.strobe-statement.org/.


It is undoubtedly the case that, despite the industry’s focus on targeting communications to legitimate customers, adolescents are to some small extent exposed to marketing for a range of adult products such as alcohol, cars and home loans. However, they are also exposed to a wide range of much more powerful environmental influences from parental role modelling, family and community social occasions to popular culture.

Parents need to be encouraged to role model and therefore normalise moderate and responsible consumption with their children.

Evidence on price

The draft National Alcohol Strategy explicitly identifies “considering pricing and taxation reforms” as being a key part of their “harm minimisation” strategy.

Some Australian and international reports suggest raising the price of the cheapest forms of alcohol by setting a minimum floor price will have a significant impact on risky drinking.

The World Health Organization has identified that taxation, restricting availability and implementing bans on advertising are the most efficient strategies to minimise the harmful use of alcohol. They are highly cost-effective in reducing the alcohol-attributable deaths and disabilities at the population level.

In the paper cited in the Consultation draft, the WHO says: “A large body of literature has found raising the price of alcohol to be effective in reducing harmful use of alcohol among drinkers in general as well as among youth; the same literature has documented that as the price of alcohol increases, alcohol-attributable morbidity and mortality decline.”

Wagenaar’s study combining a large range in international research suggests heavy drinkers respond to a 10% price increase by reducing consumption by 2.8% and as Byrnes et al showed, this mostly comes from reducing drinking on low-drinking days and it would appear that they continue to drink excessively, for instance at the weekends.

An Australian study released in 2013 based on the Australian National Drug Strategy Household Surveys (NDSHS), conducted in 2001, 2004 and 2007, comprising a total of 79,545 respondents along with real alcohol prices compiled by Euromonitor International concluded:

“These results suggest that in response to price increases, Australian drinkers achieved an average reduction in their overall level of alcohol consumption mostly by increasing the number of occasions on which they do not drink at all and by decreasing the number of occasions of low-intensity drinking, rather than by significantly reducing their frequency of moderate- and high-intensity drinking.”

“Heavier and more frequent drinkers appear to be relatively less sensitive to changes in price.”

77 National Alcohol Strategy, p 2, harm minimisation diagram.
Babor et al agrees that there is limited evidence to support the idea that heavy drinkers are influenced by price:

“The extent to which adult heavy drinking and problematic drinkers are responsive to changes in alcohol prices has been the subject of a relatively small number of studies.”

Babor et al comments in terms of three studies: Fogarty in 200682, Gallet in 200783 and Wagenaar in 200984 that:

“All three reviews find similar results: alcohol demand is price responsive, inelastic and varies between beverage categories.”

“The overall similarities in the results presented in the reviews conceal substantial variation between the results of the underlying studies, with considerable deviation in own-price elasticities both between countries and over time.”

“Fogarty (2006) focused on variation across countries, finding no specific country effects – instead demonstrating that elasticity is related to market share. In other words, in a society in which beer is the dominant alcoholic beverage, beer will be relatively inelastic, while wine and spirits will be less inelastic. This finding, combined with the fact that the majority of studies of alcohol price elasticity have come from beer drinking countries, may explain the consistently lower price elasticity of beer found in the reviews discussed above.”

“This suggests that the dominant beverage in each culture is treated more as a basic dietary requirement like bread and is thus less responsive to changes in price than other beverages, which are treated more as luxuries or beverages not belonging to everyday diet.” (Österberg 1995, Leppänen et al 2001)

Both Fogarty and Gallet suggest alcohol has become less price elastic in recent years. Babor et al suggests that “this trend could reflect increasing affluence, although it has also been suggested that elasticity may be lower when per capita consumption is higher.” (Holder and Edwards 1995).

Australia is a relatively affluent nation and, therefore, price interventions, if effective anywhere else, are highly unlikely to be effective in Australia.

Babor et al says that “Only a few studies have studied the effects of abrupt changes in alcohol prices”. It then reports a range of mixed, unreliable and inconclusive results.

For instance, in respect of Mäkelä et al (2008) and Mäkelä and Österberg (2009) both of which present a summary of the impacts of alcohol tax decreases (along with increased traveller’s allowances) in Denmark and Finland suggest that:

“Analysis of individual-level data from a panel study found no detectable increase in consumption in either Finland or Denmark following the tax changes. According to aggregate level estimates, spirits consumption increased in Denmark, but overall consumption fell. In Finland total alcohol consumption increased by 10% Mäkelä and Österberg (2009).”

And:

“The considerable variation in elasticity values, including some instances where changes in taxes apparently had little or no effect, provides a caution that predictions of effects based on past studies are always conditioned on ceteris paribus: other things being equal”.

“Structural and cultural changes in a society are among the other factors which could influence the effect of a change in taxes on consumption. Variation in elasticity between countries is highly influenced by the cultural role of alcohol within societies, with cultures in which alcohol is more of a luxury likely to see larger price effects on consumption than cultures where alcohol is more an everyday product.” (Room et al 2009).

This is one theory. However, it seems much more likely that misusers in any community are price inelastic.

Babor et al states that:

“There has been little research into how price changes affect the amount of alcohol consumed on- and off-premises, although it has been shown that on-premises consumption is substantially less price-responsive than off-premises consumption and that there is significant substitution between the two.” (Huang 2003).

The promotion of measures to reduce overall consumption rather than target misuse is founded on a concept commonly referred to as the ‘prevention paradox’. This is an idea imported from a disease control model carrying a number of fatal limitations when applied to alcohol.

The ‘prevention paradox’ describes the seemingly contradictory situation where the majority of cases of a disease come from a population at low or moderate risk of that disease, and only a minority of cases come from the high-risk population (of the same disease). This is because the number of people at high risk is relatively small.

Translated to alcohol the theory goes that while the 10% of heaviest drinkers are at the highest risk of harm individually, more harm overall can be found among the 90% of normally moderate drinkers because of the greater scale of the sample despite the lower per capita risk.

The problems inherent in importing a disease control concept are clearly manifest. In the disease context, you either have malaria or you do not. There is no safe or beneficial level of malaria infection.

However, there is a safe and potentially beneficial level of alcohol consumption. Studies on the benefits of moderate alcohol consumption conservatively estimate that 2,437 deaths and 114,726 hospital bed days are prevented each year.85

Reflecting the fact cardiovascular disease is the leading cause of death in Australia, the same data suggests more deaths among females are prevented (1,061) through moderate consumption than are caused by excessive consumption (913).

In respect of males, moderate consumption of alcohol prevents half (1,376) the number of deaths as are caused by misuse (2,582). Further, economists have argued that the authors of this paper over-estimate the level of harm and associated costs.\(^{86}\)

The same data set suggests net figures of 5,100 Australian lives are saved each year as a consequence of low risk drinking versus abstinence. While risky and high risk drinking cause more deaths than they save (2,737), the overall effect of all drinking versus abstinence is to save 2,363 lives each year.

A recent study published in *The Lancet* suggests that in moderate to high income nations compared with never drinkers, significantly reduced hazards for total death for current low to moderate drinkers were identified.\(^{87}\)

Government should treat with great caution recent papers arguing against the general consensus in respect of the health benefits associated with moderate drinking, for instance Knott et al\(^{88}\).

A number of experts have discredited the conclusions of this paper. One such critique by Prof. Sir David Spiegelhalter, Winton Professor of the Public Understanding of Risk, University of Cambridge, wrote:

"The authors’ conclusions are not backed up by the data. All groups consuming less than 20 units a week experienced lower mortality rates than the lifelong teetotalers. But since there are not many teetotalers, there is large uncertainty about what the true underlying relative risks are. All the observed data are compatible with the kind of 15% to 20% protection that has been previously suggested, and the authors are not justified in claiming there is no protection apart from some specific groups. A graphic depiction of their data clearly shows the observed hazard ratio (relative risk of dying each year) – curiously such a graph did not appear in the published paper, but can be derived from the data provided in the tables."

Spiegelhalter continued:

"Essentially, the study is grossly underpowered to convincingly detect a plausible protection, and they have committed the cardinal sin of saying that non-significance is the same as ‘no effect’ in a study lacking sufficient events, in this case, deaths in non-drinkers. This is a poor use of statistics, and I am surprised it got past the referees."\(^{89}\)

In addition, Prof. Paul Pharoah, Professor of Cancer Epidemiology, University of Cambridge, said:

"Overall the findings of this study are in broad agreement with what has been previously published – despite what is written in the press release. The main findings were that there was a reduction in mortality in almost all categories of alcohol consumption (main number reported in the results table is the relative hazard. A relative hazard of < 1 is a protective effect). For some of the categories this finding was statistically significant and not in others. The investigators make too much of these differences in nominal statistical significance. While some results were statistically significant and others not, the consistency of the findings in the different age/sex


groups is more striking. I do not agree with their conclusion that ‘Little to no protection was found in other age-sex groups, regardless of consumption level.’ Because there were 10 different alcohol consumption groups being evaluated the number of deaths in each group was fairly small – particularly in the non-drinker reference group – and the statistical power to detect modest effects will have been small. In short the findings – although not statistically significant in part – were fairly consistent with previously reported research in which moderate alcohol consumption has been associated with a modest reduction in mortality. But the authors’ conclusions are not backed up by the data.90

So, when it comes to alcohol, per-capita consumption is the wrong measure given the best available evidence suggests protective effects. There are many drinkers who have a relatively high annualised per capita consumption level but a healthy drinking pattern. Equally, a large cohort of drinkers have a relatively low annualised per capita consumption level but binge at the weekends are at a high risk of harm.

When data on levels of harm are organized by patterns of consumption rather than per capita levels of consumption, we find that the majority of harm does in fact fall among the small minority of irresponsible drinkers – disproving the ‘prevention paradox’ when applied to alcohol and the Ledermann curve upon which it is based.

Further, because moderate consumption of alcohol is proven to be beneficial, the danger in using tax or other measures to reduce per-capita consumption among the responsible majority is that you actually add to the burden of harm by reducing the health benefit.

This has lead academics to argue that the effect of control of consumption policies like taxation could in fact have a significantly negative impact on the nation’s health.

Among them, Professor David J Hanson says:

“…given the speculative nature of the Ledermann distribution curve and its doubtful ability to predict the proportion of heavy drinkers, merely demonstrating a decrease in mean per capita consumption would appear to be irrelevant to the incidence of heavy drinking.

“Furthermore, given the apparent health benefits and contribution to longevity of the moderate consumption of alcohol compared to either abstinence or heavy drinking, reducing per capita consumption might well have serious adverse health effects for moderate drinkers. Thus, lowering mean per capita consumption of alcohol could be counterproductive and highly undesirable for the health and longevity of the general population.”91

Dr Eric Crampton92, currently the Chief Economist at the New Zealand Initiative, a think tank, recently looked at the relationship between drinking patterns in various nations with the restrictiveness of their licensing and taxation approach.

As noted above, price and taxation are relevant because one of the key arguments on density (despite the fact studies don’t tend to show a correlation between density and

91Hanson, DJ (1995) Preventing alcohol abuse: alcohol, culture and control Greenwood Publishing Group
92http://offsettingbehaviour.blogspot.co.nz
consumption levels) seems to be that competition between outlets will drive down prices and increase consumption.

Crampton was commenting on some material from Alcohol Action NZ highlighting nations that have recently imposed various restrictions on availability (including price, density and licensing hours) or marketing or have resisted calls to do so. Interestingly, a number of these nations have traditionally pursued restrictive licensing practices with a couple of exceptions.

Crampton says:

“Ok. So Scotland, Finland, the US, Ireland, South Africa, France, Australia, Sweden, Norway, Poland and Japan are singled out as being super-awesome by anti-alcohol campaigners.

‘Let’s check some outcomes.

“First, let’s look at age-standardised prevalence of alcohol use disorders. The WHO puts New Zealand at 3.4% prevalence, lower than all countries in the Western Pacific Region other than Brunei (1.7%), Japan (3.3%), Malaysia (2.3%), and Singapore (0.9%). Were New Zealand in Europe, we’d be much lower than average: we’re lower than any European country other than Italy (1.2%), Malta (3.2%), Netherlands (1.3%), Romania (2.6%), Spain (1.4%), Tajikistan (0.8%), and Turkey (2.6%).

“And how about those super-great campaigner countries? France (6.0%), Finland (7.7%), Ireland (7.3%), Sweden (9.9%), Norway (8.7%), Poland (8.7%), and Scotland (UK is 12.1%, no separate Scottish figure) all have worse rates of alcohol use disorders. Similarly, the USA (7.8%) and South Africa (5.4%) are worse than NZ. Only Japan (3.3%) is slightly below the NZ rate. If we fully replicated the experience of those countries with policies lauded by Alcohol Action NZ, we’d have worse rates of alcohol use disorders.

“Ok, maybe our problem isn’t with alcohol use disorders. It’s that nasty binge drinking. Let’s look at the prevalence of heavy episodic drinking in the WHO figures. The table at page 312 of the appendix puts NZ at 4.3%. Why is this lower than the 4.5% listed above? Because it’s age-standardised: some differences in drinking across countries depend on demographic differences. Let’s again compare NZ with our neighbours, with Europe, and with those countries whose policies are lauded by Alcohol Action NZ.

“In the Western Pacific Region, Brunei (0.5%), Cambodia (1.2%), Kiribati (2.4%), Malaysia (0.3), the Philippines (1.6%), Singapore (4.2%) and Vietnam (1.3%) have lower rates; 13 countries including Australia, China, and Japan (18.4%!!) have higher rates.

In Europe, Turkey (0.2%), Tajikistan (1.0%), and Andorra (4.2%) have lower rates. Every single other country in Europe has higher rates of heavy episodic drinking. Every single one.

“Among those countries lauded by Alcohol Action, France (29.8%), Finland (35.9%), Ireland (36.5%), Sweden (24.3%), Norway (12.6%), Poland (5.4%), Scotland (UK figure of 27.1%), the USA (16.2%), South Africa (9.8%), and Japan (18.4%) ALL have higher rates of heavy episodic drinking. Every one of them.

“If we look at the WHO figures, it is utterly, utterly absurd to claim that New Zealand is some kind of binge drinking outlier. The Ministry of Health uses a different standard for
potentially hazardous drinking and have higher figures; they also report that rates of hazardous drinking are declining, and especially among younger cohorts. MoH puts hazardous drinking rates at 19% of drinkers, with 80% of the population being drinkers. So 15.2% of the overall population. Even if we use that figure instead of the WHO one on heavy episodic drinking, we still get a lower rate than most of the countries lauded by Alcohol Action’.

Many nations with highly restrictive alcohol control regimes experience among the highest levels of misuse.

A similar picture is seen when we compare the prevalence of control policies internationally with the rate of heavy episodic student drinking:

The arguments by some campaigners that the science supporting ‘control of consumption measures’ is established are, therefore, erroneous. While there is no doubt alcohol misuse places pressure on the health system and that needs to be tackled as effectively as possible, efforts to reduce consumption population-wide are misguided.

The Vandenberg and Sharma paper93 concludes that “policies that increase the cost of the cheapest alcohol can be effective in reducing alcohol consumption, without highly regressive effects”.

This conclusion raises several red flags. Firstly, it implies that the goal of alcohol policy should be to reduce alcohol consumption generally, rather than target policy at harmful users. This is in contradiction to the draft NAS, which purports to target harmful alcohol use.

Secondly, the study claims that price changes are not “highly regressive”. This is a judgement call made by the authors, and is based on the idea that those in the lowest

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93 Vandenberg, B & Sharma, A (2016) ‘Are alcohol taxation and pricing policies regressive? Product level effects and a minimum unit price for alcohol’ Alcohol 51(4) 493 - 502
income quintile would ‘only’ have to pay around $6 more a week under an MUP or volumetric tax.

This is a significant impost for lower income households and shouldn’t be dismissed by researchers as an amount all households can easily absorb.

The mere fact that the lowest quintile currently spends 6.1% of their household income on alcohol compared to 0.8% in the top quintile demonstrates that any price increase from consumption taxes of MUPs will by definition be regressive, and in the eyes of most, very regressive.

Thirdly, the application of these highly regressive price increases will disproportionately impact moderate drinkers, despite the author’s claim to the contrary. There is significant evidence outlined in this appendix that heavy drinkers are less likely to respond to price increases than moderate drinkers. Even if they do, they are likely to continue to binge drink heavily and only cut out ‘non drinking days’.

This stems from the paper’s use of the Sheffield Alcohol Pricing Model (SAPM), which makes some highly contentious assumptions about the behaviour of heavy drinkers.

Evidence on availability

Studies relied upon in the draft National Alcohol Strategy:

- There is a large body of research, mostly from Australia, New Zealand, the United States and Scandinavian countries where substantial alcohol deregulation has occurred, highlighting that increasing alcohol availability has resulted in increased risky drinking, assault rates, child maltreatment, drink-driving, car crashes and hospital admissions. (Freisther et al 2008), (Scribner et al 1994), (Guria et al 2003), (Kypri et al 2006) and (Chikritzhs and Stockwell, 2006)\(^{94}\).

- The World Health Organisation has identified that taxation, restricting availability and implementing bans on advertising are the most efficient strategies to minimise the harmful use of alcohol. They are highly cost-effective in reducing the alcohol-attributable deaths and disabilities at the population level. In respect of availability the WHO relies upon (Campbell et al., 2009), Hahn et al., 2010; Middleton et al., 2010).\(^{94}\)

License density

While some try to present the case for reducing or limiting the number of licenses in an area as an open and shut case, there is no compelling evidence that density has any impact on overall alcohol misuse levels or harm.

Indeed, a recent report by the New Zealand Law Commission\(^{95}\) acknowledged the flimsy evidence-base, saying:

“It must be acknowledged, however, that the studies on outlet density and neighbourhood-level alcohol consumption have shown mixed results.”

\(^{94}\) See draft National Alcohol Strategy 2018-2026, references 47 – 51.

\(^{95}\) Law Commission Report: Alcohol in our Lives: Curbing the Harm.
Further, many of the studies quoted do themselves acknowledge the weakness of the evidence base. For instance Cameron et al\textsuperscript{96} comments that:

“The international academic literature provides mixed results for the relationship between liquor outlet density and a range of outcome variables. There are studies showing that liquor outlet density has significant positive effects … However other studies show no statistically significant effects, or even significant negative effects. The wide range of results and methodologies employed makes it difficult to arrive at general conclusions about the relationship between outlet density and outcome variables. Further, it is likely that these relationships are highly context specific, as well as varying temporally, spatially and by the type of outlet considered”.

And:

“Considering all potential explanations for the effect of alcohol outlets on social harm, many studies adopt an ecological approach, i.e. they focus on environmental factors (one of which is alcohol outlet density) as an explanation of alcohol-related harm (Gruenewald et al., 2002). One potential problem with ecological studies is that they do not adequately separate the effect of liquor outlet density from other effects.

“For instance, neighbourhoods with high levels of alcohol consumption (and consequent levels of alcohol-related harm) will naturally attract liquor stores looking to profit from local demand for alcohol. This will tend to mask the true effect of liquor outlet density on alcohol-related harm, because high levels of alcohol-related harm would be present even without increased liquor outlet density. In other words, ecological studies cannot adequately explain why there may be an observed relationship between liquor outlet density and the outcome variable.”

The central themes outlined here are the limitations of the evidence-base. The most often quoted paper in support of additional controls is No Ordinary Commodity.\textsuperscript{97}

\textit{No Ordinary Commodity} describe the object of availability limitation policies as to:

“reduce overall drinking in the population and thus drinking-related problems … when alcohol is readily available through commercial or social sources, consumption and associated problems increase … Conversely, when restrictions are placed on availability, alcohol use and associated problems reduce”.

License control policy is “based on the assumption that reductions in supply increase the full costs of alcohol and thereby reduce alcohol consumption”\textsuperscript{98} (Chaloupka et al 2002). That is, as alcohol availability decreases, convenience costs to the consumer increase and vice versa. Thus physical availability has the potential to influence the consumer’s demand for alcoholic beverages as well as the supply”.


However, this line of argument is undermined by the fact that the majority of studies have not identified a relationship between license density and levels of drinking. Clearly, the lack of connection between outlet density and consumption suggests the causes of violence and anti-social behaviour are somewhat more complex than alcohol consumption.

The lack of relationship is likely to be because all those who wish to drink, and particularly problem drinkers, are highly unlikely to be deterred by additional travel to the nearest outlet. Further, despite arguments to the contrary, there is little evidence to suggest that outlet density inherently causes price competition.

There a counter argument to suggest that fewer larger outlets – the inevitable result of a lower number of licenses – could have higher bargaining power versus suppliers and be able to pass on lower prices to consumers.

