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

(DANTE)

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

(DANTE)

Final report



HUNTER NEW ENGLAND POPULATION HEALTH (HNEPH)

April 2012

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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 constitute a significant drain on police, community and health resources. The estimated cost of alcohol to the community is \$15.3 billion including crime, violence, treatment costs, loss of productivity and premature deaths in 2004–05 (Collins & Lapsley 2008). Alcohol has also been identified as a factor in about three quarters of assaults and offensive behaviour on the street (Buss et al. 1995). Similarly, alcohol at or over 0.05 g/100 mL (%) was found to be present in 29.1 percent of all drivers in fatal accidents in Australia (Drummer et al. 2003). High-risk alcohol consumption causes more than 400 road deaths and 7,700 serious road injuries requiring hospitalisation each year, at an estimated cost to the community of more than \$1.34 billion (National Drug Research Institute 2000).

The proportion of people drinking at a high risk level has increased over the past decade, from 8.2 percent in 1995 to 10.8 percent in 2001 and 13.4 percent in 2004–05 (after adjusting for age differences) (Australian Bureau of Statistics 2006a). Most (72% or 310,000) men who were physically assaulted by another male said that the perpetrator had been drinking or taking drugs, and 28 percent said that they themselves had done so (Australian Bureau of Statistics 2007). Almost half (47% or 92,300) of the women physically assaulted and most (84% or 50,600) of women who were sexually assaulted by a man said that the perpetrator had been drinking or taking drugs (Australian Bureau of Statistics 2007). High-risk drinking is more common in rural and regional areas than urban areas (Australian Bureau of Statistics 2006a) and rates of alcohol-related hospitalisations are consistently higher in regional areas of Australia compared with metropolitan areas (Chikritzhs et al. 2000).

Previous research has identified a number of determinants that contribute to the levels of short-term harm associated with risky drinking. One of these determinants is the physical environment (eg where people drink). In larger towns and cities, licensed premises generally, and late-trading premises in particular, are often concentrated in small geographic areas sometimes referred to as entertainment precincts (Briscoe 2001). As a consequence, such precincts have a higher density of licensed venues, a further factor that is associated with higher levels of alcohol-related harm (Graham & Homel 2008a; Livingston 2008; World Health Organization 2010). Given this, specific alcohol harm-reduction strategies may be needed for entertainment precincts (Chikritzhs & Stockwell 2007; Duailibi 2007; Livingston et al. 2007). In addition, more than half the offences occurring on the street have been associated with licensed premises in Australia (Buss et al. 1995). Factors that increase risky drinking and associated harms on licensed premises are complex. They include: 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 management, lax police surveillance, lack of transport options for patrons, and inappropriate bureaucratic controls and legislation (Homel et al. 1992).

Strategies that have been reported as effective in entertainment precincts involve regulating the physical availability of alcohol and modifying the drinking environment. Babor et al. (2010) reported that the most effective methods of regulating availability at the local area are restricting the hours and days of alcohol sales, restricting venue density, and different availability by strength of alcohol (Babor et al. 2010; Chikritzhs et al. 2007). Modifying the drinking environment includes strategies such as staff/management training in managing aggression, staff training in the responsible service of alcohol (RSA) with enforcement, and enhanced enforcement of liquor legislation (Babor et al. 2010).

1.1. Study areas—Local Contexts

This study involved evaluating existing strategies to address alcohol-related harm in the entertainment precincts of two regional Australian cities: Geelong (Victoria) and Newcastle (New South Wales).

1.1.1. Geelong

Geelong population

Geelong is a city of about 220,000 people with a growth rate of 1.1 percent per annum. Located 70 km 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. A decline in employment has seen a raft of social problems over the past three decades, with alcohol and alcohol-related violence featuring prominently on the social landscape, although much of this has changed in the past decade through community action.

Table 1 Geelong population 1999–2010

Year	Population	Difference	% increase
1999	188,600	2,514	1.3
2000	191,459	2,859	1.5
2001	194,478	3,019	1.6
2002	197,134	2,656	1.3
2003	199,009	1,875	0.9
2004	201,039	2,030	1.0
2005	203,276	2,237	1.1
2006	205,686	2,410	1.2
2007	208,861	3,175	1.5
2008	212,367	3,506	1.7
2009	216,330	3,963	1.8
2010	220,293	3,963	1.8

Geelong night-time economy

Geelong has a concentration of licensed venues in its centre with venues closing at 1, 3, 5 and 7 am. This means that high numbers of people move between venues throughout the night. Within Geelong, the number of licensed venues has remained relatively stable over the past five years, reflecting recent Victorian trends. The central Geelong suburb has around 150 venues (156 in March 2009) with 29 general (hotel) licences and a further 83 on-premise licences (restaurants). At the time of writing this report, 12 venues had licences to trade after 1 am and one venue continued to trade normally to 7 am.

Geelong interventions

Over the past 15 years, as many as 25 initiatives aimed at improving safety have been implemented in and around Geelong's licensed venues (Armstrong-Rowe, 2008). None of these interventions have included a fully-developed research component. Many of the Geelong projects were conceptualised and implemented by collaborating police, licensees, city officials and other stakeholders. Table 2 outlines the major interventions implemented during the study period.

Table 2 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	January 2005	Designated taxi rank staffed by security guards between 1 am and 6 am Saturday and Sunday mornings
Night-Watch Radio Program (NRWP)	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/ NRWP police scanner system	November 2009	Victoria Police, CoGG, Nightlife Association
Fine strategy	July 2010	Primary focus on using fines, rather than arrests, to deal with antisocial behaviour
So You Know campaign	August 2010	Awareness posters also implemented

Liquor Accord

A liquor accord has been in place in various forms since 1991 with a new accord being adopted in November 2007. This followed increases in alcohol-related violence and a belief that the current structure was inadequate. The effect of having licensees, police and local council officers meet regularly has been seldom described (Lang & Rumbold 1997). Comparison data of Geelong and other Victorian metropolitan areas showed that before the original accord, Geelong's serious assault rate was 52 percent higher than the comparison rate for the other areas. After the intervention, Geelong's serious assault rate declined to 63 percent of the comparison rate for the other areas (Rumbold et al. 1998). The accord consists of a number of principles and actions agreed by all stakeholders. Interventions include: a shared list of banned patrons; agreed levels of security surveillance; using ID scanners at 'high risk' licensed premises; encouraging the use of two-way radios, and agreeing that police be contacted as soon as problem patrons are identified.

Lock-downs and dry zones

Within the City of Greater Geelong, local law prohibits drinking in public. Liquor accord signatories also agreed to fixed lock-down periods before closing (ie not allowing entrance for 30 minutes before closing). This is a more minimalist approach than is taken elsewhere, including the current proposal for inner-city Melbourne. However, local licensees are resisting considerable pressure from some local parties to introduce more stringent lock-down regulations. This is threatening the viability of other collaborative work. Having solid evidence about the effectiveness of such interventions is vital if communities are to move beyond constantly trialling the latest idea without understanding its consequences.

Safe City CCTV network

The City of Greater Geelong (CoGG) introduced a CCTV network across the Central Activities Area in 2004. A range of claims have been made about the success of the CCTV network, including that they had materially assisted police in dealing with a variety of street offences, and also acted as a deterrent to antisocial behaviour around key entertainment areas. However, to date no evaluation has been conducted of the impact of the CCTV, or of the interaction between the CCTV network and other interventions. Given the significant and continuing financial cost (including maintenance and expansion) more detailed analysis is needed.

Safe Taxi Rank

The City of Greater Geelong currently operates a 'safe taxi' rank in central Geelong that is serviced by two security officers between 1 am and 6 am on Saturday and Sunday mornings. The effect of this taxi rank on night-time assaults and sexual assaults is yet to be evaluated.

The Geelong night watch radio program

In April 2007, the Night Watch Radio Program (NWRP) was introduced to link security staff working at the front of late night venues with the Safe City CCTV cameras. This allows venues to communicate with each other, and support the work of Victoria Police and the CCTV network. Each venue bought a handheld radio which links to other venues, to police on foot patrol and to the base station in the safety camera office. Anecdotal feedback from police and venues has indicated that the program had some very useful outcomes and should be continued, but these benefits remain anecdotal rather than being properly researched outcomes.

ID scanners

The owners of 'high risk' venues (those trading beyond 1 am) installed ID scanners in Geelong in December 2007. The scanners are programmed to recognise 154 different types of ID from around the world and can identify fake or altered IDs. The scanners can also record the identities of patrons entering the venues. While some other licensed venues are experimenting with ID scanners in Australia and internationally, Geelong has developed a far more structured approach. It is consequently attracting considerable interest, highlighting the importance of properly evaluating this development.

Increased fines—So You Know campaign

On 2 July 2010, the Victorian state government increased on-the-spot fines for a range of offences including being drunk and disorderly, failing to leave a licensed venue when requested, and failing to move on. Most significantly, the drunk and disorderly fine was increased from \$278 to \$478. At the same time Victoria Police administered the fines more frequently, and at a much lower threshold than before. The raft of fines available also meant that an individual who did not move on, or who had already been ejected from a nightclub and was not moving on, could be repeatedly fined, often totalling up to \$1,000 or more. Some people who were arrested were also given fines on top of a night in the cells. However, police mostly just fined people and used these fines effectively to modify people's behaviour without the need to physically restrain them. This was a strong motivation for people to quickly find their way home without further trouble, as they were often told if they were seen again, they would receive a few more fines. In avoiding physical arrest, police were able to control people's behaviour, but also reduce the number of assaults on police.

To support these changes, in August 2010, Geelong police collaborated with CoGG and Deakin University to release the So You Know campaign, which aimed to raise awareness of the fines using posters placed in venues near doors and bars.

1.1.2. Victorian state level interventions

Risk-based licensing

Victoria introduced risk-based licensing in 2010. All licensees with ongoing liquor licences are required to pay an annual licence renewal fee. A new risk-based fee structure was introduced for renewal fees in January 2011. Three steps determine the annual licence renewal fee:

Step 1—Determining the base fee

Step 2—Determining the applicability of risk fees

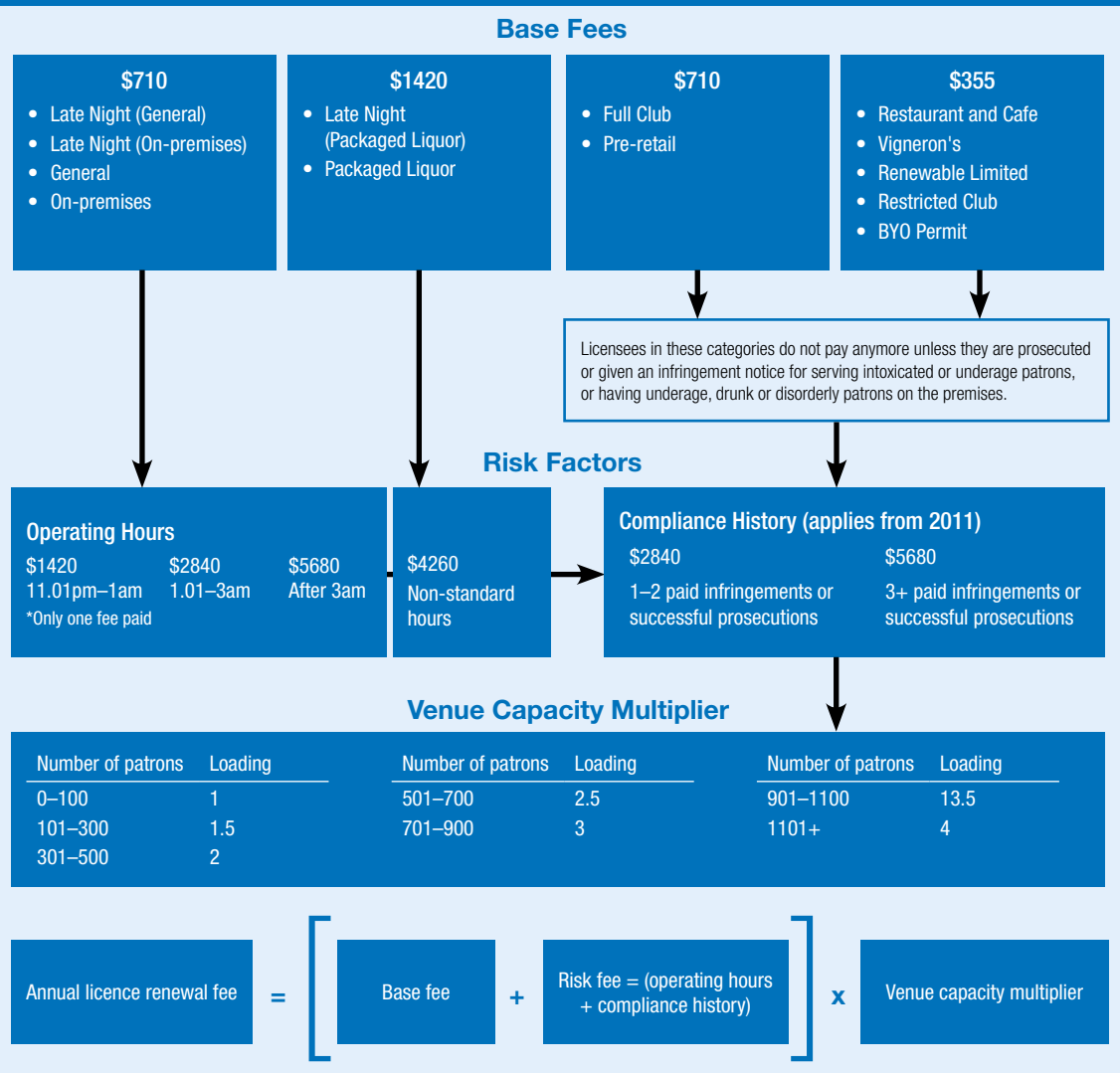
Step 3—If risk fees apply, multiplying the total of the base fee plus the risk fee by the venue capacity multiplier.

Figure 1 shows how fees are calculated. Risk fees will apply for all licensees with a poor compliance history. These fees are determined by the number of paid infringements or successful prosecutions for the following offences: supplying alcohol to an intoxicated person; permitting a drunk or disorderly person on the premises; supplying alcohol to a minor; permitting a minor on licensed premises. A licensee's compliance history between 1 January and 30 September 2010 determined the relevant compliance history risk fee payable for 1 January 2011, as follows: \$2,840 for one to two offences and \$5,860 for three or more offences. The total risk fee component of the annual licence renewal fee is the sum of the operating hours risk fee plus the compliance history risk fee:

Total risk fee = operating hours risk fee + compliance history risk fee

For example, a late night (general) licensee authorised to operate to 3 am and with two paid infringements for serving an intoxicated person would pay a total risk fee of \$5,680—comprising an operating hours risk fee (\$2,840) plus a compliance history risk fee (\$2,840).

Figure 1 Risk-based licensee fee structure



Source: Responsible Alcohol Victoria

1.1.3. Newcastle

Newcastle population

The Greater Newcastle Metropolitan area is located about 160 km north of Sydney, in New South Wales, and is the second most populated area in the state. The area has an estimated population of 550,000 people (2006) and includes five local government areas (LGA): Newcastle, Lake Macquarie, Cessnock, Maitland and Port Stephens). This is a regional coastal area with an economy based primarily on manufacturing, wine and coal mining-based, and an average annual growth rate of 1.17 percent (Australian Bureau of Statistics, 2011). Table 3 shows the annual growth rates for this area.

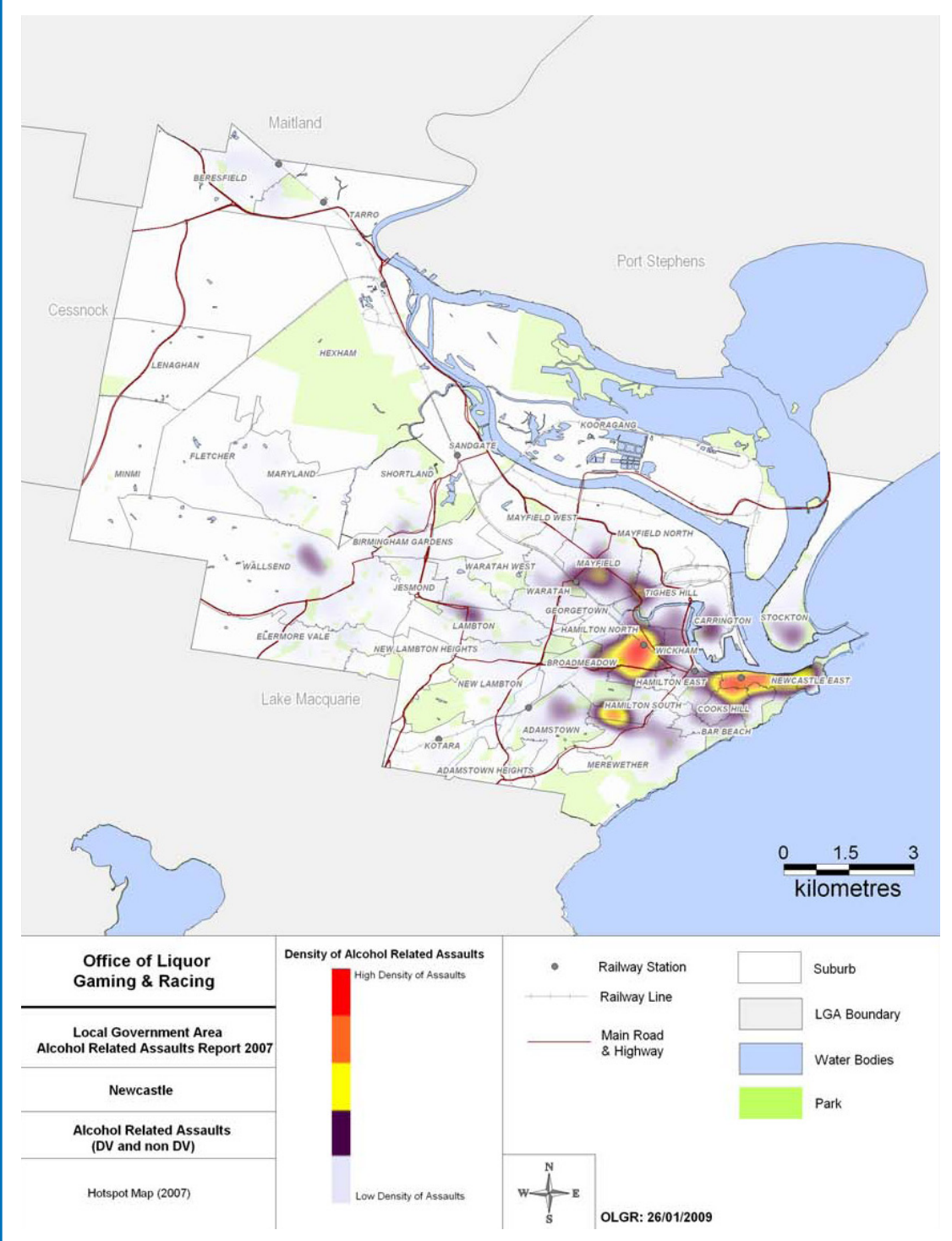
Table 3 Annual population growth rates for the greater Newcastle metropolitan area			
Year	Population	Difference	% increase
2001	492,549	–	–
2002	497,852	5,303	1.07
2003	503,160	5,308	1.07
2004	507,384	4,224	0.84
2005	512,658	5,274	1.04
2006	517,511	4,853	0.95
2007	524,968	7,457	1.44
2008	533,526	8,558	1.63
2009	540,245	6,719	1.26
2010	546,788	6,543	1.19

Newcastle Night-Time Economy

The Newcastle metropolitan area has more 1,000 liquor licences, 170 of which are hotel licences. Of these 170, 44 percent (n=75) are located in the Newcastle local government area (NSW Office of Liquor Gaming and Racing 2009). While licensed venues are located throughout the region, the centre of the night-time economy (NTE) is located in the Newcastle, Cooks Hill and Hamilton suburbs of the Newcastle LGA (Hunter Street, Wharf Road, Darby Street and Beaumont Street). These areas have many restaurants, cafes and pubs and are visited regularly by residents from the greater metropolitan area and as well as those visitors outside.

