

The logo graphic for NDLERF is a grid of colored squares. The top row consists of three blue squares. The second row has a white square, a grey square, a blue square, and a white square. The third row has a blue square, a white square, and a blue square. The text 'NDLERF' is positioned to the right of this grid, with 'NDLE' in white and 'RF' in yellow.

NDLERF

Dealing with alcohol-related
harm and the night-time economy

(DANTE)

Executive summary

Monograph Series No. 43

Funded by the National Drug Law Enforcement Research Fund
An Initiative of the National Drug Strategy

Dealing with alcohol-related harm and the night-time economy

(DANTE)

EXECUTIVE SUMMARY



HUNTER NEW ENGLAND POPULATION HEALTH (HNEPH)

April 2012

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**Funded by the National Drug Law Enforcement Research Fund,
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1. Introduction

Alcohol-related problems are a major cause of social disorder and illness in Australia. In particular, problems associated with the night-time economies of urban and regional centres cause substantial community concern and are a considerable drain on police, community and health resources. The estimated cost of alcohol to the community is \$15.3 billion, including costs associated with crime, violence, patient treatment, loss of productivity and premature deaths in 2004–05 (Collins 2008). Alcohol has also been identified as a factor in around three quarters of assaults and incidents of offensive behaviour on the street (Buss 1995). Previous research has identified several issues that contribute to the levels of short-term harm associated with risky drinking. These include: excessive consumption at licensed premises, consumption in public areas and lack of transport and security in entertainment precincts (Homel et al. 1992; Graham & Homel 2008).

Drinking in licensed venues is another predictor of harm and public disorder. More than half of offences occurring on the street have been associated with licensed premises in Australia (Buss 1995). A complex range of factors increase risky drinking and associated harms on licensed premises including: aspects of patron mix; levels of comfort, boredom, and intoxication; promotions that cause mass intoxication; and the behaviour of security/bouncers (Homel et al. 1992). Violence has also been shown to be perpetuated by poor venue management, lax police surveillance, lack of transport options for patrons, and inappropriate bureaucratic controls and legislation (Homel et al. 1992). This project aims to provide evidence-based knowledge regarding the implementation and impact of innovative local initiatives directed at alcohol-related harms.

1.1 Geelong

Geelong is a city of about 205,000 people and is growing at 1.1 percent per annum. Located 70 kilometres from Melbourne, it is both a regional centre and a suburb of Melbourne, with more than 11,000 people commuting to the capital every day. In Geelong, as many as 25 initiatives aimed at improving safety in and around licensed venues have been implemented in the past 15 years (Armstrong-Rowe 2008). None of these interventions have included a fully-developed research component. Many of the Geelong projects have come about through engaging participants and developing ownership of the project. Table 1 outlines the major interventions implemented between 1990 and February 2011; the period of this study.

1.2. Newcastle

The greater Newcastle metropolitan area is 160 km north of Sydney, in New South Wales, and is the second most populated area in the state. It has an estimated population of 570,000 people (2006) and covers five local government areas (Newcastle, Lake Macquarie, Cessnock, Maitland and Port Stephens). It is a regional coastal area with an economy based primarily on manufacturing, wine and coal mining. Its average annual growth rate is 1.17 percent (Australian Bureau of Statistics 2011).

Table 1 Description of alcohol-related interventions implemented in Geelong, Victoria.

Name of intervention	Date implemented	Description
Liquor accord	1991	Agreed set of interventions and regular meetings between police, licensees and other stakeholders
Safe taxi rank	2006	Designated taxi rank staffed by security guards between 1 am and 6 am Saturday and Sunday mornings
Night Watch Radio Program	March 2007	Connection of security staff via radio with relevant personnel
ID scanners	October 2007	Matches ID images to photographs to detect fake IDs
Just Think	June 2008	Local celebrities endorsing 'safe' drinking patterns and reduced violence
Operation Nightlife 1	January 2007	Maximum police visibility during high-risk hours
Operation Nightlife 2	June 2009	Improved radio contact between police and licensees
Safe Streets Taskforce	December 2008	Increase police visibility
Operation Razon	April 2008 -	Undercover police at licensed venues
Final integration of ID scanners/ NWRP police scanner system	November 2009	Victoria Police, City of Greater Geelong, Nightlife Association
Fine strategy	July 2010	Primary focus on using fines, rather than arrests, to deal with anti-social behaviour
So You Know campaign	August 2010	Awareness posters also implemented
Risk-based licensing	January 2011	New licensing regime, which differentiates between venue type, trading hours and size. Fees increase with breaches of licence

The Newcastle Intervention

On 20 March 2008, following an escalation of alcohol-fuelled violence, anti-social behaviour and associated community complaints, the NSW Liquor Administration Board imposed additional conditions on 15 hotels in Newcastle's main entertainment precincts. These conditions (outlined in Table 2) were imposed under s. 104 of the NSW Liquor Act 1982, legally binding licensees to comply. At the time of writing, 11 of the original 14 venues were trading. In July 2010, 11 conditions were also imposed on six hotels in the Hamilton area. The conditions were similar to those in Newcastle, but did not include the early closing times.

Geelong and Newcastle are highly comparable in terms of their social and demographic histories and characteristics. However, very different interventions were put in place to try to reduce alcohol-related harm in the community ranging from voluntary/collaborative approaches to regulatory/mandatory. As such, the chance to compare the two cities during a period of legislative change presented a unique opportunity. Numerous variables were at play and many indicators could have been used for this project. However, this study used a wide range of research methods to gain an in-depth and comprehensive understanding of how the interventions impacted on patron behaviour and what effects they had on the indicator data related to alcohol-related harm.

