
INQUIRY INTO THE HEALTH IMPACTS OF ALCOHOL AND OTHER DRUGS IN AUSTRALIA

SUBMISSION

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By way of introduction, I am a PhD student with the University of Sydney Business School. My research is focused on the availability of alcohol and its impact on acute social harms (e.g. violence). While my research is in its early stages, I have made several observations regarding the existing evidence base in the literature that will be relevant to this inquiry, which I outline below.

Prior to my status as a PhD student, I have worked 30 years in marketing research and strategy consulting roles in Australia and overseas. Leisure and tourism were one of my specialty areas, and I believe that alcohol availability and consumption plays an important role in a healthy and vibrant leisure and tourism industry.

The links between alcohol availability, consumption and acute social harms

Firstly, there are two primary measures of alcohol availability in the literature that are associated with various impacts of alcohol consumption: the number of alcohol licensees and the tax rate applied to alcohol. The number of licensees features as a measure in the public health literature, while tax rates are principally discussed in the economics literature.

Drawing on epidemiological evidence in the public health literature, alcohol availability has been associated with a range of harmful outcomes, such as crime (e.g. Cameron, 2022), hospital admissions (e.g. Maheswaran et al., 2018), motor vehicle accidents (e.g. Lipton et al., 2021), self-harm (e.g. Lester et al., 1993), and so forth. There are 28 alcohol availability studies published since 2018, summarised in Table 1. Thirteen of these studies examine the association between physical availability and claimed alcohol consumption, a further nine investigate the association with violence reports, and a minority focus on the associations with injury and MVAs (two of each). This indicates that violence is the primary harm being examined in the availability research, with less evidence available for other harms that are associated with alcohol consumption. Nonetheless, all these research papers demonstrate a positive association between the physical availability of alcoholic beverages in the area of interest and the outcome measure (claimed consumption or consumer harms).

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Table 1: Summary of Academic Alcohol Availability Research, 2018-2023

Study	Availability Measure				License Type			Outcome Measured					Country of Research					
	Number of Outlets	Opening Hours	Capacity	Survey	On Premises	Off Premises	Not defined	Consumption	Violence	Injury	Vehicle Accidents	Other	USA	UK	Australia	New Zealand	Denmark	South Africa
Amiri et al. (2020)	•				•	•						•						
Auchincloss et al. (2022)	•					•		•				•						
Calvert et al. (2020)	•					•			•			•						
Cameron (2022)	•				•	•			•							•		
Colbert et al. (2023)				•			•	•							•			
Foster et al. (2020)	•				•	•		•							•			
Freisthler and Wernekinck (2022)	•				•	•		•				•						
García-Ramírez et al. (2021)	•				•	•		•				•						
Gorman et al. (2018)	•				•	•			•			•						
Grossman et al. (2022)				•		•		•				•						
Gruenewald et al. (2022)	•				•	•					•	•						
Huckle et al. (2021)				•	•	•		•				•				•		
Lardier et al. (2021)	•				•	•			•			•						
Lipton et al. (2021)	•				•	•					•	•						
Londani et al. (2021)				•	•	•		•				•						•
Maheswaran et al. (2018)	•				•	•				•				•				
Miller et al. (2021)			•		•				•						•			
Morrison et al. (2019)	•				•	•		•				•						
Noel & Rosenthal (2023)				•			•	•			•	•						
Pear et al. (2023)	•				•	•						•						
Phillips et al. (2023)	•				•	•		•				•						

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	Number of Outlets	Opening Hours	Capacity	Survey	On Premises	Off Premises	Not defined	Consumption	Violence	Injury	Vehicle Accidents	Other	USA	UK	Australia	New Zealand	Denmark	South Africa
Pliakas et al. (2018)	•	•			•	•			•	•				•				
Rosshiem et al. (2018)	•				•	•					•		•					
Seid et al. (2018)	•				•	•		•				•					•	
Slutske et al. (2018)	•				•	•		•				•						
Subica et al. (2018)	•					•			•			•						
Trangenstein et al. (2018)	•				•	•			•			•						
Wang et al. (2022)		•				•			•						•			

Problems with the availability evidence base

Consumer access to alcoholic beverages is determined by licensee density, the opening hours of licensees and the venue capacity (for on premises consumption). However, each of these individual factors is dealt with in separate research papers; no paper seeks to understand the combined effects of these factors on alcohol consumption, or the acute social harm associated with alcohol consumption.

Thus, the public health literature does not reflect the reality experienced by consumers, which represents a potential bias in the evidence base linking alcohol availability to acute social harms.

Further, those papers that examine the association of alcohol availability with alcohol consumption are primarily dependent on survey responses as a measure of consumption or intended consumption. Survey responses are recognised to be low validity measures in epidemiological research, yet it forms the foundation for the measurement of alcohol consumption. This continues despite the availability of other potentially stronger consumption proxies, such as wastewater data, warehouse data and panel data.