Unfortunately, these areas are a hotspot for crime and antisocial behaviour, especially relating to excessive alcohol consumption as seen in Figure 2 (NSW Office of Liquor Gaming and Racing 2009).

Between 2003 and 2008, the prevalence of alcohol-related crime increased significantly. For example, assaults attended by police increased by 83 percent; with up to 65 percent relating to licensed premises (Armati 2008). The number of police call-outs to hotels in the Newcastle entertainment precinct increased from 105 in 2003 to 179 in 2007 (Armati 2008).

Figure 2 Newcastle and Hamilton hotspots for alcohol-related assaults

Newcastle interventions

Numerous agencies (government and non-government) have implemented a range of strategies to address the history of alcohol-related problems in the entertainment area (see Table 4). However, evaluating the effectiveness of these strategies has been limited. Crimes were still prevalent in the years before the intervention in Newcastle.

Table 4 Description of alcohol-related interventions implemented in Newcastle, NSW.

Name of strategy	Date implemented	Description
Alcohol-free zones/areas	1993 to current	A number of areas in and around popular entertainment precincts are designated alcohol-free zones
Newcastle City Council Nightcare project	2003 to current	Nightcare aims to provide a calming influence on late-night crowds leaving licensed premises offering a managed presence, food and informal counselling where required
Newcastle Crime Prevention Partnership (CPP)	2007 to current	The CPP is a partnership between government agencies (eg police, council, health, justice) to address the increase in non-domestic violence assaults, malicious damage and stealing from motor vehicles
Newcastle/Hamilton Precinct Liquor Accord (PLA)	2010 to current	This accord involves licensees from venues within the PLA boundary and community stakeholders. Their aim is to reduce alcohol-related violence and foster a safer, more vibrant entertainment precinct. All venues have to become members and actively participate in the plan
Newcastle CBD Liquor Accord/Hamilton Liquor Accord	2001 to current	These liquor accords are voluntary and target local issues within the CBD and Hamilton areas. Liquor accords have been implemented in Newcastle since 2001, however, the structure has changed over the years
Secure taxi ranks	2010 to current	On Friday and Saturday nights placing two security staff at taxi ranks closest to two of Newcastle's main licensed venues
'Six steps to a hassle free night' campaign	2011 to current	A promotional campaign designed to reduce alcohol-related crime and antisocial behaviour in the Newcastle/Hamilton Precinct Liquor Accord area
NSW Police Community Safety Precinct Committee	2010 to current	This committee aims to provide an opportunity for local councils and community members to meet police local area commanders and share perspectives on local crime and safety issues

Given the escalation of alcohol-fuelled violence and antisocial behaviour and community complaints in the years before 2008, the NSW Liquor Administration Board imposed additional conditions on 15 hotels in the main entertainment precincts in Newcastle and Cooks Hill on 20 March 2008. These conditions were imposed under s. 104 of the New South Wales Liquor Act 1982, legally-binding licensees to comply. Conditions imposed included trading restrictions (for the 13 venues that traded past midnight—seven of these were able to trade until 5 am) drink restrictions, additional responsible service of alcohol (RSA) compliance audits, communication strategies and venue management plans. The conditions are outlined in Table 5.

Table 5 Section 104 conditions imposed on Newcastle hotels in March 2008

Trading restrictions
<ul style="list-style-type: none"> • Reduced trading hours: all premises are prohibited from trading later than 3.30 am (3 am before the appeal) • Lockout: patrons must be prohibited from entering after 1.30 am (1 am before the appeal)
Alcoholic drink restrictions
<p>Venues are prohibited from supplying the following alcohol products after 10 pm:</p> <ul style="list-style-type: none"> • No shots • No mixed drinks with more than 30 mL of alcohol • No ready to drink (RTD) 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
<p>Additional RSA actions included:</p> <ul style="list-style-type: none"> • Free water stations on all bar service areas • Responsible service of alcohol marshal from 11 pm until closure (staff member with the sole responsibility of supervising RSA practices and consumption) • No patron stockpiling drinks—stockpiling is when any one patron has more than two unconsumed drinks at any one time and a patron may purchase up to four drinks at the one time • Ceasing the sale and supply of alcohol at least 30 minutes before closing time
Compliance audits
<ul style="list-style-type: none"> • Independent compliance audit at least every three months
Management plan
<ul style="list-style-type: none"> • Developing and submitting a management plan to the Liquor Administration Board within six weeks of the imposition date
Communication strategies
<ul style="list-style-type: none"> • 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 for management and security to communicate with each other

Licensees appealed the conditions in July 2008, and subsequently one hotel was removed from the conditions based on its early closure and location. In addition, the original 1 am lockout was revised to 1.30 am, and the 3 am closing time was revised to 3.30 am. Since the conditions were imposed, a number of changes have been made to the venues included in the conditions, including licensee changes, new/re-opened venues and closures. At the time of writing this report, 11 of the original 14 venues were trading.

Anecdotal evidence from the NSW Police Force has reported significant reductions in alcohol-related crime, however, the short and long-term effectiveness of the strategies are yet to be rigorously and scientifically evaluated. A study by Kypri and colleagues (2011) evaluated the impact of the conditions on the incidence of assaults in the Newcastle entertainment precinct using a non-equivalent control group design. It was found that recorded night-time assaults (10 pm to 6 am) fell from 99 per quarter before the conditions, to 67.7 per quarter afterwards. In contrast, the rates of the control area (Hamilton) increased from 23.4 to 25.5 over the same period. The relative reduction was 37 percent, with around 33 assaults prevented each quarter (Kypri et al. 2011). Given these results, it is clear that the conditions have impacted on assaults, however, their impacts on other alcohol-related police-recorded incidents and emergency department presentations are unknown. Further evaluation of the impacts on crime and injury is needed, as well as of community and key stakeholder awareness and attitudes.

In July 2010, 11 conditions were also imposed on six hotels in the Hamilton area. Similar to Newcastle, these conditions were imposed in response to antisocial behaviour, crime and community complaints. The conditions were similar to those implemented in Newcastle, but did not include the early closing times, given that all venues were closed by 3.30 am.

NSW state-level interventions

While evaluating the impact of projects, it is important to review and acknowledge other strategies that may have impacted on the main outcomes. Many other strategies and policies are being implemented by both government and non-government agencies to address alcohol-related harm, especially relating to entertainment precincts. Some of these are local (eg Newcastle Crime Prevention Partnership, Newcastle CBD Liquor Accord, Newcastle City Council's Nightcare project, education campaigns, NSW Police Community Safety Precinct Committee, operations by the NSW Police Force and the NSW Office of Liquor, Gaming and Racing; and many more); and some are implemented at the state level. Such strategies include:

Hassle Free Nights

Hassle Free Nights is a NSW Government plan that aims to reduce alcohol-related crime and antisocial drunken behaviour in NSW's main entertainment precincts. Five hotspot precincts were identified including Newcastle/Hamilton. This initiative is a cooperative approach between NSW Police, government agencies, licensed premises and communities. Hassle Free Nights has involved the development of mandatory precinct liquor accords (PLAs) and improved transport options (NSW Government 2011).

High-risk venue restrictions

In 2008, the NSW Government announced a liquor amendment (special licence condition) regulation. The Director-General of Liquor, Gaming and Racing, using powers under the liquor laws, was given the power to issue directions and impose conditions on licences where appropriate, to address serious problems caused by a venue or its patrons. Special licence conditions were imposed on 48 late trading 'hot spot' venues across NSW. The NSW Bureau of Crime Statistics and Research identified the 48 high-risk venues based on the high rates of police-recorded assaults on their premises. These venues are divided into two levels based on the number of assaults recorded over a 12-month period. They have specific strategies based on the level:

Level 1 venues (19 or more recorded incidents) include:

- a mandatory 2 am lockout of patrons (except members of a registered club);
- cessation of alcohol service 30 minutes before close;
- no glass containers to be used after midnight;
- no shots, and drink limits after midnight;
- a 10-minute alcohol sales time out of every hour after midnight or active distribution of water and/or food; and
- one or more additional security measure/s.

Level 2 venues (12 to 18 recorded incidents) include:

- cessation of alcohol services 30 minutes before close;
- no glass containers to be used after midnight; and
- a 10-minute alcohol sales time out of every hour after midnight or active distribution of water and/or food.

To-date, five rounds of restrictions have been introduced with Newcastle/Hamilton venues included in four of these (NSW Office of Liquor, Gaming and Racing 2011).

Responsible Service of Alcohol on the Frontline Training

The NSW Office of Liquor, Gaming and Racing developed a workshop in 2010 to train bar and security staff. The workshop highlights RSA strategies and security practices, and covers relevant sections of the *Liquor Act 2007* (NSW) the role of the Director-General of Liquor, Gaming and Racing, and industry guidelines regarding intoxication.

1.2. Which interventions work?

A very common problem when introducing new programs or strategies into a community setting is being able to determine which intervention is having which effect. Typically, communities use a raft of different measures to try to deal with the problems they are facing. This makes evaluation of such programs or strategies very difficult.

Further, many measures commonly deployed (such as increased police patrols in an area) are temporary making it almost impossible to form judgement about their effectiveness in terms of measurable outcomes (although it should be noted that such measures can affect public confidence and media responses, both of which are valid concerns for policing).

1.2.1. Factors other than community interventions

It may also be that factors from outside a local community may affect problems in and around licensed venues. Anecdotal reports suggest three recent changes in national policy might affect the prevalence and nature of alcohol-related problems in the community.

The smoking ban in public places introduced in 2007 has meant that large numbers of people congregate outside licensed venues to smoke—depending on the environment provided by licensees. This can increase chances for problems as some interactions will occur between people waiting to enter the nightclub and others already accepted.

The ‘alcopops tax’ may have had knock-on effects in terms of the types of substances people use and/or the way in which they consume them. For example, recent international research has highlighted the fact that increased prices in licensed premises has led to an increase in the number of people ‘pre-loading’ (drinking heavily before going out) (Borsari et al. 2007).

Recent changes to motor vehicle licensing conditions (such as restrictions on P-plate drivers carrying passengers) at a state level is likely to lead to additional changes in consumption and transportation associated with alcohol and other drug consumption.

While these issues operate above the local region, it is within the ‘localities’ that such policies have a direct impact.

1.2.2. Interactions between interventions

The list of interventions above highlights the likelihood that many of these actions will interact with one another. This sometimes increases the effect of both interventions, but sometimes undermines the effectiveness of both.

Considerable experimentation and innovation to address these harms has occurred in both Geelong and Newcastle. However, only limited, ad hoc documentation and analysis has been conducted, leaving a considerable gap of systematic, evidence-based analysis. This project aims to provide evidence-based knowledge about the implementation and impact of innovative local initiatives directed at alcohol-related harms.

1.3. Summary of study areas

Geelong and Newcastle are highly comparable in terms of their social and demographic histories and characteristics. Despite these similarities, very different interventions have been put in place to try to reduce alcohol-related harm in the community. They reflect different ends of the spectrum—voluntary/collaborative approaches compared with regulatory/mandatory approaches. As such, the chance to compare the two cities

during a period of legislative change presents a unique opportunity. While numerous variables are at play, many indicators can be used. This project will use a wide range of research methods to gain an in-depth and comprehensive understanding of how the interventions impact on patron behaviour and what effects they ultimately have on the indicator data related to that harm.

1.4. Project Objectives

This project aimed to explore central themes:

- What policing and community-based initiatives (ie ID scanners, two-way radios, safe taxi ranks and liquor accords) have been developed to respond to alcohol-related problems and what is the logic behind them?
- How does each individual initiative form (or not form) part of a more holistic intervention or strategy?
- How effective is each individual intervention and how do different interventions interact?
- What measures are used to assess effectiveness and how can they be improved?
- How does the effect of these different interventions vary between cities?

Specific objectives were to:

- conduct an audit of the different types of interventions currently employed in Geelong and Newcastle, their theoretical bases, practical background and any supporting literature;
- explore models of multi-faceted community-based interventions for alcohol-related problems;
- assess and improve the measures used to assess effectiveness;
- coordinate data collection across the regions;
- describe and analyse the association between measures of alcohol-related harm and each individual intervention (ie ID scanners, curfews, two-way radios and the liquor accord);
- document the ways in which these different interventions work within a night-time economy;
- determine how different types of interventions interact;
- determine the effect on such interventions of other factors such as point-of-sale promotions and smoking bans;
- trial new interventions within this empirically monitored and theoretically informed context; and
- assess community awareness of and attitudes towards the interventions.

2. Methods

The project seeks to comprehensively understand the many elements at play in the night-time economy. The methodology incorporated five key data collection processes in both Geelong and Newcastle:

- secondary data collection:
 - emergency department;
 - Victorian and New South Wales police;
 - Ambulance Victoria;
- key informant interviews;
- patron intercept interviews;
- venue observations; and
- community surveys (Computer Assisted Telephone Interviews).

2.1. Secondary data

These data sources include:

- **crime:** Victoria Police and NSW Police Force data on incidents, property damage, street offences, and drink-driving offences (Vic only); and
- **health:** emergency department attendances from Geelong Hospital and two local hospitals in Newcastle (John Hunter Hospital and the Calvary Mater Hospital); and ambulance attendances for alcohol and other drug/violence-related calls (Geelong only; unavailable in NSW).

Measures for secondary data consisted of unit record data relevant to the specific type of information. In addition, police data also included offender and victim data. This data was de-identified and accessed in an aggregated form to protect privacy.

Analysis

The data collected from multiple sources were triangulated for cross-validation and interpretation. Triangulation is a widely-used method of data synthesis, which is based on the premise that one can be more confident with a result if different methods lead to the same result (Denzin 1978, 1989; Miller et al. 2010c). If an investigator uses only one method, the temptation is strong to believe in the findings. If an investigator uses two methods, the results may well clash (Kellehear 1993). By using three methods to get at the answer to one question, the hope is that two of the three will produce similar answers, or if three clashing answers are produced, the investigator knows that the question needs to be reframed, methods reconsidered, or both. This approach has proved particularly popular in the monitoring of substance use and related trends (eg Fry & Miller 2002, 2001; Hando et al. 1998a, 1998b; Jenkinson et al. 2003; Topp et al. 1998, 2004a, 2004b). For the data on experiences, attitudes and practices, simple frequency counts were tabulated. Raw data from open-ended questions and in-depth interviews were analysed descriptively via a combined method of open coding and content/theme analysis. Previous work has shown the influence that different types of data can have when interpreting findings (Dietze et al. 2003). For instance, qualitative data can often point analysis towards certain phenomena in quantitative data. Conversely, narratives from qualitative data can often be very useful in describing certain quantitative trends in the words of study participants (Miller et al. 2010b).

All statistical analyses were conducted using appropriate software (eg STATA, SPSS [SPSS v17.0 or later] or SAS/STAT [SAS/STAT System for Windows Release 9.2, March 2008]).

2.1.1. Emergency Department attendances

Emergency department data were downloaded from the Barwon Health Geelong Hospital (Geelong) John Hunter Hospital (Newcastle) and the Calvary Mater Hospital (Newcastle). Where possible, identical de-identified data were accessed and analysed for ED presentations across the sites. Following the methods outlined by Young and colleagues (2004) in their work from the International Collaborative Study of Alcohol and Injury (the Emergency Room Collaborative Alcohol Analysis Project or ERCAAP) cases selected were based on International Classification of Diseases (ICD) codes for all injuries (S00-T98 or ICD9 800-999) for the late-night period identified as particularly involving high levels of alcohol: a six-hour period between midnight and 5:59 am. Young et al. (2004) reported that such injury presentations constituted 9.7 percent of all presentations, and included 56 percent of cases with prior alcohol involvement.

2.1.2.3. Analysis

Time series auto-regressive integrated moving average (ARIMA) analyses of the potential impact on injury rate per 10,000 people during high alcohol hours (HAH) caused by any of four interventions were conducted using STATA 11.0. The independent variables were designated as dichotomous 'event' variables (0 = pre-intervention, 1 = post-intervention) and represented the four interventions: the police-licensee Night-Watch Radio Program, the ID scanners initiative at licensed venues, the Victoria Police Operation Nightlife 2, and the alcohol awareness campaign, Just Think. These interventions were entered simultaneously into the one ARIMA model. The change in fines structures and the corresponding So You Know campaign were not included in the analysis because it was implemented too late in the window of available data. Safe Streets Taskforce and Operation Razon were not included in the analyses because these were interventions that occurred rarely and sporadically and could not be considered as ongoing. The somewhat sporadic nature of the Just Think campaign means that it was difficult to assume that the intervention would have a sustained effect over time.

Similar techniques were used for the Newcastle statistical division (inner and remainder) (NSW Health 2011) and the s.104 intervention.

2.1.1.2. Geelong

This section examines all injury frequencies in the Geelong area of Victoria, Australia, during high alcohol hours between 1 July 1999 and 31 March 2011. The ED data were obtained in two formats: triage records downloaded according to word searches of relevant databases, and International Classification of Diseases codes (ICD-10) data. The data for the Geelong Hospital ED contain detailed electronic descriptions regarding the presenting problem for attendances. These descriptions included whether alcohol was a factor in attending the ED. As a result, five coders manually conducted word-specific searches of the triage records dating from 1 July 2005 to 31 July 2009. The results of this data type are reported in a separate article (Miller et al. 2011) as they are ultimately unsuitable for comparing sites. They do, however, provide valuable information on the overall prevalence of alcohol-related harm over the period. Subsequent research and analyses has shown that proxy methods are the most reliable.

2.1.1.3. Newcastle

This section examines all injury attendances during high alcohol hours pre- to post-intervention to the most-frequented emergency departments in the Newcastle area of New South Wales, Australia, from 2001 to 2011. The intervention imposed by the NSW Liquor Administration Board was implemented on 20 March 2008. To allow for the analyses to examine full months of data, 1 April 2008 was taken as the start date for the additional conditions. Based on this, the sample included attendances that occurred over a nine-year period between 1 January 2001 to 30 June 2011 involving 29 quarters before, and 13 quarters following the intervention implementation. The hospitals included in this analysis were the John Hunter Hospital and

the Mater Calvary Hospital, given their close proximity to the main entertainment precincts (9 km and 8 km respectively).

Data were extracted from the NSW Health Emergency Department Data Collection and included the time and date of attendance, patient demographics (age and gender) and primary diagnosis code (using ICD-9 and ICD-10 codes for injury, poisoning and other consequences of external causes ICD-9 800-999 and ICD-10 S00-T98). A total of 245,761 attendances were extracted.

2.1.2. Police Incident data

Incident data were downloaded from NSW and Victoria Police databases at a unit record level. All data was de-identified. Offences included: assaults, property damage (Geelong only) street offences (Newcastle only) and drink driving (Geelong only). Data fidelity was assured by communicating between sites to ensure that the data being compared, was comparable. For example, although Victoria and NSW police classify assaults differently, the research team ensured that specific types of assault were matched (eg grievous bodily harm) and others not related to the study, were excluded (eg obstruct crew of ship—execution of duty).

2.1.2.1. Geelong

Data for the study covering 1 July 2004 to 30 June 2010 were obtained from Victoria Police. A total of 6,030 assault cases and 14,347 property damage cases were analysed. The data was further aggregated to include only those cases which occurred within the 'high alcohol hours' (HAH) of 8 pm–6 am Friday to Sunday morning (Laslett et al. 2007). This resulted in a total of 1,649 assault cases and 3,338 property damage cases. It should be noted that Victoria Police data referred to incidents (rather than 'counts') and reported on all assault codes recorded in the Victoria Police LEAP database (excluding sexual assaults). Official statistics normally report 'counts', or the number of charges laid as a result of the incident, however, as this data were being compared with ED data, it was felt more appropriate to refer to incidents.