The existence of a causal link between alcohol consumption and anti-social and violent behavior at an individual level is a subject of significant academic debate. Clearly, the vast majority of people will never become violent or behave in an anti-social manner regardless of their level of intoxication.

Evidence suggests that alcohol can be used as a socially sanctioned ‘license to transgress’ by individuals with a predisposition to anti-social and violent behavior as opposed to removing the individuals ability to control their behavior or causing otherwise responsible people to behave entirely out of character.99

Lipsey et al100 conducted a meta-analysis of a wide range of studies across the full range of research methodologies and concluded that:

“The research base relevant to the question of the causal role of alcohol consumption in violent behaviour, despite its overall volume, is very unsatisfactory. It is permeated by problems of inadequate experimental and statistical control, questionable generalizability to socially important forms of violence, limited attention to individual differences and moderator variables, weak conceptualizations of the issue, and capricious operationalizations of the key variables. As a result, the causal issue is still cloudy and uncertain”

And:

“While a causal influence of alcohol consumption on violence cannot be ruled out with present evidence, it seems apparent that there is no broad, reliable, ‘main effect’ of alcohol on violence, analogous to the easily demonstrated and almost ubiquitous effects on motor and cognitive functioning that occur at sufficient doses. If alcohol has any causal effects on violence, they almost certainly occur only for some persons and/or some circumstances. The most important research question regarding the alcohol-violence relationship, therefore, is not one of global causal influence. Rather, it is the more focused question of what individual differences, moderator, and situational variables characterize circumstances in which alcohol might potentiate violent behaviour.”

This evidence would tend to support interventions targeted at the underlying drivers of

99 Dr Anne Fox (2008) Sociocultural Factors that Foster or Inhibit Alcohol-related violence, Alcohol and Violence: Exploring Patterns and Responses.
behaviour of anti-social and violent individuals, rather than population-wide availability interventions designed to reduce levels of alcohol consumption across the population.

In searching for an explanation, Babor et al acknowledge the “precise mechanisms behind this relationship is unclear” but goes onto quote ‘routine activities theory’ which suggests that outlets bring together more people “who can fulfil the roles of both victim and aggressor which increases overall levels of violence”.

While no-one would disagree that more violent people in an area would be likely to cause more violence, the suggestion that there is some kind of ‘multiplier effect’ is highly speculative and not supported by evidence. For those inclined to violence and anti-social behaviour, there is always a decent supply of victims regardless of the number of venues they could visit.

Any reasonable observer would suggest the most plausible explanation for the lack of correlation between density and consumption is that density alone is not a driver of misuse.

**Correlation is not cause**

Most studies seek to do little more that prove that in places where there are more venues and outlets, there are higher levels of incidents. 101

Such research tells us very little. It confuses correlation with cause.

Obviously, there are more licensed outlets and venues in higher density areas to service the larger populations who live there. They tend to trade longer to service the critical mass of people with different lifestyles and occupations. Clearly it is incorrect, therefore, to simply rely on data that correlates outlet density or trading hours with harms and to suggest a causal relationship.

These limitations suggest that cross-sectional studies which prove little more than there are more assaults in more populous areas should be set aside in the debate on licensing policy. Indeed, the decision to use some of this research in Babor et al reflects the overall weakness of the evidence-base.

Even so, the results from these surveys are totally inconsistent. In a number of cases, additional outlets of certain types (for instance bars) are actually correlated with lower harm. 102

Pollack et al found no relationship between outlet density and alcohol consumption tended to be greater in higher socio-economic neighbourhoods even though more liquor outlets were concentrated in lower socio-economic areas. 103

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In an example of not being able to see the wood for the trees, some have used this research to argue that there is a causal relationship between density and harms, but it is just very different across different localities and therefore local regions will need to take a different approach to deal with it.

While it makes perfect sense for local authorities to manage licensing to create the kind of culture their constituents wish to live in, policy-makers should be aware that the most likely explanation for the broad range of results is that the number of licenses is not the driver of local harms.

The real underlying drivers of the amount of violence and anti-social behaviour in an area are likely to be population density (the bigger the place the more violent people), demographic socio-cultural factors, including potentially the level of local deprivation, mental health standards and family and parenting dysfunction.

Some might argue that because there are more people and, therefore, more violent and anti-social people in higher density areas, alcohol supply should be minimised to ensure it cannot exacerbate the issues. There is no evidence to support this approach and there are a number of problems with this line of argument.

- First, the vast majority of studies show no relationship between consumption levels in an area and harm.
- Second, problem drinkers tend to source alcohol regardless of price and license density – travelling a little further to the nearest venue or outlet is no deterrent to the determined drinker.
- Third, those anti-social or violent people that intend to drink to intoxication do so whatever the opening hours applied in the on-premise environment – they simply change the time they start drinking or drink more quickly within constrained timeframes.
- Fourth, as outlined below, the development of informal supply sources is a likely result of a significant reduction in formal sources.
- Fifth, a larger number of well-designed venues with a high responsible service of alcohol ethos is likely to play a role in limiting harm.

**Evidence from “natural experiments” and longitudinal studies is also unconvincing**

There are a very small number of studies that seek to measure the effects of a change in policy or correlate changes in license density with harms over time.

Despite the arguments made in *No Ordinary Commodity*, there have been very mixed results from such “natural experiments” and longitudinal data studies\(^\text{104}\) and it is simply


incorrect to suggest that they provide reliable evidence of a link between outlet density and harm.

One of the challenges in analysing real world policy changes is that there is no means to adjust results for other policy initiatives implemented at the time of change and throughout the research period.

Such changes are rarely introduced in a vacuum and tend to reflect a broader suite of policy and attitude changes at the time of implementation. Further, in respect of longer time series analysis, a range of broader cultural and socio-economic changes and influences are at play.

Nations, cities and suburbs change – they urbanise, gentrify, increase in population density – and this affects the number of outlets, age profile and socio-cultural background of the people who live or socialize there etc.

Other changes occur in social attitudes, law, policing policy, statistics collection and social changes like the breakdown of traditional family structures. There is no way to effectively control for these variables and in the very small number of longer-term studies its clear these factors are at play.

Again, these studies fail to deal with the fact that outlets service demand rather than cause it. If an area urbanises and population density increases, this will result in greater demand for venues and outlets. It is also plausible that increased density will correlate with higher levels of violence and anti-social behaviour.

Changes in the nature of an area as an entertainment or retail destination over time may have the effect of attracting people away from other areas to the area.

Regardless, results from these studies are inconsistent.

**Nations with highly restrictive alcohol laws are among those reporting the highest levels of harm**

Looking at international precedents is an area strangely ignored by the proponents of greater restrictions. Dr Eric Crampton\(^{105}\) recently looked at the relationship between drinking patterns in various nations with the restrictiveness of their licensing and taxation approach as outlined above.

Price and taxation are relevant because one of the key arguments on density (despite the fact studies don’t tend to show a correlation between density and consumption levels) seems to be that competition between outlets will drive down prices and increase consumption.

There are other practical examples of relevance to Australia. In a nation with many cultural similarities to large parts of the Australian population, the United Kingdom, for many years employed restrictive trading hours that allowed very limited late night trading. These were accompanied by very high-level binge drinking in advance of 11pm last drinks restrictions and were relaxed as a consequence in the last decade.

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105 [http://offsettingbehaviour.blogspot.co.nz](http://offsettingbehaviour.blogspot.co.nz)
While, clearly, any level of misuse or anti-social behaviour is undesirable and reasonable steps should be put in place to tackle it, it is inaccurate to suggest that current Australian regulation is not working well when compared to international comparisons.

**No relationship between density and underage misuse**

There is simply no compelling evidence to suggest that ‘exposure’ to alcohol marketing outside stores or venues is in any way a driver of underage drinking.

Studies are included in Babor et al which prove little more than that areas with higher outlet density are populated by a higher number of youth and young adult misusers. Clearly, more venues equals more people, which means more younger people as a proportion of the total local population. This does not prove that the density causes the underage drinking or young adults to drink excessively. It simply proves there are more people of all ages in high-density areas and that venues tend to be in higher density areas.

Advocates of greater restrictions on advertising often say that ‘exposure to’ alcohol venues, stores and advertising ‘normalises’ alcohol consumption for young people. Young people are exposed from birth to a range of powerful immediate influences, most importantly their parent and family role modelling behaviours.

They attend all aged social and community events. They are exposed to non-paid media and the arts. As they approach the legal drinking age, they are influenced by elder siblings, their siblings’ peers and, of course, their own peers.

Intuitively, the mere sight of stores, pubs and restaurants in the street could never play a particularly powerful role in the context of this powerful socio-cultural complex.

International research indicates that by far the major influences on underage drinking are deep-seated cultural factors, most notably, peer group norms, parental drinking behaviour and their ability to access alcohol, which is quite a different matter to them simply seeing stores or pubs in daily life.

Indeed, most young people get alcohol from their parents, older siblings or friends and there is other evidence to suggest those who currently find a way around restrictions would simply find informal supply sources if they were prevented from doing so.

Clearly, this reinforces what we intuitively know – that socio-cultural factors driver underage drinking and that underage drinkers are remarkably resourceful should they wish to acquire alcohol from informal sources.

Donovan’s review of the risk factors for adolescent alcohol initiation concluded that “the most consistent antecedent risk factors for starting to drink in adolescence were parental and peer approval and models for drinking”.106

Evidence from overseas jurisdictions where partial or complete adverting bans have been implemented demonstrate no impact on consumption or alcohol related harm.

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Virtually all econometric, cross-sectional, and case studies on advertising restrictions have found that marketing has no or very modest effects on alcohol consumption.\textsuperscript{107}

**Unintended consequences**

In changing the licensing rules, there is evidence to suggest that all we achieve is to displace violent and anti-social individuals to other locations, including the home or grow the number of patrons attending a smaller number of licenses.

For instance, in NSW across 2007 and 2008 a range of factors, including the economic slowdown and smoking legislation appear to have caused a significant shift from on-premise drinking to drinking in domestic situations.

This would appear to have shifted the location of violent acts from public places to the home.\textsuperscript{108}

![Domestic and non-domestic assault, NSW](image)

In respect of on-premise licences, given the evidence suggests that consumption levels are unrelated to density, it is reasonable to believe that more people would pack into less venues in the event the number of licenses was reduced.

There are studies that suggest increased patronage for venues may have led to greater levels of crowding that may in turn lead to increased levels of violence, not only within the venue but also in the immediate vicinity where patrons queue for limited transport services. Several studies have identified that one of the major situational factors that contributes to patron frustration and aggression in licensed environments is overcrowding.\textsuperscript{109}

There is also a school of thought that suggests policing is easier if venues are closer together as opposed to highly dispersed. This is supported by the experience in Christchurch, New Zealand, following the 2011 earthquake and the subsequent

\textsuperscript{107} Broadbent, 2008; Nelson and Young, 2008; Nelson, 2007; Gallet, 2007; Lariviere et al, 2000; Duffy, 1999.

\textsuperscript{108} BOCSAR, NSW, Australia.

\textsuperscript{109} Homel and Clark, (1994); Graham et al. (1980).
shutdown of the central city bars and nightclubs when complaints about noisy parties in suburban areas nearly tripled. The Christchurch City Council received more than 15,000 noise complaints in the year to June 2012.

Christchurch City Council’s inspections and enforcement officer, Gary Lennan says during that period, the number of complaints for parties also significantly increased, with almost all coming from residential areas: “Party and band noise seem to be leading these increases and it is thought that the quakes have influenced this by reducing the number of official venues and bars, causing more celebrations to occur at private homes.”

Further, good venue operators are committed to being a positive influence in the local community and more likely to reduce issues than add to them. It is likely that the addition of a good licensee will reduce rather than add to harm.

Outlet density – conclusion

In respect of both on- and off-premise licenses, the argument of the anti-alcohol campaigners would appear to be that the average Australian has such poor impulse control that the mere sight or convenient proximity of a store or venue is likely to result in the start of a drinking session and that should they drink, they will cause harm to themselves or others.

In reality, as outlined above, drinking behaviour is driven by culture, family and environmental influences such as the quality of the drinking environment and who we are with as opposed to the immediate proximity of a store or venue.

People who wish to drink will drink. Regardless of the level of overall density, there will always be a reasonably proximate venue for those who wish to do so. Most on-licence drinkers plan ahead, select a venue to meet friends or maintain a regular ‘local’.

Off-licence drinkers are attracted to venues on the basis of convenience to home, travelling routes or the place they buy food or go out for dinner.

That the nearest option is no longer a few hundred metres down the road is unlikely to have a major impact beyond slightly inconveniencing responsible drinkers. Problem drinkers will inevitably source alcohol or find venues to consume regardless of trading hours or the number of licenses in an area. Misuse is caused by socio-cultural factors. Unless you tackle them, you risk simply shifting the problem. Indeed, problem drinking is largely unaffected by price, marketing and availability of alcohol.

Hours and days of trade

The research presented to support restrictions on trading hours is not strong.

Babor et al acknowledge Scotland’s decision to deregulate in the 1970s produced “mixed results” and also say that other UK studies found no increase in chronic problems such as liver cirrhosis, alcohol dependence, total alcohol related deaths,

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alcohol pancreatic disease and hospital admissions.\textsuperscript{111}

It seeks to explain this by saying that changes “\textit{would not be expected with only one hour increase in trading hours}.” Clearly, hospital admissions would be likely to be correlated with violence, personal injury, drink driving and other forms of anti-social behavior in the absence of any other changes affecting the data set.

Not mentioned by activists is research suggesting that longer drinking hours lead to lower consumption as people pace themselves and do not succumb to fast drinking within restrictive trading hours.\textsuperscript{112}

Other evidence suggests longer trading hours prevent the mass exit at a single time, enabling police to better control and patrol high-risk areas at high-risk times.\textsuperscript{113}

Marsh and Kibby looked at an effort to reduce street violence in the Netherlands with various localities allowing premises to determine their own trading hours, thereby staggering closing times and creating an environment where alcohol was continuously available. Police and authorities noted reductions in the levels of public disorder brought about by patrons moving between early and late trading venues.

In respect of the more recent UK move to 24 hour trading, a report produced for the UK Home Office\textsuperscript{114} compared the periods before and after the change and found a 1\% rise in the overall number of violence, criminal damage and harassment incidents between 6pm and 6am in a data set which has a history of similar minor fluctuations.

Indeed, Babor et al reference another study, Hough and Hunter 2008,\textsuperscript{115} which found similar increases in nighttime incidents “yet concluded that expanded opening hours had little effect on crime”.

Interestingly, Babor et al reference that there has been a “limited uptake of extended trading hours by licensed premises” despite the relaxation of the regime. This suggests it is not possible to simply create demand where it does not exist by creating new outlets.

Strangely having dismissed the UK evidence based on the fact it related only to a one-hour change, Babor et al do place significant emphasis on a range of Studies led by Chikritzhs and Stockwell that look at a one-hour change in licensing hours in Western Australia. These include the study by Chikritzhs and Stockwell referred to in the draft National Alcohol Strategy.\textsuperscript{116}

Indeed, activists in both Australia and New Zealand generally tend to point to work by Chikritzhs and Stockwell and also two Australian studies by Miller et al as evidence for restrictions in trading hours.

\textsuperscript{111} Duffy and Plant 1986; Duffy and Pinot de Moira 1996.
\textsuperscript{112} Raymond 1969.
\textsuperscript{113} Marsh and Kibby 1992.
\textsuperscript{114} Babb 2007.
\textsuperscript{115} The 2003 Licensing Act’s impact on crime and disorder: an evaluation. \textit{Criminology and Criminal Justice} 8, 239-60.
\textsuperscript{116} Chikritzhs and Stockwell 2002, The impact of later trading hours for Australian public houses (hotels) on levels of violence; (2006) The impact of later trading hours for hotels on levels of impaired driver road crashes and \textit{driver} breath alcohol levels, \textit{Addiction} 101, 1254-64; (2007) The impact of later trading hours for hotels (public houses) on breath alcohol levels of apprehended impaired drivers.
Chikritzhs and Stockwell looked at the extension of trading from midnight to 1 am from 1993 until 1997 in a relatively small number of venues in Perth, Western Australia. Given the significant population increase during the period of the study, socio-cultural changes and a change in Police Commissioner toward the start of the study, there is cause to question whether the increase in assault statistics recorded in venues that decided to trade for an additional hour could have been caused by factors other than the one-hour change in licensing hours.

Miller et al\textsuperscript{117} conducted two studies, one with the acronym DANTE and the other POINTED. The DANTE study is a five-year case study looking at the effectiveness or otherwise of various interventions in two smaller Australian cities – Newcastle and Geelong. The places were chosen because they were thought to be similar.

The POINTED study is a one-time data collection and statistical analysis across five Australian cities, including Geelong, Melbourne, Perth, Sydney and Wollongong. The study involved analysis of harm and crime statistics, short patron interviews and in some cases testing for blood alcohol concentration (BAC) and drug toxicity.

Both studies are focussed on the on-premise drinking environment and offer no insights whatsoever on the impact of off-license trading hours or license density.

The DANTE study is interpreted to suggest that March 2008 restrictions in Newcastle (often referred to as section 104 conditions) which included among other measures restrictions to 3.30 am closing and 1.30 am lock-outs and concluded they were likely to be the only measures to have caused a reduction in harm, apparently evidenced by a reduction in assaults and injury-related emergency room presentations during hours where drinking is common.

These conclusions are speculative. In reality, similar decreases in harm from around 2008 were seen across NSW as shown in the graph above. Miller et al failed to adequately consider major changes in Newcastle itself during the study period and also to look beyond Newcastle to understand the context for the Newcastle changes and take full account of a range of other factors including new smoking restrictions across NSW and the economic slowdown, which reduced on-premise drinking.

Geelong, which again was chosen because of its similarity exhibited much lower levels of harm at the beginning of the study reflecting years of voluntary action on behalf of local hoteliers in partnership with community and law enforcement stakeholders. There is strong cause to believe the ‘low hanging fruit’ may already have been picked in Geelong.

Further, there is evidence that in the early days of the s. 104 conditions in Newcastle little changed (it is widely accepted that the data remained unchanged for around 9 months), but subsequently hoteliers united in an attempt to deal with violence and anti-social behaviour and police increased bail checks on repeat offenders and these factors are therefore likely to have been the most significant influencers on the data not canvassed in DANTE.

Further, an objective interpretation of the POINTED study suggests there is no relationship between the licensing regime and trading hours in place and the average level of intoxication of people in or around licensed premises. It provides no evidence

\textsuperscript{117} NDLERF Patron Offending and Intoxication in Night-Time Entertainment Districts (POINTED) FINAL REPORT A/Prof Peter Miller et al Monograph Series No. 462013; Miller et al (2012) Dealing with alcohol-related harm and the night-time economy (DANTE), NDLERF Monograph no. 43, Deakin University.
whichever to suggest restricting trading hours or reducing the number of licenses will reduce harms.

In reality, there is nothing in this report that supports the proposition that licensing regimes, opening hours or license density are drivers of misuse, injury, property damage or aggressive behaviour.

The only sensible conclusion from this research would be that a combination of factors are driving the individual drinking cultures in various cities in Australia, most significantly socio-economic, weather and cultural factors. As the reports introduction concedes, the sites differ substantially in terms of their demographics, cultural make-up, the licensing regimes and their levels of enforcement.

Assuming the data is reliable, the main conclusion that can be drawn is that people will find a way to drink the amount they wish to drink regardless of the licensing regime.

In terms of both opening hours and venue density, Melbourne is the most liberal regime in Australia. The number of licences in Victoria rose from 4,000 in 1986 to 19,300 at the time of the survey. Despite this, respondents said they had been out on average for broadly the same amount of time as respondents in Wollongong who experienced the shortest trading hours.

At the time of survey (before the recent changes to the Sydney CBD drinking hours, Sydney also had a large number of late trading venues and high license density. Mean BAC in Sydney was the lowest of the cities surveyed at 0.33, Melbourne second lowest at 0.048 and Wollongong was broadly on par with Geelong and Perth at 0.66. So, despite the most heavily restricted trading hours with most venues closing around midnight, we see Wollongong record significantly higher BAC than the least regulated environments.

The data suggests they simply start earlier and drink harder to get to their desired level of drunkenness. Indeed Wollongong drinkers get drunker than Sydney and Melbourne drinkers and as drunk as Geelong and Perth drinkers in slightly less time in all probability because of the constrained licensing hours. This phenomenon is further supported by time series data that suggests just under 45% of Wollongong drinkers had a BAC of greater than .10 at 12pm, second only to Geelong at any point throughout the night.