Thus, the public health literature relies on low validity measures of alcohol consumption.

There is also fragmentation in the literature, in that no single study demonstrates an association between alcohol availability, alcohol consumption and acute social harms. These studies demonstrate links between alcohol availability and claimed alcohol consumption (although there are further problems with this as discussed above) or alcohol availability and harmful outcomes, but not all three together. In the later case, establishing an association between alcohol availability and harmful outcomes, without establishing associations with consumption, undermines the argument that increased alcohol availability encourages increased alcohol consumption which, in turn, contributes to increased acute social harms in society (as theorised by Single, 1988).

Thus, the public health literature has not established the link between alcohol availability, consumption and harmful outcomes.

Studies that demonstrate growth in alcohol availability over time can be reported in one of two forms: the growth in the absolute measure of licensee density or per capita growth. Those studies that report on the absolute growth of licensed alcohol venues without reference to population growth ignore the natural demand component

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in the growth in supply. This biases both the results of the research and the narrative around the harms associated with alcohol availability.

Finally, the public health research also ignores alternative explanations for the harms being associated with alcohol availability. For example, the criminology literature has suggested that growth in violence is associated with the growth of the total business environment (not simply the growth in alcohol venues), suggesting that the density of people in an area is a strong contributor to violent or crime outcomes (see Hipp, 2016; Askey et al., 2018; Wheeler, 2019).

Thus, the public health literature contains biases or ignores other relevant data important in understanding the links between alcohol availability and harmful outcomes.

The impact of limiting availability

Limiting availability through denying new or variations for existing alcohol licensees and trading hours restrictions of operation for alcohol licensees has had mixed results. While these measures have been associated with decreases in crime (e.g. Miller, 2015) and can in this context be interpreted as successful interventions against the objectives of the intervention, they have had other potentially less palatable consequences.

A recent news article has highlighted the impact on the business community of Sydney and the nightlife economy, stating that Sydney has become a city with a 9pm curfew (Molloy, 2024). Many comments by members of the public on the article lament restrictive policy as the cause of the loss of a once vibrant leisure and entertainment precinct for locals. This latest article is not unique, pointing to the lockout laws and other policy decisions eroding the vibrancy of Sydney (e.g. Madigan, 2024; Parkes-Hupton, 2024; Leeming et al., 2023).

Thankfully, this situation has not been echoed in other States of Australia to the same extent, which can be credited to less restrictive policy interventions (or dumping of policy interventions that had these unintended consequences).

Policy interventions prohibiting access to alcohol must be balanced with the entertainment and economic needs of residents, tourists and the business community. This is especially the case considering dining and wine experiences are a key pillar for attracting international tourists to Australia (Tourism Australia, 2022). Unfortunately, the existing public health research is a weak evidence base for informing policy given the substantial flaws identified above.

The links between alcohol tax, consumption and acute social harms

There are claims that increasing the prices of alcoholic beverages through various taxation interventions is associated with reductions in alcohol consumption and a range of consumer harms associated with alcohol consumption (e.g. Chaloupka et al. 2002; Anderson et al., 2009). Similarly, it has been found that lowering the price of alcoholic beverages through the relaxing of tax interventions led to an increase in overall alcohol related health harms and deaths in Finland (Lahtinen et al., 2023).

However, this may not always be true as a review of research using natural experiment methods by Nelson & McNall (2017) found inconsistent associations between alcohol tax interventions and a variety of consumption and harm outcomes. This review also found that much of the pricing research examined relies on consumer surveys (this is problematic due to biases discussed in the previous section).

As shown in Table 2, this literature review identified 15 studies investigating alcohol pricing since 2019. Of these, nine examine the associations between alcohol pricing and alcohol consumption, while only two studies explore associations of price to acute consumer harms (one with hospitalisation and one with MVAs). Of those studies examining consumption, five rely on survey data, two on sales data, one on consumer panel data and one on wastewater data. This indicates a lack of connection between the availability research, which has a stronger emphasis on the relationship between alcohol outlet density and social harms, and the body of alcohol pricing research, which has a stronger focus on alcohol consumption outcomes but less evidence relating to harms. Although of interest, there exists some research in the alcohol pricing domain that uses stronger consumption measures than surveys, such as consumer panel data and sales data.