2.1.2.2. Newcastle

This section examines all alcohol-related non-domestic violence assaults and street offences pre- to post-intervention from 2001 to 2009. The sample included incidents that occurred over a nine-year period between 1 January 2001 to 31 December 2009 involving 29 quarters before, and seven quarters following the intervention implementation. Because the Newcastle local government area is large (262 km²) and many suburbs are quite distant from the main entertainment precincts of Newcastle, suburbs that were nearer to the precincts were included in the analysis. These were areas that people often migrated to and from on foot, and included: Newcastle, Newcastle East, Newcastle West, Cooks Hill, Hamilton, Hamilton East and Hamilton South. Data were extracted from the NSW Police Force statewide database (COPS) and included the date of the incident, the time of the incident, demographics (age and gender of offender/victim) and incident offence classification. The assaults classifications extracted were: common assault, actual bodily harm, grievous bodily harm, assault police officer, and shoot with intent other than to murder. The street offence classifications were: offensive behaviour and offensive language. A total of 4,438 incidents were extracted.

2.1.2.3. Analysis

The study was conducted in two stages. Firstly, descriptive statistics, including assault-rates by year, were presented in time-line graphs for the dates of the obtained data. Secondly, pre- to post-intervention effects were assessed using time series analysis as described in Section 2.1.1.1.

2.1.3. Drink-driving Offences

This study also examines DUI (driving under the influence) frequencies pre- to post-intervention in the Geelong area of Victoria, Australia, from 2005 to 2009, as indicated by Victoria Police data. In addition, data collected from the Geelong Hospital Emergency Department (ED) will be analysed for all traffic accidents where alcohol involvement was noted in case records. Data used in this report are thus derived from two sources:

- Victoria Police data on drink-driving offences; and
- Barwon Health Geelong Hospital Emergency Department data.
- This data was not analysed for Newcastle.

2.1.3.1. Victoria Police Data

Data for the study was obtained from Victoria Police databases for the dates of 1 January 1999 through 31 July 2009. A total of 9,421 records were extracted.

The age-range spanned from 12 to 98 with a mean age of 33, and a mode age of 20. The age groups of 18–27, 28–37, and 38–47 comprised 83.2 percent of the entire set of instances with 18–27 year olds being responsible for 41.3 percent ($n = 3,894$) of offences. A total of 77.5 percent ($n = 7,305$) had no recorded prior DUI offences, while 14.1 percent ($n = 1,324$) had one prior offence, 5.4 percent ($n = 513$) had two priors, and 2.3 percent ($n = 279$) had three or more DUI-offences on record with five people having been caught drink-driving 14 times prior. Overall, males were far more frequently involved in DUI cases than were females, with 80.7 percent ($n = 7,601$) of all cases being male.

2.1.3.2. Data Limitations

A major consideration when investigating police records of drink-driving is that most detections are initiated by police activity. Random breath testing stations (RBTs: commonly called 'booze buses') detect most drink-driving offences. Therefore, significant spikes in detections actually reflect major campaigns or 'blitzes'. On top of this, many of the community-based interventions, particularly those funded by the Transport Accident Commission (TAC) are also accompanied by major police campaigns. Often, extra police time is paid for by the TAC to allow greater police numbers.

A further consideration to the natural limit of RBTs is that the ability to process offenders is limited by the number of staff available. Each offender detected can occupy more than 40 minutes of an officer's time through filling in paperwork, taking blood tests and organising appropriate detention or processing. Therefore, many of the peaks observed in the following data may have been far greater had unlimited police resources been on hand. Police numbers in general are unavailable.

Similarly, policing practices may also have improved in relation to the targeted behaviour. For instance, police in Geelong have reported that strategic placement of RBTs at major bridges in and out of Geelong has allowed comprehensive detection of drink drivers. Further, using additional patrol cars cruising back streets has also reportedly improved detection rates.

Therefore, the trends presented do not necessarily represent a true reflection of the number of drink drivers on the roads in the Geelong region and may simply indicate the maximum capacity of a given RBT. Certainly, international evidence suggests that arrest data cover only 0.5 percent of total self-reported rates of drunken driving (Perrine et al. 1989).

2.1.3.3. Barwon Health Geelong Hospital Emergency Department data

Other data examined for this report were obtained from the Geelong hospital emergency department, as this data source was deemed to be more sensitive to the specific features of the Geelong region and community. Triage records were downloaded according to word searches of relevant databases. The data was secondary

as it was primarily collected for other purposes than research into alcohol-related injury. Measures included in the data pertained to patient demographics, location of hospital presentation by suburb, basic description of incidents, treatment and discharge details, and finally alcohol- and/or other drug-involvement as signified by in-record references to such drugs and by relevant ICD-10 coding. Although the data contained indications of whether alcohol was involved in each instance, substitute measures were still required in order to aggregate the data into specific classifications relevant to this project. These categories were determined by examining, case-by-case, triage records dating from 1 July 1 2005 to 31 July, 2009 and were allocated by research assistants.

A total of 146 cases were identified where alcohol had been identified in traffic accident related attendances at the ED. Given the relatively small pool of data, ED-data cannot be considered reliable enough to describe trends.

2.1.3.4. Analysis

The analysis was conducted in two stages. Firstly, general descriptive statistics were generated detailing the time of day (high-risk = 8 pm–5.59 am) and day of week of DUIs. The DUI rates by year were also presented in timeline graphs for the dates of the obtained data. The data was further divided into subgroups denoted by blood alcohol concentration (BAC) levels of BAC-1, -2, and -3 ($BAC \leq 0.01$, $BAC \leq 0.02$, $BAC \leq 0.03$, respectively) and number of prior DUI-offences. Secondly, pre- to post-intervention effects were assessed using linear regression analysis. This analysis, however, was only performed on the police data, as the ED-sample was too small to determine any statistical effects.

While a time series analysis of all of the data would have been ideal and probably more direct than regression analysis, a fundamental assumption of this technique is the presence of serial autocorrelation and data-stationarity. Durbin–Watson tests, however, indicated no significant autocorrelation in all of the data aggregates with the exception of the BAC-1 category which was still in the ‘grey’ zone between the upper and lower Durbin–Watson critical values (all cases $d = 2.118 > d_{u, 0.05} = 1.9015$; recidivist cases $d = 1.958 > d_{u, 0.05} = 1.9015$; high-risk hours cases $d = 1.995 > d_{u, 0.05} = 1.9015$; BAC-1 $d = 1.784 < d_{u, 0.05} = 1.9015$; BAC-2 $d = 2.023 > d_{u, 0.05} = 1.9015$; BAC-3 $d = 1.935 > d_{u, 0.05} = 1.9015$). Further, stationarity was unobtainable through differencing or log-transformations in all of the datasets. For these reasons, a time series approach was unfeasible. As a result of using linear regression analysis to assess pre- to post-intervention effects, a causal relationship could not easily be surmised between the implemented interventions and the frequency of DUIs. The analyses could determine, however, whether DUI rates post-intervention were significantly different to the rates pre-intervention.

2.1.4 Ambulance attendances

Ambulance Victoria data were collected from 1 August 2008 to 31 July 2011 for the Geelong and Surf Coast region. No electronic records were available before this date. De-identified data were accessed for all alcohol and other drug-related cases attended by ambulance paramedics in the Geelong and Surf Coast region. General demographic data (eg age, gender) relating directly to the research aims of identifying the nature of people experiencing harm in the night-time economy and the situational factors involved were collected. No reference is made to specific addresses or venues.

Two forms of ambulance record were accessed:

- Computer Aided Dispatch (CAD) records; and
- Victorian Ambulance Clinical Information System (VACIS) patient care records (PCRs).

Records from the two data sources were merged and relevant cases were categorised through by using a set of keywords identified in collaboration with representatives of Ambulance Victoria. The keywords were: alleged assault, etoh/alcohol, cannabis/marijuana, ecstasy, amphetamines/speed, methamphetamines/ice, heroin, ketamine, GHB, PBT, blood alcohol, overdose and OD.

Cases were classified by four research associates and inter-rater reliability was assessed by a random selection of cases being double-coded by at least two research assistants and checked by the lead investigator.

2.1.5. Limitations

This study has a number of limitations. Firstly, it should be noted that both the ED data (Indig et al. 2008) and police data most likely underestimate the actual frequencies of alcohol-related injury. This assumption is based primarily on the reality that injuries sustained as a result of alcohol intoxication do not always require medical attention and are seldom reported to the police.

Secondly, medical staff record ED data and their main objective is assessing and immediately treating the patient, rather than noting any alcohol-involvement. However, it may be speculated that the low recording of alcohol use is consistent over time, therefore, does not present a major issue for the current study.

Thirdly, many of the interventions being evaluated in this study have not been implemented consistently.

Fourthly, it should also be noted that although ARIMA analysis can determine pre- to post-intervention differences while taking into account a relatively wide variety of factors, it is nonetheless difficult to attribute a causal association between data variance and an intervention using this method and without a comparison site. Such cases would therefore not be represented in either dataset. Another related issue pertains to the fact that ED data is recorded by medical staff whose main objective is assessing and immediately treating the patient, rather than noting any alcohol-involvement. For these reasons, it seems likely that a substantial proportion of alcohol-related cases go undetected. This is also the reason for using primary ICD codes, both in terms of reliability across jurisdictions and over time. While it would be ideal to use more detailed 'cause of injury' codes, such as those related to assaults, these are not recorded as reliably as the injury code and are likely to be unreliable over time, and across jurisdictions.

Finally, the time period for which ambulance data is available occurs after the introduction of most interventions in Geelong to reduce alcohol-related harm. Data was only available from mid-2008, when Rural Ambulance Victoria (now Ambulance Victoria) started electronic data collection. The first six months of data should be treated with some caution as data collection rollout was neither perfect nor instantaneous. However, the data remains useful in identifying trends that have occurred in the past two years and also in terms of illustrating the relationship between police, ED and ambulance attendance trends.

2.2. Computer assisted telephone interview (CATI)

Research has recommended that policymakers consider the perceptions and attitudes of local communities when developing strategies to reduce harm caused by alcohol (Wagenaar et al. 2000). It also suggested that policymakers needed to understand the perceptions and attitudes of people who were exposed at varying levels to the benefits and harms of alcohol consumption. They also needed to understand specific alcohol consumption contexts such as licensed venues (Miller et al. 2010a). Given the particular circumstances of late-night entertainment precincts, information was needed regarding local perceptions of crime and safety, awareness and attitudes towards existing harm-reduction strategies, and attitudes towards evidence-based strategies for reducing alcohol-related harm in such precincts. As a result, a community survey was undertaken to collect information regarding:

- community perceptions and experiences of crime and safety in the main entertainment precincts among people living in the Geelong and Newcastle areas;
- awareness and attitudes towards alcohol harm-reduction strategies implemented in the main entertainment precincts of Geelong and Newcastle;
- attitudes towards evidence-based alcohol harm-reduction strategies in general; and,

- differences in perceptions and attitudes between:
 - Geelong and Newcastle respondents; and,
 - respondents who frequented late-night venues and those who did not.

2.2.1. Sample

In both cities, the study area for the survey was defined as the LGA in which the main entertainment precinct was located, plus adjoining LGAs. In each city, a sample of 1,250 telephone numbers and their corresponding names and addresses were randomly selected from telephone directories. Mobile and business numbers were excluded from the samples. Household members with the next birthday in the selected households, who were aged 18 years or over, were able to converse in English and lived in the study area were eligible to participate in the survey.

2.2.2 Data collection procedures

The survey was conducted using Computer Assisted Telephone Interviews (CATI) (Kirk 2006).

Recruitment

An invitation letter was posted to all randomly-selected households. The households were contacted by telephone and the eligible household member was invited to complete an interview at a convenient time. Experienced telephone interviewers contacted each household between 9 am and 8 pm Monday to Friday, and between 10 am and 4 pm on Saturdays. A maximum of ten contact attempts were made for each selected number/household member.

Survey questions

The interview consisted of 165 items, took approximately 25 minutes to complete and was developed based on questions from the British Crime Survey (Condon J et al 2003), the ABS Personal Safety Survey (ABS 2006), the AIHW National Drug Strategy Household Survey (2011) and questions developed specifically for this project. The interview was tested with respondents from a sub-sample of the selected study sample. Minor changes were subsequently made to the survey.

The survey included five main domains:

1. Respondent characteristics

The study area (Geelong and Newcastle) in which the respondent was located was obtained from the sampling frame. Respondents were asked to provide information regarding their gender, date of birth, Indigenous status, occupation, educational qualifications and individual income (ABS, 2006)

2. Respondent alcohol consumption

Respondents were asked about their frequency of alcohol consumption (never, monthly or less, 2 to 4 times a month, 2 to 3 times a week, 4 to 6 times a week, everyday) the number of standard drinks they typically consumed on each drinking session (1–2, 3–4, 5–6, 7–9, 10 or more) and how often they had six or more drinks on one occasion (never, less than monthly, monthly, weekly, daily, almost daily) (AIHW National Drug Strategy Survey 2010; AUDIT).

3. Community perceptions, and experiences, of crime and safety in main entertainment precincts

Respondents were asked a range of questions about their perceptions of safety and experiences of crime in the main entertainment precinct of their area. They were asked:

- the degree to which they believed alcohol was a problem, was a major contributor to crime, and whether consumption of alcohol at licensed venues contributed to a large percentage of the crime in the precinct (six point Likert Scale—strongly agree to strongly disagree) for each;
- to estimate the percentage of crime in the precinct they thought was alcohol-related (%);
- to indicate if they believed that there were problems with crime or people creating a public nuisance (yes, no, don't know, refused);
- to indicate which of 11 types of crime were a problem in the precinct (burglaries, car theft, other theft, louts/gangs, prowlers/loiterers, drunkenness, vandalism/graffiti, dangerous driving, illegal drugs, sexual assault, other assault);
- to indicate which of seven types of problems commonly related to intoxicated or rowdy people were occurring in the precinct (verbal abuse, physical abuse, fighting between intoxicated people, noise/disturbances, intoxicated people begging, alcohol-related vandalism, homeless or alcoholics drinking on the streets). They were asked which of these problems was the most frequently occurring, and how often they had seen or experienced this problem in the precinct in the last year (every week, once/twice per month, every few months, less often, not in last year, never) (Walker et al. 2009).
- to indicate their feeling of safety when walking or waiting for public transport alone after dark in the precinct (very unsafe, unsafe, neither safe nor unsafe, safe, very safe, never do) and if they reported feeling unsafe, the main reasons for the perceived lack of safety (Australian Bureau of Statistics 2006b).

4. Awareness and attitudes towards local strategies in main entertainment precincts

A number of harm-reduction strategies were implemented in Newcastle (drink restrictions, lockouts, early closing, etc) and Geelong's (radio network, CCTV cameras, ID scanners etc.) entertainment precincts. For each strategy implemented in their local area, the participant was asked about their:

- awareness of strategy (yes, no, don't know, refused) (Australian Institute of Health and Welfare 2011); and
- if aware of the strategy, level of support for the strategy (6 point Likert Scale—strongly support to don't know enough to say) (Hawkins et al. 2009).

Respondents were asked if they had visited a licensed venue in the main entertainment precinct after 10 pm at night in the last year (yes, no, don't know, refused). Respondents who indicated that they had done so were asked about the specific harm-reduction strategies implemented within that area, in particular:

- perceived effectiveness of the strategy in reducing alcohol-related crime in the precinct (4 point Likert Scale—very effective to not effective);
- how effective all of the strategies have been in making streets and venues safer (6 point Likert Scale—very effective to not effective);
- which strategy had the greatest impact on alcohol-related crime (7 strategies for both areas);
- whether they thought alcohol-related crime had changed in the last year (yes, no, don't know) and how they thought it had changed (a lot more, a little more, a little less, a lot less, more frequent, less frequent, more aggressive, less aggressive—multiple choice); and
- whether the number (more people, less people, no) or the demographics (no change, more males, more females, more older people, more younger people) had changed in the last year (multiple choice).

Participants in Newcastle were asked whether:

- the lockout had been effective in reducing the number of people on the street (5 point Likert Scale—very effective to not out that late);
- early closing had been effective in reducing the number of people on the street (5 point Likert Scale—very effective to not out that late); and
- adequate transport was available at closing time (yes, no, not out that late).

5. Attitudes towards evidence-based alcohol harm-reduction strategies in entertainment precincts

All respondents were asked to indicate their level of support for 14 harm-reduction strategies (early closing, lockouts, drink restrictions etc) targeting entertainment precincts using a six point Likert Scale (strongly support, support, neutral, oppose and strongly oppose, don't know). The strategies included:

- *Enforcement of premises:* increased penalties for venues and staff, increasing visible police checks of venues, police asking intoxicated offenders where they consumed their last drink and increased server liability.
- *Restricting access to alcohol:* increasing the price of alcohol, increasing the legal minimum age of consumption, mandatory lockouts, closing late-night venues earlier, restricting venues density in high-risk areas, reducing trading hours in high-risk areas, and restrictions on discounted alcohol and promotions.
- *Drink-driving counter-measures:* more severe penalties for drink-driving, lowering the legal blood alcohol limit for driving and increasing visible random breath testing.

2.2.3. Data analysis

The data were analysed by descriptive statistics. Differences in proportions were assessed between the following groups using Chi Square and Fishers Exact Tests:

- respondents located in the Newcastle and Geelong areas; and,
- respondents who had visited licensed venues located in the main entertainment precinct after 10 pm in the year before the survey, and those who had not.

Due to multiple testing, significant p-values were set at 0.01 rather than adopting the conventional 0.05 level (Stigler 2008).

2.2.4. Limitations

When interpreting the results of this survey, it is important to consider possible limitations. Literature suggests that after adjusting for socio-economic status, households without telephone landlines may drink significantly more alcohol than those who do. Thus, the survey potentially excluded residents that frequently visited the main entertainment precincts. Secondly, when respondents were asked questions about their level of support of strategies, they may have responded about their level of support rather than their perceived level of effectiveness.

2.3. Patron Interviews

Studies of night-time economies (NTEs) around the world are increasingly using brief surveys with patrons either inside or outside licensed venues (Forsyth 2010, 2008; Hughes et al. 2007; Voas et al. 2006) although the methods used remain novel. Voas and colleagues labelled such interviews 'portal studies' and proposed that to be appropriate for measuring alcohol and other drug (AOD) use, the environment must present three components: (a) at least theoretically, be a venue associated with an increased risk of AOD consumption; (b) exist in a location that permits intercepting and assessing respondents before entry into and on exit from the setting; and (c) have respondents who enter and exit during a sufficient span of time to permit brief interviews and testing. They also highlight a number of advantages to the method over traditional telephone or household surveys, whereby they eliminated recall bias, allow survey teams to collect more objective data and also conduct observational work of the environments.

2.3.1. Sample

In both cities, the sample consisted of patrons attending licensed venues (hotels and nightclubs) located within the main entertainment precincts of the regional cities. The interviewers approached 4,374 potential interviewees (Geelong or G, 2,051; Newcastle or Nc, 2,323). A total of 3,949 people agreed to be interviewed, a response rate of 90.7 percent (G, 92.5%; Nc, 89.1%).

2.3.2. Data Collection Procedures

Patron surveys were conducted longitudinally over an 18-month data collection period at randomly selected venues every fortnight (43 nights). With the agreement of licensees, a team of four or more trained researchers attended up to six venues on specific evenings. Each team was allocated a 'team leader' who was responsible for liaising with the venue staff, identifying interview locations, managing the behaviour and performance of the interviewers, and monitoring safety.

Each member of the research team randomly approached patrons, briefly explained the survey and invited them to participate in a five-minute survey. Both consent and non-consent was recorded on a personal digital assistant (PDA). At some point during the survey, a business-sized information card was given to each respondent. The business cards carried an internet address for the study as well as contact details should respondents wish to know more about the study or withdraw their consent.

All surveys were completed on busy nights of the week (typically Friday and Saturday nights) between peak hours (typically 9 pm to 1 am). Surveys were held at later times (until 3.30 am) in Geelong on at least two occasions to reflect the later trading hours. Each fortnight, the research team surveyed up to 190 patrons inside/outside consenting venues located in the cities. Survey data were directly entered into PDA PalmPilots® or iPhones®. The data was then extracted into a spreadsheet for data analysis.