Table 2 Section 104 conditions imposed on Newcastle hotels in March 2008**Trading restrictions**

Reduced trading hours: all premises are prohibited from trading later than 3.30 am

Lock-out: patrons must be prohibited from entering after 1.30 am

Alcoholic drink restrictions

Venues are prohibited from supplying the following alcohol products after 10 pm:

- No shots
- No mixed drinks with more than 30 mL of alcohol
- No RTD (ready to drink) drinks with an alcohol by volume greater than 5%
- Not more than four drinks may be served to any patron at the one time

Responsible service of alcohol actions

Additional RSA actions included:

- Free water stations on all bar service areas
- RSA marshal from 11 pm until closure (sole responsibility of supervising RSA practices and consumption)
- No stockpiling of drinks and a patron may only purchase up to four drinks at the one time
- Ceasing the sale and supply of alcohol at least 30 minutes prior to closing time

Compliance audits

- Independent compliance audit at least every three months

Management plan

- Developing and submitting a management plan to the Liquor Administration Board

Communication strategies

- All venue staff to be notified in writing within 14 days of the imposition date of the conditions and their responsibilities as venue staff
- All venues subjected to the conditions must enter into an agreement to share a radio network enabling management and security to communicate with each other

2. Methods

Five distinct arms of research were conducted in both Newcastle and Geelong:

1. secondary data (10 years retrospective, two years prospective):
 - a) emergency department attendance records;
 - b) Victoria and NSW police (assaults, property damage and drink-driving);
 - c) Ambulance Victoria attendance records;
 - d) patron interviews (10 pm–3.30 am over 18 months) N=3,949;
2. venue observations (quarterly, structured observations of 35 licensed late night venues) N=129;
3. community surveys (Computer Assisted Telephone Interviews) N=694; and
4. key informant interviews (licensees, security workers, bar workers, community workers, police and health professionals) N=123.

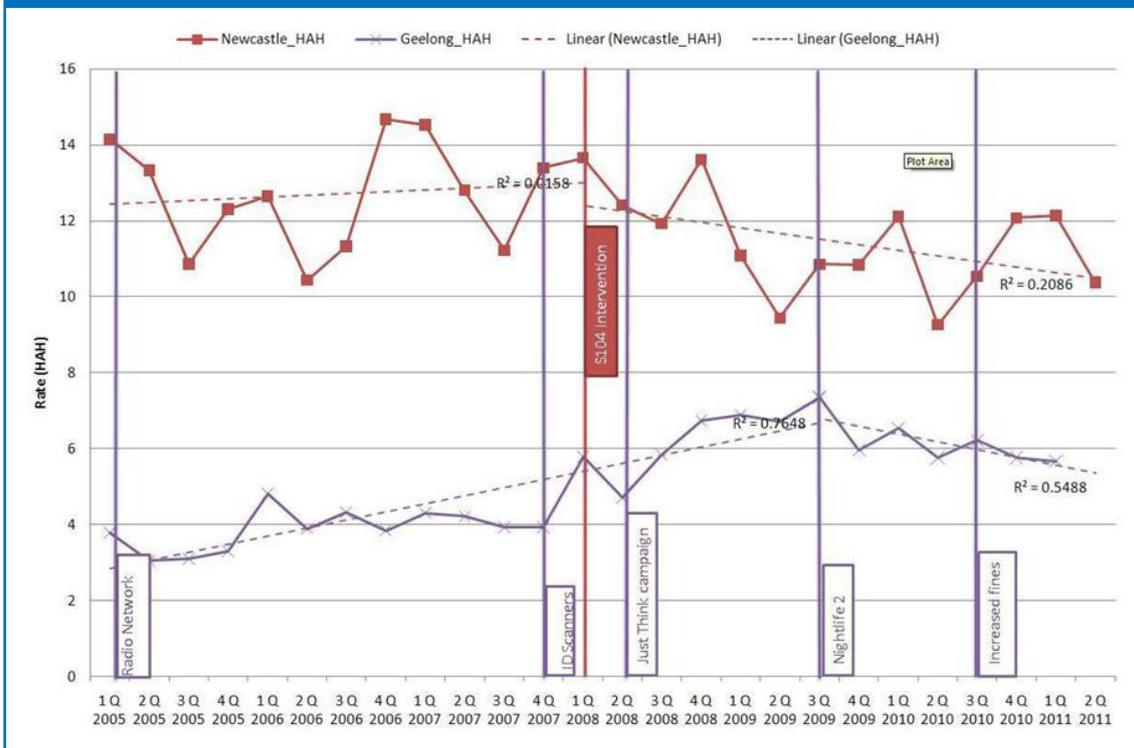
3. Results

Major findings are presented herein, not all data sources or findings are discussed (eg data for property offences, drink-driving, ambulance attendances, and from key informants can be accessed in the main report).

3.1. Emergency Department attendances

Between 1 July 1999 and 31 March 2011, 116,822 injury (S&T code) cases presented at the Geelong Hospital emergency department (ED). In Newcastle, a total of 245,761 injury (S&T code) cases presented at either the John Hunter Hospital ED or the Mater Calvary Hospital ED between 1 January 2001 and 30 June 2011. Peak times for alcohol-related ED attendances were 11 pm Saturday night to 5 am Sunday morning (Miller et al. 2011). Figure 1 shows injury trends over time.