Indeed, the researchers themselves concede that:

“While the trading hours are earlier in Wollongong, the patterns of intoxication are very similar to those of other cities. They do occur earlier in the evening suggesting that earlier trading hours may shift drinking cultures to the evening rather than late-night/early morning economy”.

In reality, there are significant differences in levels of intoxication at different times of night in different places – most likely driven by a combination of culture, trading regimes and socio-economic factors.

In Melbourne, despite it being the most de-regulated trading environment in Australia – with the highest number of licenses and more 24-hour trading, we never see proportions of .10 being higher than a peak of 30% at 2am and for the rest of the night doesn't get above 25% and indeed declines most 2am and remains lower until 4pm.
Melbourne is the only Australian city to have been designated a Safe Community by the WHO. Despite the proliferation of licenses and significant increase in the number of patrons on the City of Melbourne area, the number of offences committed has trended down over the last decade.

It’s also worth noting that the timing of the very small number of incidents witnessed by researchers was relatively early in the evening. Researchers themselves observed only 14 aggressive physical incidents in almost 900 hours of fieldwork and of those, none happened after 2am. Indeed, while again major questions exist on the statistical reliability of the sample, two occurred between 11pm and 12pm, nine between 12pm and 1am and three between 1am and 2am.

A theory not floated by the researchers is that there would be a large number of venues closing between 12pm and 1am in all the cities featured and a combination of large numbers of people leaving venues at the same time coupled with limited transport options and venue design limitations etc. may cause a concentration of incidents at that time.

This of course would be an argument for longer trading hours to spread out the timing of departures and minimise pressure on exits and transport infrastructure at peak times.

Both the high profile Kings Cross single punch incidents in Sydney occurred at around 9pm, so no amount of trading hour regulation was likely to impact them.

Studies relied upon in the Consultation Draft

- There is a large body of research, mostly from Australia, New Zealand, the United States and Scandinavian countries where substantial alcohol deregulation has occurred, highlighting that increasing alcohol availability has resulted in increased risky drinking, assault rates, child maltreatment, drink-driving, car crashes and hospital admissions. (Freisther et al 2008), (Scribner et al 1994), (Guria et al 2003), (Kypri et al 2006) and (Chikritzhs and Stockwell, 2006)

- The World Health Organization has identified that taxation, restricting availability and implementing bans on advertising are the most efficient strategies to minimise the harmful use of alcohol. They are highly cost-effective in reducing the alcohol-attributable deaths and disabilities at the population level. In respect of availability the WHO relies upon (Campbell et al., 2009), Hahn et al., 2010; Middleton et al., 2010),

A critique of these sources

a. License density

While some try to present the case for reducing or limiting the number of licenses in an area as an open and shut case, there is no compelling evidence that density has any impact on overall alcohol misuse levels or harm.
Indeed a recent report by the New Zealand Law Commission\textsuperscript{118} acknowledged the flimsy evidence-base, saying: “It must be acknowledged, however, that the studies on outlet density and neighbourhood-level alcohol consumption have shown mixed results.”

Further, many of the studies quoted by proponents of greater restrictions do themselves acknowledge the weakness of the evidence base. For instance Cameron et al\textsuperscript{119} comments that: “The international academic literature provides mixed results for the relationship between liquor outlet density and a range of outcome variables. There are studies showing that liquor outlet density has significant positive effects …\textbf{However other studies show no statistically significant effects, or even significant negative effects. The wide range of results and methodologies employed makes it difficult to arrive at general conclusions about the relationship between outlet density and outcome variables.} Further, it is likely that these relationships are highly context specific, as well as varying temporally, spatially and by the type of outlet considered”.

And:

“Considering all potential explanations for the effect of alcohol outlets on social harm, many studies adopt an ecological approach, i.e. they focus on environmental factors (one of which is alcohol outlet density) as an explanation of alcohol-related harm (Gruenewald et al., 2002).\textbf{One potential problem with ecological studies is that they do not adequately separate the effect of liquor outlet density from other effects. For instance, neighbourhoods with high levels of alcohol consumption (and consequent levels of alcohol-related harm) will naturally attract liquor stores looking to profit from local demand for alcohol. This will tend to mask the true effect of liquor outlet density on alcohol-related harm, because high levels of alcohol-related harm would be present even without increased liquor outlet density. In other words, ecological studies cannot adequately explain why there may be an observed relationship between liquor outlet density and the outcome variable.}”

While we could quibble with the assumptive language around ‘alcohol-related harm’, the central themes outlined here shine a light on the gaping limitations of the evidence-base. The most often quoted paper in support of additional controls is once again Babor et al’s No Ordinary Commodity (NO ORDINARY COMMODITY).\textsuperscript{120}

Babor et al describe the object of availability limitation policies as to “reduce overall drinking in the population and thus drinking-related problems … when alcohol is readily available through commercial or social sources, consumption and associated problems increase … Conversely, when restrictions are placed on availability, alcohol use and associated problems reduce”.

License control policy is “\textbf{based on the assumption that reductions in supply increase the full costs of alcohol and thereby reduce alcohol consumption}”.

\textsuperscript{118} Law Commission Report: Alcohol in our Lives: Curbing the Harm
(Chaloupka et al 2002). That is, as alcohol availability decreases, convenience costs to the consumer increase and vice versa. Thus physical availability has the potential to influence the consumer’s demand for alcoholic beverages as well as the supply. However, this line of argument is undermined by the fact that the majority of studies have not identified a relationship between license density and levels of drinking.

**Clearly, the lack of connection between outlet density and consumption suggests the causes of violence and anti-social behavior are somewhat more complex than alcohol consumption.**

The lack of relationship is likely to be because all those who wish to drink, and particularly problem drinkers, are highly unlikely to be deterred by additional travel to the nearest outlet. Further, despite arguments of activists to the contrary, there is little evidence to suggest that outlet density inherently causes price competition.

There is also a counter argument to suggest that fewer larger outlets – the inevitable result of a lower number of licenses - could have higher bargaining power versus suppliers and be able to pass on lower prices to consumers.

Further, the existence of a causal link between alcohol consumption and anti-social and violent behavior at an individual level is a subject of significant academic debate. Clearly, the vast majority of people will never become violent or behave in an anti-social manner regardless of their level of intoxication. Evidence suggests that alcohol can be used as a socially sanctioned 'license to transgress' by individuals with a predisposition to anti-social and violent behavior as opposed to removing the individuals ability to control their behavior or causing otherwise responsible people to behave entirely out of character. 121

Lipsey et al 122 conducted a meta-analysis of a wide range of studies across the full range of research methodologies and concluded that: “The research base relevant to the question of the causal role of alcohol consumption in violent behavior, despite its overall volume, is very unsatisfactory. It is permeated by problems of inadequate experimental and statistical control, questionable generalizability to socially important forms of violence, limited attention to individual differences and moderator variables, weak conceptualizations of the issue, and capricious operationalizations of the key variables. **As a result, the causal issue is still cloudy and uncertain**” and also “While a causal influence of alcohol consumption on violence cannot be ruled out with present evidence, it seems apparent that there is no broad, reliable, "main effect" of alcohol on violence, analogous to the easily demonstrated and almost ubiquitous effects on motor and cognitive functioning that occur at sufficient doses. If alcohol has any causal effects on violence, they almost certainly occur only for some persons and/or some circumstances. **The most important research question regarding the alcohol–violence relationship, therefore, is not one of global causal influence. Rather, it is the more focused question of what individual differences, moderator, and situational variables characterize circumstances in which alcohol might potentiate violent behavior**”.

This evidence would tend to support interventions targeted at the underlying drivers of behavior for the hard core of anti-social and violent individuals rather than population-

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121 Dr Anne Fox (2008) Sociocultural Factors that Foster or Inhibit Alcohol-related violence, Alcohol and Violence: Exploring Patterns and Responses.
wide availability interventions designed to reduce levels of alcohol consumption across the population.

The lack of relationship between outlet density and consumption has clearly been seen as an inconvenience for many activists and caused a number of researchers to put forward flimsy theories to explain how harms could arise from density without an increase in drinking.

In searching for an explanation Babor et al acknowledge the “precise mechanisms behind this relationship is unclear” but goes onto quote ‘routine activities theory’ which suggests that outlets bring together more people “who can fulfill the roles of both victim and aggressor which increases overall levels of violence”.

While no-one would disagree that more violent people in an area would be likely to cause more violence, the suggestion that there is some kind of ‘multiplier effect’ is highly speculative and not supported by evidence. For those inclined to violence and anti-social behavior, there is always a decent supply of victims regardless of the number of venues they could visit.

Any reasonable observer would suggest the most plausible explanation for the lack of correlation between density and consumption is that density alone is not a driver of misuse.

b. Hours and days of trade

The research presented to support restrictions on trading hours is incredibly weak. Babor et al acknowledge Scotland’s decision to deregulate in the 1970s produced “mixed results” and also say that other UK studies found no increase in chronic problems such as liver cirrhosis, alcohol dependence, total alcohol related deaths, alcohol pancreatic disease and hospital admissions.\(^{123}\)

It seeks to explain this by saying that changes “would not be expected with only one hour increase in trading hours.” Clearly hospital admissions would be likely to be correlated with violence, personal injury, drink driving and other forms of anti-social behavior in the absence of any other changes affecting the data set.

Not mentioned by activists is research suggesting that longer drinking hours lead to lower consumption as people pace themselves and do not succumb to fast drinking within restrictive trading hours.\(^{124}\) Other evidence suggests longer trading hours prevent the mass exit at a single time, enabling police to better control and patrol high-risk areas at high-risk times.\(^{125}\) Marsh and Kibby looked at an effort to reduce street violence in the Netherlands with various localities allowing premises to determine their own trading hours, thereby staggering closing times and creating an environment where alcohol was continuously available. Police and authorities noted reductions in the levels of public disorder brought about by patrons moving between early and late trading venues.

In respect of the more recent UK move to 24 hour trading, a report produced for the UK Home Office\(^{126}\) compared the periods before and after the change and found a 1% rise

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in the overall number of violence, criminal damage and harassment incidents between 6pm and 6am in a data set which has a history of similar minor fluctuations. Indeed, Babor et al reference another study, Hough and Hunter 2008,\(^{127}\) which found similar increases in nighttime incidents "yet concluded that expanded opening hours had little effect on crime".

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Having dismissed the UK evidence based on the fact it related only to a one-hour change, Babor et al do place significant emphasis on a range of Studies led by Chikritzhs and Stockwell that look at a one-hour change in licensing hours in Western Australia. These include the study by Chikritzhs and Stockwell referred to in the Consultation draft.\(^{128}\)

Indeed, proponents of stronger restrictions in both Australia and New Zealand generally tend to point to work by Chikritzhs and Stockwell and also two Australian studies by Miller et al as evidence for restrictions in trading hours.

Chikritzhs and Stockwell looked at the extension of trading from midnight to 1am from 1993 until 1997 in a relatively small number of venues in Perth, Western Australia. Given the significant population increase during the period of the study, socio-cultural changes and a change in Police Commissioner toward the start of the study, there is cause to question whether the increase in assault statistics recorded in venues that decided to trade for an additional hour could have been caused by factors other than the one-hour change in licensing hours.

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\(^{129}\) NDLERF Patron Offending and Intoxication in Night-Time Entertainment Districts (POINTED) FINAL REPORT A/Prof Peter Miller et al Monograph Series No. 462013; Miller et al (2012) Dealing with alcohol-related harm and the night-time economy (DANTE), NDLERF Monograph no. 43, Deakin University.
reduction in assaults and injury-related emergency room presentations during hours where drinking is common.

These conclusions are fairly speculative. In reality, similar decreases in harm from around 2008 were seen across NSW as shown in the graph above. Miller et al failed to adequately consider major changes in Newcastle itself during the study period and also to look beyond Newcastle to understand the context for the Newcastle changes and take full account of a range of other factors including new smoking restrictions across NSW and the economic slowdown, which reduced on-premise drinking.

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Further, there is evidence that in the early days of the s. 104 conditions in Newcastle little changed (it is widely accepted that the data remained unchanged for around 9 months), but subsequently hoteliers united in an attempt to deal with violence and anti-social behaviour and police increased bail checks on repeat offenders and these factors are therefore likely to have been the most significant influencers on the data not canvassed in DANTE.

Further, an objective interpretation of the POINTED study suggests there is no relationship between the licensing regime and trading hours in place and the average level of intoxication of people in or around licensed premises. It provides no evidence whatsoever to suggest restricting trading hours or reducing the number of licenses will reduce harms.

In reality, there is nothing in this report that supports the proposition that licensing regimes, opening hours or license density are drivers of misuse, injury, property damage or aggressive behavior.

The only sensible conclusion from this research would be that a combination of factors are driving the individual drinking cultures in various cities in Australia, most significantly socio-economic, weather and cultural factors. As the reports introduction concedes, the sites differ substantially in terms of their demographics, cultural make-up, the licensing regimes and their levels of enforcement.

In terms of both opening hours and venue density, Melbourne is the most liberal regime in Australia. The number of licences in Vic’ rose from 4000 in 1986 to 19,300 at the time of the survey. Despite this respondents said they had been out on average for broadly the same amount of time as respondents in Woolongong who experienced the shortest trading hours. At the time of survey (before the recent changes to the Syndney CBD drinking hours, Sydney also had a large number of late trading venues and high license density.

Mean BAC in Sydney was the lowest of the cities surveyed at 0.33, Melbourne second lowest at 0.048 and Wollongong was broadly on par with Geelong and Perth at 0.66. So, despite the most heavily restricted trading hours with most venues closing around midnight, we see Wollongong record significantly higher BAC that the least regulated environments.
This phenomenon is further supported by time series data that suggests just under 45% of Wollongong drinkers had a BAC of greater than .10 at 12pm, second only to Geelong at any point throughout the night.

Indeed, the researchers themselves concede that:

“While the trading hours are earlier in Wollongong, the patterns of intoxication are very similar to those of other cities. They do occur earlier in the evening suggesting that earlier trading hours may shift drinking cultures to the evening rather than late-night/early morning economy”.

In reality there are significant differences in levels of intoxication at different times of night in different places – most likely driven by a combination of culture, trading regimes and socio-economic factors.

In Melbourne despite it being the most de-regulated trading environment in Australia – with the highest number of licenses and more 24 hour trading, we never see proportions of .10 being higher than a peak of 30% at 2am and for the rest of the night doesn't get above 25% and indeed declines most 2am and remains lower until 4pm.

Melbourne is the only Australian city to have been designated a Safe Community by the WHO. Despite the proliferation of licenses and significant increase in the number of patrons on the City of Melbourne area, the number of offences committed has trended down over the last decade.

It's also worth noting that the timing of the very small number of incidents witnessed by researchers was relatively early in the evening. Researchers themselves observed only 14 aggressive physical incidents in almost 900 hours of fieldwork and of those, none happened after 2am.

Indeed, while again major questions exist on the statistical reliability of the sample, 2 occurred between 11pm and 12pm, 9 between 12pm and 1am and 3 between 1am and 2am.

A theory not floated by the researchers is that there would be a large number of venues closing between 12pm and 1am in all the cities featured and a combination of large numbers of people leaving venues at the same time coupled with limited transport options and venue design limitations etc. may cause a concentration of incidents at that time. This of course would be an argument for longer trading hours to spread out the timing of departures and minimise pressure on exits and transport infrastructure at peak times.

Both the high profile Kings Cross ‘King Hit’ incidents in Sydney occurred at around 9pm, so no amount of trading hours regulation was likely to impact them.

c. If communities really want to deal with anti-social behavior, they must tackle the underlying causes

Evidence suggests that violence and anti-social behavior in the nighttime economy will be reduced by addressing the following:
Repeat offenders with high levels of social dysfunction – these offenders need to be carefully managed to reduce the risk to the community.\textsuperscript{110}

Deprivation and low socio-economic circumstance is correlated with some forms of violence and anti-social behavior, although it is far from a perfect or entirely direct relationship.\textsuperscript{131} For instance Rutter et al’s extensive summary of the evidence on this matter concluded that: “… the weight of evidence suggests that social disadvantage and poverty are involved as distal factors in the causal processes that lead to anti-social behavior; however, insofar as the risks are environmentally mediated, the more proximal mechanisms involve the adverse patterns of parenting engendered by parental depression, which in turn derive from the family stresses involved in the broader adverse social situations. It is important to appreciate, however, that the finding that most of the effects of poverty are indirect does not negate its role in the causal chain. The National Youth Survey longitudinal analyses showed that relief of poverty brought benefits in family functioning.” As this current paper demonstrates, great care should be taken in presuming that correlation equals cause. However, there would appear to be a case to further explore the relationship between inequality and deprivation, family stress, poor parenting, social dysfunction and levels of violence and anti-social behavior and considering how far local communities could reduce anti-social behavior by tackling these factors:

- Excessively macho cultures – much violence and anti-social behavior is caused by a combination of misguided displays of manliness in front of the peer group (for instance, the ‘you spilled my drink phenomenon’), a quest for status or control over another person (often among those who feel disempowered by other parts of their lives) and mistaken ideas of chivalry in defense of the honor of a woman or the like – this needs to be attacked through campaigns to change the social norms and stigmatize this kind of behavior. Clear social rules of behavior are needed along with real and strongly perceived social and punitive consequences for breaking them\textsuperscript{132}

- Licensing regimes that encourage and support good operators to thrive and to potentially acquire or open more outlets. Among other factors, such operators apply high standards of Responsible Service of Alcohol and design and present their venue well.

- Drinking environments should be designed with conflict reducing features and without ‘frustration factors’ like poor exits, toilets and transport options\textsuperscript{133}

\textsuperscript{110} Dr Anne Fox (2008) Sociocultural Factors that Foster or Inhibit Alcohol-related violence, Alcohol and Violence: Exploring Patterns and Responses.
\textsuperscript{132} Dr Anne Fox (2008) Sociocultural Factors that Foster or Inhibit Alcohol-related violence, Alcohol and Violence: Exploring Patterns and Responses.
\textsuperscript{133} Ibid.
Communities should seek to avoid placing a large number of patrons out onto the street at the same time with limited access to transport and amenities. There is a case for less specific closing restrictions which allow a staged departure over time, ensuring good quality public transport, decent public place licensing and careful management of local food outlets to minimize trouble spots outside the licensed environment.

- Consistent and fair application of Responsible Service of Alcohol can make a real difference.
- Stop allowing violent offenders to blame drinking and take full responsibility for their actions, including via the law.

Annex A: detailed review of the evidence-base relied upon to argue for significant trading restrictions

Babor et al’s No Ordinary Commodity (NO ORDINARY COMMODITY) is the report most often cited to support additional trading restrictions.

The evidence base put forward in No Ordinary Commodity in support of restrictions on license density and trading hours is characterized by significant limitations and speculative conclusions. The interpretation placed on the evidence by Babor et al appears influenced by the pre-existing belief in command and control measures held by the authors rather than an objective review of the quality of the evidence.

License density

Babor et al describe the object of availability limitation policies as to “reduce overall drinking in the population and thus drinking-related problems … when alcohol is readily available through commercial or social sources, consumption and associated problems increase … Conversely, when restrictions are placed on availability, alcohol use and associated problems reduce”.

License control policy is “based on the assumption that reductions in supply increase the full costs of alcohol and thereby reduce alcohol consumption” (Chaloupka et al 2002). That is, as alcohol availability decreases, convenience costs to the consumer increase and vice versa. Thus physical availability has the potential to influence the consumer’s demand for alcoholic beverages as well as the supply”. However, the majority of studies have failed to identify a relationship between licence density and alcohol consumption levels.

This is acknowledged in Babor et al where they say: “Studies have been less consistent in terms of the association between outlet density with alcohol consumption.” And later: “A simple explanation is that outlets affect levels of consumption, which in turn affect violence rates. However, the mixed results from analyses of consumption suggest outlet densities may influence rates without necessarily increasing consumption.”

Babor et al argue that one study by Gruenewald et al (1993) suggested a correlation between changes in outlet density over time was related to sales (but not necessarily misuse) state-wide. A read of this study suggests Gruenewald et al is far from

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conclusive, appears to be focused only on wine and spirits outlet density with beer not mentioned and among other things suggests that “Spreading out alcohol outlets, thus increasing travel time and distance to and from sources for alcoholic beverages, may result in increases rather than decreases in problems. Thus, Colon, et al and Smart and Docherty have suggested that reductions in outlet densities may result in increases rather than decreases in drunk driving and alcohol related traffic fatalities.”

Further, Babor et al do acknowledge that a follow-up study led by the same academic (2000) at the neighbourhood level found no relationship between outlet density and drinking behavior.135

Clearly, the lack of connection between outlet density and consumption suggests the causes of violence and anti-social behavior are somewhat more complex than alcohol consumption.