2.3.3. Measures

The patron survey consisted of seven domains:

1. Demographics

Limited demographic details were obtained, including first name, year of birth, home postcode and occupation. These helped to identify repeat interviewees, without being identifiable.

2. Past and planned movements on the survey night

Details were obtained about the movements of the interviewee throughout the night (ie places visited, amount of money spent, motivation for going out, how they were planning to get home and how convenient this was for them).

3. Normal entertainment patterns

Interviewees were also asked about how often they normally went out to licensed venues, how often they became intoxicated and how often they were refused service in licensed venues.

4. Safety

Interviewees were asked about their perceptions of safety in the venue they were attending, and what measures they used to keep safe. They were also asked how often they had seen police, and if their IDs had been checked.

5. Experience of harm

Interviewees were surveyed about their experience of harm, particularly whether or not they had witnessed or been involved in aggressive or violent incidents in the past 12 months. They were also asked details about any events they reported, such as levels of intoxication and incident setting.

6. Policy attitudes

Interviewees were asked for their attitudes towards a number of policy measures currently in place in Geelong and Newcastle, and were requested to gauge their effectiveness.

7. Patron intoxication

Finally, interviewees were asked to rate their level of intoxication. They were also asked about how much alcohol they had drunk during the night, how much they drank before attending a licensed venue and whether they had been refused service that night. Interviewees were also asked about any other substance use. Patron intoxication was independently observed and rated by the interviewer at the end of the interview.

Details were also recorded about the location of the interview, time, date and the interviewer's name. If the interview was ended early, the reason for this was recorded.

2.3.4. Data analysis

The data collected from the surveys were analysed based on frequency counts, and were investigated longitudinally to ascertain any changes in average perceptions of safety or pre-drinking. Group differences (such as different venues, time periods or differences between sites) were explored using both bivariate (chi-square) and multivariate statistical methods (logistic regression) to adjust for socio-demographic and geographic differences.

2.3.5. Limitations

Although portal or patron interviews have substantial benefits in terms of investigating people who visit night-time entertainment districts, a number of limitations should be noted. Firstly, such surveys cannot provide generalisations about all people who attend licensed venues. Secondly, as potential participants were in the middle of a night out, interviews were necessarily kept short and were not suitable for in-depth questions. Thirdly, such interviews were conducted within a comparatively public environment, and therefore could not be of a highly personal nature. Finally, there was no way to ensure participants were telling the truth.

2.4. Venue Observations

Liquor licensing authorities often use audits to assess compliance and identify current practice, however, audits are often inadequate because they are primarily concerned with legislative requirements rather than evidence-based environmental harm (Daly et al. 2002); they rely on self-reporting; they are often completed during non-peak times (Briscoe 2001); and frequency are dependent on resources. Thorough observations at peak-times are required to adequately assess potential harms within drinking environments. Numerous studies have assessed alcohol-serving practices using covert observations either to describe practices or evaluate interventions (Andreasson et al. 2000; Homel et al. 2004). Given this, the main aims of the venue observations were to:

- assess the prevalence of strategies being evaluated in each site;
- assess differences in adoption of strategies in two regional sites; and
- describe the prevalence of additional evidence-based practices that can contribute to reductions in intoxication and/or alcohol-related violence.

2.4.1. Design and setting

The venue observational data were collected in both Geelong and Newcastle using a longitudinal prevalence design over a 14-month period between April 2010 and June 2011. The observations were completed every 12 weeks, and where possible, they were completed on the same weekends in both cities.

2.4.2 Sample

The sample for the observations consisted of venues licensed to serve alcohol for consumption on their premises with either a hotel/nightclub licence located within the entertainment precinct of each city. A total of 30 venues (16 in Geelong and 14 in Newcastle) were observed. The number of venues observed fluctuated during the project period due to venue closures and openings. Thus, not all venues were observed at each round. The numbers of venues observed in Newcastle and Geelong respectively during the study were: round one (12, 10) round two (12, 9) round three (13, 13) round four (13, 12) round five (13, 10) and round six (13, 13).

The sample size, however, varied depending on whether the variable was 'observational' or 'interactional' (see 2.4.3.1 for an explanation of the measures). The sample size for the observational measures was 129 and 305 for interactional.

2.4.3. Data collection procedures

Participating venues were covertly observed during peak periods between 9 pm and 5 am on Friday and Saturday nights with each venue being observed at closing time at least once. The venues were unaware of the day or time of the observations.

Teams of two observed each venue for a minimum of one hour, and data were entered directly into a PDA or iPhones®. All observers were trained and asked to assess all areas of the venue and identify the main bar area independently (eg based on number of people, entertainment). Observations were primarily conducted in this main bar area, and in some instances, observers were required to interact with service staff to obtain accurate responses ('interactional' variables such as the service of double nips). All teams were provided with a pre-determined cash allowance to cover the costs of entry charges and incidentals (eg snacks and drinks).

Following data collection, the data was uploaded from the PDAs/ iPhones® and observer data were compared to determine discrepancies. If major differences existed (over 20%) observers were contacted and a correct response was agreed. Additional quality assurance observations were conducted simultaneously on 10 percent of observations by teams of two experienced research staff.

2.4.3.1. Measures relating to the strategies being evaluated by DANTE

To assess the prevalence of strategies implemented in late-night venues and the differences between Geelong and Newcastle, the measures were separated into two groups:

- observational: these measures could not be observed independently between the observers; that is, the observers were observing the same measures at the same time (eg proportion of males); and
- interactional: these measures were assessed through direct interaction with venue staff (eg security, bar staff) thus each observer's interaction with the staff was independent. The measures listed below that are denoted by a * are 'interactional'.

Below are the steps taken which were investigated during observations:

- **ID scanners (Geelong strategy)**
 - ID scanner was located at the main entrance
 - *The observer was asked for 'proof of age' to be checked by an ID scanner
 - ID scanner was located at the main entrance after 1 am
 - *The observer was asked for 'proof of age' to be checked by an ID scanner after 1 am
- **Drink restrictions (Newcastle strategy)**
 - Staff were not serving more than four drinks/purchase
 - Patrons were not allowed to stockpile their drinks (more than two unconsumed drinks at a time)
 - Free water stations were available on all bars

- *Shots were not being served after 10 pm
- **‘Ready-to-drink’ alcoholic drinks containing more than five percent alcohol were not served after 10 pm
- The venue ceased the service of alcohol at least 30 minutes before closing time
- **RSA marshals (Newcastle strategy)**
 - An identifiable RSA marshal was observed after 11 pm
- **Reduced trading hours and conditions of entry (Newcastle strategy)**
 - The venue closed before or at 3.30 am
 - *A lockout was implemented

2.4.3.2. Measures of additional evidence-based practices that can help reduce intoxication and and/or violence

To assess the prevalence of strategies that can help reduce intoxication and/or violence, the following measures were used. The following variables were recorded:

- **Entry procedures**
 - All patrons were being asked for ‘proof of age’
 - All entrances were monitored by staff
 - Door/cover charge was being charged for entry (Homel et al. 1992)
 - Door/cover charge was being charged for entry after 1 am (Homel et al. 1992)
- **Patron characteristics and intoxication**
 - Less than 50 percent of patrons were male (Homel et al. 1992)
 - Less than 50 percent of patrons were under 25 years (Graham et al. 2006a; Homel et al. 1992)
 - Less than 50 percent of patrons showed any sign of intoxication (Andreasson et al. 2000)
- **Staff characteristics**
 - The ratio of bar service staff to patrons was more than two staff per 100 patrons
 - Less than 50 percent of the bar staff were female (Andreasson et al. 2000)
 - Bar staff were observed, on average, as not being hostile or aggressive towards patrons (Homel et al. 2004)
 - Bar staff were observed, on average, as being friendly to patrons (Homel et al. 2004)
 - The ratio of security staff patrons was more than one staff per 100 patrons
 - Security staff were observed as being friendly patrons (Homel et al. 2004)
- **Responsible service of alcohol**
 - ‘Substantial’ food options such as hot food and sandwiches were available during the sale of alcohol (Homel et al. 2004)
 - No drink promotions encouraging patrons to drink excessively (Homel & Clark 1994; Hughes et al. 2011)
 - All drinks were served in plastic containers (Forsyth 2008)
 - **‘Double nips’ of alcohol were not being served (Jones et al. 2009)
 - Responsible practices at closing time such as announcements about closing, turning on lights (Graham et al. 2006b)
- **Safe transport options**
 - A designated driver program was available
 - Staff were allowed to call taxis for patrons
 - Courtesy transport was available
 - Nearby secure taxi ranks were advertised

- **Physical and social environment**

- Flat surfaces were available to place drinks (non-vertical bars)
- The lighting level allowed easy observation
- The noise level was normal or allowed for intimate conversation (Homel et al. 1992)
- The flow of traffic through the venue was fair to good (Graham et al. 2006b; Hughes et al. 2011)
- Live entertainment was present
- Tables were cleaned and glasses cleared frequently (Graham et al. 1980; Hughes et al. 2011)
- Crowding around the bar service area was less than two deep (Homel et al. 1992)
- The level of sexual activity was low that is, no groping and explicit sexual activity (Homel et al. 2004; Hughes et al. 2011)
- The level of unwanted touching or harassment of female patrons and/or bar staff was low (Graham et al. 2006b)
- No signs of illicit drug activity were observed (eg ingestion or smoking of drugs, exchange of money for small items, drug paraphernalia)
- No serious non-physical arguments were observed (Homel et al. 2004)
- No serious physical arguments were observed (Homel et al. 2004)

2.4.3.3. Data analysis

Statistical analyses were conducted using the SAS/STAT System for Windows Release 9.2 (March 2008).

Inter-rater reliability testing

The first step in analysing the data was to conduct inter-rater reliability tests between observers for the observational measures. This was done using two separate methods based on the question type. Firstly, categorical data were grouped into dichotomous variables and for each variable the pair of observer responses was compared, with a match being defined as both observers selecting the same dichotomous variable. Continuous data were compared between each observer and a match was defined as being within 20 points of each other. Each variable was considered reliable if the observers had matching responses in 80 percent or more of recordings. The tests demonstrated a high level of inter-rater reliability between pairs of observers for all observational measures, with the level of reliability ranging from 78 to 100 percent.

The second step was to randomly select one of the two observers for all observational measures. Due to the nature of the measures, this is the only observation that will be included in the data analysis. The randomly selected observers' responses were compared with the experienced research staff member who conducted the quality assurance observations. For consistency the same quality assurance research staff member was used each time. The same inter-rater reliability tests methods described in step one were used. The tests also demonstrated a high level of inter-rater reliability for most measures with the level of reliability ranging from 67 to 100 percent.

Prevalence and differences

The data collected during these observations were analysed by producing frequency counts of the specific variables. For aim two, where differences between Geelong and Newcastle were being assessed, chi-squares were produced.

2.4.4. Limitations

It is important to consider the limitations of using covert observations to measure venue compliance with strategies/practices. Each venue was typically observed for one hour, so some practices may not have been observed in this time, even though they were being undertaken by the venues. For example, the observers may not have observed door charges or ID scanners at some venues after 1 am—venues may have only used

plastic containers later in the evening or observers may not have been observing venues at closing time. To minimise this limitation, the venues were observed on six different occasions, at times that were staggered throughout the study period.

A further limiting factor was that some measures were subjective, especially relating to noise, lighting, sexual activity and friendliness of staff/security. However, the practices were only reported if a high level of consistency emerged between the observers and the quality assurance observers (inter-rater responsibility higher than 80%).

2.5. Key informant interviews

2.5.1. Sample

The study conducted 97 initial in-depth interviews with identified local key informants including police, licensees, taxi drivers, health, ambulance, security personnel, licensing authorities and council workers. A research assistant contacted key representatives from each organisation inviting them to participate in the interviews, or asking them to nominate alternative informants. Follow-ups were undertaken in the final months of data collection. Table 6 shows a breakdown of the key informants interviewed in the project.

Table 6 Key informant sample

	Initial interviews			Follow up interviews		
	NSW	Vic	Total	NSW	Vic	Total
Community member	1	1	2	0	1	1
Emergency services	0	3	3	-	-	-
Government employee	7	6	13	1	3	4
Industry representative	1	1	2	-	-	-
Licensee	13	15	28	6	4	10
Venue manager	8	8	16	2	1	3
Police	4	3	7	2	0	2
Scanner manufacturer	3	1	4	0	1	1
Security	4	17	21	0	5	5
Transport industry	1	0	1	-	-	-
Total	42	55	97	11	15	26

2.5.2. Data collection Procedures

A research assistant contacted each respondent in the sample, provided a brief description of the study and interviews, and invited them to participate. Following consent, an appropriate interview time was scheduled. Interviews were digitally recorded and all interviews were transcribed and returned to the interviewee for review. Interviewees were able to correct any errors in transcribing and also remove any sections they did not wish reported. They were able to add or expand on any points. In following an in-depth qualitative methodology, key informants were asked questions based on a series of prompts, rather than a strict set of questions (Rhodes & Coomber 2010; Stenius et al. 2008). This was designed to allow the researcher and the participant to follow any points that may arise and to modify questions accordingly. Key issues and themes were identified through discussions with these key informants.

2.5.3. Measures

Key informant interviews were semi-structured and the interview schedule was used to guide discussions. The interviewer had topic prompts for every subject area to ensure all topics of interest were covered.

The key informant interview had six domains:

- Interviewee details
- Current local issues
- Awareness of/attitudes to current local interventions
- Illicit drugs
- Other changes in last 12 months
- Crime

In addition to the generic questions, specific questions were asked of licensees and police, drawing on their specific expertise and experiences. For example, licensees were asked about the most popular drinks sold; amounts of drinks people were generally consuming; changes in the rate people were generally drinking, and peak trading hours.

Police were asked specific questions relating to: operations they had implemented/been involved in the past two years; operations they were currently implementing; main features of these operations; how the current operations differed from previous operations; and, what operations they thought had been successful/unsuccessful, and why.

2.5.4. Data analysis

Responses from key informants were analysed primarily based on questionnaire structure and subsequent analysis of narratives using thematic analysis. Thematic analysis (or ‘narrative analysis’) is an inductive design where, rather than approach a problem with a theory already in place, the researcher identifies and explores themes which arise during analysis of the data (Kellehear 1993). In this analysis, once a theme has become evident, all transcripts were re-analysed for appearances of the theme. Categorisation was not exclusive and some narratives appeared in many themes. Categories were added to reflect as many of the nuances in the data as possible, rather than reducing the data to a few numerical codes (Rhodes & Coomber 2010). All the data relevant to each category were identified and examined using a process called constant comparison, in which each item is checked or compared with the rest of the data to establish analytical categories. For transparency, results reported were enumerated (Stenius et al. 2008). Where available, narratives offering opposing viewpoints were also presented (Pope & Mays 1995).

3. Results

This section reports the results of the different data collection methods.

3.1. Secondary data

Secondary data refers to data that is collected for purposes other than that of the current research. Using existing data is a cost effective way to determine trends within a community (Stoové & Dietze 2010). However, using such sources has inherent limitations, which will be discussed later in the chapter (Griffiths & Mounteney 2010; Miller et al. 2011).

3.1.1. Emergency Department attendances

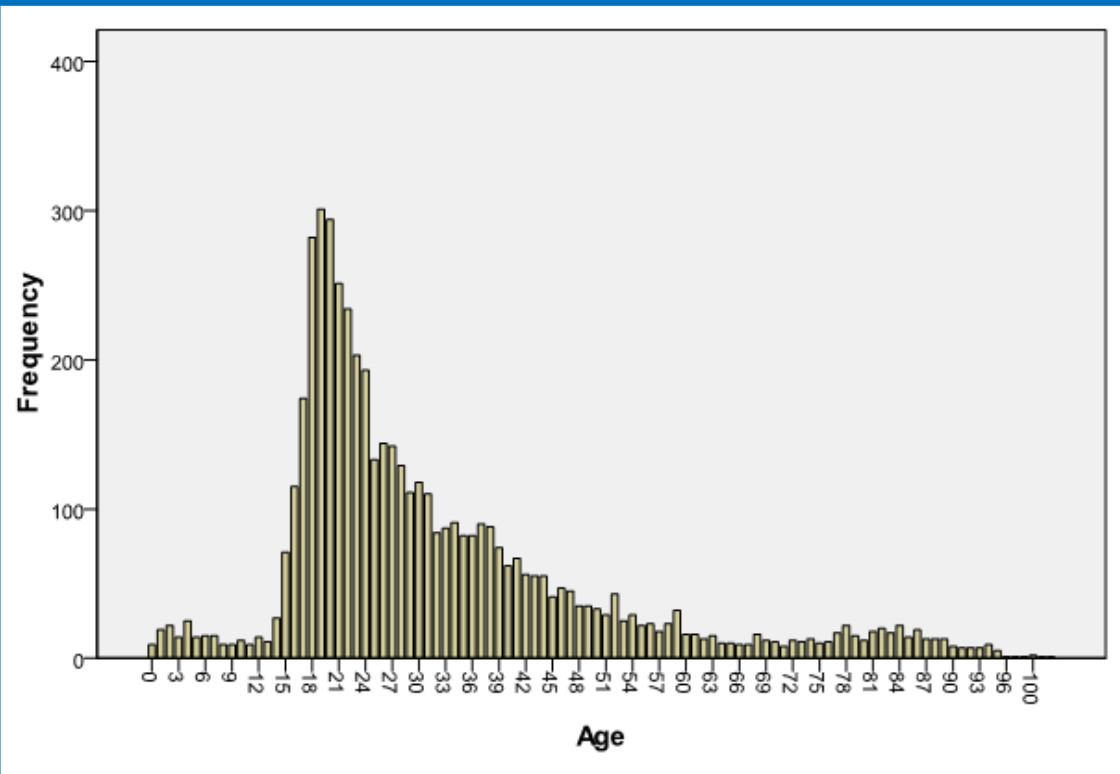
3.1.1.1. Geelong

Overall, a total of 116,822 injury (S&T code) cases presented at the Geelong Hospital emergency department between 1 July 1999 and 31 March 2011; 5,149 of these occurred during the high alcohol hours of Saturday and Sunday morning (midnight to 5.59 am). Overall injury trends for the Geelong Hospital are shown in Figure 6 along with rates for HAH.

Based on data derived from the triage notes, 3,934 triage presentations involved alcohol between 1 July 2005 and 31 July 2009 (Miller et al. 2011). The age-range spanned from 10 to 95, with a mean age of 37, and a mode age of 20. The age group 15–24 was the largest and comprised 30.1 percent ($n = 1,185$) of all cases. This was more than one third as much as the next largest age group, 25–34 year olds, which accounted for 18.9 percent ($n = 742$) of the sample (Miller et al. 2011).

Injury codes (S&T) cases

Males were more than twice as likely as females to be involved in triage cases during high alcohol hours, with 68.9 percent ($n = 2,710$) of triage presentations being male, and only 31.1 percent ($n = 1,224$) being female (Miller et al. 2011). In comparison, using the injuries during high alcohol hours formulation, 67.2 percent of ED attendees were male and 32.8 percent were female.

Figure 3 Age of ED attendees during HAH in Geelong

The mean age of people attending for all injuries was 33.9 years old, with a mode age of 18, whereas the mean age of people attending ED with injuries during HAH was 32.1 years old, with a mode age of 19. Figure 3 shows the distribution of age for all attendances, highlighting the over-representation of the 18–24 year old age group.

F10.0 (acute intoxication) cases

As well as the injury cases reported above, acute intoxication cases were also analysed for Geelong. While this variable is interesting, the classification is seen as being fairly unreliable, resting on the subjective judgment of medical staff and their recording of this code in the face of other injuries or diseases. However, assuming that these biases remain the same over time, following these trends could show a different dynamic to injuries. Between 1 July 1999 and 31 March 2011 there were a total of 1,610 F10.0 cases. When filtering for HAH, 349 cases were recorded over the study period.