Figure 1 ED attendances Geelong and Newcastle during high alcohol hours (HAH) for S&T codes per 10,000 over time (quarterly)



3.1.1. Discussion

Figure 1 suggests that changes in ED attendances were related to the imposition of Newcastle's s.104 conditions, and changes in Geelong's policing strategy associated with the Nightlife 2 operation. It is important to note, however, that time series analyses and linear regression modelling found neither of these changes were as yet statistically significant. There appear to be no obvious reductions in Geelong associated with the implementation of ID scanners, the radio network or the Just Think campaign. On the other hand, there does appear to have been a reduction in ED attendances during high alcohol hours (HAH) associated with the Victoria Police Operation Nightlife 2 and the subsequent increase in fines for anti-social behaviour and intoxication. In Newcastle, ED attendances for alcohol-related injury remained relatively stable between 2001 and 2009, although attendances appear to decline during the high alcohol hours.

3.2. Police arrest data

3.2.1. Assaults (Geelong and Newcastle)

Assault data for the Geelong LGA is presented for the period 1 July 2004 to 30 June 2010 and for the Newcastle local government area (LGA) from 2001 to 2009. The 3220 postcode experiences the most assaults for the Geelong LGA (25.8% of cases) and the suburb of Newcastle experience two-thirds of incidents in the Newcastle LGA. Most assault incidents occurring in the Geelong LGA during HAH took place in the street (39.7) followed by private residential dwellings (24.4%) and then licensed premises (12.1%). In the Newcastle LGA, most non-domestic assaults occurred in a public place (42.1%) followed by licensed premises (37.5%).

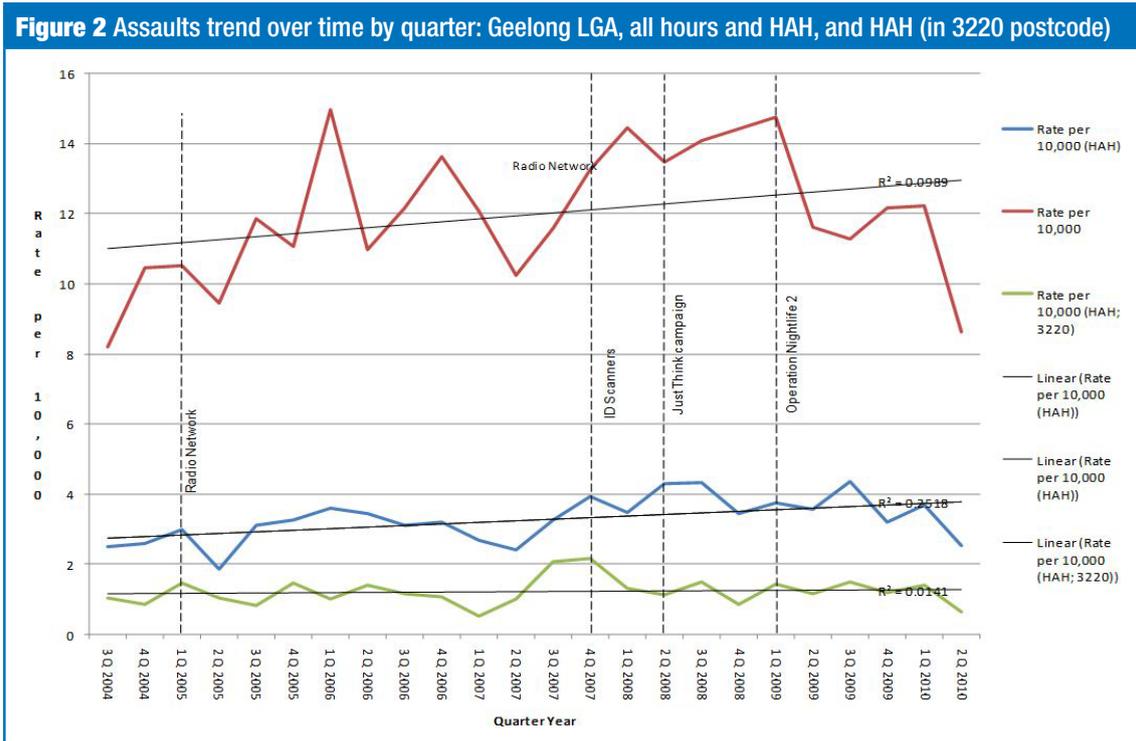
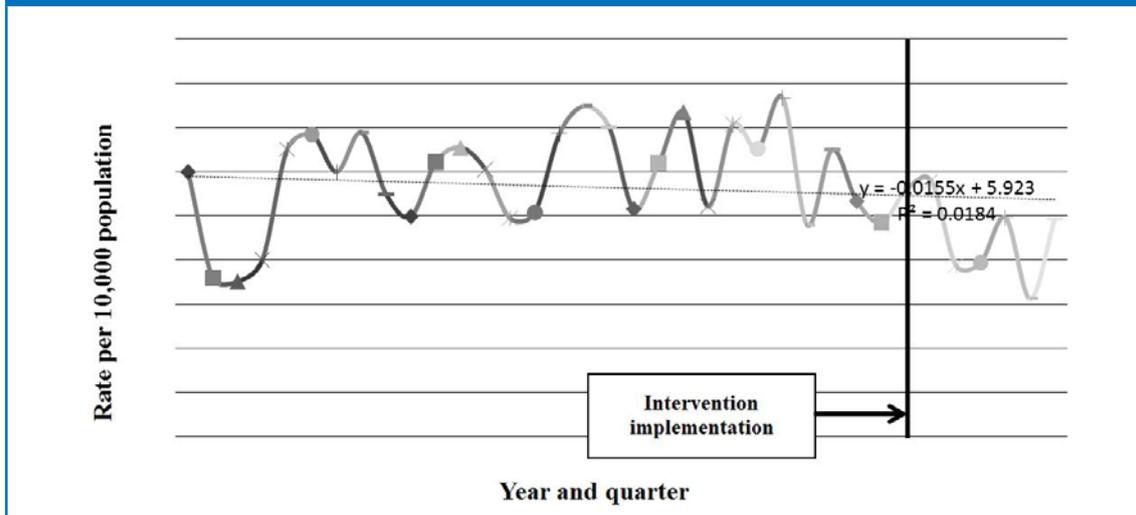