Indeed, a number of the studies referenced in No Ordinary Commodity identify no relationship between licence density and per capita consumption and seek to put forward various flimsy theories as to why this should not mean that there is no relationship between density and violence.

In searching for an explanation Babor et al acknowledge the “precise mechanisms behind this relationship is unclear.”

Any reasonable observer would suggest that they should perhaps place greater emphasis on exploring the likely explanation that violence is correlated with the number of violent people frequenting an area, not caused by the number of outlets. However, Babor et al entertains less plausible theories that higher densities allow the “emergence of niche establishments, some of which attract violence-prone patrons and thus increase the likelihood of violent encounters”. Clearly it is the job of the licensing regime to ensure poorly managed venues are dealt with and the evidence suggests that in reality restrictions on the number of licences leads to fewer, larger venues which may actually be unhelpful in attempts to manage misuse. Much policy in our region has been to encourage more niche high-quality venues in order to create drinking environments more encouraging of moderation.

Indeed, none of the studies in Babor et al can deal adequately with the type of venue and the ability of an effective licensing regime to encourage good operators and healthy drinking environments and discourage rogue operators.

Babor et al lastly quotes ‘routine activities theory’ (e.g. Roncek and Maier 1991; Smith et al 2000; Parker 2004) which suggests that “one role of outlet density in violence is to bring together more people (particularly young intoxicated males) who can fulfill the roles of both victim and aggressor.” This is a highly speculative theory and there is certainly no evidence to support some kind of ‘multiplier’ effect.

Regardless, it is always worth remembering that per capita consumption and misuse are not one and the same and that policy should target misuse and poor behavior, not the vast majority of people who enjoy themselves responsibly.

No Ordinary Commodity quotes a number of cross-sectional studies, which seek to do little more than prove that in places where there are more venues and outlets, there are higher levels of incidents.\footnote{136} This approach is clearly flawed given there will always be more licences in urban areas where there are more people. The venues and outlets simply service demand. Given a small percentage of the population cause the problems, there is likely to be more violence and anti-social behavior where there are more people.

Such research tells us very little. It confuses correlation with cause. Indeed, Norström\footnote{137} comments in his research which is discussed below that “an interesting issue, not only from a prevention perspective, is whether violence in public drinking places is merely the result of such locations attracting violence-prone individuals (selection effects) or whether the number of bars is an additional, exogenous factor that affects the rate of violence. \textbf{It is difficult to disentangle these two effects on the basis of cross-sectional data}—whether ecological or at the individual level - which is the kind of data typically used in past work.”

Clearly these limitations suggest that cross-sectional studies which prove little more than there are more assaults in more populous areas should be set aside in the debate on licensing policy. Indeed, the decision to use some of this research in Babor et al reflects the overall weakness of the evidence-base.

By way of example, one Californian telephone study referenced as evidence of a relationship between density and self-reported drinking and driving in various Californian zip codes, actually concluded that “Whereas restaurant densities were directly related to greater drinking frequencies and DAD, bar densities were inversely related to DAD”.\footnote{138}

Further, ‘drink after driving’ was defined as driving within four hours of having one or more alcoholic drinks, which would clearly put many supposed drink-drivers well within the limits of Australian legislation. Even if we were to entertain the restaurants conclusion, there are a number of more plausible explanations than the extent of license density as the cause of the behavior. One obvious theory could be that there are more restaurants in areas serving older people and that older people have more retrograde attitudes to drinking and driving than younger people who frequent bars and are presumably less likely to own cars.

The second style of research relied upon by Babor et al looks at the effect where restrictions on a type of alcohol have change, for instance wine availability in outlets or the number of outlets selling wine. Clearly no-one would disagree that if a specific restriction on one type of alcohol were lifted, this may lead to an increase in demand for that product over other products or vice versa.

There is no compelling evidence presented in No Ordinary Commodity that such a change would result in an increase in misuse. No Ordinary Commodity refers to one study that looked at a move from a state monopoly to privatization of wine sales in 5 US states and allegedly found an increase in wine consumption without substitution.\footnote{139} However, it then conceded questions were raised about those findings in subsequent...
Policy makers should not be confused into believing that research that suggest that the relative availability of one type of alcohol increases sales of that type of alcohol as evidence that higher license density causes harm.

Lastly, Babor et al looks at a very small body of research seeking to determine the impact of change major changes in licensing policy and/or identify and relationship between increases and decreases in density with harm over time.

Despite the arguments made in No Ordinary Commodity, there have been very mixed results from such “natural experiments” and it is simply incorrect to suggest that they provide reliable evidence of a link between outlet density and harm.

Livingston acknowledged as recently as 2008 the limited research base of any quality saying: “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 10 years”

One of the challenges in analyzing real world policy changes is that there is no means to adjust results for other policy initiatives implemented at the same time of change and throughout the research period. Such changes are rarely introduced in a vacuum and tend to reflect a broader suite of policy and attitude changes at time of implementation. Further, in respect of longer time series analysis, a range of broader cultural and socio-economic changes and influences are at play.

Nations, cities and suburbs change – they urbanise, gentrify, increase in population density - and this affects the number of outlets, age profile and socio-cultural background of the people who live or socialize there etc. There is no way to effectively control for these variable.

For instance, Norström (2000) is one of a handful of longitudinal (non-cross-sectional) research exercises used by No Ordinary Commodity to argue for a relationship between license density and harm, in this case overall national crime statistics.

Any 25-year study will find it very hard to adjust for changes in social attitudes, law, policing policy, statistics collection and social changes like urbanisation and the breakdown of traditional family structures and this Norwegian study is no different. The data set suggests an uptick in license density growth from around 1982. Much later in the 1980s – between 1987 and 1988 – the data presented suggests an uptick against trend in both the investigated and convicted crime rate.

Norström acknowledges the data set was influenced by changes in the 1980s in respect or how assaults were prosecuted (1982) and more significantly a change in the law for the first time allowing offences on private premises to be prosecuted in the absence of a complaint in 1988 which came with a change in police record keeping techniques and appears timed with an explosion in the crime stats. Norström says these changes “may well have inflated both the indicators”.

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Norström attempts to adjust for these variables but ultimately acknowledges:

“Although the differencing technique reduces the risk of obtaining spurious correlations, it is not a fool proof device, particularly not in this case when there is a steady growth in all series. If changes in one or more of other covariates of violence (e.g. neighbourhood disorganisation or police enforcement pattern) are correlated with annual changes in outlet density, our estimates will be plagued by omitted variable bias. A check of whether the results are consistent with other data is therefore warranted.” No such check is referenced by Babor et al.

No Ordinary Commodity relies significantly on two other longitudinal studies, a 6-year Californian study and a 9 year Australian study. These studies seek to correlate changes in various suburbs over time, looking to find a relationship between an increase or decrease in the number or type of licenses over time and the level of violence.

Again, these studies fail to deal with the fact that outlets service demand rather than cause it. If an area urbanises and population density increases, this will result in greater demand for venues and outlets. It is also plausible that increased density will correlate with higher levels of violence and anti-social behavior. Changes in the nature of an area as an entertainment or retail destination over time may have the affect of attracting people away from other areas to the area.

The second longitudinal study, Livingston et al (2008), acknowledges the limitations of longitudinal studies seeking to quarantine one factor in such a nuanced socio-cultural complex: “The major shortcoming of the study is the lack of longitudinal control data, including socio-demographic characteristics of areas, drug market activity, and other retail activity. These variables have all been shown previously to be correlated with rates of violence … and if any of these characteristics changed along with changes in outlet density in the current analyses, then the effects seen could be related to the changes in these unobserved variables”.

The study itself looked at 9 years of assault and licensing data across Melbourne post-codes finding “seemingly small impacts for alcohol outlets on violence” that varied across the sample. As Livingston concedes, there are a large range of factors not controlled for and the study. Clearly in a large city like Melbourne, significant openings in a particular suburb, for instance as it develops, will bring more people into an area and potentially some violent individuals from one place to another. This does not suggest that density has caused more violence to occur than would otherwise have been the case.

Reflecting similar issues, a third longitudinal study by Gruenewald and Remer (2006) – of only 6 years and therefore not meeting Livingston’s standard for reliability of around 10 years - suggests that changes in medium household income and percentage of ‘minorities’ moving into or leaving an area over time were the strongest predictors of changes in the levels of violence.

Increases in restaurants in an area were actually negatively correlated to violence, while the correlation between the growth in the number of bars and violence was positive overall but broadly in line with non-alcohol retail ‘miscellaneous’ stores, most

143 Gruenewald and Remer 2006; Changes in outlet densities affect violence rates. Alcoholism: Clinical and Experimental Research 30, 1184-93.
likely suggesting they were serving the needs of changing populations as opposed to causing them. Indeed, there is no suggestion in the report that access to newspapers, for instance, from miscellaneous stores is causing violence.

When stripped out, the number of bars was actually correlated with low levels of violence in wealthier areas. Increases in off-licence stores were more strongly correlated with violence. The most plausible interpretation of this data is not that density causes violence but that venues service the demand of changing communities. Changes in levels of poverty and socio-cultural dynamics are likely to be driving the violence in specific areas. At the same time venues and outlets are changing to service the demands of the local population.

Poorer people tend not to be able to eat and drink out as often as wealthier people. They buy more take-home or BYO alcohol products as a proportion of their overall spend on alcohol. As an area gentrifies, the value of retail increases, there's an increase in restaurants and a reduction in off-licenses at the type of people living there have different habits.

Of course this does not in any way suggest that it's density that is causing the social change, it's just happening as a response to it.

**Density and drink-driving**

While there would be little surprise if population were correlated with cases of drink driving in that locality, in reality the evidence does not suggest any significant impact. Indeed Babor et al says: “The affects of outlet density on drink-driving, however, appear to be modest.” In fact, density is unlikely to have any impact at all on overall levels of drink driving. While it could impact the suburb the initial consumption occurs in, the nature of drink driving is that the driver is travelling elsewhere and their behavior risks affecting communities beyond the suburb they consumed.

In respect of chronic problem drinkers, it is possible (although the theory has not been adequately tested) that lower off-license density may cause them to spend more time on the roads and place more people at harm.

**Underage access**

Studies are included in Babor et al which prove little more than that areas with higher outlet density are populated by a higher number of youth and young adult misusers. Clearly, more venues means more people, which means more younger people as a proportion of the total audience. This does not prove that outlet density causes the underage drinking or young adults to drink excessively. It simply proves there are more people of all backgrounds in high-density areas and that venues tend to be in higher density areas.

Babor et al references Treno et al 2008\(^{145}\) to argue that: “Alcohol outlet density was found to be related to both perceived ease of access and to alcohol consumption among youth in California”. In fact, the conclusion of that study reads as follows: “Correlates of perceived and actual alcohol access differ somewhat, and the differences between informal and formal access (both perceived and actual) are many,

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creating a complex picture of the patterns of underage access to alcohol. Youth drinking is affected by opportunities and constraints. Specifically, as one form of access becomes constrained, youth appear to circumvent restrictions by relying on other modes of access. **Thus interventions targeting formal alcohol access by youth may result in a shift to reliance on informal or social sources**.

Clearly this reinforces what we all intuitively know – that socio-cultural factors driver underage drinking and that young people who want to drink are remarkably resourceful. Australian data suggest most young people get alcohol from their parents, siblings or friends.

**Hours and days of trade**

The research presented by Babor et al to support restrictions on trading hours is not strong.

Some inconclusive and inconsistent research from significant relaxations in state monopolies is presented. Regardless, these examples do not provide reliable comparisons to the current Australian experience and a number of the nations and territories which have employed state monopolies have historically experienced very high levels of harm.

Babor et al acknowledge Scotland’s decision to deregulate in the 1970s produced “mixed results” and also say that other UK studies found no increase in chronic problems such as liver cirrhosis, alcohol dependence, total alcohol related deaths, alcohol pancreatic disease and hospital admissions.\(^{146}\)

It seeks to explain this away by saying that changes “would not be expected with only one hour increase in trading hours.” Clearly hospital admissions would be likely to be correlated with violence, personal injury, drink driving and other forms of anti-social behavior in the absence of any other contemporaneous influencers on the data set, so perhaps Babor et al have been too keen to dismiss this research.

It also acknowledged in respect of the more recent UK move to 24 hour trading, a report produced for the UK Home Office\(^{147}\) compared the periods before and after the change and found a 1% rise in the overall number of violence, criminal damage and harassment incidents between 6pm and 6am in a data set which has a history of similar minor fluctuations. Indeed, Babor et al reference another study, Hough and Hunter 2008,\(^{148}\) which found similar increases in nighttime incidents “yet concluded that expanded opening hours had little effect on crime”.

Interestingly, Babor et al reference that there has been a “limited uptake of extended trading hours by licensed premises” despite the relaxation of the regime. This suggests it is not possible to simply create demand where it does not exist by creating new outlets.

Having dismissed the Scottish evidence based on the fact it related only to a one hour change, Babor et al do place significant emphasis on a range of Studies led by Stockwell and Chikritzhs that look at a **one-hour** change in licensing hours in Western

\(^{146}\) Duffy and Plant 1986; Duffy and Pinot de Moira 1996.
\(^{147}\) Babb 2007.
Australian and any relationship with drink driving and by Vingilis et al which look at a one-hour change in Ontario, Canada on assaults, injuries and motor vehicle accidents.

The Stockwell and Chikritzhs papers are addressed in a separate section below. In respect of Vingilis et al, the conclusion of the main study is thus: “Availability theory was not supported because no increases in BAC+ driver fatalities were observed in Ontario after the amendment to extend drinking hours. Even controlling for overall trends in BAC-driver fatalities, the trends for BAC+ driver fatalities remained the same”. The second Vingilis et al study was a cross-border study with no relevance for Australian policy-makers and about which Stockwell and Chikritzhs say the case to conduct the study in the first place was weak due to the limited uptake of the additional hours.

**DANTE and POINTED** are very often cited as evidence that:

- Restrictions on trading hours will reduce harms
- Earlier closing times can reduce the risk of ‘pre-loading’
- One ways door policies can lead to a reduction of people on the streets post lockout and improved business for large/late trading venues

However, Associate Professor Miller offers no compelling evidence in either study to support the argument that restricting trading hours will reduce alcohol-related harm.

We also review Kypri et al (2010) here given it also looks at the Newcastle experiment.

**DANTE & POINTED: two case studies**

The DANTE study is a 5-year case study looking at the effectiveness or otherwise of various interventions in 2 smaller Australian cities – Newcastle and Geelong. The places were chosen because they were thought to be similar.

It is essentially a combination of statistical analysis along with patron surveys. It also includes some local stakeholder interviews, which the study’s authors themselves admit should not be considered as representative evidence upon which policy could be developed.

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149 Chikritzhs and Stockwell 2002, The impact of later trading hours for Australian public houses (hotels) on levels of violence; (2006) The impact of later trading hours for hotels on levels of impaired driver road crashes and driver breath alcohol levels, Addiction 101, 1254-64; (2007) The impact of later trading hours for hotels (public houses) on breath alcohol levels of apprehended impaired drivers.


152 NDLERF Patron Offending and Intoxication in Night-Time Entertainment Districts (POINTED) FINAL REPORT A/Prof Peter Miller et al Monograph Series No. 462013; Miler et al (2012) Dealing with alcohol-related harm and the night-time economy (DANTE), NDLERF Monograph no. 43.

The POINTED study is a one-time data collection and statistical analysis across 5 Australian cities including Geelong, Melbourne, Perth, Sydney and Wollongong. The study involved analysis of harm and crime statistics, short patron interviews and in some cases testing for blood alcohol concentration (BAC) and drug toxicity.

Both studies are focussed on the on-premise drinking environment and offer no insights whatsoever on the impact of off-license trading hours or license density.

The primary conclusion of the DANTE study is that March 2008 restrictions in Newcastle (often referred to as section 104 conditions) were the only measures to have caused a reduction in harm, apparently evidenced by a reduction in assaults and injury-related emergency room presentations during hours where drinking is common.

The Newcastle s.104 conditions included:
- 3.30am restriction re. on-premise licenses, sales to cease 30 minutes before closing
- 1.30am lockouts
- No shots or higher strength RTDs or mixed drinks (cocktails) after 10pm
- Limit to 4 drinks served to any patron at once
- Free water
- Host Responsibility Marshalls from 11pm
- No drinks stockpiling allowed
- Independent compliance audits
- Development of alcohol management plans, submitted to Liquor Administration Board
- Radio Network between venues to share information

The central theme of the DANTE report is that while many similar interventions were applied during the 5-year period in both Newcastle and Geelong, hours of trade restrictions (albeit as late as 3.30am) were applied only in Newcastle. Therefore, so the authors argue, the hours of trade restrictions are likely to have been responsible for the claimed reduction in harm in Newcastle. The report also argues that this provides evidence that Newcastle’s mandatory approach is superior to Geelong’s collaborative and flexible approach.

These conclusions are speculative. The first thing to be aware of is that Geelong was the first place in Australia to implement a voluntary liquor accord in 1991 and its collaborative, voluntary approach among licensees and police already had a relatively low rate of assault compared to Newcastle.

Given the two cities were chosen because they were regarded as similar, a reasonable interpretation might be that Geelong started its journey earlier than Newcastle and its collaborative approach achieved a relatively low rate of harm. Newcastle simply went some way to catching up (without ever getting close to doing so). Geelong achieved its relatively low rate of crime and harm without the need to resort to further trading hours restrictions.

Hospital admissions statistics vary from year to year. The DANTE report places great emphasis on the section 104 changes as a supposed trigger for a reduction in harm. In reality, it cannot be said with any conviction that the section 104 changes were the trigger for a slight downward trend in Newcastle. Quarter 3 and 4 hospital admissions for injury in 2008 one year after the s. 104 changes were introduced were actually
higher than during the same periods in 2007 and most agree that there are no changes in the data for at least 9 months following the change.

Indeed, the Newcastle AHA argues that the 104 changes had little or no impact in their first year, while the “real results have come not so much from the tightened-up licensing laws but a policy among about a half-dozen late-night pubs working together and with the police to target individual troublemakers” and change only began to occur when “these other measures were introduced, including ID scanning of driver’s licenses …( enabling) … the publicans, and the police, to make use of a common database that means, among other things, a patron excluded for causing bother at one venue also can be refused at the others, as well as banned for a time - or for good.”

Building on this argument, there is also evidence to suggest that an increase in bail compliance checks around that time had the effect of reducing access to the Newcastle night-time entertainment precinct among a small group of repeat offenders who were responsible for causing much of the harm.

In respect of the assault data, the DANTE report jumps to its conclusion while ignoring that there was a NSW state-wide reduction in the number of police-recorded assaults starting from around 2008. Following the Thomas Kelly incident in Kings Cross, Sydney, Don Weatherburn, director of the NSW Bureau of Crime Statistics and Research, released relevant statistics and claimed that after rising from 2000 to 2008 the number of police-recorded assaults "started to fall and has been falling ever since.”

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155 NSW Bureau of Crime Statistics and Research.
It is difficult to understand why this data was not addressed in the DANTE report. Indeed, the DANTE report pays scant attention to the factors that are likely to have played a role both in influencing statistics in NSW and in Newcastle.

Miller does at one point acknowledge that “It may also be that factors from outside a local community may affect problems in and around licensed venues.”

He acknowledges what he refers to as “anecdotal reports” suggesting national policy might affect the prevalence and nature of alcohol-related problems in Newcastle. Firstly, Miller refers to the smoking ban in public places introduced around 2007/8 claiming that it could in fact increase harm around licensed premises due to people congregating outside venues to smoke. While this may potentially have been part of the effect of the smoking bans (and as Miller says, his evidence for this is anecdotal), the statistics overall don’t seem to support it as a major factor. Indeed, they would appear to suggest that something happened in 2007/8 that caused a significant shift from public place violence to at home violence.\(^\text{156}\)

So what could be the cause of this? The reality is that there is a range of factors that could be seen as having an impact. It is arguably likely that measures unrelated to alcohol interventions have been the greatest influences.

Miller makes short references to the following:

In 2008, NSW introduced a Violent Venues register\(^\text{157}\) statewide where venues recording relatively high numbers of assaults attracted venue specific interventions. In Newcastle this led to additional conditions on 15 hotels in the main entertainment precincts in Newcastle and Cooks Hill on 20 March 2008. Two of the venues involved did not trade past midnight suggesting trading hours played absolutely no role in their issues.

Given the trend across NSW, it is possible, but probably not likely, that these interventions and not the local trading hour restrictions in Newcastle, had the effect of reducing harm, coming as they did with the stick of further restrictions if improvements were not achieved.