Table 2: Summary of Academic Alcohol Pricing Research, 2018-2024

	Price Measures	Outcome Measures	Consumption Measurement (if relevant)	Country of Research
Study	Taxation Minimum unit price Retail price	Consumption Death Chronic health Hospitalisations Births MVAs	Survey Sales data Panel data Wastewater	USA UK Australia Finland Germany China Europe (general)
Gehrsitz et al. (2021)	•	•	•	•
Gredner et al. (2021)	•	•		•
Hu et al. (2023)	•	•	•	•
Lahtinen et al. (2023)	•	•		•
Llopis et al. (2021)	•	•	•	•
Luukkonen et al. (2023)	•		•	•
Manca et al. (2024)	•	•		•
Moore et al. (2022)	•	•	•	•
Ng et al. (2022)	•		•	•
O'Brien et al. (2021)	•	•	•	•
Posti et al. (2019)	•	•	•	•
Robinson et al. (2020)	•	•	•	•
Rousselière et al. (2022)	•	•	•	•
Shen et al. (2020)	•	•		•
Taylor et al. (2023)	•	•	•	•

Problems with the pricing evidence base

A potential problem with these models is they do not consider how different consumer segments may respond differently to price increases in the alcohol market. For example, consumers may shift their product choice to cheaper alternatives without changing their overall alcohol consumption levels (e.g. Gruenewald et al., 2006), particularly among heavy drinkers (Anderson et al., 2009); young consumers may be more loyal to preferred brands meaning price increases to those brands do not significantly change their consumption patterns (e.g. Albers et al., 2014; Jensen et al., 2017); for the wine category, price can act as a signal of product quality and price increases may have the reverse effect of making certain wines more desirable (Panzone, 2012); and when

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alcohol is consumed with food any price changes are absorbed into the total cost of a meal, thus, having little to no effect on alcohol consumption in this setting (Moore et al., 2022).

In the economics literature there appears to be little connection made between the availability literature and pricing literature. There are connections between the two bodies of research regarding consumption as the outcome of interest, some of which may be very limited in their conclusions due to the biases relating to the reliance on survey methods in the measurement of alcohol consumption (discussed previously). There has been more interest in potential harms from alcohol consumption, such as violence and injury, in the recent availability literature but little focus on these outcomes in the pricing literature.

Thus, the economics literature does not account for substitution effects and mostly relies on low validity measures of alcohol consumption.

However, it is encouraging to see some economics research measuring consumption with sales, panel or wastewater data. These should be treated as proof of concept and public health researchers encouraged to consider these data sources to address weaknesses in their evidence base.

Difficulty in obtaining data for research in this domain

The weaknesses noted in the existing evidence base informing public policy relating to alcohol availability and pricing are largely due to a lack of alternative data sources for inclusion in the research, not any flaws in the researcher's approach. To support evidence-based decision making, weak evidence is better than no evidence.

In Australia, the lack of data available to support research in this domain is indicative of the appetite of Commonwealth and State Government agencies to collect, store and/or make available this data for research purposes. This inevitably leads to the risk of poor policy decisions that do not address the underlying issues and may result in unintended consequences.

For my own research there have been a number of challenges to access data for inclusion in the research. For example, the Australian Criminal Intelligence Commission (ACIC) has been collecting wastewater data, measuring alcohol and other drugs in certain catchment areas around Australia, since 2016. This is an excellent initiative, the results of which can be used as a consumption proxy in research and measure potential substitution effects in response to policy changes. However, when I attempted to contact the ACIC in June 2024 to communicate to the research team and seek more clarity on the wastewater data being collected, my request was rejected by the Webmaster and I have not been able to speak directly with the research team to date.

Similarly, when requesting more discrete data from the Australian Bureau of Statistics (ABS) around business and population statistics their approach was to quote tens of thousands of dollars to provide data. This makes access to good quality data to support academic research prohibitively expensive.

Another challenge is in comparing data that is held by State Government agencies. A lack of consistency in data collection and reporting on alcohol license details, alcohol warehouse data, crime statistics, hospital admissions and ambulance call outs, and motor vehicle accidents (MVs) makes building a national picture of the impact of policy decisions on alcohol consumption and acute social harms extremely difficult, if not impossible.

Concluding Remarks

At present, the public health and economics academic research provides a weak evidence base to assist in public policy decision making. These research outcomes are often founded on low validity measures and have not established a link between availability, consumption and harms in the alcohol domain.

The Commonwealth Government, should as part of this inquiry, make strong recommendations around the collection and sharing of quality data that can be used in research to form a stronger evidence base for policy decisions around the health impacts of alcohol and other drugs in Australia.

This should include:

- Continuous fielding of public health surveys (which I understand the ABS is presently contemplating for the National Health Survey)
- Continued support for wastewater monitoring and greater willingness to collaborate with academic researchers with this data source

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- Directing the States to collect and make available alcohol warehouse data (as Victoria currently does)
- Work with the States to consistently collect and report data on alcohol licensees
- Work with the States to consistently collect and report data on health and social outcomes of interest (including crime, chronic health conditions, hospitalisations and ambulance call outs, and MVAs)

This outcome will result in improved health outcomes for Australians and visitors to Australia, and strengthen both Government and business decision making around minimising the harms experienced by consumers from alcohol and other drugs.

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