Figure 2 shows assault trends over time for all assaults occurring within the Geelong LGA and assaults occurring during HAH across the LGA and also in the 3220 postcode. All types of assault have increased consistently over time, although there appears to have been a reduction in each category in the last quarter of the study period. Subsequent time series analysis demonstrates that the interventions implemented in Geelong had no significant impact on assault rates. Figure 3 reports assault trends over time for Newcastle and Hamilton and time series analysis found a significant reduction ($p < 0.01$) of non-domestic assaults between pre- and post-intervention. This represented an average reduction of nine assaults per month.

Figure 3 Non-domestic assaults for HAH per 10,000 population in Newcastle/Hamilton (1/1/2001 - 31/12/2009)

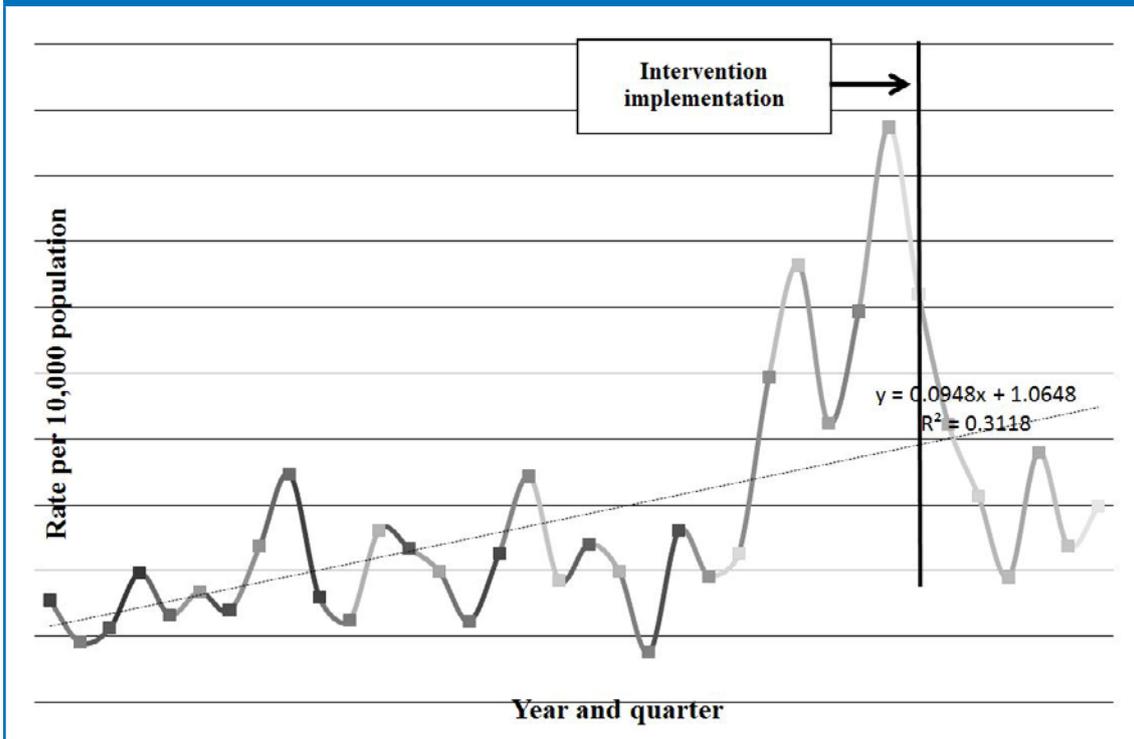


In summary, the number of assaults in Newcastle dropped significantly during the study period whereas the community-based interventions had no significant effect in Geelong. This is in line with the current literature. Of note is the increase, rather than a decrease, in alcohol-related assault rates after the implementation of the alcohol industry funded 'Just Think' social marketing campaign. The most likely explanation for the different results between Geelong and Newcastle is that none of the interventions in Geelong address alcohol consumption. Interventions that address total alcohol consumption have consistently been found to be the most effective in reducing alcohol-related violence (Anderson et al. 2009; Babor et al. 2010, 2003; Graham & Homel 2008). Increased surveillance technologies (eg ID scanners) may reduce incidents within venues, only to shift fighting onto the streets. Banning people may result in them being displaced to venues outside the main entertainment area. ID scanners and banning orders are also open to abuse, as seen in a recent case where the Supreme Court ruled that a banning order in Swan Hill was illegal (Munro 2011) repeating earlier calls for strict legal guidelines (Palmer et al 2010).

3.2.2. Street Offences in Newcastle

Figure 4 shows an increasing trend in street offences between 2001 and 2008, followed by a reduction in street offences after the implementation of the intervention at the end of March 2008—particularly during HAH. Time series analysis found a significant reduction ($p=0.0371$) of street offences between pre- and post-intervention frequencies, representing an average reduction of 10 incidents per month.