Further, following the restrictions, Geelong continued to trade until 7 am, while venues in Newcastle are required to close by 3.30 am. Before the restriction, seven venues in

\(^{156}\) BOSCAR, NSW.

Newcastle were permitted to remain open until 5 am. Therefore, although Newcastle reduced trading hours further, they already experienced restricted hours compared to Geelong and Geelong still exhibits lower levels of harm despite the Newcastle improvement.

Miller also mentions the RTD tax introduced by the Federal Government in 2007. The example effect that Miller gives is that it may have reduced drinking before going out – something he refers to as ‘pre-loading’ and has spent much time analysing – however this seems unlikely given the tax also had the affect of raising RTD prices in the on-premise and RTD drinker had ample opportunity to substitute other forms of alcohol, particularly wine (which in Australia attracts relatively little tax) for ‘pre-loading’ if they wished to. Drinking before going out has always been a phenomenon and we address why Miller’s fascination with it is misguided below.

It is highly unlikely that the RTD tax had any effect on the assault numbers, however, it is conceivable that it played a role in encouraging more violent people to stay at home more often causing them to commit domestic rather than public place assaults. However, this would surely be likely to be a marginal effect, so other factors should be considered.

Lastly Miller mentions changes to motor vehicle licensing conditions in NSW (such as restrictions on P-plate drivers carrying passengers) being likely to lead to additional changes in consumption and transportation. Again, he offers no evidence to support this and it would seem a marginal factor.

In reality, the external factors most likely to have been most influential in driving the NSW and Newcastle improvements, if they are to be judged reliable, is a combination of the smoking bans, relatively poor weather following the breaking of the Australian drought and economic uncertainty as a result of the GFC. These factors combined to reduce the number of people, and therefore the number of violent people drinking in public places. While it seems this may have reduced the number of public place assaults, it would appear to have increased the number of domestic assaults, which can hardly be regarded as a positive policy outcome, even if the overall rate may be slightly down. Further, the weather and the economy are not factors closely controlled by policy-makers.

In addition, during the study period, Newcastle underwent very significant changes that were not controlled for in the study.

In the early 2000s, Newcastle was widely regarded as a struggling city. The harbour-side had decayed, the steel industry was pulling back and there were many derelict buildings in the Newcastle downtown area. There had been wharf-side redevelopment attempts but nothing really clicked.

By 2011 Lonely Planet, was listing Newcastle as one of its top 10 cities for 2011.¹⁵⁸ Why? “At around one-tenth the size, Australia’s second-oldest city has Sydney-like assets: surf beaches, a sun-drenched subtropical climate, and diverse dining, nightlife and arts” and: “(An) easygoing, ‘no worries’ attitude has been shaped by Newcastle’s rough-and-tumble past, shaped by a cast of convicts and coal miners.

Today it continues to be the largest coal-export harbour in the world, but the city is undergoing something of a renaissance. Wharf rejuvenation projects are breathing

new life into the harbour and an eclectic and innovative arts scene is injecting colour and culture into the streets”.

Significant new apartment developments hit the market in 2009 (the year of the big drop in assault rates). Renew Newcastle was formed in 2008 and started turning vacant untenanted buildings into impromptu arts spaces. Further, the Newcastle area experienced a multi-sector jobs boom. 159

Clearly the Newcastle story reaches further than trading hours or indeed licensing policy more broadly. Even if one accepts there is a statistically important shift in ER injury admissions and assault statistics in Newcastle, using Miller’s correlation approach it would be hard to make a compelling argument that any, none or all of these additional factors were responsible for the change.

Despite the lack of clear evidence supporting the claim, Miller seems determined to discover restrictions in trading hours as the primary driver of any improvements. He rather gives the game away with comments like this:

“The data suggest a significant reduction in alcohol-related non-domestic assaults and street offences since conditions were imposed in March 2008. It is difficult, however to identify which condition has the greatest impact (our emphasis). The strategy of reducing trading times is supported by the most evidence of reducing alcohol-related crime, although the evidence suggests that a suite of strategies is the best option for addressing alcohol-related harm (Babor et al. 2010).”

Here Miller essentially concedes that his DANTE research cannot in effect be taken as evidence that trading restrictions are the cause of any change in Newcastle but that he is relying on a pre-conceived view of the drivers driven by his faith in Babor et al and others of a similar mind, who he regularly cites as evidence of a link between trading hours and harm. In fact, without relying on these studies to form a pre-conceived view of the effectiveness of such interventions, the only interpretation of the DANTE and POINTED studies is that they are entirely inconclusive on the issue of the effectiveness of restrictions in on-premise trading hours or one-way door policies and that they offer no insight whatsoever in respect of off-licence trading hours or indeed any link between levels of mean intoxication and harm.

Further, neither study offers any evidence whatsoever that levels of intoxication in the average drinker are in any way correlated with assault numbers. While clearly we should be concerned about the long-term health implications of excessive alcohol consumption, that is an issue not canvassed by either AHW or Miller et al in this research and is unlikely to be affected by licensing arrangements.

In attempting to find a link between trading restrictions, consumption levels and harm in Newcastle, the DANTE research looks at self-reported behavior change data. While self-reported data has major limitations, Miller is happy to use it widely in his research to support other claims, so it is worth referring to here.

Miller admits that “... self-reported changes in behaviour tended to vary widely and do not suggest a trend towards more responsible drinking practices”. Indeed, in Newcastle, the self-reported data suggests that while 4.5% of respondents claimed to drink less because of the interventions, 5.4% claimed to drink more. 70.7% claimed no change in behavior but given that the most reported changes were that 7.3% of people

reported drinking before going out – likely starting earlier – and 7.5% reported going home earlier – this can hardly be seen as a significant change in drinking culture.

Indeed Miller states that “Patron interviewees believed that ID scanners were the most effective intervention across both sites, followed by the night bus in Geelong and drink restrictions in Newcastle. Reduced trading hours and lockouts were the least popular intervention with patrons” (our emphasis – popular means were seen to be least effective).

Given the lack of evidence of an impact on rates of intoxication, the DANTE researchers conducted a 2010 study which is used to argue that the measures caused reduced intoxication in Newcastle while similar reductions were apparently not seen in Geelong.

One year of data from 2010 cannot be regarded as reliable proof of an initiative, which began in 2008. In any case the rate of change in self-rated intoxication was too low to come to any significant conclusions.

In POINTED, Miller argues that research garnered by comparing BAC test results with self-rated intoxication assessments suggests people are generally quite accurate in assessing their intoxication. In DANTE (figures 78 and 79), there is a wide variance between self-rated intoxication data and interviewer-rated data (where interviewers assess the number of signs of intoxication displayed by a respondent. While Miller uses the interviewer-assessed data to argue there may have been a reduction in intoxication in Newcastle and by implication suggests this may have been linked to a reduction in harm, this is surely a very long bow. Again, this is 2010 data only and secondly, it differs significantly with self-reported data, which his own study suggests is reliable. Given these tensions, this argument should be fully dismissed.

Further, the POINTED study suggests there is little relationship between the licensing regime and trading hours in place and the average level of intoxication of people in or around licensed premises. It provides no compelling evidence whatsoever to suggest restricting trading hours or reducing the number of licenses will reduce harms.

It offers no evidence to suggest levels of average intoxication or license density are associated with harm. In fact it offers no insight on license density or off-premise trading at all beyond some highly dubious speculation on the incidence of drinking before going out which we address below.

Despite significant methodological limitations and inconclusive results, the paper jumps to a range of highly speculative conclusions.

Teams of researchers selected popular nightlife precincts across 5 Australian cities and simply approached people and asked survey questions and tested willing participants for BAC and drug use. The researchers acknowledge:

“Such surveys do not represent all people who attend licensed venues”
“As potential participants are in the middle of a night out, interviews are necessarily kept short and are not suitable for in-depth questions”
“Such interviews were conducted within a comparatively public environment, and therefore were not highly personal”.
“There was no way to ensure participants were telling the truth”

Indeed, it’s clear that bravado or attempted humour was at play in all of the surveys with some respondents claiming to have drunk up to 60 standard drinks.
The main conclusion that can be drawn from the report is that there are significantly varied patterns of consumption across five different nighttime economies and that the mean blood alcohol concentration reading broadly increases people drink more. This is hardly a major revelation.

The table below contains the key data from the study:
<table>
<thead>
<tr>
<th>Licensing regime</th>
<th>Geelong</th>
<th>Melbourne</th>
<th>Perth</th>
<th>Sydney</th>
<th>Wollongong</th>
</tr>
</thead>
<tbody>
<tr>
<td>Most venues close around midnight. Small number (12) of extended licenses</td>
<td>Most liberal in Australia – large number of licenses per capita and late trading licenses</td>
<td>Late night economy centered on Northbridge. Limited activity in CBD which is primarily a business area</td>
<td>Conducted before the recent changes, so a relatively liberal trading hours. Large number of venues but less licenses than Melbourne overall</td>
<td>Limited late night drinking economy – only 10 venues trade past midnight</td>
<td></td>
</tr>
<tr>
<td>Number of hours &quot;out for&quot;</td>
<td>4</td>
<td>3.75</td>
<td>3</td>
<td>4</td>
<td>3.5</td>
</tr>
<tr>
<td>Self-reported number of standard drinks consumed (median) (including pre-drinking and post-venue drinking)</td>
<td>9</td>
<td>7</td>
<td>6</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>Median BAC</td>
<td>0.067</td>
<td>0.048</td>
<td>0.066</td>
<td>0.033</td>
<td>0.066</td>
</tr>
<tr>
<td>% Reported experience of aggressive behavior in last 3 months</td>
<td>22</td>
<td>14</td>
<td>16</td>
<td>19</td>
<td>11</td>
</tr>
<tr>
<td>% Incurred or caused any alcohol-related accidents or injuries in last 3 months</td>
<td>17</td>
<td>12</td>
<td>14</td>
<td>13</td>
<td>16</td>
</tr>
<tr>
<td>% Caused any property damage while alcohol-intoxicated last three months</td>
<td>9</td>
<td>4</td>
<td>2</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>% Driven under the influence of alcohol last three months</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Median age</td>
<td>21</td>
<td>24</td>
<td>22</td>
<td>22</td>
<td>23</td>
</tr>
<tr>
<td>Incidents observed by researchers during approx. 900 hours of research</td>
<td>2</td>
<td>2</td>
<td>5</td>
<td>4</td>
<td>1</td>
</tr>
</tbody>
</table>
In reality, there is nothing in this report that supports the proposition that licensing regimes, opening hours or license density are drivers of misuse, injury, property damage or aggressive behavior.

The only sensible conclusion from this research would be that a combination of factors are driving the individual drinking cultures in various cities in Australia, most significantly socio-economic, weather and cultural factors. As the reports introduction concedes, the sites differ substantially in terms of their demographics, cultural make-up, the licensing regimes and their levels of enforcement.

Geelong is an industrial town, with a low socio-economic profile which has experienced some challenges because of a large number of factory closures and a lack of opportunities for young people. It seems hardly surprising therefore that it should record relatively higher levels of aggressive behavior, injury and property damage.

In terms of both opening hours and venue density, Melbourne is the most liberal regime in Australia. The number of licenses in Vic has rose from 4000 in 1986 to 19,300 at the time of the survey. Despite this respondents said they had been out on average for broadly the same amount of time as respondents in Wollongong who experienced the shortest trading hours. At the time of survey (before the recent changes to the Sydney CBD drinking hours, Sydney also had a large number of late trading venues and high license density.

Median BAC in Sydney was the lowest of the cities surveyed at 0.33, Melbourne second lowest at 0.048 and Wollongong was broadly on par with Geelong and Perth at 0.66. So, despite the most heavily restricted trading hours with most venues closing at mid-night, we see Wollongong record significantly higher BAC that the least regulated environments. The data suggests they simply start earlier and drink harder to get to their desired level of drunkenness. Indeed Wollongong drinkers get drunker than Sydney and Melbourne drinkers and as drunk as Geelong and Perth drinkers in slightly less time, in all probability because of the constrained licensing hours.

This phenomenon is further supported by time series data that suggests just under 45% of Wollongong drinkers had a BAC of greater than .10 at 12pm, second only to Geelong at any point throughout the night.

The researchers use this time series data to make an argument that there are significantly more heavily intoxicated people as a proportion of the drinking population between 3am and 4am and therefore argue for restrictions to 3am:

In reality this data has significant limitations and is subject to significant venue and area sampling and selection bias. The researchers concede that while they conducted almost 900 hours of research in total, they conducted only one late night research session in each major
city location, so the late night sample relied upon was significantly compromised and at risk of selection bias.

For instance, data from 3am to 5am in Geelong relies on just one session and in Perth, Sydney, and Melbourne only one late night session including between 2am and 5am was used as the basis of conclusions on that timeframe.

The researchers admit that selection bias could well have played a role, for instance conceding that the late night session in Melbourne was conducted only outside Crown Casino.

In any case, even if the late night data were reliable, the reality is that Wollongong experienced a significant spike in intoxication levels above .10 from 11pm to 12pm, which suggests the most sensible interpretation of the data is that imminent closing at any point during the night may be likely to cause drinkers to drink more rapidly, not the time of closing.

The researchers themselves concede that:

“While the trading hours are earlier in Wollongong, the patterns of intoxication are very similar to those of other cities. They do occur earlier in the evening suggesting that earlier trading hours may shift drinking cultures to the evening rather than late-night/early morning economy’.

In reality there are significant differences in levels of intoxication at different times of night in different places – most likely driven by a combination of culture, trading regimes and socio-economic factors.

In Melbourne despite it being the most de-regulated trading environment in Australia – with the highest number of licenses and more 24 hour trading, we never see proportions of .10 being higher than a peak of 30% at 2am and for the rest of the night doesn't get above 25% and indeed declines most 2am and remains lower until 4pm. Melbourne is the only Australian city to have been designated a Safe Community by the WHO. Despite the proliferation of licenses and significant increase in the number of patrons on the City of Melbourne area, the number of offences committed has trended down over the last decade.

It’s also worth noting that the timing of the very small number of incidents witnessed by researchers was relatively early in the evening. Researchers themselves observed only 14 aggressive physical incidents in almost 900 hours of fieldwork and of those, none happened after 2am. Indeed, while again major questions exist on the statistical reliability of the sample, 2 occurred between 11pm and 12pm, 9 between 12pm and 1am and 3 between 1am and 2am.

A theory not floated by the researchers is that there would be a large number of venues closing between 12pm and 1am in all the cities featured and a combination of large numbers of people leaving venues at the same time coupled with limited transport options and venue design limitations etc. may cause a concentration of incidents at that time. This of course would be an argument for longer trading hours to spread out the timing of departures and minimise pressure on exits and transport infrastructure at peak times.

Interestingly, both the high profile Kings Cross ‘King Hit’ incidents in Sydney occurred at around 9pm, so no amount of trading hours regulation was likely to impact them.

In some places interviews were completed in venues, in others, for instance Perth, they occurred only outside venues. This is relevant because clearly you are going to get different kinds of drinkers who migrate versus those who ‘pick and stick’ to a venue. Interviews outside venues only are likely to return artificially high levels of so called ‘pre-loading’ or ‘side-loading’ because your survey will over-index with people arriving late or travelling between venues.
Age of respondent is a major factor

The authors concede that there may be a relationship between age and the likelihood of harm. In fact this is the one correlation that could possibly be drawn from the data in the table with Geelong’s participants, the lowest in median age reporting the highest levels of harm, while Melbourne’s are highest in median age and they report the lowest levels of harm. The researchers concede this fact, saying: “Increased levels of aggression in Geelong may be associated with the younger age of Geelong NTE patrons”.

Clearly it’s more complex than that but the report seems to spend little time on one of the few potentially useful insights it delivers.

Conclusions on energy drinks and ‘pre-loading’ are unreliable

Having not found any correlation between licensing regime and misuse or harm, the authors focused on two correlative relationships found in their research. The first was a correlation between energy drinks consumption and self-reported experiences of anti-social behavior and the second between ‘pre-loading’ (drinking before going to licensed premises) and self-reported incidences of anti-social behavior.

The researchers have made much of this outcome in Australia. Given it appears age is correlated with risk, with younger people more likely to experience incidents, it would appear worth investigating whether drinking before going out and energy drinks consumption are simply more prevalent in the younger people in the sample before concluding that there is any causal relationship.

While there would not appear to be any readily available data correlating age with drinking before going out – and this is hardly a new or sinister phenomenon - a study with significant limitations from New South Wales did suggest this is a hypothesis worth exploring with 18-25s the demographic most likely to mix energy drinks with alcohol (referred to as AED in the table below):^{63}

<table>
<thead>
<tr>
<th>Overall prevalence of consumption per each age bracket (%)</th>
<th>Alcohol</th>
<th>ED</th>
<th>AED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age 16-17</td>
<td>54.3%</td>
<td>69.6%</td>
<td>26.1%</td>
</tr>
<tr>
<td>Age 18-20</td>
<td>91.7%</td>
<td>64.6%</td>
<td>45.8%</td>
</tr>
<tr>
<td>Age 21-25</td>
<td>92.4%</td>
<td>67.7%</td>
<td>49.6%</td>
</tr>
<tr>
<td>Age 26-30</td>
<td>94.4%</td>
<td>62.6%</td>
<td>35.2%</td>
</tr>
<tr>
<td>Age 31-40</td>
<td>92.2%</td>
<td>45.0%</td>
<td>18.2%</td>
</tr>
<tr>
<td>Age 40 and over</td>
<td>90.6%</td>
<td>23.4%</td>
<td>9.4%</td>
</tr>
</tbody>
</table>

Illicit drug use was correlated with physical, verbal or sexual aggression

People who reported illicit drug use on the night of interview were significantly more likely to report having engaged in physical, verbal and sexual aggression, as well as property crime

and drink-driving. Again, without access to the full data it is not possible to assess whether this was simply correlated to age, with younger people both higher drug users and more likely to experience crime. Clearly it is also possible that drug users are part of a risk-taking cohort.\footnote{Jessor R. (1984), Adolescent development and behavioural health. In J. D. Matarazzo et al (eds) Behavioural Health: A Handbook of Health and Disease Prevention, Wiley;}


This is another paper looking at the Newcastle experience, this time using nearby Hamilton as a control region. The study shows a significant reduction in assaults in the Newcastle CBD when comparing 2001 to March 2008 with April 2008 until September 2009. Over the same period in Hamilton, there was a marginal increase in the assault rate.

A subsequent paper found a similar pattern continued between October 2009 and March 2013 in the CBD, while the Hamilton assault rate reduced marginally to around the pre-change period.

While it is hard to rule out any impact, it would not appear that migration of assaults from the CBD to Hamilton was a factor. The study looks at non-domestic assaults only and therefore does not look at whether there was any change the domestic assault rate. Many of the same questions raised in respect of the Miller et al studies also apply to Kypri et al. Hamilton is far from a perfect control for a CBD experiencing significant change. It experienced some issues with assaults but it was less downtrodden at the outset and had a significantly lower assault rate. The Newcastle CBD received considerable urban renewal attention across the study period.

Statewide trends are not controlled for – on the basis that Hamilton is the local control, so the assumption is that the statewide trend would play out similarly in both precincts. Clearly, it is possible that they did not given the inherent differences between Hamilton and the CBD.

The authors acknowledge that: “it remains possible that the effects are due, wholly or in part, to factors other than the restriction in closing times,” and also that: “Notably, significant reductions in assault rates were evident only in the third quarter after the law change. A lag is plausible—it may have taken time for patrons’ patterns of going out drinking to change in response to the new closing times. It should also be noted that in the first two quarters after the restriction took effect, assaults increased in the control area relative to the preceding two quarters.”

While a lag is of course plausible, it doesn’t seem likely that if hours were the primary cause of the reduction in the CBD assault rate it would take such an amount of time for a change to manifest. Clearly, the same range of factors were at play beyond trading hours in the CBD precinct as are outlined in the analysis of Miller et al above, in particular the decision by a small number of CBD hotels to work collaboratively around the time of the dip in the assault rate and police initiatives to monitor bail compliance.

The authors also discuss that: “A priori limitations of the study include possible differences in police activity and pub staff reporting of assaults in the two areas before and after the restriction.” They muse that the only likely effect of increased policing activity would have been to increase the assault rate: “If, as a consequence of the intervention, more police were temporarily put onto the street in the CBD and/or they became more zealous than usual in apprehending people for assault, the detection rate may have been inflated artificially. This will have resulted in underestimation of the intervention effect. It is difficult to imagine a plausible scenario in which this bias could operate in favour of the study hypothesis; however,
in the absence of independent data on policing levels it is impossible to do more than speculate.”