The mean age of all F10.0 cases was 35.3 years with a mode of 18 years. The mean age for F10.0 cases during HAH was 26.6 years with a median age of 18. Males were still more likely to attend ED for acute intoxication overall (58.2%) but rates became equal during HAH.

Alcohol-related injuries by time of day and day of week

Most (58.5% $n = 2,302$) alcohol-related incidents happened on weekends. As indicated in Figure 4, Sunday had the highest rate of incidents (24.5%; $n = 965$) most of which (55%; $n = 529$) occurred between 12 am and 6 am (see Figure 4). Saturday night between 11 pm and 12 am also had a relatively high rate of alcohol-related injuries ($n = 80$).

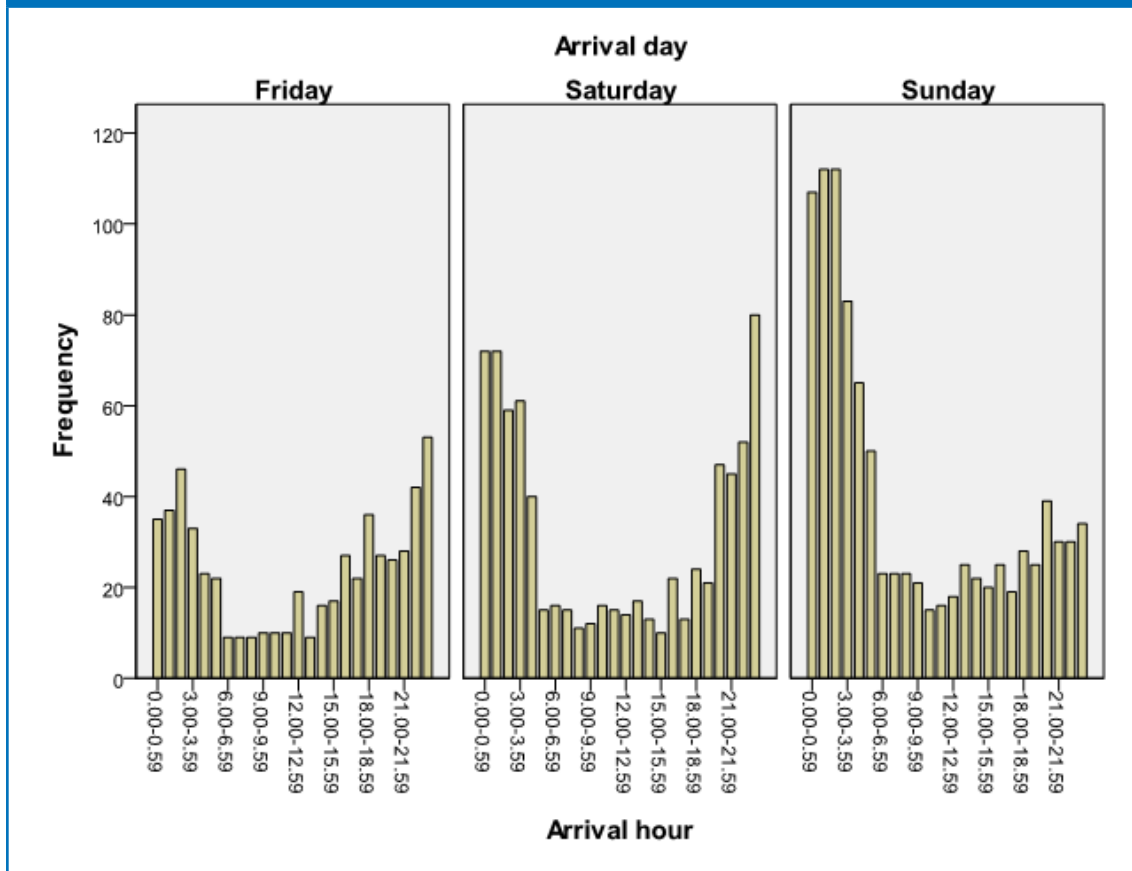
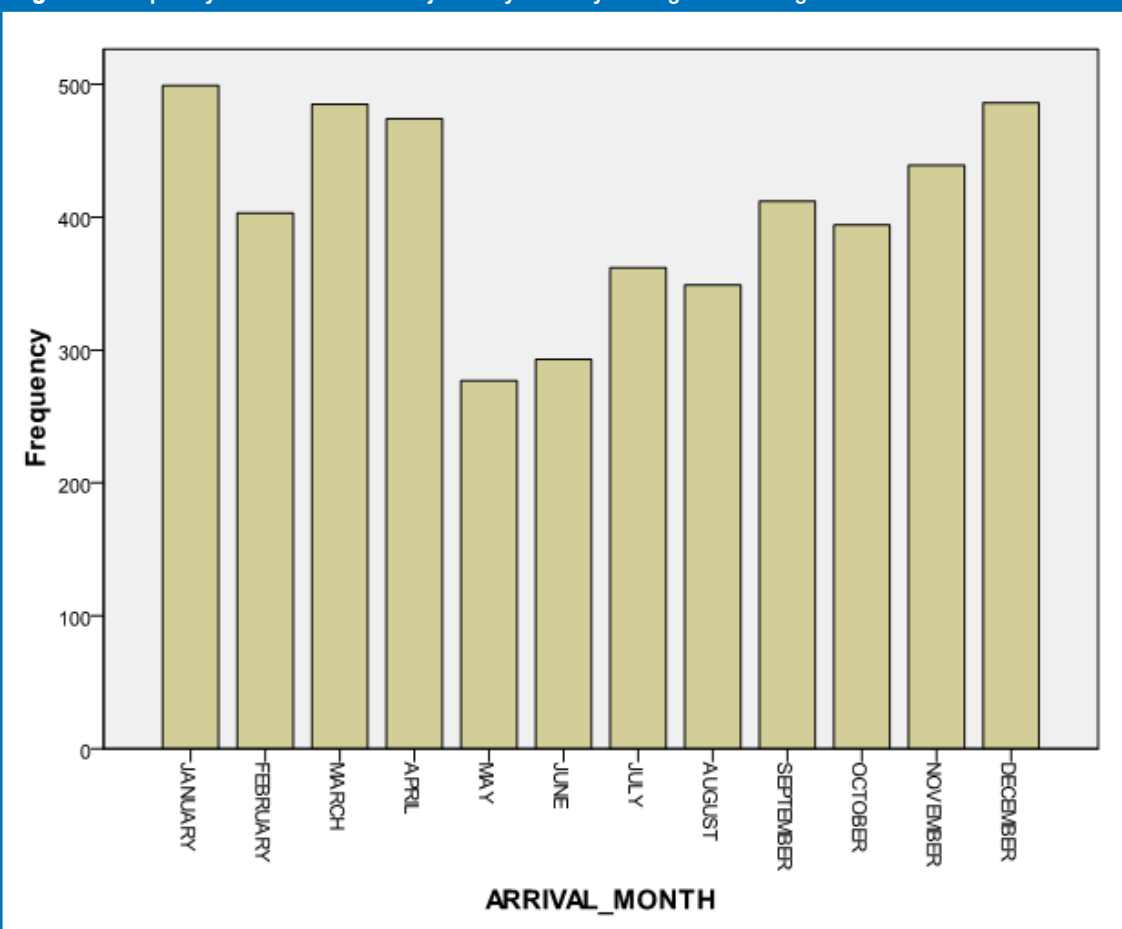
Figure 4 Frequency of alcohol-related injuries by hour and weekend day in Geelong

Figure 5 shows seasonal trends through monthly averages, demonstrating an annual peak in January, followed by a drop in February. Events such as New Year's Eve celebrations, annual holidays and a lack of students in the Geelong area during February may contribute to this annual trend. The colder months (May–October) also showed a clear trend of reduced numbers of alcohol-related injuries.

Figure 5 Frequency of alcohol-related injuries by monthly average in Geelong

Injury rates during high alcohol hours over time

The following section reports on injury rates over time. As mentioned previously, the most reliable method identified to track changes over time is by using particular injury codes during high alcohol hours, specifically between midnight and 5.59 am on Saturday and Sunday mornings (Young et al. 2004). In addition to injury rates, we will also indicate trends in alcohol-related intoxication as reported through the F10.0 ICD code. Between 1 July 1999 and 31 March 2011, there were 12,016 attendances for injuries during high alcohol times. Figure 6 reports these trends over time for both high alcohol times and all injury presentations. Also, the dates at which various interventions were implemented are shown using vertical lines. The figure shows distinct peaks in injury presentations during high alcohol hours in 2000 and 2009.

No obvious reductions appear to be associated with using ID scanners, the radio network or the Just Think campaign. Alternatively, there does appear to have been a reduction in ED attendances during HAH associated with the Victoria Police Operation Nightlife 2 and the subsequent increase in fines for antisocial behaviour around intoxication. This included the So You Know awareness campaign.

Figure 6 ED attendances during HAH for S&T codes per 10,000 over time for Geelong (quarterly)

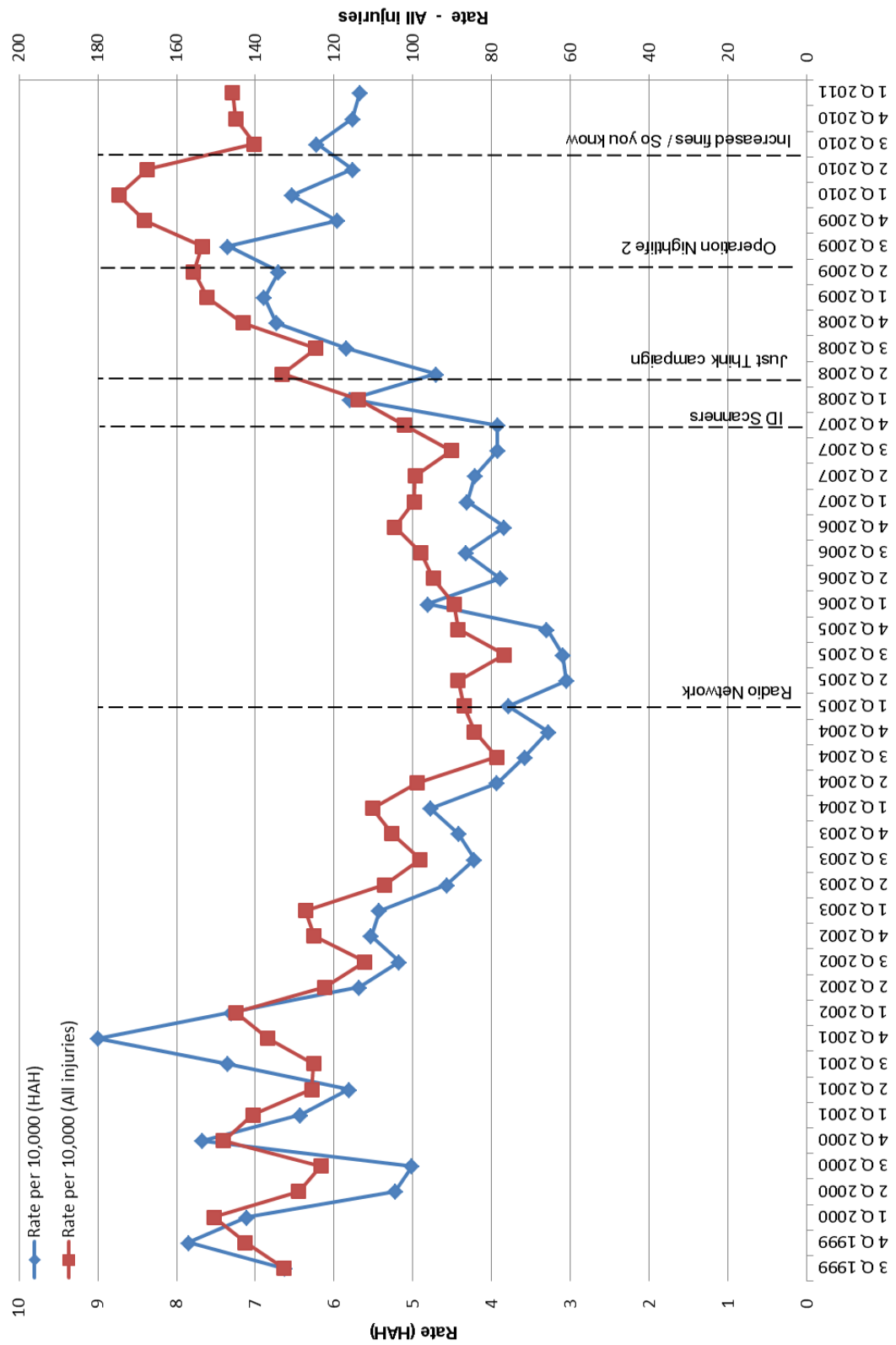


Figure 7 ED attendances during HAH for F10.0 codes per 10,000 over time for Geelong (quarterly)

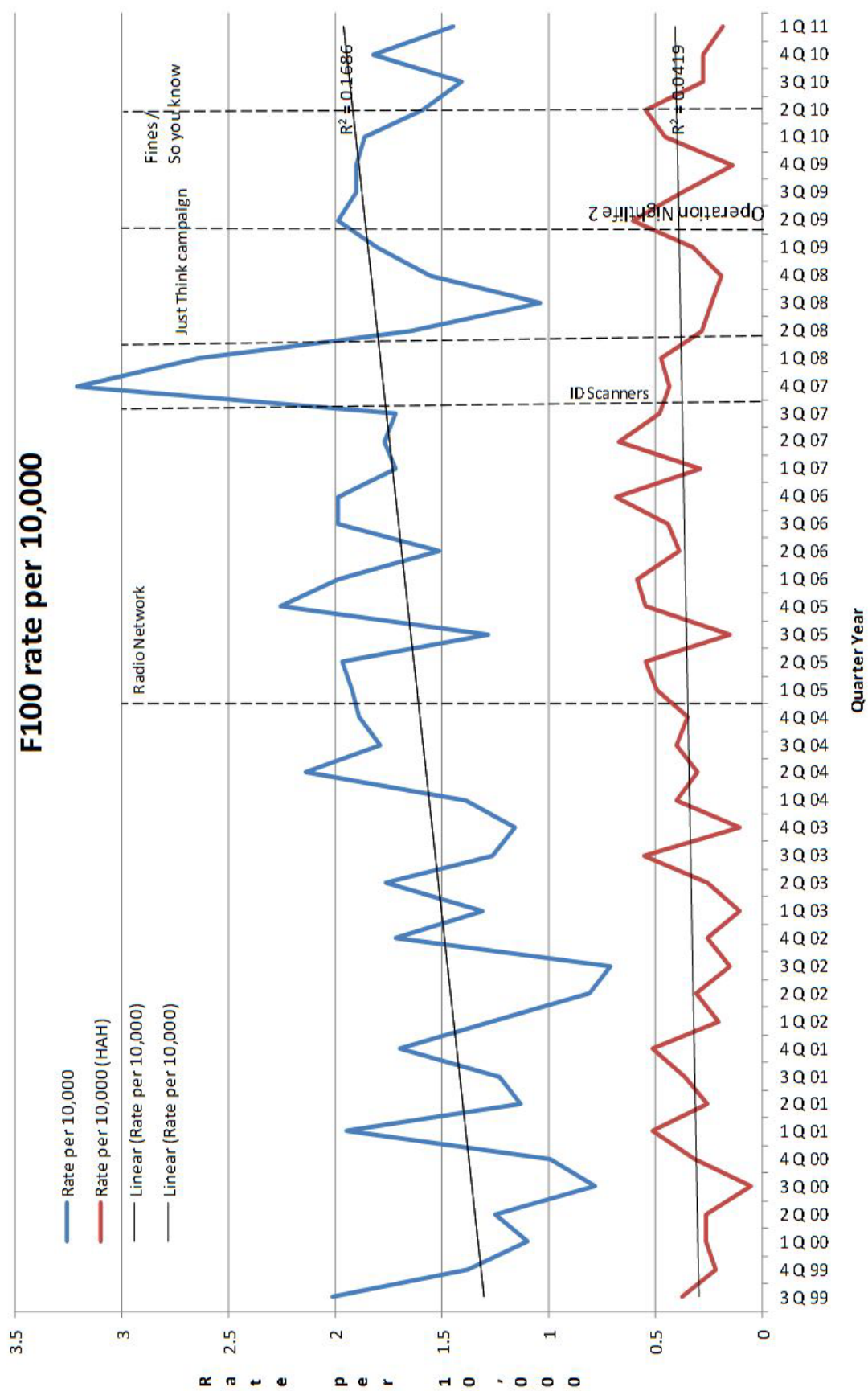
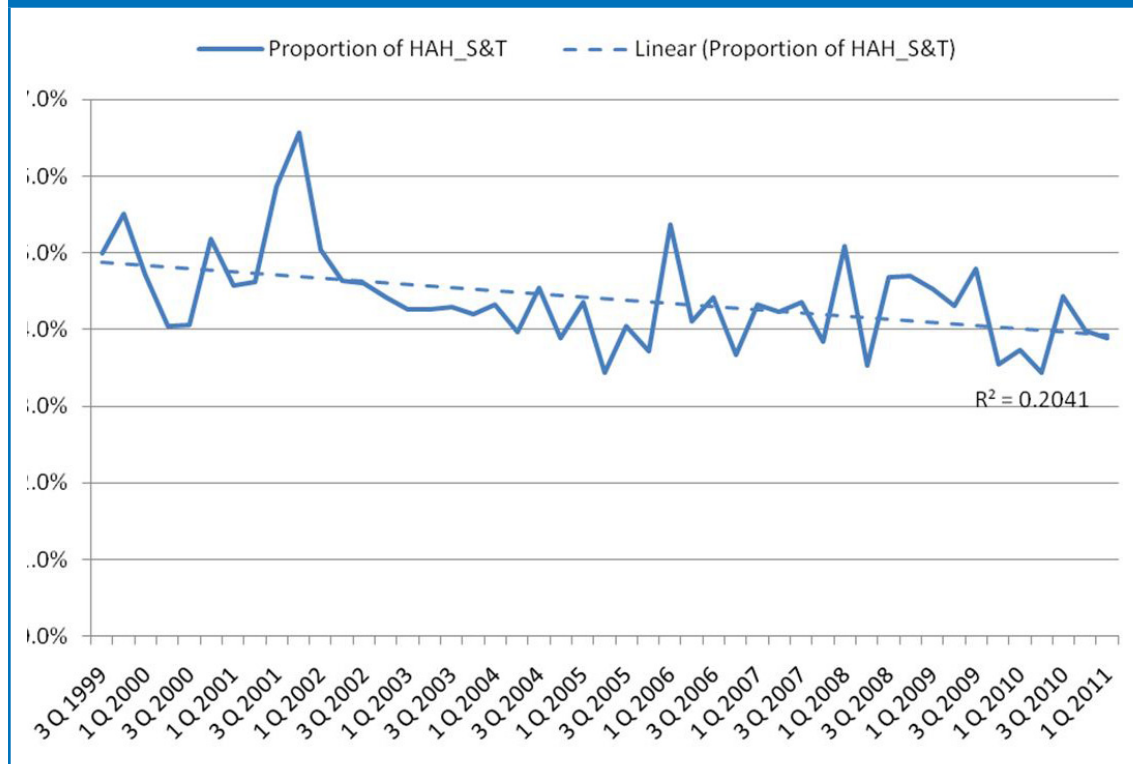


Figure 7 reports trends over time for both ED attendances for F10.0 codes (intoxication) during high alcohol times and all injury presentations. Trend lines show each data series. As with injury codes, the overall trend line is upwards, although the last three quarters show a declining trend. This is not significant but rather one of several substantial fluctuations.

The proportion of S&T injury cases during HAH ranged between 3.4 percent in the second quarter of 2005 and 6.6 percent in the last quarter of 2001. Overall, the proportion of injury cases accounted for during HAH declined over the study period ($R^2 = -0.20$; see Figure 8).