Figure 4 Street offences for HAH per 10,000 population in Newcastle/Hamilton (1 January 2001 to 31 December 2009)



3.3. Computer Assisted Telephone Interviews (CATI)

The CATI study aimed to examine community perceptions of safety, alcohol-related crime, and attitudes towards alcohol harm-reduction strategies. It also sought to assess differences in such attitudes between location and frequency of attending licensed premises. In all, 693 people completed the survey, a 52.7 percent response rate. Table 3 Perceptions and experiences of crime in the main entertainment precincts shows community perceptions of alcohol-related crime, highlighting that most respondents (89.7%) believed that alcohol was a problem in their entertainment precincts. Respondents who had visited a precinct venue after 10 pm in the last year were compared with those that had not. It was found that more than half (54.7%) had personally witnessed or been involved in a non-physical or physical argument in the precinct in that time. It was also found that significantly more people who had not been a patron in the last year would never walk alone (79.6% and 46.1% respectively; $p < 0.001$) or wait alone for public transport after dark in the precinct (85.6% and 58.8% respectively; $p < 0.001$).

More than 90 percent of participants supported all Geelong strategies, with increased enforcement in venues receiving the most support (97.9%) and the radio network being the least supported (91.8%). The Newcastle community strongly supported all strategies. Increased enforcement of venues was most supported (99.3%) and reduced trading hours was the least supported (77.1%). Increasing visible enforcement of venues received the most support (96%) reducing the trading hours of late-night venues in high-risk areas received 79.2 percent support and only 8.1 percent of people believed venues should trade beyond 3 am.

Table 3 Perceptions and experiences of crime in the main entertainment precincts

Item	% Reside in each city				% Patron of premises in the last year		
	Total % (693)	Geelong (n=318) (95% CI)	Newcastle (n=376) (95% CI)	P <0.01	Patron (n=247) (95% CI)	Non-patron (N=446) (95% CI)	P <0.01
Believed that alcohol is a major problem in the precincts	89.7	90.1 [84.8–93.7]	89.4 [84.2–93.1]	–	85.6 [78.1–91]	91.9 [87.9–94.7]	NS
Mean percent of crime in the entertainment precincts believed to be alcohol-related	63.3	63.6 [60.3–67]	63.1 [60–66.3]	–	58.7 [54.7–62.7]	66 [63.2–68.8]	0.003
Alcohol consumed at licensed premises in precinct contributes large proportion of crime	76.5	76 [69.2–81.7]	76.9 [70.5–82.3]	–	68.3 [59.6–76.1]	80.9 [75.7–85.3]	NS
Witnessed/involved in a non-physical or physical argument in entertainment precinct	51.5	50.1 [38.2–61.8]	52.7 [41.3–63.6]	–	54.7 [44.3–64.5]	^	^
Feel very unsafe/unsafe walking alone in the precinct area after dark	21.5	21.8 [16.3–28.5]	21.3 [16–27.6]	–	36.6 [28.1–46.1]	13.3 [9.8–17.7]	<0.001

–: Non-significant at p-value (<0.01)

^: Non-physical argument and physical assault questions were only asked of respondents that reported visiting a premise in the main entertainment precinct after 10 pm

It is clear that community members perceive alcohol as a significant social problem in entertainment precincts, and support most of the evidence-based alcohol harm-reduction strategies. The minimal difference between the study areas demonstrates that Australian regional cities may be similar in their perceptions and views. The study also demonstrates strong community support for measures that reduce the availability of alcohol in the community.