This is a significant oversimplification of the approach to and effect of policing initiatives. It is likely, for instance, that an effort to enforce bail compliance will result in a reduction of violent individuals in the CBD. Higher impact, visible and effective policing may be a deterrent and actually reduce the assault rate, not simply add to the number of arrests. Another area the authors explore is that there was a 26% relative reduction in the assault rate between 10 p.m. and 2.59 a.m., which “suggests that reduced exposure (i.e. fewer people visiting the CBD area) may explain at least part of the observed reduction in assaults later on. In addition, it is possible that aspects of the intervention other than the restriction in closing times affected patron behaviour via modification of service and other management practices”.

In summary, Kypri et al say: “There are several reasons to be cautious about these results: (1) the possibility that the two areas are not sufficiently comparable to form a valid counterfactual to the intervention (e.g. assault perpetrators in Hamilton were 5 years older than those in the CBD); (2) that an effect was only seen after a two-quarter lag; and (3) the presence of an effect (albeit smaller) at earlier as well as later times.”

It also says: “The lack of data on patron travel behaviour (e.g. counts of people moving into and out of the area on Saturday nights by various modes of transport) and drinking behaviour (e.g. breath alcohol levels measured at sentinel locations at specified times, or pub alcohol sales data) makes it impossible to determine whether the intervention worked via the assumed mechanisms.”

In the end, Kypri et al ultimately relies on a review of Stockwell and Chikritzhs’ narrative review163 to come to the view that trading hours were most likely to be the cause of the reduction in the assault rate, along with four studies, three of which were not canvassed in Stockwell and Chikritzhs review but which are described by Kypri et al as studies that “generalize less well to the circumstances faced by most liquor licensing policy-makers which, typically, do not include management of national border crossings or remote indigenous communities.”164

Kypri et al state: “… it should be noted that changes in trading hours shown in previous studies to affect rates of assault and other harms (see Stockwell and Chikritzhs for a review) occurred largely in the absence of the kinds of strategies introduced in the CBD (e.g. the ban on shots after 10 p.m.). These findings, and the lack of evidence one way or the other on the effects of the other strategies implemented in the CBD, lend support to reduced exposure as an explanation for the reduction in assaults observed between 10 p.m. and 3 a.m.”

The Stockwell and Chikritzhs narrative review is addressed below and can only objectively be interpreted as confirming the incredibly shallow and inconclusive evidence-base in respect of trading hours. That the best studies on restrictions Kypri et al could further bring to the debate related to national border crossings and remote indigenous communities, merely serves to confirm the paucity of quality research in this area.

Chikritzhs and Stockwell (2002)\textsuperscript{165}

Three related studies\textsuperscript{166} by the same authors are referenced in Babor et al but dealt with below for completeness along with a literature review on trading hours conducted by the same authors.\textsuperscript{167}

The three research studies all looked at the extension of trading (in the main from midnight to 1am) in mid-1993 in a relatively small number of venues in Perth, Western Australia (by the end of the study period in 1997, 24\% of venues had taken up the extra hour but adoption was gradual). It compared a group of hotels that took up the additional hour (referred to as ETP hotels) with a sample that did not (non-ETP hotels).

ETP hotels were paired with non-ETP hotels in order to create a ‘before’ and ‘after’ read with a control group. The authors acknowledge there were significant inherent differences ETP and non-ETP venues from the outset, including the age profile, characteristics and drinking intentions of the patrons themselves. This is a key limitation in all of the studies. Because of the different style of venue and therefore patronage, the control group is simply not comparable with the ETP sample and was always likely to respond differently to the wide range of influences in play at the time.

As the authors themselves acknowledge: “… like all quasi-experimental studies, this study could not ensure true randomization. In fact, preliminary comparisons between the two groups of hotels indicated that there were intrinsic differences between premises that chose to trade with late trading hours and those that did not. Those that sought and were granted late trading hours were more likely to be located in inner city areas; purchase greater quantities of high-alcohol content beverages; be the last place of drinking for impaired drivers who subsequently crashed; and to have a younger clientele.”

The process of attributing harm to a particular venue was based on asking offenders the name of the place they had their last drink. Consequently there was no way of ensuring that the majority of the consumption on the day of the incidents recorded actually occurred at the venue concerned.

Further, all studies take place at a time of considerable public policy, policing, economic and socio-cultural change in WA – a very poor time to attempt to quarantine any effect from the change in trading hours.

The key metrics were:

- All studies: Venue data on wholesale liquor purchases.
- 2002 Study: Police data on the number of reported assaults and venue data on wholesale liquor purchases.


\textsuperscript{166} Chikritzhs & Stockwell (2007). The impact of later trading hours for hotels (public houses) on breath alcohol levels of apprehended impaired drivers; Chikritzhs & Stockwell (2006). The impact of later trading hours for hotels on levels of impaired driver road crashes and driver breath alcohol levels.

- 2006 Study: Police data on impaired driver road crashes and driver breath alcohol levels (BACs).

- 2007 Study: Police data on BACs of apprehended impaired drivers.

**The 2002 Study**

Chikritzhs & Stockwell begin by saying: “The relationship between extended trading and individual levels of patron intoxication is also not clear. The majority of studies that have attempted to investigate the relationships between extended trading, alcohol related harm and consumption levels have been unable to quantify directly individual levels of alcohol consumption or patrons' blood alcohol concentrations. The majority of these investigations have failed to show any significant increases in consumption levels following changes in trading hours (e.g. Duffy and Plant 1986; Knight and Wilson 1980; Goddard 1986).”

The overall number of assaults in the Perth metro area increased 60% between 1991 and 1997. Chikritzhs & Stockwell acknowledge that assaults associated with hotels were only 6% of the overall metropolitan Perth total and of the 6% around half were common assaults – so either verbal threats or assaults that did not result in any serious injury.

The study discovered that while assault rates associated with both types of hotel – those that requested the extra hours trading (ETP hotels) and those that did not (none-ETP hotels) – the increase in assaults was significantly higher for those who drank last at an ETP hotel.

The authors acknowledge that the establishment of the none-ETP control sample and consequently ‘pairing’ with ETP venues was non-random and that there were significant inherent differences ETP and non-ETP venues from the outset, including the age profile, charactristics and drinking intentions of the patrons themselves. There was also no way of ensuring that the majority of the consumption on the day of the assaults actually occurred at the venue concerned.

Once again, it is hypothecated that there is a causal relationship between the increase in trading hours and the increase in assaults. However, given this study is such an outlier when compared with the very inconsistent results from a range of other studies it is worth reviewing some of the other underlying trends in the report to understand whether there are other factors which could be at play.

Indeed Babor et al suggest that they would not expect to see significant changes in hospital admissions (which are usually correlated with assaults) as a result of just a one-hour change and it makes common sense that a short change in trading hours would be unlikely to radically change drinking or socialising behaviours and overall levels of harm.

Indeed Chikritzhs & Stockwell do at one point acknowledge that: “Since some hotels opt for extended trading whereas others do not, this self-selection process is likely to bring with it other features that are specific to such hotels. It was found for instance that a larger number of hotels with extended trading are located in the city, where they may attract a different type of clientele” and also “One of the main limitations of this study, however, was that it was not possible to establish whether the increase in wholesale alcohol purchases was solely the result of increased patronage attracted to late trading hotels because of the extended closing hours, or whether there had been an increase in the amount of alcohol consumed by individuals.”
In their 2009 review of the broader evidence-base which is summarised below, the same authors acknowledged the limitations of this 2002 study saying that it “Could not determine whether significant increases (in reported assaults and alcohol volumes associated with late trading venues) were due to greater levels of alcohol consumption by individuals or greater numbers of patrons attending late trading venues (or both)”.

Between 1991 and 1997 the number of assaults related to all premises increased, the average age of victims in all premises increased, while the proportion of male victims also increased. Clearly data on the age of the perpetrators would be more helpful in determining what was driving the assaults than that of the victims but that data appears to have been unavailable. The study claims to have adjusted for the potential effect of the change in age and sex make up with the non-ETP control sample, but as outlined above, because the hotels were different in character from the outset, this control was inadequate.

Clearly a key part of the story unable to be measured in the study was the attraction of some violent individuals from non-ETP hotels to ETP hotels. This would simply change the location of their violence.

However, one would have thought that such an increase in the assault rate across all venues, including non-ETP hotels, along with the increase in age and sex profile of victims, might have caused Chikritzhs & Stockwell to ask what was more broadly occurring in WA at that time which might be causing the change. Trading hours clearly could not be deemed responsible for increases in non-ETP hotels or for a broader change in the demographics of the Perth area.

In fact, during the timeframes of this study, WA was undertaking a significant demographic and socio-cultural change with a significant increase in interstate and overseas migration contributing to a significant increase in population growth. The WA economy was in a major expansionary phase with annual GDP/GSP growth increasing from between one and two per cent in 1991 to as high as around 6.5 per cent in 1994 and 1995 and from there remaining relatively high but declining gradually until 1997 when the economy grew at a more modest 3.5 per cent.
The opportunities in Perth were driven by the mining sector and a large proportion of the migrant population has for a long time been ‘blue collar’.

Business Insider recently described this phenomenon in an article entitled: ‘How Australia’s Mining Boom Changed Perth and its People,’ saying: “What Perth is seeing is a gentle shake up of who’s grabbing the money, who’s getting wealthy. The latest research shows humble tradies (the electricians and welders and builders), those who haven’t inherited wealth, benefiting. They’re growing their wealth fast. And, of course, those who had wealth, are doing as well as they usually do.”

So, over time, there has been growth in the value created by the Perth economy and a rise in the blue collar working population who are likely to have the financial resources to go out along with a general rise in patronage overall. This is a plausible but untested explanation for the increase in mean age of victims and also the increase in the male proportion of victims.

Again, given we have no data on the age of the perpetrators of assaults or the age profile of all patrons attending venues there are limits to how far we can understand the overall trends. It may be that there was an increase overall in the age of patrons at ETP venues but all we really know from the results is that the average age of victims increased slightly.

It is also quite possible (although not able to be assessed because the report did not address these broader demographic and socio-cultural changes) that this population was more attracted to the style of venue that happened to take up the later closing.

This, along with a broader shift in trade from non-ETP to ETP hotels, would also in part account for the increase in wholesale full-strength beer, wine and spirits purchased by the late trading hotels to service the increased demand from a growing number of patrons.

The inclusion of none-ETP hotels cannot adequately control for a range of external factors, including the differences in those hotels from the outset and economic and socio-cultural change factors.

In their critique of the available evidence on trading hours which is outlined below the same authors highlight that most studies fail “to control for other concurrent regulatory, economic or policy changes (for example changes to the drinking age laws in New Zealand, economic recessions in Scotland and changes to drink-driving laws in Canada”. Indeed economic conditions, in particular economic recessions in the UK, are highlighted by the same authors as control failures in a range of studies that showed limited impact for a change in drinking hours.

It’s strange therefore that the authors made no attempt to review whether there was a need to control for changes in population and economic conditions in respect of their own WA studies.

Further, population growth in WA is known to have put infrastructure, amenities and the services sector under considerable pressure. In hotels this manifests in increased waiting times, over crowding, complications entering and exiting premises and in respect of transport options outside venues.

While attempting to explain why an additional trading hour might have impacted assault rates Chikritzhs et al say: “Increased patronage for some hotels also may have lead to greater levels of crowding that may, in turn have contributed to increased levels of violence, not only within the hotel but also in the immediate vicinity where patrons queue for limited transport services. Several studies have identified that one of the major situational factors that contributed to patron frustration and aggression in licensed environments is overcrowding (Homel and Clark, 1994; Graham et al., 1980)."
Clearly this would apply equally to an increase in patronage as a consequence of demographic and socio-cultural change.

Strangely, given one would presume this data would be available, the study does not look at the time assaults occur. Clearly many assaults occur at pressure times around exit so simply evidencing shift in assaults to a later time in or around some venues after midnight would not prove the trading hours had increased harm, but a review of this data could potentially further our understanding of the issues.

Acknowledging that changes in policing practice and data collection can have a significant impact on police assault statistics, Chikritzhs et al also went through an exercise looking at the impact of ‘zero tolerance’ policing around 1996 which increased policing activity and record keeping and also the policy of license accords which was introduced in the same year.

The 2006 Study

The data below is used to argue that trading hours were the likely cause of a greater increase in driver impaired road crash rates involving drivers whose last drink was at an ETP hotel in comparison to those whose last drink was at a non-ETP venue.

Given the data records only where the last drink occurred, we are unable to tell where consumption earlier in the evening took place.

It’s worth noting that, while any number of crashes should be seen as highly regrettable, the crash rate from drivers associated with ETP venues rarely exceeds 0.1 crash per hotel. So, that means, only one in ten hotels was likely to have an intoxicated driver who last drank on their premises cause a crash each quarter.

![Figure 3](image)

The second thing to note is that before 1993 the data suggests there were already differences in crash rate between ETP and non-ETP hotels through most of the time measured. As discussed above, this supports the idea that ETP and non-ETP hotels were different from the outset.

Thirdly, the authors acknowledge that the trend post-June 1993 is not particularly pronounced between the two samples: “The introduction of ETPs to metropolitan WA was related to a significant increase in numbers of crashed impaired drivers who last drank at hotels with late trading hours, but there was also a simultaneous upward trend in crash rates associated with normally trading hotels which, when taken into account, explained much of the association.”
Fourthly, while extended trading hours became available in the second half of 1993, there was a gradual accumulation in the number of later trading hotels through to a peak at the end of the study period as demonstrated in the graph below from the study.

![Graph](image.png)

**Figure 1.** Number of hotels granted extended trading permits and percentage of all hotels operating with extended trading permits at monthly intervals, 1991/92-1996/97

Despite this, the number of case actually began to reduce from 1994 and continued to do so until the end of the study period to the point where the rate of driver impaired crashes was broadly the same for venues that took up the additional trading time as it was before they did so. Thus, on the face of it, the data shows an inverse relationship between trading hours and driver impaired crashes for the vast majority of the study period.

Given the base data did not deliver the expected correlation, the authors considered what could have been the cause of the downward trend from around 1994.

In June 1993, the legal driver BAC was reduced to 0.05 from 0.08. As a consequence, the authors included only drivers who crashed with a BAC of 0.08 and above for consistency. The change in legal BAC was accompanied by a significant publicity campaign and both factors would be expected to have made drivers more careful about drink driving. However, the data suggests that immediately following the change, there was a year-long spike in 0.08 plus crashes. Consequently, the authors did not attempt to control for the 0.05 change as a factor in the data.

They do however decide to control for the introduction of ‘Booze Buses’ in July 1995 to metropolitan roads. This occurs despite the fact that the number of crashes associated with ETP hotels peaked around a year before the introduction of ‘Booze Buses’ and had already begun to reduce. The addition of this variable is used to argue that had the ‘Booze buses’ not been introduced, the number of crashes would have been very much higher in ETP hotels.

Of course it is entirely likely that the ‘Booze buses’ would have had a positive deterrent effect. However, to quarantine just this one extraneous factor has to be seen as highly speculative given the range of other factors both known and unknown that could have had an impact on the data.

The authors offer no evidence to support the idea that the ‘Booze Buses’ could have had an impact of the magnitude speculated by their selective application of statistical controls. In fact, the authors admit that: “no formal evaluation of the efficacy of booze-buses in reducing road injury was forthcoming in the literature.”

They also offer no reliable evidence to support why they would have such great confidence in the efficacy of the ‘booze bus’ initiative in comparison to the ‘highly publicised’ 0.05 campaign and associated enforcement efforts.
Clearly the trend identified post-statistical control would have been less pronounced had they decided to apply their control from the time of the introduction of the 0.05 campaign in the 2006 study.

In the later 2007 study outlined below concerning the BAC of apprehended impaired drivers, the same authors use the 0.05 campaign as a 'cut-off' for the beginning of their data analysis with only offences occurring post the 0.05 campaign considered, so it seems that by the time they began that study, just one year later, they had become convinced that the introduction of 0.05 and associated campaigns and enforcement activity could have had an impact on driver BACs. This implies the authors believe that the start of material behavior change occurred in mid-1993.

Indeed, in respect of the impact of the 0.05 campaign the authors argue in the 2006 study that: “There is no evidence within the alcohol literature to suggest that the overall impact of the campaign would have been any different for patrons of ETP hotels and non-ETP hotels. However, it was not possible to test whether this was the case within the current analyses as both changes (the legal BAC change and its ‘highly publicized campaign’ along with the availability of extended trading hours) – disallowing any separation of independent affects.” In fact, as it outlined below, the results of the authors’ own 2007 study provide strong cause to suspect the patrons likely to frequent ETP and non-ETP hotels responded differently to the various influences at play.

The authors might argue that the approach should be different between the two studies because the 2006 study concerns the number of crashes associated with ETP hotels versus those associated with non-ETP hotels, while the 2007 study is looking specifically at BACs of apprehended drivers. However, given the authors are implying a causal relationship between the trading hours and the number of driver impaired crashes in the 2006 study, any such argument should be ignored. The (faulty) hypothesis is that late trading causes higher levels of intoxication which in turn causes more crashes among those who last drank at ETP hotels than those who drank at non-ETP hotels.

The 2006 survey data showed no evidence of any change in the average BAC’s of patrons who had accidents and the BAC’s in those who crashed after drinking at the ETP hotels was the same as those who had their last drink at the control group hotels.

This meant that it was difficult for the authors to credibly argue that the recorded increase in sales of alcohol in ETA hotels over the study period had driven higher levels of intoxication among drivers: “The lack of evidence for any change in the average BALs of impaired drivers—despite an increase in their numbers—counters the argument that the increased volume of alcohol purchases by hotels was due mainly to increased levels of consumption by patrons (at least not among those who subsequently crashed). (Although, if given more time in which to drink, it is theoretically possible for a drinker to maintain the same BAC but consume more in total.)

Indeed, average driver BALs associated with prior drinking at both ETP and non-ETP hotels remained relatively unchanged throughout. This supports the notion that the increase in wholesale alcohol purchases by ETP hotels was related, at least partly, to greater numbers of patrons drinking at these premises.”

So what could have caused the increase in patronage for the ETA hotels? Clearly it’s possible that they attracted business for some or all of the evening from other venues. However, there would appear to be a striking correlation between the economic growth statistics highlighted above and the rate crash per venue data. Had this correlation beer analysed as an independent variable it would likely account in statistical analysis terms for the trend in crashes.
The authors suggest the inclusion of a control group “reduced the degree to which the findings might have been compromised by factors other than trading hours and which may have affected all premises (e.g. economic changes),” but as outlined above, the trend in the non-ETP group largely accounts for the trend in the ETA group so long as no other control variables (such as the booze-buses) are added and, in any case, as argued above, the characteristics of the ETA group may have been more attractive to the migrants and socio-economic groups most affected by the increase in the rate of growth.

Indeed, the research suggests that before implementation of extended trading, impaired drivers who last drank at ETA premises were 3-years younger on average. At the outset of the study, 17.8% of ETA hotels were in inner-city areas compared with 11.9% of the control group.

It is therefore highly plausible that the economic growth added significantly to the number of drinkers at ETA premises without having any significant impact on individual behavioral patterns (as suggested by the lack of change in BAC levels).

Again, as the authors themselves say, the 2006 study “Could not determine whether higher numbers of crashes due to greater levels of alcohol consumption by individuals or greater numbers of patrons attending late trading venues (or both)”.

This cannot be proved beyond doubt and we do not propose to fall into the same trap as other researchers in the field in confusing correlation with cause without sufficient evidence to support the proposition. However this is certainly a potential driver of the relationship that deserves more attention, particularly given the arguments made by the same authors elsewhere that economic factors, such as recession, had not adequately been taken into account where studies did not find a correlation between trading hours and harm.

Lastly, it’s worth noting that even if policy-makers were to place confidence in the speculative conclusion put forward by the authors (and we do not suggest they make that leap of faith), the research suggests that effective enforcement police efforts via police booze-buses or the like would offset any purported impact from changes in trading hours.

The 2007 Study

The 2007 paper looked to identify if there was a relationship between later trading and BAC levels for apprehended impaired drivers. Again, police data was used to identify the last place of drinking for those apprehended.

The study suffers from many of the same limitations as the two previous studies. Per the prior studies, artificial ‘before and after’ results are created through pairing ETP and non-ETP hotels and using the award of the ETP license to measure to mark the before and after period for both.

Once again, the paired hotels were unlikely to be similar at the beginning of the exercise. ETP hotels were skewed younger in age. Consistent with this, the age of the drunk drivers caught having had their last drink at an ETP hotel was on average younger than those caught after drinking last at a none-ETP hotel. There were more women in the ETP sample, which again reflects the style of venues likely to take up additional hours.