Figure 8 Proportion of S&T injury cases during HAH over time (Geelong)



Time series analyses

ARIMA analyses were conducted on data for HAH attendances to determine pre- to post-intervention differences in the data. Data collected from 141 observations was aggregated by month. Autocorrelations and partial autocorrelations for injury frequency revealed no significant issues with seasonality. Durbin-Watson d-statistic=0.161, below the lower band critical value of 1.573. Further, the Augmented Dickey-Fuller test ($z = -1.159$, $p = 0.92$) and Phillips-Perron ($z = -6.62$, $p < 0.05$) test both indicated that there was no significant unit-root, thus the data was trend stationary and no differencing procedure was applied (Data Service Studio 2009; Enders 1995; STATA Corp 2009). However, due to the data's seasonal component (lower rates of alcohol-related injury during winter) it was seasonally smoothed using Holt-Winters seasonal smoothing command. The final model was specified as ARIMA (0, 0, 0). No outliers were detected. The model did not fit the data well and none of the interventions were significant predictors of ED presentations.

As the time series model did not fit the data well, linear regression analyses were also conducted. The results in Table 7, show that none of the interventions were associated with a significant reduction in ED attendances. By contrast, the implementation of ID scanners and the Just Think campaign were associated with increases in ED injury attendances during HAH.

Table 7 Linear regression analysis of pre- to post-intervention data (N obs = 141)

N	Coef.	Std. Err.	z	P> z	95% Conf. Interval	
					Lower	Upper
NWRP	-6.03226	7.031561	-0.86	0.391	-19.8139	7.749349
ID scanners	8.666667	9.909386	0.87	0.382	-10.7554	28.08871
Just Think	8.871795	8.130669	1.09	0.275	-7.06402	24.80761
Nightlife2	-0.3956	5.132677	-0.08	0.939	-10.4555	9.664258
_cons	34.03226	1.155582	29.45	0	31.76736	36.29716
/sigma	10.6824	0.518422	20.61	0	9.666315	11.69849

Therefore, although the visual data suggests a downward trend, time series analysis shows that none of the interventions have significantly reduced ED injury attendances during HAH.

3.1.1.2. Newcastle

Overall, a total of 245,761 injury (S&T code) cases presented at either the John Hunter Hospital emergency department (ED) or the Mater Calvary Hospital ED between 1 January 2001 and 30 June 2011. Of these attendances, 7,477 occurred during the HAH of Saturday and Sunday morning (midnight to 5.59 am; 3%).

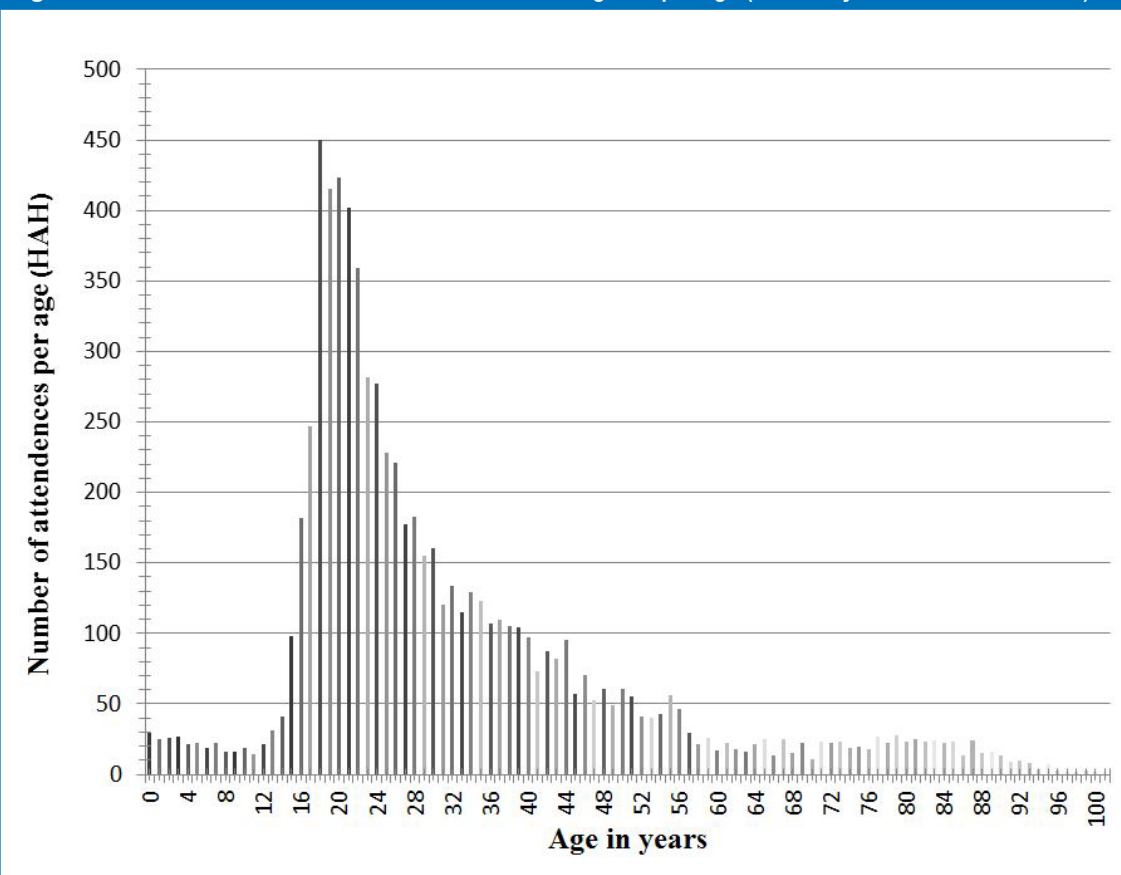
Overall injury trends for these hospitals are presented in Figure 12 and Figure 13.

Injury-related attendances

Males were more than twice as likely as females to be involved in injury-related attendances, with 61.4 percent ($n = 137,891$) of presentations being male, and only 38.6 percent ($n = 86,612$) being female. During high alcohol hours (HAH) 67.9 percent ($n=5055$) of ED attendees were male and 32.4 percent ($n=2421$) were female.

The mean age of people attending for all injuries was 33.7 years old, with a mode age of 20 years, whereas the mean age of people attending ED with injuries during HAH was 31.9 years old, with a mode age of 18 years. Figure 9 shows the distribution of age for all HAH attendances, highlighting the over-representation of the 18 to 24 year old age group.

Figure 9 Number of attendances at Newcastle EDs during HAH per age (1 January 2001 to 30 June 2011)



Injury-related ED attendances by time of day on the weekends

As indicated in Figure 10, most of the attendances for injuries occurred during the day (9 am to 10 pm). Out of 15,785 attendances for injury between 10 pm and 6 am, 9,496 (60%) were between midnight and 6 am.

Figure 10 Number of attendees at Newcastle EDs during each hour of the day Friday to Sunday (1 January 2001 to 30 June 2011)

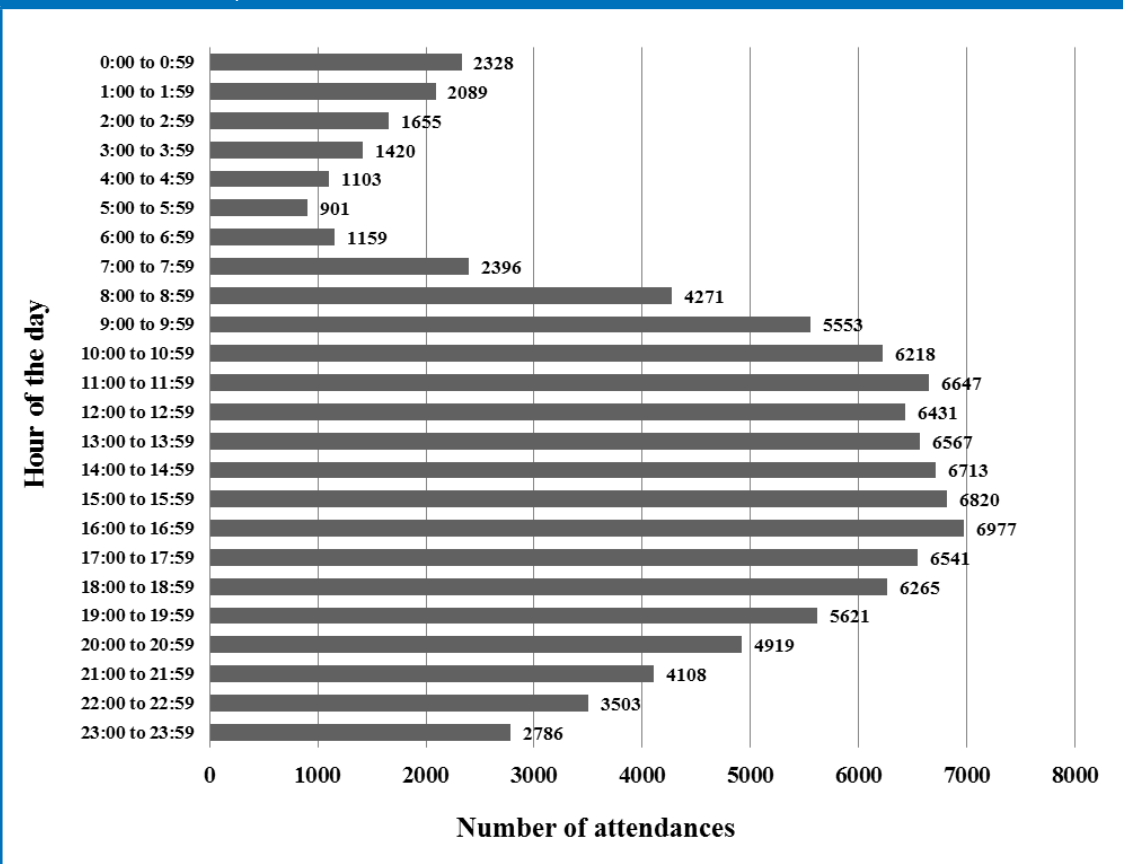
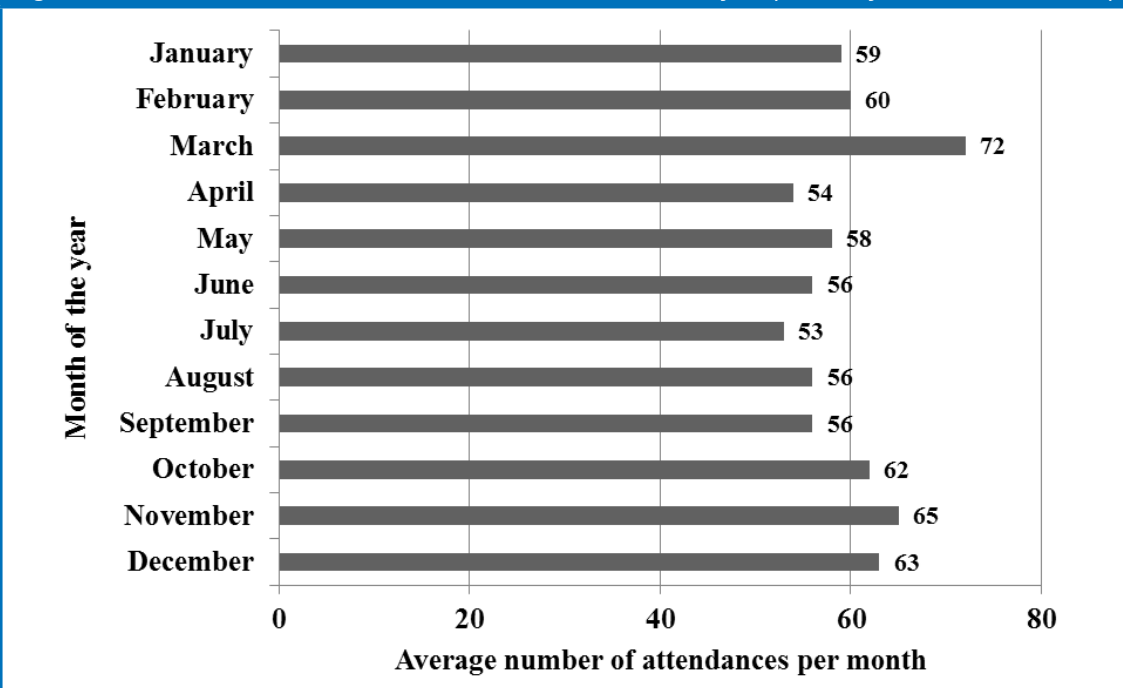


Figure 11 shows seasonal trends through monthly averages, with an annual peak in March, followed by a drop in April. This peak most probably coincides with the start of the university year. The numbers of injuries during high alcohol hours appear to reduce in the cooler months (April–October).

Figure 11 Mean attendances at Newcastle ED for each month of the year (1 January 2001 to 30 June 2011)



Injury rates during high alcohol hours over time

The following section reports on injury rates over time. As mentioned previously, the most reliable method identified to track changes over time is through the use of specific injury codes during high alcohol hours, specifically between midnight and 6 am on Saturday and Sunday mornings (Young et al. 2004).

Between 1 January 2001 and 30 June 2011, there were 7,477 attendances for injuries during high alcohol times. Both Figure 12 (all times) and Figure 13 (HAH) show downward trends in ED attendances over time. While the trend is more apparent in the HAH, it is not significant. This result indicates that the interventions may have impacted on the rates of injury-related attendances during the high alcohol hours, which are most likely to be alcohol-related and affected by the interventions (Young et al. 2004).

Figure 12 Rate of injury-related Newcastle ED attendances per 10,000 population, all times (1 January 2001 to 30 June 2011)

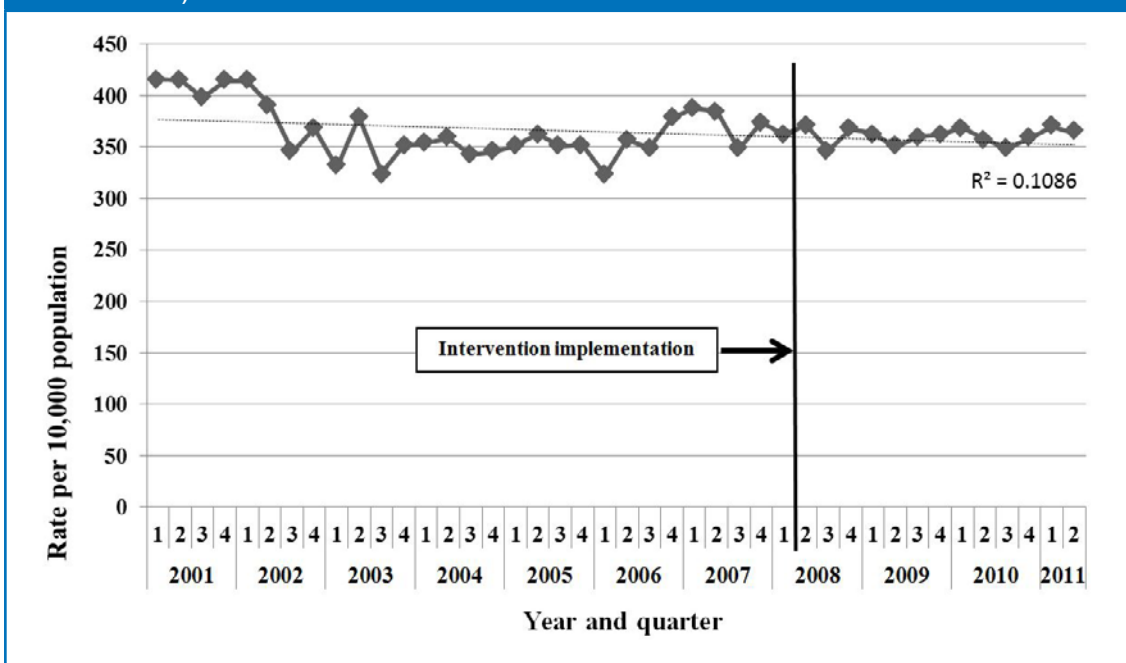
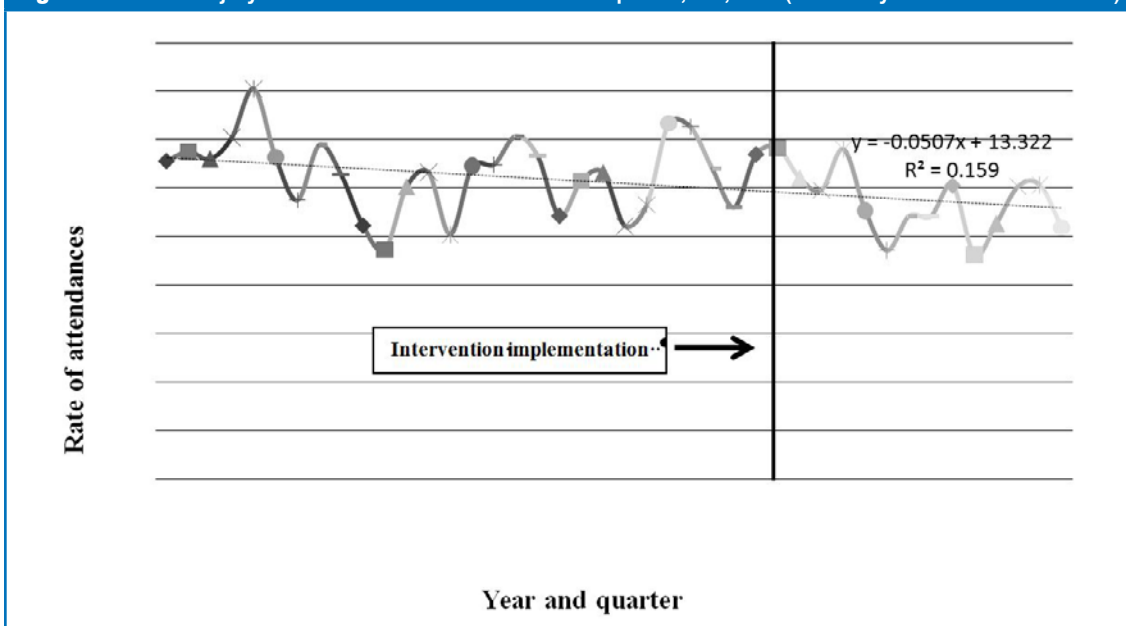


Figure 13 Rate of injury-related Newcastle ED attendances per 10,000, HAH (1 January 2001 to 30 June 2011)



Time series analysis

ARIMA analyses were conducted on data for HAH attendances to determine pre- to post-intervention differences in the data. The data from 126 observations was aggregated by month. The Durbin-Watson found a value of 2.032 and showed evidence of autocorrelation, thus an adjustment for autocorrelation was introduced into the model. Although the visual data suggests that there may be a downward trend, time series analysis shows that the interventions had not significantly reduced ED injury attendances during HAH (average non-significant reduction of 2.6 attendances per month between pre- and post-test).