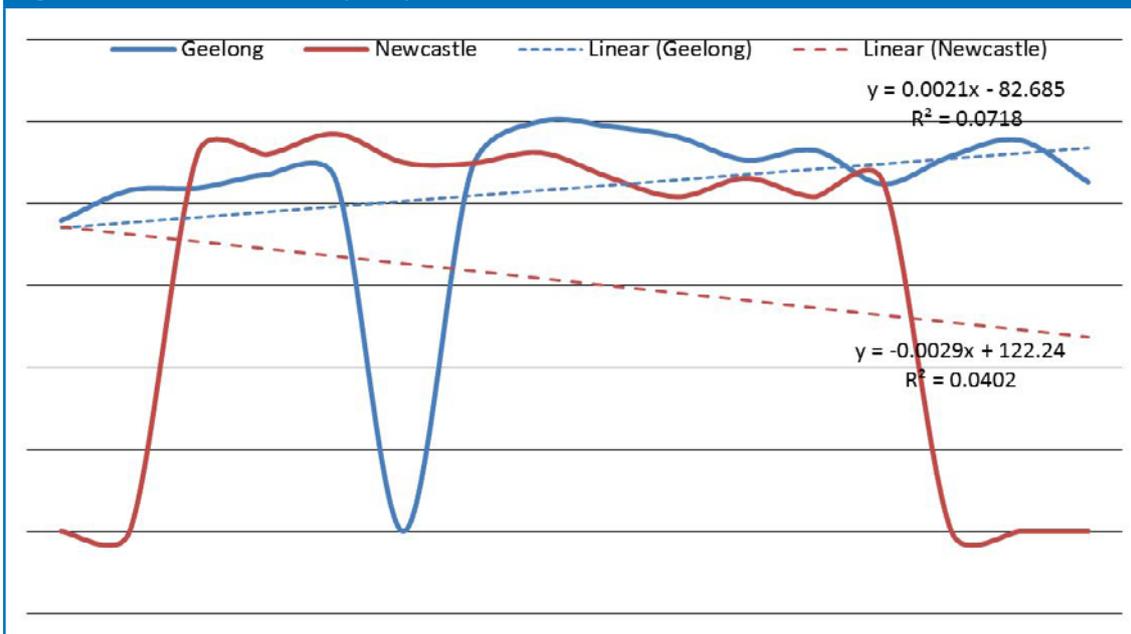
3.4. Patron Interviews

Almost 4,000 people agreed to be interviewed in and around venues in Geelong and Newcastle. Table 4: Summary table—patron interviews, shows major findings. These suggest that Newcastle people go out more often than those in Geelong and that intoxication levels remain high while other drug use is low. Although drug use was not common, those who reported using drugs were significantly more likely to report being in a fight. More than one in ten (12.6%) people who reported other drug use had been in a fight whereas only 5.6 percent of those who did not report drug use had been in a fight. Figure 5 shows that over the study period, the mean level of self-rated intoxication in Geelong increased ($R^2=0.24$) whereas the mean level of self-rated intoxication in Newcastle decreased ($R^2=-0.65$). The overwhelming majority of interviewees reported feeling safe in the venues they were visiting, with an average rating of 8.56 out of a possible 10. The sites did not differ significantly in terms of interviewee perceptions of safety. However, interviewees in Geelong were significantly more likely to have witnessed a fight in the past 12 months than those in Newcastle ($\chi^2=6.852$, $p=0.009$) although the difference was not great. In contrast, interviewees in both cities were equally likely to have experienced violence in the past 12 months ($\chi^2=0.10$, $p=0.920$).

Table 4 Summary table—patron interviews

Item	Geelong %	Newcastle %	Total %	
Gender (female)	47.6	43.6	45.5	P=0.029
Frequency 'going out'				$\chi^2=59.42, p<.000$
More than weekly	5.9	12.6	9.5	
Weekly	33.7	31.9	32.8	
Monthly	23.1	18.3	20.6	
Frequency intoxicated				
Weekly	26.1	30.3	27.2	
Monthly	32.7	28.2	31.4	
Standard drinks consumed pre 'going out'				
0	27.9	37.1	32.8	
1–5	38.7	37.8	38.2	
6–10	24.2	19.1	21.5	
11+	9.1	5.9	7.4	
Type of alcohol consumed				
beer–heavy	30.9	31.8	7.0	
spirit	28.2	25.3	31.4	
wine–white	10.7	9.3	10.4	
alcopop	8.3	5.7	26.7	
mix: beer+spirit	7.6	13.1	10.0	
Why do you pre-drink?				
Price	34.8	35.3	35.1	
Chance to catch up with friends	17.2	9.8	13.2	
Convenience	4.5	7.5	6.2	
Other drug use (any)	8.5	5.7	7.0	
Methamphetamine	2.7	1.2	1.9	
Cannabis	2.3	1.9	2.1	
Speed	1.4	1.3	1.3	
Ecstasy	0.5	0.4	0.5	
Refuse to tell (indicated drug use)	1.1	1.2	1.1	
Witnessed fight	62.7	58.6	60.6	
Involved in fight	15.7	15.3	15.5	
How often have you seen police tonight?				
Never	58.0	53.1	55.4	$\chi^2=9.372, p=.002$
Once	23.2	26.1	24.7	
Twice	8.5	9.9	9.2	
A few times	6.0	8.0	7.1	
Intoxication level when interviewed				
Mean (σ)	4.46 (2.29) σ	4.39 (2.10) σ	4.42 (2.15) σ	t=.907, p=.023
Zero self-rated intoxication	13.9	14.9	14.4	
Interviewer intoxication ratings (out of 6)				
Mean (σ)	1.01 (1.39) σ	0.66 (1.14) σ	0.82 (1.27) σ	t=8.54, p=.000

Figure 5 Self-rated intoxication (mean) over time



By far the most common way for interviewees to stay safe is to remain with friends, followed by 'not walking alone'. Interviewees reported taxis as the most favoured way of getting home, which although the most popular option, was also viewed as the least convenient. Interviewees in Newcastle reported seeing police significantly more often than interviewees in Geelong.

The current study also found that the norm was 'pre-drinking' (or 'pre-gaming', 'pre-loading', 'front-loading' – planned heavy drinking before going to a social event) and side drinking (or 'side-loading'; use of hip flasks containing spirits which can be drunk straight or added to mixers). While side-loading was not measured explicitly both research observations and interview teams reported that the practice was common. In line with previous research, we also found that people who pre-loaded were more intoxicated than those who did not, and they were significantly more likely to have been involved in a violent event in the NTE in the past 12 months. Intoxication from pre- and side-loading is extremely difficult for venues to police, substantially harms the business of licensed venues, and makes intoxication and violence more likely. It is one of the major barriers to effectively reducing harm in the NTE.

Conclusion

Unsurprisingly, more stringent measures implemented in Newcastle have had greater effects on levels of intoxication in the city. The levels of intoxication of patrons continued to decline, long after the s. 104 interventions were put in place, suggesting an ongoing effect on the nightlife culture in the area. In contrast, Geelong's interventions, have mostly been focused on harm-reduction through managing problem patrons and violent incidents, rather than intoxication. They have shown no impact on levels of intoxication. While interviewees were more likely to have witnessed a fight in Geelong, they were not more likely than Newcastle patrons to report experiencing violence, although they were more likely to report being intoxicated when doing so. Finally, intoxication from pre- and side-loading was identified as one of the major barriers to effective harm-reduction in both cities.