In the before period the ETP hotels had a 5.23% lower drink driving BAC than the non-ETP hotels despite selling 14.6% less mid-strength beer.

The authors state: “Overall, driver BALs were lower during the after period, reflecting an overall downward trend (0.05 BAL limit introduced in June 1993). With the exception of
female drivers apprehended between 10.01p.m. and midnight, older drivers had higher BALs”.

So, despite the introduction of late trading, WA actually saw a decrease in the ABV for those caught drink driving overall and older drinkers apprehended remained more likely to record a higher BAC on average than younger drivers.

Clearly, the various police initiatives following the BAC change to 0.05 are likely to have played a role in changing behaviors. Given the combination of economic and socio-cultural changes and contemporaneous introduction of the new 0.05 limit and the various drink driving culture change and enforcement activities conducted during the study period, one would have to conclude that this was a particularly poor time to attempt to get a clear read on any impact caused by later trading on apprehended driver BAC levels.

Arguably, the implementation and location strategy in respect of ‘booze-buses’ would be likely to have a greater impact on the apprehended driver BAC statistics reviewed in the 2007 study than the crash statistics BACs reviewed in the 2006 study. And yet no attempt is made to adjust the 2007 results down for the impact of the introduction of ‘booze buses’ in metro areas and on freeways.

The authors further acknowledge a range of environmental factors that could also have impacted the results: “Moreover, it is likely that there are other characteristics unable to be measured by this study (e.g. management practices, proportion of under-aged drinkers and quality of security staff), which also differ between premises which do and do not apply to trade for extended hours.”

Policy-makers should therefore be very skeptical about attempts by advocates to cite this paper as evidence in support of trading restrictions.

The principal claims arising from the 2007 study are that:

- Male drivers aged 18–25 years and apprehended between 12.01 and 2.00 a.m. after drinking at ETP hotels had significantly higher BALs than drivers who drank at non-ETP hotels. The authors use this to argue that: “At peak times for alcohol-related offences, late trading is associated with higher BALs among those drinkers most at risk of alcohol-related harm.”

- Impaired female drivers apprehended between 10.01 p.m. and 12 midnight (before closing time) had significantly lower BACs after drinking at ETP hotels – BACs associated with none-ETP hotels increased by about three percent whereas BACs associated with ETP hotels decreased by about 14 per cent.

There is no convincing explanation for the lower result for women apprehended between 10 and 12pm and it is in itself cause to question the validity of the study as a guide on the impact of later trading.

In respect of males, BAC’s were higher for all males in the before period than in the after period at both types of venue. So, despite later trading, the level of intoxication of drink drivers actually decreased.

This caused the authors to look at an age breakdown of the data to determine if there were any age specific differences in the data.
The table below is taken from the paper and addresses the average BAC of apprehended male drivers at various ages:

![Graph showing BAC levels for apprehended drivers at various ages](image)

**Figure 2:** Three-way interaction effect between ETP hotel, after period and age for impaired male drivers apprehended between 12.01am and 2.00am. BAL = breath alcohol level. ETP = extended trading permit.

What we can see here is that there was a drop in the average BACs recorded by apprehended drivers who had their last drinks at both ETP and non-ETP venues at all age levels except for males between around 18 and around 22 who last attended ETP venues. The authors point out that the mean BACs associated with non-ETP venues among males apprehended between 12.01am and 2.00am declined about 9%, whereas mean BALs among drivers who drank at an ETP hotel increased by about 1.5% over the study period.

So one interpretation of the data could be that despite the extended trading hours, overall males 18-25 were recording lower BACs than before they were introduced across both types of venue.

It’s also worth noting that despite the authors comments on the particular risk profile of younger drinkers, they were recording lower BAC’s at both styles of venue that all other age groups. It would appear that there is a very clear a positive correlation between age and average apprehended driver BAC. There is also some evidence to suggest that impairment is higher on older drivers given equivalent BACs. 

This is not to say that younger drivers are not at higher risk of driver impaired crash but the evidence would suggest that that is a more complex picture than simply the BAC reading with risk taking tendencies and driver inexperience also factors.

The high-level mean figures presented are problematic from a policy-making point of view. For a start, the average BAC level cannot tell us what is driving behaviour. We can theorize that that the 0.05 change and subsequent enforcement initiatives would have impacted different kinds of drink-drivers in different ways. While it is reasonable to believe that there is a wide range of different motivations that may cause an individual to drink-drive, it seems likely that the group of drink drivers studies here would include among others:

- A range of drink drivers who targeted being under the legal BAC but miscalculated – while this cannot be proved from the data we are supplied, these would perhaps be

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most instrumental in pulling down the mean BACs for all drivers as they move from targeting 0.08 to 0.05.

- High-range drink drivers with blatant disregard for the law.
- Those with significant alcohol addiction issues.
- Young adult risk takers.

All of these categories of drinker and more besides are likely to respond differently to a change in legal BAC and associated public education and enforcement campaigns.

Given we know the style of venue and patron attracted to the ETP and non-ETP samples were different at the outset, the non-ETP sample is therefore a very imperfect control for the ETP sample.

There is evidence to suggest risky ‘rite of passage’ behaviors, peer bravado and group acceptance issues are at play for a sub-group of younger adults in stimulating a range of risky behaviors including risky drinking, drink driving and irresponsible driving.170

While it would appear that younger people are less likely to drink drive than older people, there is evidence to suggest that a cohort of young adults motivated by risk taking and testing the boundaries are perhaps less likely to respond to the actions of authority figures, among them government and policing initiatives.

Jessor has proposed that drink driving may be just one aspect of a general health-risk behavioural syndrome among youth, saying: “A larger body of research has shown many behaviours are interrelated and tend to covary in a systematic fashion. Indeed, the intraindividual linkages among them, i.e., their tendency to co-occur within the same adolescent, are such to suggest that they may constitute a syndrome – an organized constellation of behavior – rather than being a collection of independent, discrete activities”. Jonah builds on this, saying: “The implication of this notion of a health-risk syndrome is that attempts to change discrete behaviours may prove to be futile since other health risk behaviours could be substituted to serve the function performed by the eliminated behavior. Hence, it may be necessary to alter the lifestyles of high-risk youth in order to reduce the incidence of risky drinking. Perhaps more cost effective would be efforts that attempt at an early age to foster a lifestyle which is antagonistic to the emergence of health-risk behaviours.”171

It is reasonable to speculate, given it is acknowledged that the style of venue which took up the additional trading hours was different from the outset, there may have already been more of this style of drink driver in the ETP sample than the non-ETP sample.

While the paper has its own limitations – in particular an inability to strip out contemporaneous policy and enforcement efforts - an analysis of the effectiveness of a number of mass media

campaigns for reducing drink driving and associated crashes suggests rural audiences are likely to be significantly more responsive to campaigns that urban audiences.

While clearly more research would be needed to understand the cause of this potential trend, it is a factor worth exploring in the context of ETP hotels being more likely to be located in metropolitan areas.\(^{172}\)

It is also likely a large number of drinkers shifted their patronage from the non-ETP venues to the ETP venues to take advantage of the later trading hours for the entire night or the later part of the night, so many of the higher range drink drivers who might previously have been within the non-ETP sample could be in the after sample for the ETP venues, thus impacting the data.

This does not mean that the later trading hours have stimulated higher range drink driving than would otherwise have been the case overall and the study offers no reliable evidence to support that conclusion. Indeed, as stated above, mean apprehended driver ABV was lower for overall for 18-25 year old drivers and given the range of other factors influencing the data set at the time it is simply impossible to assess the impact of any one change or initiative.

Further, as stated above, the study does not adjust for the effects of migration and how that may have impacted the age and socio-economic profile of those socializing at the ETP venues.

While the point is not explicitly made, it would appear the authors may be implying the BAC data could be seem as a proxy for drinking behavior and BACs for all drinkers, not just those caught drink driving. If this is the intention, it is misguided. The drink driver is a specific subset of the drinking population and there is no reference to any information or literature that would suggest it provides a proxy read on the BAC levels of the average patron.

It’s also worth noting that the 2007 study is directionally inconsistent on the issue of BAC levels of drunk drivers when compared to the 2006 study, which again casts doubt on the quality of the data. Admittedly there is a slight difference between drivers apprehended for drink-driving and those that cause crashes as other factors such as driving behavior and experience are likely to play a role. However the authors concede that the 2007 study result on 18-25 year olds “counters our own earlier study, which failed to find an effect of ETPs on average driver BALs.”

Once again, the authors seem unwilling to consider the possibility that the ETPs were not a significant factor in drunk driver BACs, beyond the timing of some offences potentially being shifted.

Further, the study offers no insight into whether the style of Police enforcement activity, in particular the locations of the new ‘booze buses’ on metropolitan roads and freeways given the metro locations of the ETP hotels and any bias in pulling over particular types of driver or the timing of enforcement activity could have impacted the data given the greater tendency to younger patronage and metropolitan locations of the ETP sample. This would be an area worthy of further investigation given the location and approach to Police operations could have a significant impact on the type of driver apprehended.

Given one might expect younger people to be a larger proportion of the drivers out in the 12 to 2am timeframe, it is also plausible that even without a selection bias on the part of the police, they would form a greater proportion of the vehicles apprehended in that timeframe following the change in hours due to higher visibility.

By way of conclusion, the 2007 study offers no convincing evidence that the change in the drinking hours played a significant role in offsetting the positive impact of the various drink driving initiatives overall or for the 18-25 male cohort in particular. The study was conducted at a particularly poor time should the researchers have been motivated to quarantine and assess any impact from the change in trading hours and the study did not make any convincing effort to do so.

Stockwell and Chikritzhs 2009 literature review

In 2009 Stockwell and Chikritzhs reviewed a range of literature published in the English language since 1965 on the issue of changes to trading hours.

They reviewed 49 studies in total and perhaps unsurprisingly took the view that their own studies were the most convincing of the material reviewed.

Across the full body of research they discovered significant inconsistencies in findings and considerable limitations in survey design with the authors saying among other things that: “Unfortunately, at first sight the available studies offer a confusing picture of positive, negative and null results. Furthermore, the picture becomes still less clear given evident variety in the pervasiveness of changes in trading hours that have been employed”.

The authors go further in trying to quarantine a limited number (14 of the 49) of studies, which they argue are more reliable, leading them to argue: “It is concluded that on the balance of reliable evidence from the available international literature suggests that extended late-night trading hours lead to increased consumption and related harms. Further well controlled studies are required to confirm this conclusion.”

And later in the paper: “Just over half of the studies (25) reported significant adverse effects associated with increased trading hours or the converse, positive impacts from decreasing the hours of trading. Among the studies that included both baseline and control data of some kind (i.e. the 14 studies), a higher proportion (79 per cent) reported significant increases in the predicted direction of at least one outcome measure.

Further, among this latter group of studies those with fewest methodological problems, which were able to demonstrate actual change in alcohol availability, were more likely to yield positive results. Although further well controlled studies are needed, it is concluded that the balance of the present evidence (taking into account the relative reliability of the studies and their outcomes) suggests that under most circumstances, increasing trading into the early hours for on-premise liquor consumption licenses will result in increased alcohol use and related harms such as violence.”

It is difficult to understand how the authors could come to that conclusion based on the information before them.

The inclusion of control or baseline observations is of limited value if they are flawed or reflect only a limited range of the extraneous factors that could have influenced the data as is the case in all of the 14 studies highlighted by the authors as ‘reliable,’ including their own. Overall this screening process decimates the already limited evidence base available for review leaving 14 studies that are limited in methodology, reach and relevance. For instance, all but two of 21 UK studies are excluded and neither of the remaining studies deals with the recent natural experiment presented by the changes in UK drinking hours.

In respect of the remaining 14 studies, the authors themselves say: “Design and methodological problems were apparent in many of these studies. Once more there were many instances in which the change to trading hours was associated with other interventions or concurrent economic changes that might have differentially impacted on intervention and control sites. Furthermore, there was again the concern in several studies that the case for conducting a study in the first place was weak as there was limited take-up of available extra hours (Smith, 1988a, 1990; McLaughlin and Harrison-Stewart, 1992; Vingilis et al, 2005).

Another interpretational issue is whether only a shift in the time of the occurrence of problem events was shown as opposed to a significant impact on overall levels of harm. This criticism can be levelled at many of the early Australian studies reported between 1978 and 1990. In many instances increased rates of harm occurred coinciding with new trading hours (for example late at night or in the early hours of the morning), but there was no significant impact reported on overall levels of harm”

At this stage, one could be forgiven for wondering how the authors could be so willing to jump to any conclusion based on this assessment of the 14 most ‘reliable’ studies on trading hours.

Things become clearer in the next passage where the reviewers find that there are some studies that do not suffer from such flaws exclusively authored by the reviewers themselves: “Other studies (Chikritzhs and Stockwell, 2002, 2006, 2007) of the impact of extended trading hours given to a select number of hotels in Perth, Western Australia, did not suffer from these particular problems though, arguably, can still be criticised for non-random selection of hotels with extended versus non-extended hours …”

As we outline above, there are broader critiques that can be made of this research but it is worth reflecting for a moment that the authors of this “review of the international research on the impacts of changes to permitted hours of drinking” have essentially found that none of the other research in the field suffered methodological issues with the exception of their own, and even that could be open to criticism.

Further, nine of the 14 studies were focussed on road traffic issues. Of the remaining five: one found no effects and a decrease in levels of public drunkenness following a one-hour increase in trading hours in Scotland;174

- one was an extremely limited short-term study on a temporary increase in drinking hours in Fremantle, WA, on consumption levels among 18-28 year old males which found no significant change in consumption as a result of the increase in drinking hours;175

- one found no effect on a range of long-term health measures but an increase in alcohol poisoning among a very small group of chronic alcoholics and as such cannot be relied upon to suggest anything in respect of public order or mainstream drinking behaviours;176 and

- one study concerned an intervention in a Northern Territory town with a large indigenous Australian community. In this case, the authors acknowledge there were a ‘range of concurrent interventions’ targeted primarily at the drinking behaviours of the indigenous community which would have influenced consumption levels beyond

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on-premise opening hours. This hardly provides a reliable blueprint for most conventional towns and cities.  

The remaining study addressing issues other than road traffic issues is once again by the authors of the review themselves; the 2002 Perth study on the relationship between trading hours and police reported assaults. The limitations of that paper are addressed above including further references by the authors themselves to its potential limitations.

Having considered the limitations of those 5 studies and remembering the remaining 9 papers are focussed on road traffic issues, it's worth returning for a moment to the key conclusions arrived at by the authors based on a review of the 14 papers:

“Although further well controlled studies are needed, it is concluded that the balance of the present evidence (taking into account the relative reliability of the studies and their outcomes) suggests that under most circumstances, increasing trading into the early hours for on-premise liquor consumption licenses will result in increased alcohol use and related harms such as violence.”

Further, Stockwell has elsewhere critiqued Smith’s work saying Smith’s analyses: “clearly show that small alterations in trading hours shift the pattern of road traffic accidents, so that a peak occurs shortly after the new closing time. In some instances they show a significant increase in the accidents in comparison with a control state on the day when extended trading occurs (Smith, 1988). What they do not show, however, is an overall increase in total number of incidents across all times. This means that it is impossible to rule out the explanation that people’s drinking and driving habits have simply shifted or been redistributed across the whole week.”

Two of the remaining four studies were by Vingilis et al, which are addressed elsewhere in this paper, the first of which found a decline in beer consumption and no significant change in alcohol related driver fatalities in Ontario and the second study was a cross-border study with no relevance for Australian policy-makers and which both the authors and Stockwell and Chikhritzhs say the case to conduct the study in the first place was weak due to the limited uptake of the additional hours.

The remaining two studies are once again authored by the reviewers themselves, the 2006 and 2007 studies discussed above. One is left to wonder what the systematic review really achieves given its authors would appear to have largely based their conclusions on their own pre-existing research.

Cameron et al for ALAC (In preparing the commentary below, we reviewed not just the 2009 and 2013 research but also the 2012 update to the 2009 paper cited).

178 Stockwell and Gruenewald; Controls on the Physical Availability of Alcohol published as Chapter 13 in The Essential Handbook of Treatment and Prevention of Alcohol Problems; Edited by Nick Heather and Tim Stockwell.
Cameron et al (2009 and its 2012 update) comprises four sections:

- A literature review – this is not new research, merely a summary and interpretation of existing research.

- A review of stakeholder opinion in Manukau City – while this is interesting, clearly policy decisions should be made on the basis of evidence, not popular opinion and while the organisations surveyed – agencies and service providers, community groups and organisations with a Maori, Pacific people or youth focus – are well-intentioned and should be respected, in reality they are not experts on the impacts of alcohol licensing. The lack of policing, legal or commercial perspective further limits the value of this contribution to the debate.

- A media analysis which largely concluded that the community was concerned about license density and trading hours. Of course, given the relentless campaigning by anti-alcohol groups, this would not be surprising. Equally, communities are naturally concerned about incidents of assaults and accidents and this causes them to look for cause. This does not mean that the solutions floated by some in the media are evidence that such solutions will actually work or are founded in any real evidence.

- Analysis of the number, location and trading hours of local venues and prices charged along with a look at whether these factors correlate at a single point in time with levels of deprivation, traffic crashes, admissions to a single hospital and police attendances.

In respect of the literature review, the general conclusion in Cameron et al is as follows:

“The international academic literature provides mixed results for the relationship between liquor outlet density and a range of outcome variables. There are studies showing that liquor outlet density has significant positive effects … However other studies show no statistically significant effects, or even significant negative effects. The wide range of results and methodologies employed makes it difficult to arrive at general conclusions about the relationship between outlet density and outcome variables. Further, it is likely that these relationships are highly context specific, as well as varying temporally, spatially and by the type of outlet considered”.

And:

“Considering all potential explanations for the effect of alcohol outlets on social harm, many studies adopt an ecological approach, i.e. they focus on environmental factors (one of which is alcohol outlet density) as an explanation of alcohol-related harm (Gruenewald et al., 2002). One potential problem with ecological studies is that they do not adequately separate the effect of liquor outlet density from other effects. For instance, neighbourhoods with high levels of alcohol consumption (and consequent levels of alcohol-related harm) will naturally attract liquor stores looking to profit from local demand for alcohol. This will tend to mask the true effect of liquor outlet density on alcohol-related harm, because high levels of alcohol-related harm would be present even without increased liquor outlet density. In other words, ecological studies cannot adequately explain why

there may be an observed relationship between liquor outlet density and the outcome variable.”

Cameron et al mentions just three New Zealand studies which it says suggest “As with the international results, the relationships between liquor outlet density and outcome variables in New Zealand are highly context specific, especially as each of the New Zealand studies above focused on a very limited range of social harms”.

While this could be taken to imply that the impact of density varies from place to place, a more accurate interpretation would be to suggest that there is no evidence that outlet type and density is anything more that a symptom of population density, age and socio-economic factors and area drinking culture. No causal relationship has ever been reliably evidenced. Indeed one of the studies referenced, Mathieson (2005), which looked at single-vehicle night-time crashes and found the statistics were inconsistent across District Health Area Board areas – while restaurant density was positively correlated with crashes in Waitemata it was negatively correlated with crashes in Auckland and insignificant in Counties-Manukau, while pub density was positively correlated with crashes in Counties-Manukau, it was negatively correlated in Auckland and insignificant in Waitemata. Off-license density was positively correlated with crashes in Auckland, negative in Counties-Manukau and insignificant in Waitemata.

Clearly, the most likely interpretation of this data is that density of particular outlet types is probably not the factor causing the crashes and that, if they have any relation to alcohol consumption at all (and that would be an assumption as the research does not appear to address that issue), they relate to the attitudes and behaviours of people in the areas concerned.

Of course if we were to apply the logic of confusion between cause and correlation put forward by some activists, policy-makers in New Zealand would be considering among other things opening up more restaurants and bars in Auckland and more off-licenses in Counties-Manukau as a specific strategy to reduce the incidents of night-time single vehicle car accidents. While most people would think this ridiculous, it applies the very same principles applies by the advocates of reductions in density.

Cameron et al also references Kypri et al (2008), a university focussed study which offers little insight for LAPs. Again, cause and correlation are confused and cultural factors inadequately explored. Lastly Huckle et al (2008) found a positive correlation between outlet density and per-occasion consumption by Aucklanders aged 12-17, but no effect on either the frequency of their drinking or the frequency of intoxication. Clearly this study presents no case for restrictions on density – a key plank of the misguided case that density has a causal relationship with underage consumption is that the greater the number of outlets, the more likely they are to drink. This study suggests no relationship between density and the number of drinking occasions and its conclusions on amount of consumption, if reliable, would surely relate to socio-cultural factors in higher density areas rather than matters of license density. Neighbourhood deprivation was also correlated with quantities consumed.