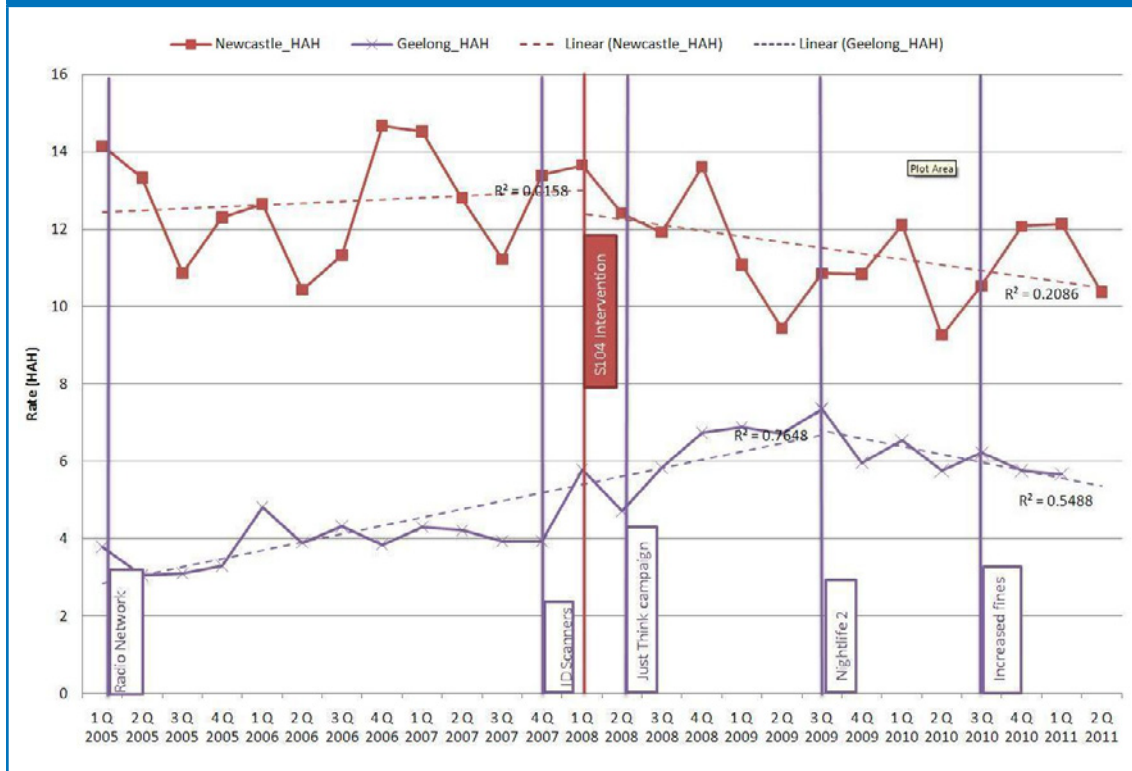
Discussion

The results indicate that overall, injury-related ED attendances in Newcastle remained relatively stable between 2001 and 2009. However, there appears to be a decline in attendances during the high alcohol hours of midnight and 6 am; although this result is not significant. While the peak time for injury-related attendances appears to be during the daytime (9 am and 5 pm) this data has only been reported for the weekends. It is therefore likely that daytime sporting injuries or falls may contributor to this peak. However, it is evident that 11 pm to 5 am, are the peak night-time hours. The peak period of the year is the warmer months (October–March) with a high peak in March. This peak could be attributed to the start of the university year. The results also show that, overall, most of the attendees were younger males, particularly during high alcohol hours where there is an over-representation in the 18 to 24 year age group. Such results are consistent with other ED studies. For example, Poynton et al. (2005) reports that 63 percent of attendances for injury at a Sydney ED were male, and 56 percent were under the age of 35 years.

3.1.1.3. Emergency Department attendance summary

The ED attendance data from both cities in summarised in Figure 14. The trend lines demonstrate that both cities showed reversals of previously increasing trends, although time series analysis did not find either change significant. The graph also shows that although Geelong and Newcastle are similar in many respects, Newcastle experiences far greater numbers of ED attendances during high alcohol hours. Figure 14 shows that the trend line for Newcastle declines following the s.104 intervention. In contrast, 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 HAH associated with the local Victoria Police Operation Nightlife 2 which focused on handing out fines to people misbehaving on the street and avoiding using police resources to arrest people for antisocial behaviour and intoxication. This trend also coincided with a reported reduction in police injuries due to a reduction in the number of times police were required to physically restrain an individual.

Figure 14 Geelong and Newcastle: rate of injury-related attendances per 10,000, HAH (1 January 2005 to 30 June 2011)



3.1.2. Police incident data

3.1.2.1. Geelong

This section presents assault and property damage data. To show background trends, assaults are included for all hours and across the Geelong local government area. Frequencies are then analysed for high alcohol hours for the Geelong LGA and then the 3220 postcode. While it would be ideal to be able to further refine the geographical area by analysing the records, Victoria Police is limited in the detail it can release.

3.1.2.1.1. Assaults

Assaults: All Hours and Geelong LGA-wide

Using data from Victoria Police for the Geelong local government area, the frequency of assaults was determined for postcode (Figure 15) location of incident (Figure 16) time of day/day of week (Figure 17) and month (Figure 18).

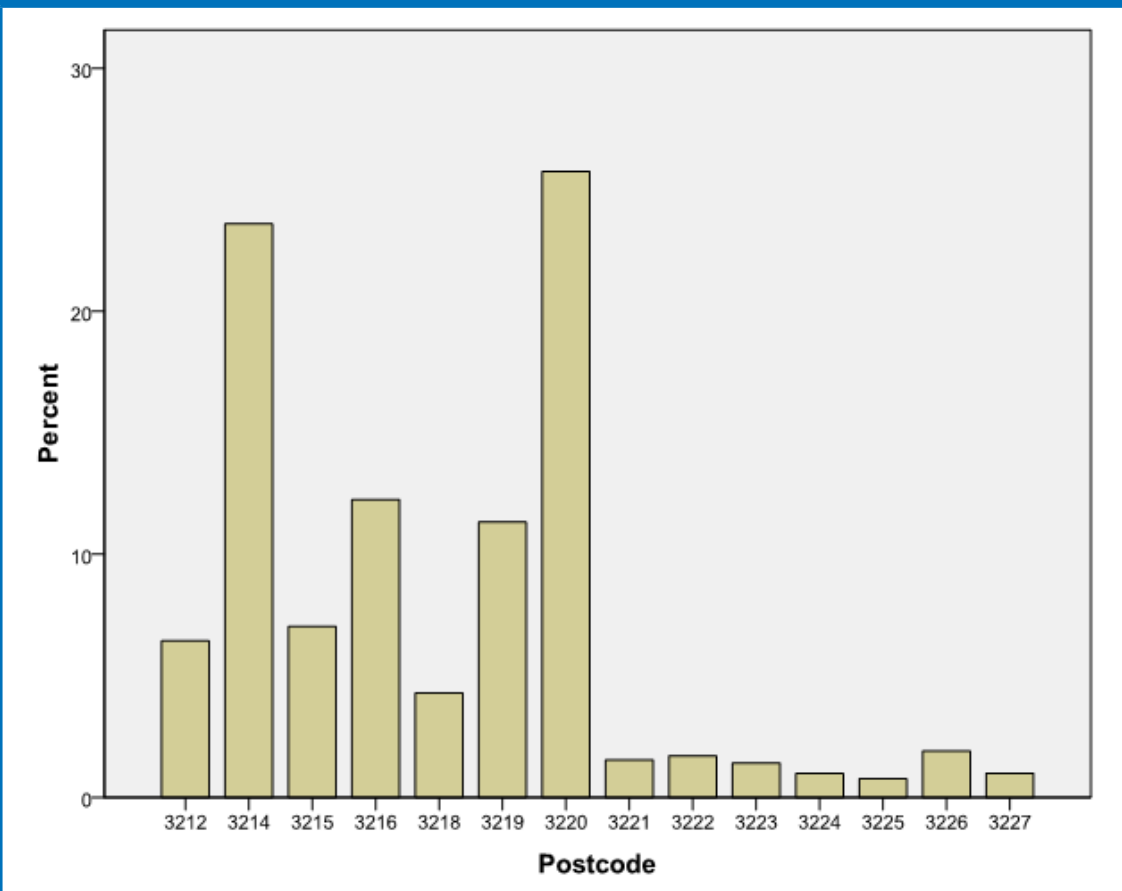
Figure 15 Assaults by postcode: Geelong LGA, all hours

Figure 15 shows that the 3220 postcode experiences the most assaults for the Geelong LGA (25.8% of cases) followed by the Corio area (3214; 23.6%) and the Belmont/Grovedale area (3216; 12.3%). Figure 16 indicates that most assaults occur in residential premises (35.9%) and on the street (28.8%). Licensed premises accounted for 5.3 percent of assaults across the Geelong LGA.

Figure 16 Assaults by location of incident: Geelong LGA, all hours

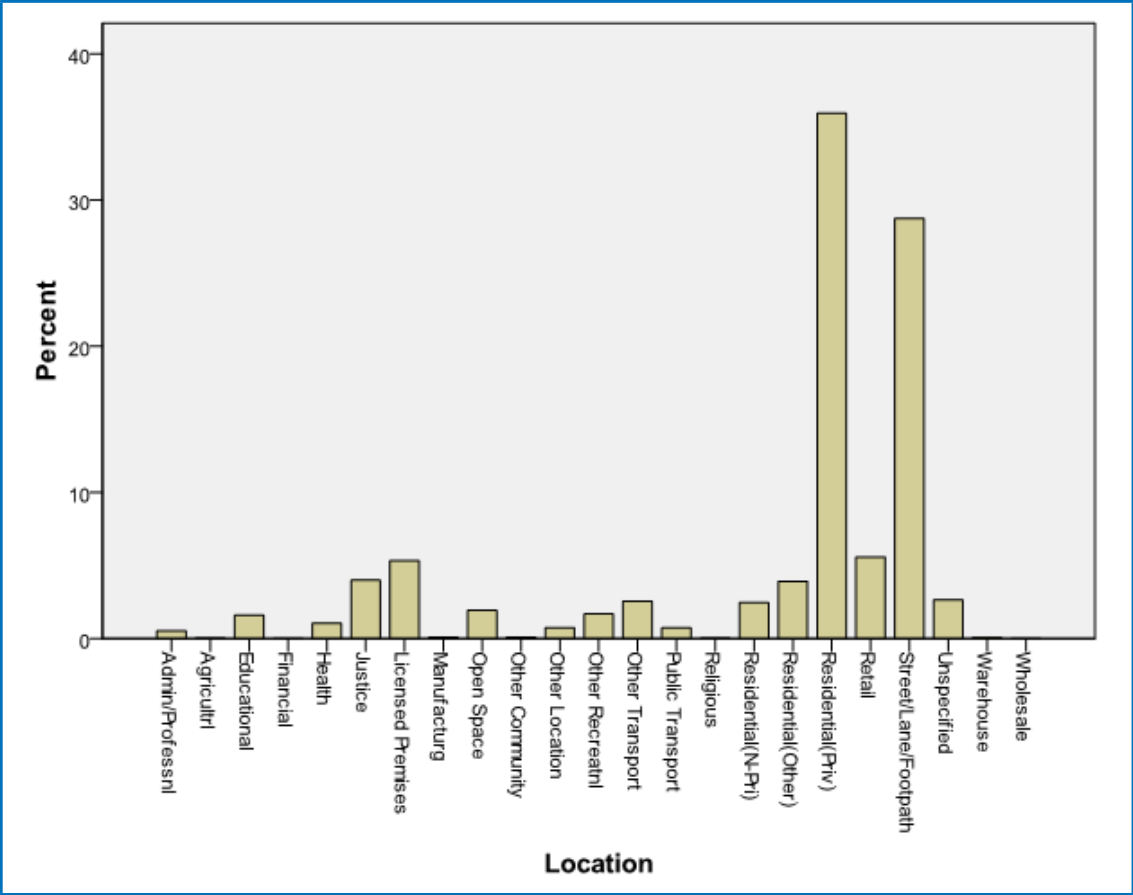


Figure 17 Assaults by time of day/day of week: Geelong LGA, all hours

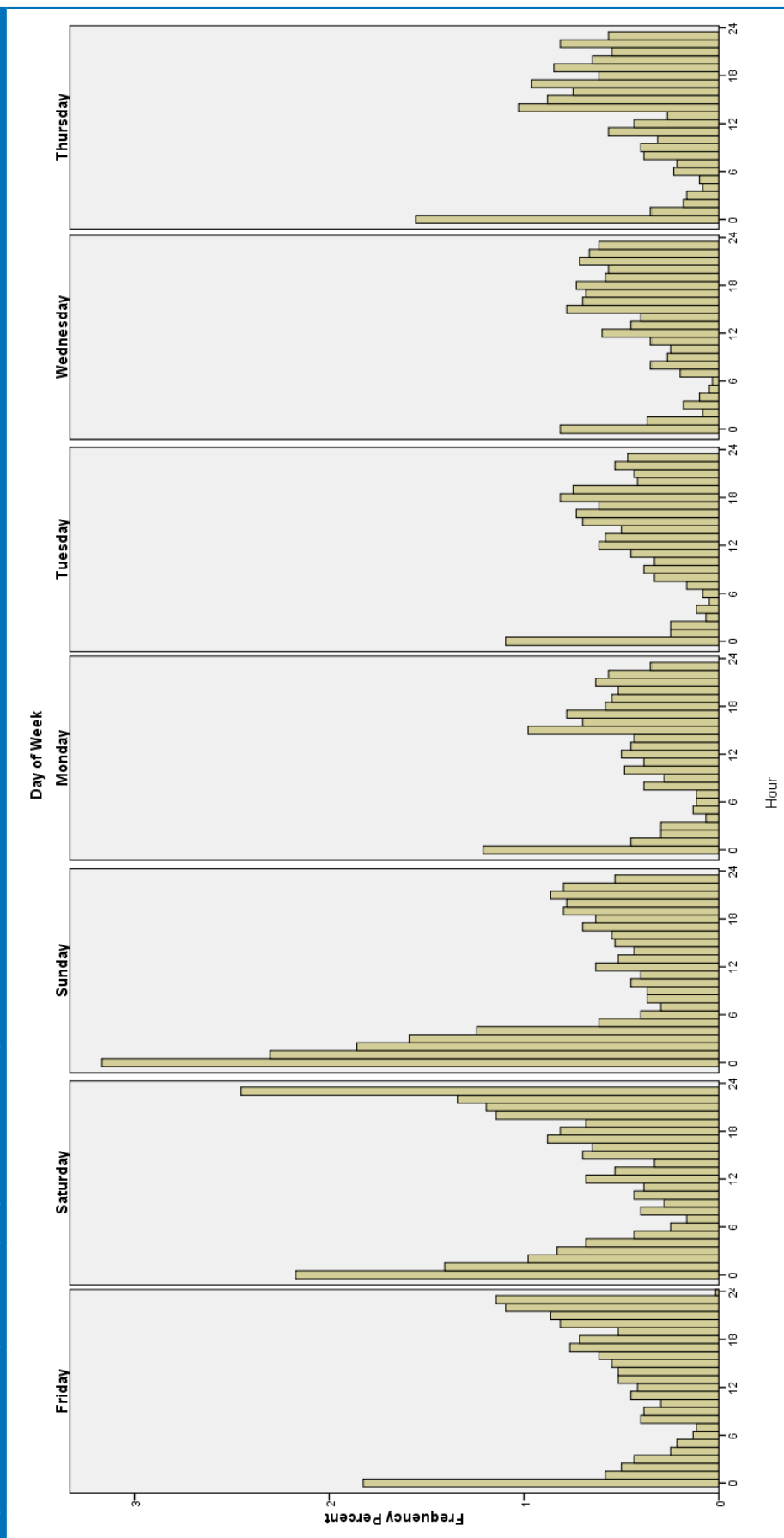


Figure 17 demonstrates that the peak times for assaults occur on Saturday night and Sunday morning, followed by Friday night/Saturday morning.

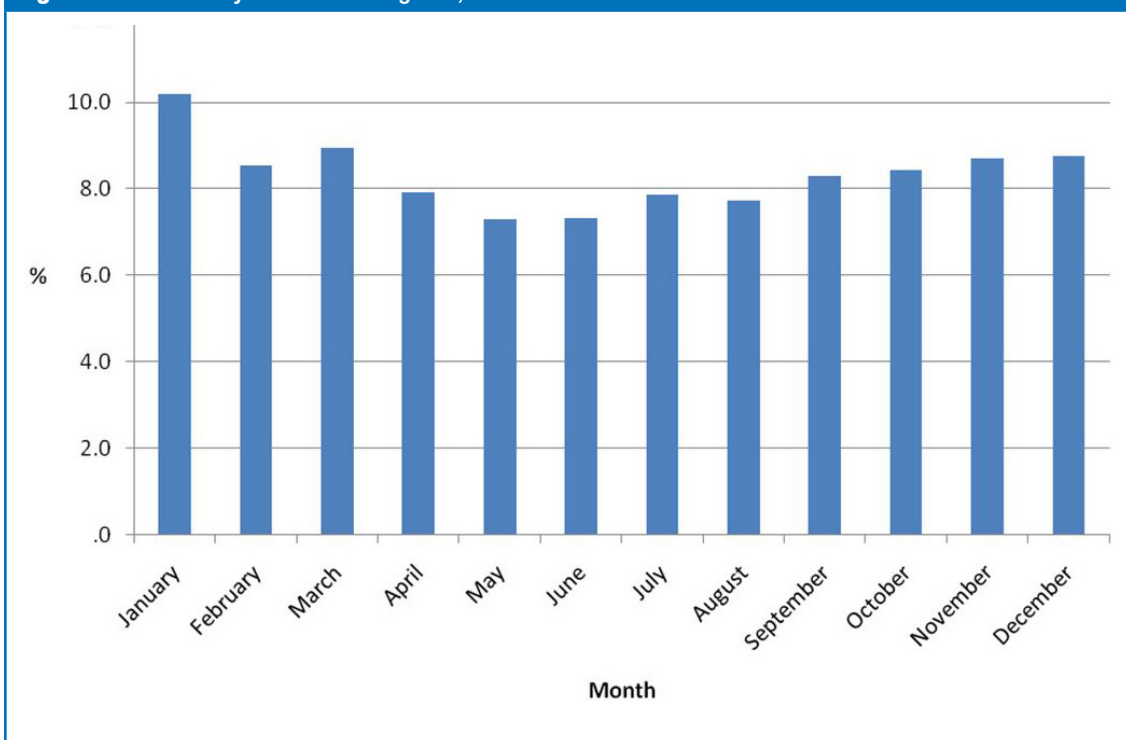
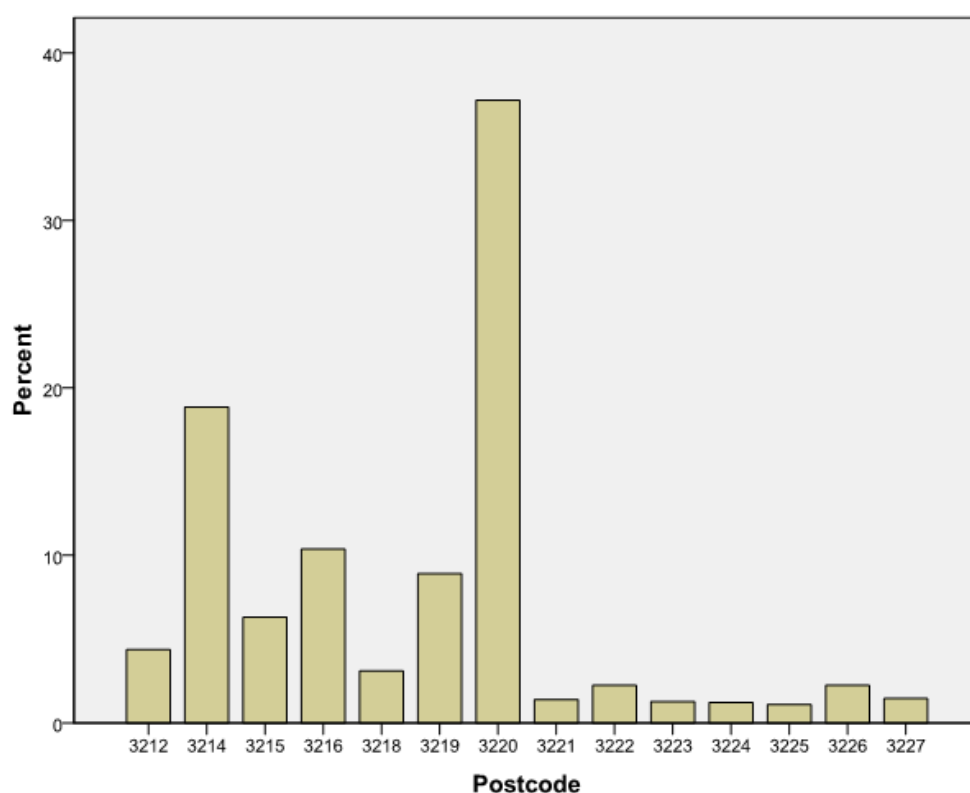
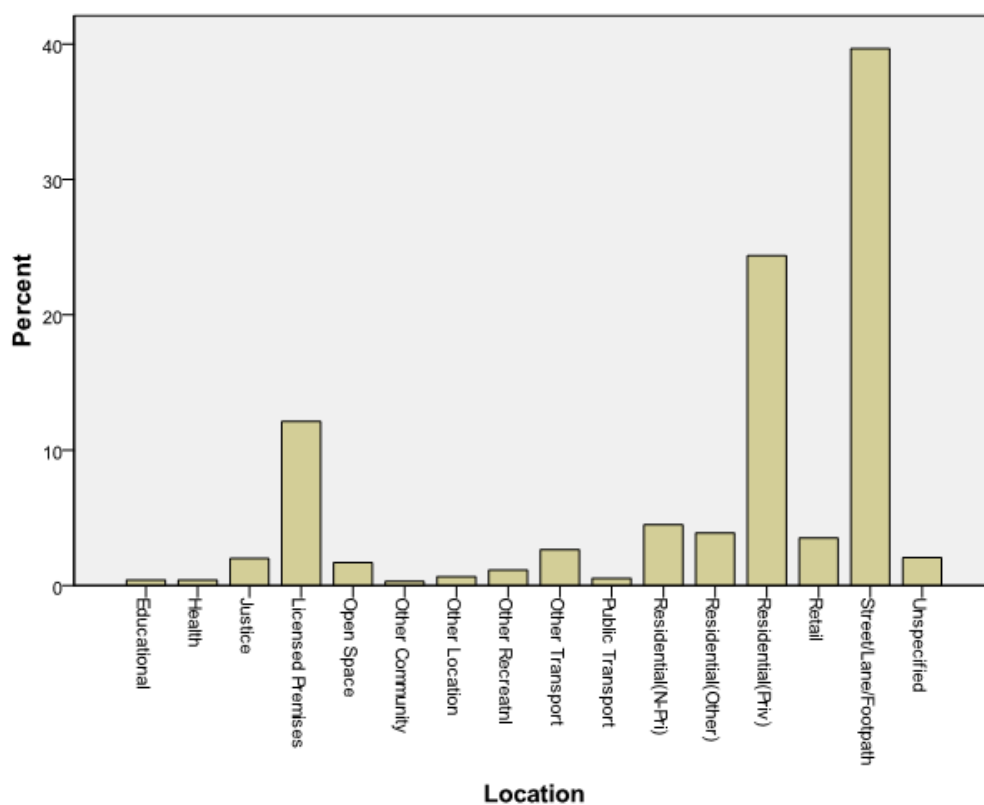
Figure 18 Assaults by month: Geelong LGA, all hours

Figure 18 suggests an annual trend with assaults peaking in the December/January period.