3.5. Venue Observations

Observations were conducted successfully over the 14-month data collection period. The results indicated that late-night venues were significantly more likely to adopt practices if they were mandatory rather than voluntary. Observed compliance with the mandatory conditions in Newcastle was relatively high, with the least-observed strategy being introducing an identifiable responsible service of alcohol (RSA) marshal after 11 pm. Compliance with drink restrictions, closing times and lockouts was high. This was especially so for strategies involving the responsible service of alcohol for example the prohibition of drinks such as shots and RTD drinks with more than five percent alcohol; RSA marshals; free water stations on all bars; and offering substantial food. The results show that few Geelong venues were voluntarily adopting such strategies. While Victorian legislation relating to providing free water was introduced during the study, the method of supply was left to the discretion licensees. Implementation of the Geelong-based strategies was variable, with some venues not installing ID scanners, and scanning practices and technology varying wildly in others. While this is the case, most venues studied did adhere to strategies/practices that could contribute to reducing intoxication and/or violence, such as: staff monitoring all entrances; no alcohol promotions that encouraged excessive drinking; friendly/non-hostile staff; adequate levels of staffing; flat surfaces to place drinks; minimal sexual activity; no signs of illicit drug use; acceptable patron behaviour at closing time; and actions to inform patrons of closing time.

Therefore, while many venues had good security and RSA practices in place, the voluntary conditions existing in Geelong meant that implementation varied substantially with some venues adopting RSA practices while others did not. While good venue owners spent substantial money on appropriate security devices and staff, poor venues either did not bother or paid token notice. In contrast, venues in Newcastle did engage in almost all of the mandatory RSA practices, almost all of the time. These findings highlight that mandatory conditions create safer environments for patrons and a level playing field for venue operators.

3.6. Key informant interviews

This arm of the study involved interviewing a large group of stakeholders in the Newcastle and Geelong NTEs, and garnering a wide range of perspectives from both sites. The aim of these interviews was not to find definitive answers to whether the interventions under investigation worked. Rather, it was to gain different stakeholders' perspectives on the major issues involved. An important element of this aim was to document the perspectives of stakeholders to identify the areas where people agreed, and where there was room for disagreement while understanding the motivations of other stakeholders.

Invariably, there were always people who believed a measure was effective, while others thought it ineffective. While there was often not agreement, the narratives of key informants (KI) highlighted the fact that people with different roles used very different baselines to evaluate a measure's effectiveness—that is, there was more often than not a common definition of 'success' and 'failure'. The clearest example of this came when comparing the definitions of success for police, with success for some people who made their living from selling alcohol. Police are held accountable on the fundamental measure of managing the level of crime in society. When the community is unhappy with such levels, police come under pressure to act and success is measured by whether crime had been reduced. On the other hand, licensees, managers and others who work in the alcohol industry are focused on profit, entertainment and free trade. For them, success in terms of reducing crime was acceptable as long as business was not harmed—or at least kept any harm to a minimum.

It was also clear that even within different groups of people, there were very different perspectives on trends and issues. Probably the best example of this revolved around restricted trading hours and the perspectives of licensees and other industry personnel. Many industry personnel strongly believed the intervention to be a failure, even if it had been successful in reducing crime levels, and believed there had been a reduction in trade overall. However, many other industry personnel reported that the intervention had been positive, or that they had been able to adjust by changing their business practices. Probably most interesting was the group of industry KIs who welcomed the intervention on one level, while opposing it on another. A number of licensees reported that, although their profit had reduced somewhat, they were not unhappy about the implementation of restricted trading hours and even welcomed it. Importantly, some noted that they welcomed the mandated trading restrictions, as they felt unable to voluntarily reconcile such trade restrictions with the desires of their customers. The key informant narratives provide highly informative and insightful comment on many of the issues under investigation and reflect the wide range of issues and perspectives involved in different aspects of the NTE.

4. Conclusions

The night-time economy is an important part of any modern city, providing entertainment for many, and jobs for many others. It is a risk-laden environment and this element is attractive to some patrons. An immense number of variables are at play here, acting to determine whether one individual suffers harm whereas another does not. Most do not; and most feel safe while visiting night-time entertainment districts (NEDs). On the other hand, most of the general public that have not been to a licensed venue in the past 12 months are often misinformed by sensationalist media painting scenes of gratuitous violence and hedonism. However, alcohol-related harm is a complex problem needing a primary prevention approach, which is both multifaceted and long-term. The data presented in this report highlight the clear social and health imperatives to reduce overall alcohol consumption and better manage environments where alcohol is consumed. Many people do experience harm, and communities need to be informed about the types and levels occurring in the NTE to be able to decide the levels with which they are comfortable.

This project is believed to be the largest of its kind to date. The analysis of health and crime data, some as far back as 1999, allows for a contextual understanding of the problems facing communities and, importantly, the effects of the measures put in place over this time. It allows a comprehensive, though not perfect, picture of the extent and the nature of alcohol-related harm in the NTEs of these two communities and the effects of the different interventions employed to ameliorate that harm. The project compares two models of intervening with alcohol-related harm associated with late-night licensed venues and takes advantage of a unique set of circumstances. Geelong and Newcastle provide a further unique comparison because both are of similar size and demographic profile. They have a similar social history of moving from an industrial city to post-industrial setting and of building on university expansion and tourist markets.

Newcastle was experiencing high rates of alcohol-related harm; between two and six times that of Geelong. Restricting trading hours has had an immediate and long-term effect on alcohol-related harm and the culture of intoxication in Newcastle. These interventions were also effective at no extra cost to the community and freed up police resources to focus on other areas of need. Although some licensed venues within Newcastle closed during the study period, the same number ultimately closed in Geelong. While some businesses can be harmed by legislative measures, changes in implementation can ameliorate some of the negative consequences (eg starting and ensuring measures are put in place at state or regional levels to reduce displacement effects or postponing implementation dates). In contrast, the voluntary interventions in Geelong had no impact. Only recent strategies based on fines for street offences appear to be associated with declining trends, although this effect may be somewhat confounded by 18 months of bad weather. However, despite the effectiveness of the Newcastle intervention, it is worth noting that rates of alcohol-related harm continue to be higher in Newcastle, suggesting that further intervention may be required.