In respect of the stakeholder interviews, a key insight was that some types of venue operators – larger more professional chains for instance – are more trusted than others because of high operating standards. The poor behaviour of a small minority of operators is not a matter to be dealt with through license density. There are more than enough avenues to address poor behaviour via the licensing regime and in particular, the new arrangements included within the SSAA (2012) to tackle rogue operators.

While as usual, there was plenty of misguided comment on density, there was also some recognition of the risks of simply compressing one part of the cultural balloon: “… there was
some concern that these approaches might have a number of unanticipated consequences. In particular, respondents noted the potential for increased incidence of drink driving as people who were already under the influence of alcohol travelled by car to obtain more when an outlet was no longer within walking proximity. Secondly, unlicensed, illegal backyard bars and alcohol supply outlets were thought to be common in the Manukau area, and were frequently associated with highly dubious practices surrounding the granting of credit, debt recovery and the supply of alcohol to minors.” Misuse is caused by socio-cultural factors. Unless you tackle them, you risk simply shifting the problem.

In respect of the density collation exercise, this proves little more than:

On license outlets are most dense in areas with good transport links, such as town centres, and in areas with good amenity value: “This is because these outlets cater to consumers who are looking for a destination at which to drink, or where drinking is incidental to some other activity, such as eating a meal.”

“Off license outlet density is related to population density (a higher population density is associated with a higher density of off-license outlets) …”

So, the venues service the demand in the communities they serve, the times and manner in wish they wish to do so. On-premise outlets attract business from less convenient or attractive locations.

That off-premise locations are spread according to population density is hardly a surprise. Convenience is a leading factor in choice of an off-premise outlet.

**High population density is correlated with a high number of outlets**

High population density is correlated with relative deprivation and some harms.

Again, it should not be a surprise that relative deprivation is correlated with smaller houses. This does not mean that smaller houses cause the deprivation any more than it means that alcohol license density does. Indeed, it is the relative deprivation that causes people to live in higher density areas. As noted above, there is a body of evidence that suggests deprivation is correlated with poor parenting, mental illness and other socio-cultural factors which could be a factor in misuse and other harms and this avenue is worth further investigation to see if a causal relationship is proved.

Where there are more people, there will be more violent and anti-social people as a proportion. If you disperse the locations of the licenses, you’ll broaden the area than needs policing.

If you reduce the number of licenses, there will be more demand on the existing licenses and they will grow larger, as was experienced in Sydney, Australia, for many years with the development of vary large hotel venues and which the New South Wales Government recently felt the need to address with the advent of small bar licenses to develop a more moderate drinking culture.

Some might argue that a reduction in the number of licenses will reduce overall consumption or the number of people out at night. There is no evidence to support this and even if there were, if this were to occur without a reduction in harms caused by the hard core of repeat offenders unlikely to be deterred from having to travel a little further to a venue, all that would have been achieved is a reduction in amenity and enjoyment for the broader community.
In many smaller communities, there is simply nowhere to displace licences to and experience suggests there is a risk of informal markets or where aggressive misusers are displaced into the home, a whole new set of challenges are raised. For instance, there some is evidence to suggest that additional on-premise restrictions and price impost simply increase at-home drinking and domestic violence.

Clearly a community can move the violent people from one location to another but it takes more than that to change their behaviour.

**Opening hours are longer in high density areas**

This makes sense. If there is more foot traffic into a store, it makes commercial sense to stay open a little longer – density doesn’t cause the foot traffic, it responds to it. Not all stores stay open to the extent of their licensing allowance, the weigh up the labour cost with demand. In urban areas with more restaurants and the like, off-license outlets stay open to service the BYO market in more dynamic and varied night-time precincts. People in metropolitan areas tend to work longer hours, there are more than work non-standard hours and the night-time economy is generally more likely with a broader range of activity.

Even so, the results of the survey threw up some strange statistics with, for instance, density of clubs and bars less highly correlated with police events and accidents than restaurants and cafes.

Further, given that violence tends to be caused by a small number of male re-offenders, there is some evidence that may suggest that moving these offenders from the on-premise to the home can simply cause an increase in domestic assault.

While further research would be needed to form any concrete conclusions, figures from NSW, Australia suggest following the introduction of the smoking bans which caused a shift from on to off-premise consumption, there was a decrease in on-premise assaults but an corresponding increase in domestic assaults as outlined above.

**There is a correlation between lower prices and higher deprivation**

There is a range of factors not discussed in Cameron et al which drive the relative price of the same item across different locations. Clearly, local competition is one of these in certain circumstances but it is by no means the whole story. It is worth noting that the vast majority of chains apply consistent pricing across all their stores no matter where they are located. It would be impossible to advertise with any credibility if they did not. There is also a practice among many stores of price matching advertised prices, so the price sensitive consumer will often have the ability to buy at an advertised price wherever convenient.

In the information reported by the authors, we are not given sufficient detail on how they measured prices and cannot therefore make a judgement at to whether it was reliable. We would contend that without industry co-operation it would be incredibly hard to get an accurate read on price paid per unit of alcohol.

Cameron et al takes no account of the style of outlet and service proposition. In more expensive locations, there would be more ‘upmarket’ liquor stores with a higher value service offering. They would be paying more for their staff and their rent. It should hardly be surprising then that in areas of higher deprivation, prices can be lower. Competition is only a very small part of the story – stores and venues create a proposition on price, service, location and brand that reflects the needs of their customers. They do not create those needs.
It's worth noting that any type of consumer goods retailing tends to be a scale game. Larger retailers have greater ability to strike deals with suppliers, their fixed costs are spread across more transactions and they therefore have greater ability to discount. For example, scale 'Big-box' outlets, often in out-of-town retail or industrial precincts offer very attractive prices for people who choose to buy less often but stock-up.

It’s reasonable to believe that if you reduce the number of off-premise licenses without significantly impacting overall levels of consumption (and that really is the most likely outcome), you may actually grow the scale of the remaining outlets and improve their economics. This is a phenomenon that is just as likely as the local competition price impact theory.

**The 2013 Study** extended to the full North Island. The main conclusion of the report was that there are significant variations in the correlation between license density and harms from place to place: “All of the parameter estimates vary greatly across the North Island, and are statistically significant in some areas and statistically insignificant in other areas”.

This research has been used by some to argue that because the correlations are totally different across different areas, there should be devolution in responsibility for liquor licensing. While the effect may not be any different, in reality the research does not provide any sound basis to suggest that different local liquor licensing regimes will be able to substantially reduce harm given it does not prove that outlets density or opening hours have any role in the overall level of misuse.

However, in the event that the causal relationship is between population density, low socio-economic status and the number of violent individuals, it is reasonable for local communities to look to how they may deal with the symptoms of socio-economic circumstances in their area and that some specialisation of local approach makes logical sense. Clearly areas with a higher proportion of potential offenders may wish to look at how they regulate the environments where people come together, including alcohol venues and outlets. It is reasonable to believe, for instance, that regulations that discourage poorly planned, designed or managed venues and outlets which have poor standards of host responsibility and frustration points like poor exits or toilet facilities, may have more positive impact in areas where there are high levels of destitution. That is managing the consequences of destitution, not license density. This is not to suggest that restricting hours or density is likely to have an impact in low socio-economic areas – the evidence appears to suggest problem drinkers will simply change the time or location of their behaviour and the consequences are just as likely to be worse as better. It is simply reducing the triggers and friction points that could cause anti-social individuals to misbehave.

Looking at the paper in more detail, once again, Cameron et al were motivated to acknowledge the limitations of the methodology: “We are unable to establish causality definitively. Thus we cannot say for certain that outlet density is the cause of the higher (or lower) number of police events or motor vehicle accidents in each (area). In order to infer causality properly, a randomised controlled experiment where the number of alcohol outlets is altered through a random process would be required. It is unlikely that such a randomised experiment is possible. Alternatively, natural experiments or panel data may be used, although such data are still not definitive in terms of causality”.

“It is somewhat appealing to believe that the density of alcohol outlets of different types would be related to drinking behaviour and, consequently, to measures of alcohol-related harm. However, the international and New Zealand literature has demonstrated in previous ecological studies that the relationships are not straightforward – they appear to be context specific in the sense that they probably depend on a range of factors that are not easily accounted for in the quantitative evaluations.”
“This report has clearly shown that it would be extremely problematic and probably incorrect to assume that the relationship between outlet density (of any type) is constant across space. The case studies clearly demonstrate that there exist wide differences in the relationships across the North Island of New Zealand. The same outlet density may be statistically insignificantly related to measures of alcohol-related harms in one area, while simultaneously statistically significantly and positively (or negatively) related to those same harms in other areas. The significant spatial variations demonstrated in our two case studies may help to explain the wide variety of results obtained in previous ecological studies, both in New Zealand and elsewhere.”

However: “similar to past studies in New Zealand, … social deprivation (as measured by NZDep2006) is the most significant predictor of police events, and is significantly positively associated with all police event types, suggesting that police events of all types occur more frequently in poorer and more deprived areas. However, it is significantly negatively associated with motor vehicle accidents. Population density is significantly positively associated with all police event types with the exception of property abuses, and significantly negatively associated with motor vehicle accidents”.

Again, this supports the conclusion that socio-cultural factors are the primary drivers of harm and that measures to restrict license density are misguided.

Further, overall: “Other off-license density (mainly bottle shops but not supermarkets) was significantly positively associated with dishonesty offences and motor vehicle accidents, but significantly negatively associated with antisocial behaviour, property crime and violent offences. The absence of a significant positive relationship between off-license density and police events may have been due to the location of drinking (and any resulting harms) being separated from the location of purchase”.

While it is easy to pose theories that harms happen some distance from the bottle shop, it’s clearly more likely that where people purchase alcohol for immediate consumption, they will most often do so at the most convenient location. This study does provide serious reasons to question the arguments made by those who object to a new off-license outlet on the basis it will add to harms in a local area.

Indeed, in respect of supermarkets and grocery stores, the correlation was positive in many cases with Cameron et al speculating that: “The differences may arise because supermarkets are more frequently located in urban retail areas, while other off-license outlets are more widely distributed. Or they may arise because of differences in the product mix offered at these different outlet types (supermarkets and grocery stores cannot sell spirits, for instance). A further investigation of the differences in observed effects between supermarket and grocery store density and other off-license density is warranted.

However, our results are not entirely irreconcilable with previous research in New Zealand. Our first case study revealed that the relationship between other off-license density and violent offences was significant and negative in much of the central (and incidentally, rural) North Island, but significant and positive in South Auckland and urban Wellington city. In comparison, Cameron et al. (2012d) showed positive (and large) estimates relating off-license density to a range of police events in (predominantly urban) Manukau City”.

And once again, what we see here is population density being correlated with both harms and outlet density with the most likely causal relationship between population density and crime with outlet density merely a by-product of population density.

Further supporting this argument, Cameron et al say they did not find “substantial amounts of local variability within districts. For instance, within most urban areas with the exception of
Auckland and Wellington cities, the relationships observed between outlet density measures and alcohol-related harm measures appear not to vary much”. This must surely reflect the fact that where socio-economic circumstances are reasonably consistent at the district level, harms will be reasonably consistent.

In places like Auckland and Wellington cities where there is demand for both rich and poor high density districts (given the attractiveness of a short commute and access to urban attractions for professionals), while in smaller centres many professionals live outside the town centres and therefore the centres have a higher level of deprivation.

While the study looked at an extended timeframe (2008-11) it did not look to measure the impact of changes in licenses. It focuses simply on correlations in various communities between outlet numbers, types and harms.

Before outlining these conclusions in more detail Cameron et al, again briefly discussed the relevant New Zealand and international literature.

Again Cameron highlights that the theory of a causal relationship between outlet density and harm “has been somewhat undermined by the inconsistent results of studies that have examined the links between alcohol outlet density and alcohol consumption (Stockwell et al., 2009; Picone et al., 2010; Pollack et al., 2005). For example, at the aggregate level, outlet numbers in Victoria, Australia have more than doubled in recent years, while consumption levels have remained steady or are declining (Livingston et al., 2010).

Once again there is some discussion of why there would appear to be a correlation between density and violence if it is not implicated in increased consumption: “In explaining these findings, researchers have relied on theories from criminology, arguing that outlet density can increase problems from drinking even without greatly affecting the amount of alcohol consumed”.

Again, Livingston et al's (2007) ‘amenity effects’ theory that high outlet density increase the opportunity for negative social outcomes is discussed with the argument that crimes and other harms are may be more likely to occur where large numbers of potentially alcohol-impaired victims and alcohol-influenced offenders congregate.

Such a theory could never be evidenced unless all statistics including domestic violence were to be correlated and there is certainly evidence from New South Wales of a correlation between domestic violence and an increase in at home drinking as a consequence of smoking legislation being introduced. Again, it is far more plausible that violence and anti-social individuals will continue to drink and continue to exhibit harmful behaviors elsewhere.

Some additional New Zealand data is also referenced that once again showed a correlation between density and deprivation. Pearce et al. (2008) and Hay et al (2009) are said to have found a positive association between the number of licensed alcohol outlets per 10,000 population or proximity to an outlet and social deprivation, while Interestingly Pearce et al discovered: “This pattern was also found for food outlets,” which reinforces the point that the outlets are simply not likely to be the underlying cause of the deprivation.

Connor et al. (2011) conducted a national survey of 1925 18-to70-year-olds in 2007, looking at alcohol consumption and drinking consequences: “Using a cross-sectional design, they found a significant positive association between binge drinking and the density of off-licence outlets and bars and clubs, but not restaurants. No significant associations were found between outlet density and the average amount of alcohol consumed per year, or risky drinking”. 
Once again, the most plausible explanation for this is that there are more young adults in high-density urban areas and we know from a range of other research that young adults are more likely to binge drink. Does this mean the outlet density caused the consumption? Of course not, the drivers of youth misuse are largely socio-cultural. This is a correlation, not a cause.

In respect of the detailed conclusions of the 2013 Cameron et al research, while the overall North Island results, as one would expect, suggested a correlation between harms and outlet density, there was very significant inconsistency at the neighborhood level.

In respect of the spatial distribution of the correlation between on-licence density excluding bars and nightclubs and violent offences, overall effect was statistically significant and positive, with higher levels of on-licence outlet associated with about 0.56 additional violent offences per year. Once again, this is the affect of population density and the higher violence rates in more populous areas.

However, there are large areas where the relationship was statistically insignificant notably Northland (including Whangarei), Waikato (including Hamilton), Bay of Plenty (including Tauranga and Rotorua) and southern Hawke's Bay (including Hastings).

There were large positive correlations were largest in the rural Manawatu, central Hawke's Bay, Whanganui and southern Taranaki (including Hawera) areas. However: “… the relationship between other on-licence density and violent offences is negative in South Auckland (including Manukau City, Mangere, Flat Bush and the rural areas to the east of Manukau) and in the Wellington region. In these areas an additional on-licence outlet is associated with fewer violent offences per year. The exception is central Wellington, where the relationship is statistically insignificant between the suburbs of Karori and Kelburn in the north and west, and Miramar and Lyall Bay in the east.”

The correlation between supermarket and grocery store density and violent offences varied substantially across the North Island. There were large areas where the relationship is statistically insignificant. These include much of the central and upper North Island, with the exceptions of a small area in South Auckland and the area around Rotorua. There are also large areas with statistically significant negative relationships, notably Northland (but excluding Whangarei), central Auckland and parts of the North Shore, northern and eastern Waikato, and southern Taranaki (including Hawera). In these areas, an additional licensed supermarket or grocery store is associated with fewer violent offences per year.

Another example is that in the Auckland region additional licensed supermarket or grocery store is associated with fewer violent offences per year.

The study also looked at motor vehicle accidents. The relationship between bar and nightclub density and motor vehicle accidents. Again the results were inconsistent. For instance, while overall there was a correlation between the number of bars or nightclubs and motor vehicle accidents per year, a large proportion of areas demonstrated statistically insignificant relationships between bar and nightclub density and motor vehicle accidents, particularly in the central and southern parts of the North Island (including Tauranga, Gisborne, New Plymouth, Whanganui, Palmerston North and Hastings) and in parts of Northland (including Whangarei). Lastly, bars and nightclubs were correlated with less motor vehicle accidents in the Rotorua area, parts of Hawke’s Bay (including Napier) and parts of the Wellington region (including the central city, Upper Hutt and the Kapiti Coast).
Anderson et al\textsuperscript{182} is sometimes proffered as evidence:

to link alcohol advertising with the uptake of drinking among non-drinking youth and increased consumption among their drinking peers that having alcohol outlets operating near sensitive sites, in similar ways that any other shop or service operates, also helps to normalise alcohol in children’s minds and encourages them to think that alcohol is a product that is just the same as any other ordinary commodity.

There is simply no compelling evidence to suggest that ‘exposure’ to alcohol marketing outside stores or venues is in any way a driver of underage drinking.

One of the common refrains from anti-alcohol activists is that ‘exposure to’ alcohol venues, stores and advertising ‘normalises’ alcohol consumption for young people.

This line of argument should be dismissed as a distraction. Young people are exposed from birth to a range of powerful immediate influences, most importantly their parent and family role modeling behaviours.

They attend all aged social and community events. They are exposed to none-paid media and the arts. As they approach the legal drinking age, they are influenced by elder siblings, their siblings’ peers and of course their own peers.

Intuitively, the mere sight of stores, pubs and restaurants in the street could never play a particularly powerful role in the context of this powerful socio-cultural complex.

International research indicates that by far the major influences on underage drinking are deep-seated cultural factors, most notably, peer group norms, parental drinking behaviour and their ability to access alcohol, which is quite a different matter to them simply seeing stores or pubs as they roam the streets and is largely addressed by effective enforcement of the purchase age. Indeed, the vast majority of alcohol accessed by minors in Australia is supplied by friends and family.

Donovan’s review of the risk factors for adolescent alcohol initiation concluded that ‘the most consistent antecedent risk factors for starting to drink in adolescence were parental and peer approval and models for drinking.’\textsuperscript{183}

In respect or Anderson et al, the researchers reviewed 13 studies and found that “twelve of the thirteen studies concluded an impact of exposure on subsequent alcohol use, including initiation of drinking and heavier drinking amongst existing drinkers”.

Smith and Foxcroft reviewed a quasi-similar body of literature and observed that “the effect of alcohol portrayals and advertising on the drinking behaviour of young people is a matter of much debate” and claimed to have found a modest relationship between exposure to marketing and drinking among young people with variation in effect between individual studies.

The authors highlight that all reviewed studies “fall short of the current [methodological] recommendations as set out in the STROBE statement”.\textsuperscript{184} The study concludes with the


\textsuperscript{184} The STROBE statement is a standard of research aiming at strengthening the reporting of observational studies in epidemiology. It consists of a series of check-lists for each type of research. www.strobe-statement.org/.
question: “Does this systematic review provide evidence that limiting alcohol advertising will have an impact on alcohol consumption amongst young people? Not directly: (...) we cannot rule out that the effects demonstrated in these studies are due to residual confounding”.

Most importantly, Nelson reviewed a body of literature almost identical to the one reviewed by Anderson et al. and Smith & Foxcroft. He concluded that a “brief review demonstrates that the evidence on alcohol advertising and youth is mixed, contradictory and inconclusive”. Although “studies present a conflicting set of results [...] they are cited in an uncritical manner”.

In a 2010 comprehensive review of all the literature – not only the longitudinal studies – Nelson found evidence of a “selection bias in the interpretation and use of results by researchers and health policy interest groups [...]” A main conclusion of Nelson’s meta-analysis is that ‘the effect of alcohol marketing on adolescent drinking is modest, but the evidence indicates that it may not exist at all for mass media and other exposures’.

Some studies have used self-report questionnaires and followed young people over a number of years in an attempt to determine the effect of advertising on subsequent misuse. These studies often claim to have attempted to strip out confounding factors but the fact remains, even if you accept the accuracy of their results, they are unable to adequately separate correlation and causation. Even the authors of this most recent such study confess that “causality cannot be verified.”

There is a wide range of studies seeking to do little more than prove adolescents are to some degree exposed to alcohol marketing. Policy-makers should not mistake these for evidence of potential harm. It is undoubtedly the case that, despite the industry’s focus on targeting communications to legitimate customers, adolescents are to some small extent exposed to marketing for a range of adult products such as alcohol, cars and tampons. However, they are also exposed to a wide range of much more powerful environmental influences from parental role modelling, family and community social occasions to popular culture.