Pre-drinking and side drinking have been identified as major impediments to responsible service of alcohol and have also been identified as major predictors of subsequent intoxication and an increased likelihood of experiencing violence. It was also clear that current pricing regimes meant that packaged liquor outlets contributed to alcohol-related harm in society without paying anything towards harm-reduction strategies. This is anti-competitive for licensed venues as businesses, and unacceptable for communities, which end up paying for the alcohol-related harm caused by cheap liquor sales. While this problem has been identified in other communities around the world, few have identified measures to redress this situation. In the USA, 20 states have programs that allocate funds collected through taxes or state mark-up on alcoholic beverages. The funds are directed in one or more of the following ways: education or prevention of problems associated with alcohol use (12 states); enforcement or administration of the state's alcohol control laws (7 states); and treatment or rehabilitation for people with alcohol or other drug problems (12 states). Research has consistently shown that even small price increases can reduce alcohol consumption (Wagenaar et al. 2009; Meier et al. 2010). While economic modelling is required to determine the most effective amount to achieve preventative benefits in terms of reducing pre-drinking, a unit price of \$0.50 is indicated from UK modelling work (Purshouse et al. 2010; Brennan et al. 2009). Such a levy warrants consideration as a viable avenue to effective harm-reduction in the NTE.

Despite these major issues and trends, both cities continue to have vibrant nightlives, with patrons who are enjoying themselves and feel safe when doing so.

5. Directions for policy and practice

Based on the reviewed literature and the wide range of data reported above, following are a number of possible policy practice and research directions for consideration:

1. **Subject to international obligations, state and local governments investigate levies on each unit of alcohol sold by packaged liquor outlets to recover costs associated with alcohol and that this money is allocated for police, hospitals and councils to meet the costs of alcohol-related harm.**

This research has identified pre-drinking as a significant predictor of violence and a major impediment to responsible service of alcohol. Current pricing regimes mean that packaged liquor outlets contribute to alcohol-related harm in society without making a direct contribution to harm-reduction strategies. This is anti-competitive for licensed venues as businesses. It leaves local communities to address alcohol-related harm emanating from packaged liquor outlets, in particular cheap liquor promotions and sales. As has been identified in other fields of regulation, it is important that the 'polluter' contributes to the cost of harms arising from their activities. While this problem has been identified in other communities around the world, few have identified measures to redress this situation. Levies on packaged liquor may be used to reduce the harm it causes by funding increased regulatory and law enforcement, preventative initiatives or environmental measures. Levies would also have the additional benefit of changing consumption: research has consistently shown that even small price increases can reduce alcohol consumption (Meier et al. 2010; Wagenaar et al. 2009).

2. **Communities that are identified as having unacceptable levels of alcohol-related harm should consider imposing of trading hours restrictions. These restrictions should be applied consistently across the community to ensure businesses can compete on a level playing field.**
3. **A systematic measure of alcohol-related harm—an Alcohol-Related Harm Index (ARHI)—should be established with readily available data. Items covered in 5–8 could form the basis of an ARHI, which would ideally be widely available and in useable form to at least postcode level.**
4. **A 'last drinks' monitoring system be implemented by police across Australia to identify persons involved in alcohol-related crime and identify high-risk venues.**
 - Similar monitoring systems also be trialled in Australian emergency departments.

5. Independent crime statistics bodies be adopted in all states and territories for the independent collection and dissemination of crime statistics.
6. Data from other emergency services (eg NSW ambulance) be subject to similar mandates.
7. A working party be set up to work towards standardising data collection systems and records across all jurisdictions, including wholesale alcohol purchase data and police records.
8. Police forces and governments explore the systematic and high profile use of fines for individual antisocial behaviour.
 - Such initiatives might be accompanied by high profile media and social media campaigns.
9. The current study found that people who self-reported using drugs were significantly more likely to experience violence. Further research is needed into the association between other drug use and harm.
10. Any licensing or responsible service of alcohol measures be made a mandatory condition of liquor licences for any venue selling alcohol.
11. Alternate governance models, which include the use of alternative custodians, such as the UK model of Police Community Support Officers (PCSOs) be explored. Such a model should come from statutory bodies and not be outsourced to private security companies.
12. A program of research around the best models of regulation and monitoring of licensing regulations is recommended. Consideration should be directed at an integrated strategy with a clearly-defined enforcement pyramid.
13. A program of research should be conducted around taxi and public transport systems for night-time entertainment districts.
14. Liquor accord membership should be a compulsory condition of venue licences being granted.
15. Specific and comprehensive Australian and state government legislation should be developed regarding the use of ID scanning technology and the creation, maintenance of, and access to client databases. This should include applying Commonwealth privacy law to all licensed venues using ID scanners (currently only applies to large business).
16. A program of research should be conducted around the effects of lockouts on alcohol-related harm and venue business models.
17. Clear and comprehensive legislation should be developed in each state regarding the banning of patrons from licensed venues and should include details such as channels and rights of appeal and limitations for duration of banning periods.
18. Specific measures to address the issue of consent, including clear signage not only at the point of scanning but also on external walls, clearly indicating the use of ID scanners. In addition, the signage should also include information about alternative means of gaining entry without having IDs scanned.

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