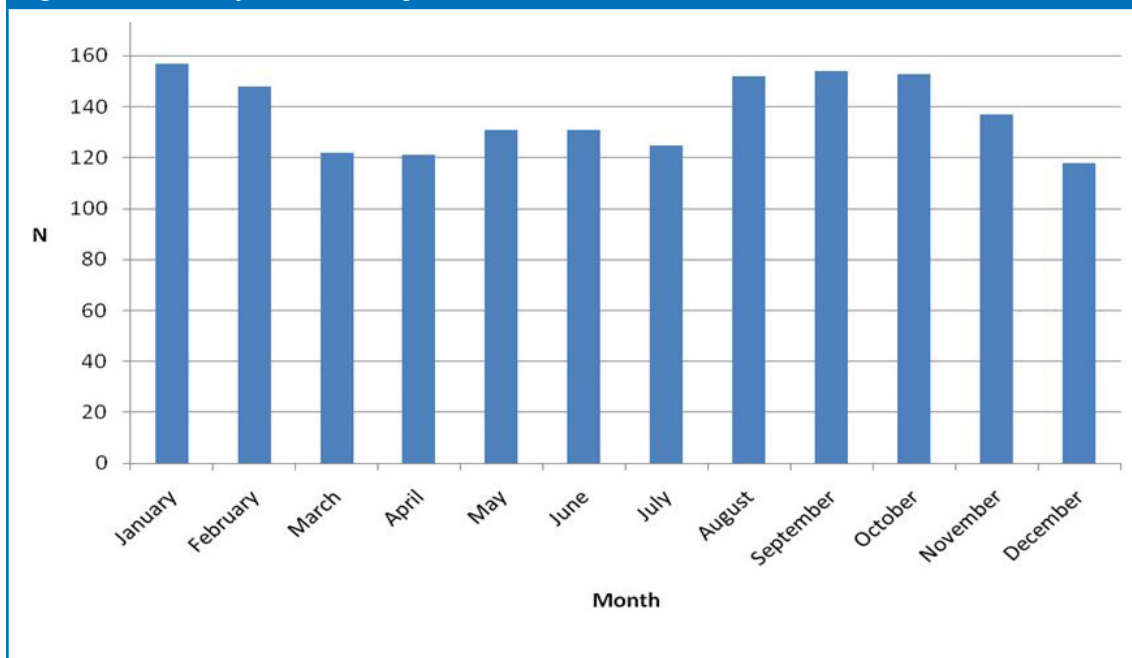
High Alcohol Hours

The definition of 'high alcohol assault hours' used to analyse police records is between 8 pm and 6 am Friday to Sunday morning (Laslett et al. 2007). The frequency of assaults for the Geelong local government area during HAH was determined for postcode (Figure 19) location of incident (Figure 20) and month (Figure 21). Over the study period, 1,649 separate incidents were recorded during HAH. More than a third (37.2%) occurred within the central Geelong postcode, followed by 18.9 percent in Corio and 10.4 percent in Grovedale/Belmont.

Figure 19 Assaults by postcode: Geelong LGA, HAH**Figure 20** Location of incident: Geelong LGA, HAH

As shown in Figure 20, most assault incidents occurring in the Geelong LGA during HAH, took place in the street (39.7%) followed by private residences (24.4%) and then licensed premises (12.1%).

Figure 21 Assaults by month: Geelong LGA, HAH



Assaults occurring in HAH show some different trends compared with assaults overall, including clearer peaks in January and February, as well as another peak in late winter/early spring, which may be related to the football finals season in both local and national leagues. A clear difference also exists between the locations of assaults, with assaults now occurring primarily on the street rather than inside private homes. Similarly, assaults are now far more likely to occur in the 3220 postcode, suggesting that a disproportionate amount of the assaults occurring inside private residences also occur outside HAH and in the 3214 postcode—an area of significantly greater deprivation than the central Geelong 3220 postcode.

Assaults during HAH within Geelong CBD (postcode 3220)

Over the study period, 613 separate incidents were recorded during HAH within the 3220 postcode. The frequency of assaults for the Geelong CBD (as defined by the 3220 postcode) during HAH was determined by month (Figure 22). Incidents during the high alcohol period is the target of most of the interventions identified in this report. Figure 22 shows somewhat different trends to those for all HAH assaults, although at this level of analysis the numbers are becoming fairly small and some peaks may not be reliable. Interestingly, Figure 22 suggests higher rates of assaults during HAH in spring and late summer.

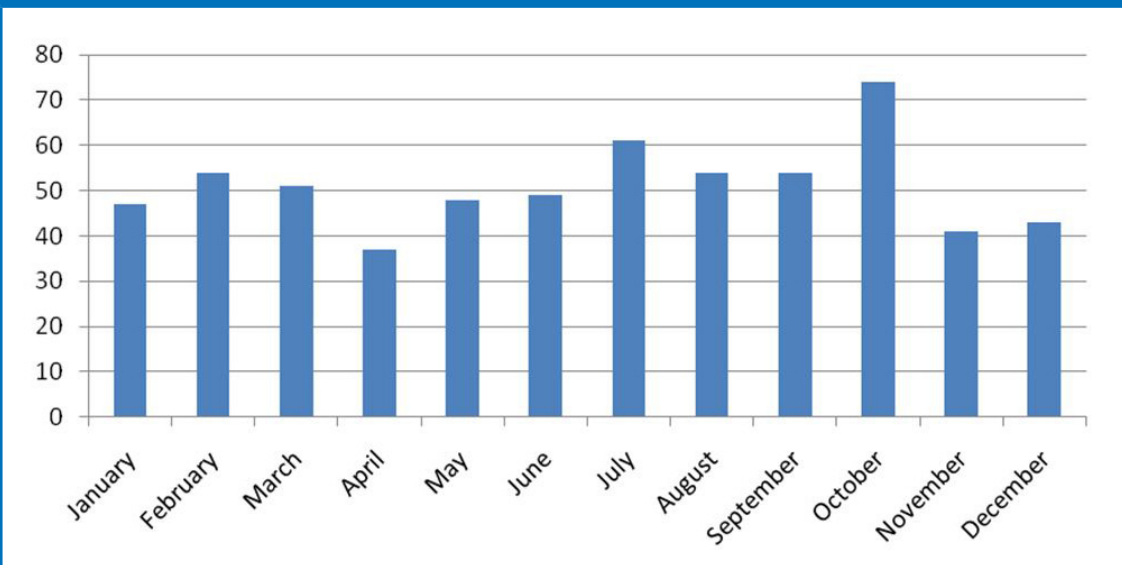
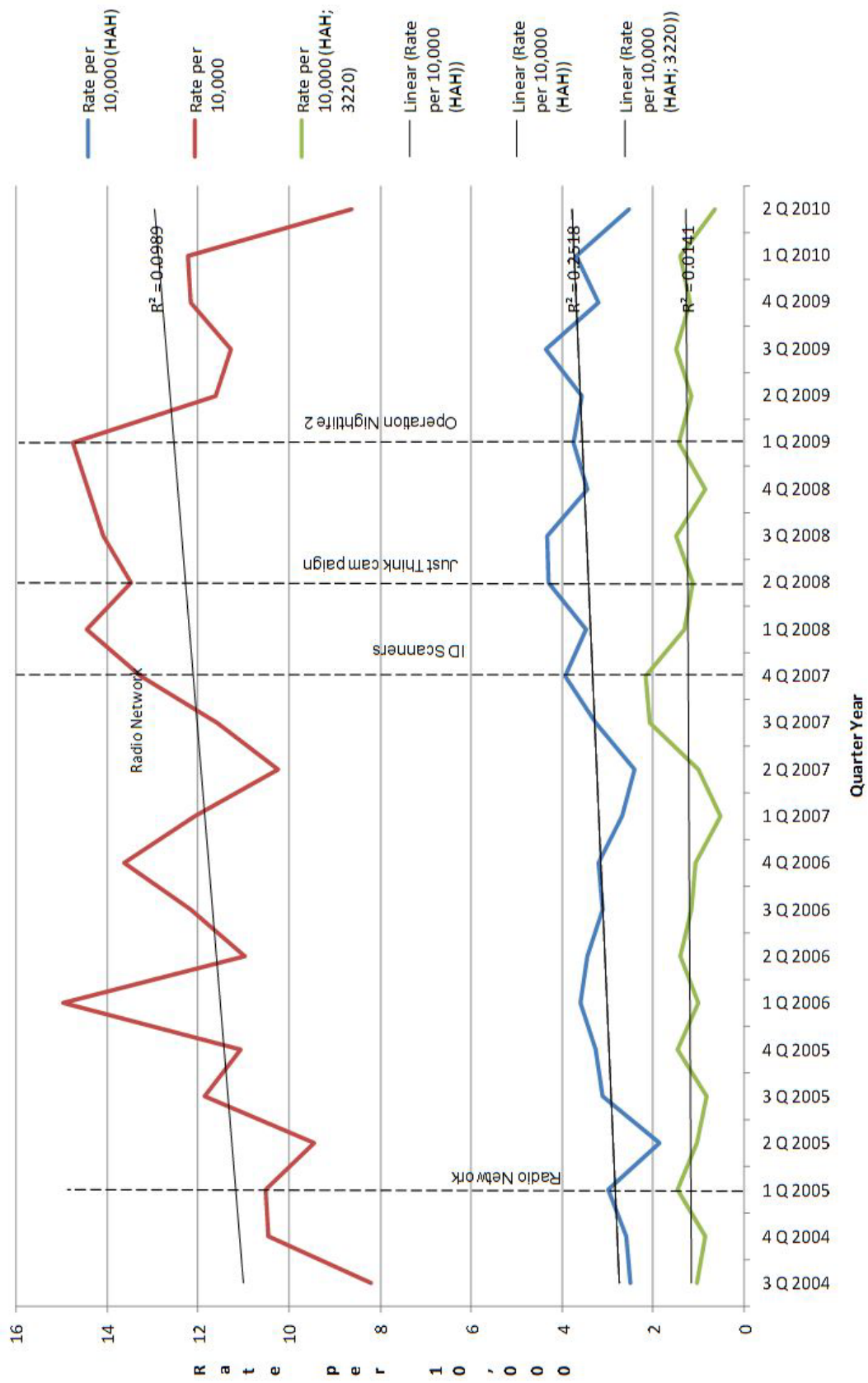
Figure 22 Assault by month: HAH, 3220 postcode

Figure 23 presents 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. The three trend lines show that 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 communication with Victoria Police reveals this trend was not maintained for Geelong during the 2010–11, although data was not available to the research team. Assaults across Victoria increased by 5.3 percent from 35,100 to 36,962 recorded offences. Within the Geelong LGA, assault offences increased 5.5 percent from 1,122 to 1,184 offences (Victoria Police 2011). However, even with this increase, the Geelong LGA overall assault rate of 538.0 per 10,000 is substantially lower than the Victorian average of 661.7 per 10,000 (Victoria Police 2011).

Figure 23 shows that the interventions implemented in Geelong had no obvious impact on assault rates overall or during HAH, or within the 3220 postcode.

Figure 23 Assaults trend over time by quarter: Geelong LGA, all hours and HAH, and HAH in 3220 postcode



Time series analysis

ARIMA analyses were conducted on data for HAH attendances to determine pre- to post-intervention differences in the data. The data was aggregated by month and consisted of 72 observations. Autocorrelations and partial autocorrelations for injury frequency revealed no significant issues with seasonality. Durban-Watson d-statistic=0.401, below the lower band critical value of 1.573. However, due to the data's seasonal component (lower rates of injury during high alcohol hours during winter) the data was seasonally smoothed using the Holt-Winters seasonal smoothing command.

Table 8 Model statistics

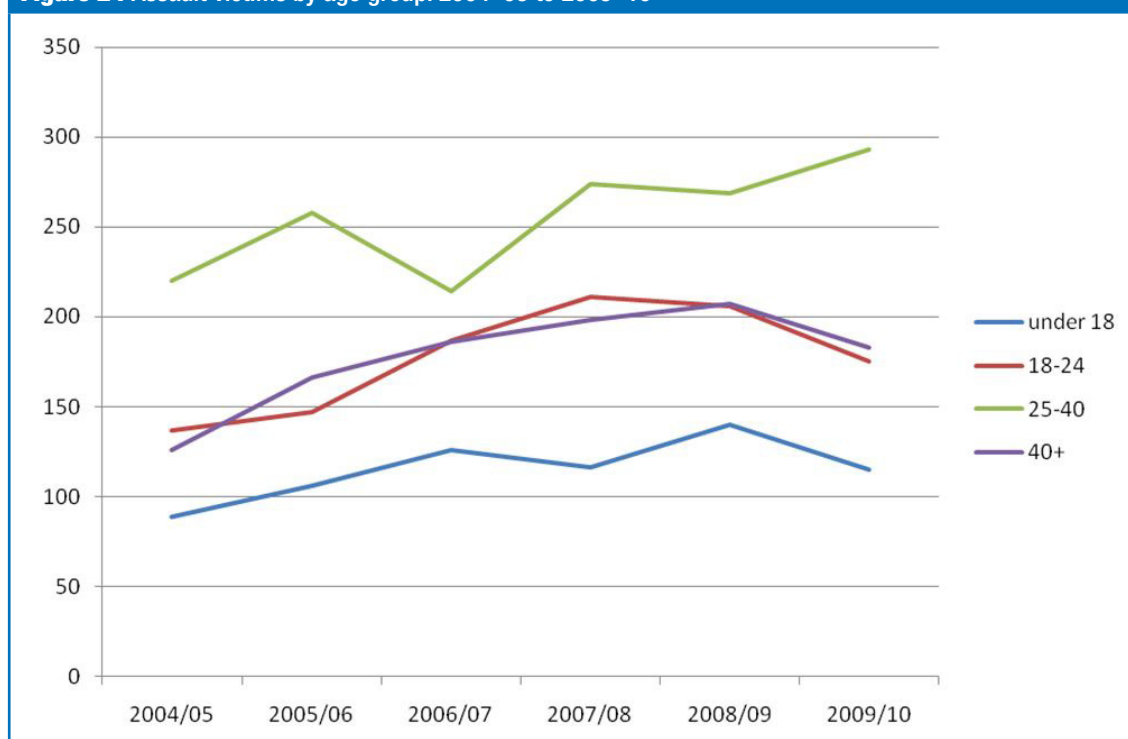
Model	Number of predictors	Model fit statistics		Ljung-Box Q(18)			Number of outliers
		Stationary R-squared	R-squared	Statistics	DF	Significant	
N-model_1	0	0.773	0.224	22.451	16	0.129	0

The final model was specified as ARIMA (0, 0, 0). No outliers were detected. The model did not fit the data well and none of the interventions were significant predictors of ED presentations. Therefore, the statistical models show that none of the interventions had any significant effect on the number of assaults occurring in the 3220 postcode during high alcohol hours.

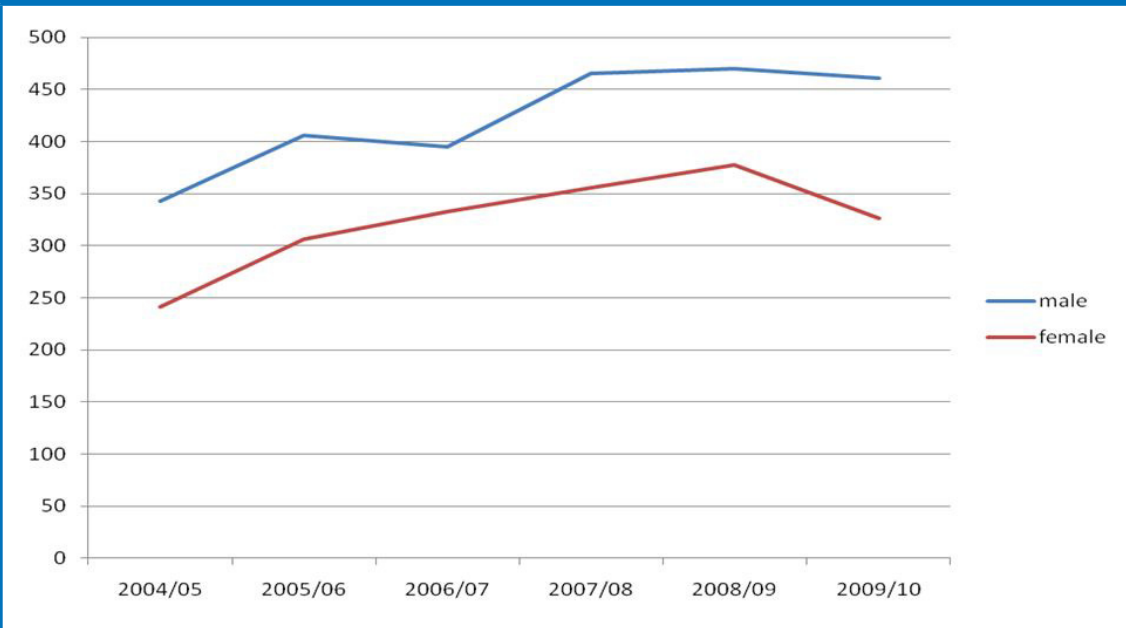
Victims

As shown in Figure 24, victims of assault were overwhelmingly in the 18–24 (24.4%) and 25–40 (35.1%) age groups. While numbers for all other age groups show a decline in the number of people being assaulted, 18–24 year olds show a continuing upward trend. These rates are similar to the Victorian average for the 25–39 age group (35%) but lower for the 18–24 group (34%) (Victoria Police 2011).

Figure 24 Assault victims by age group: 2004–05 to 2009–10

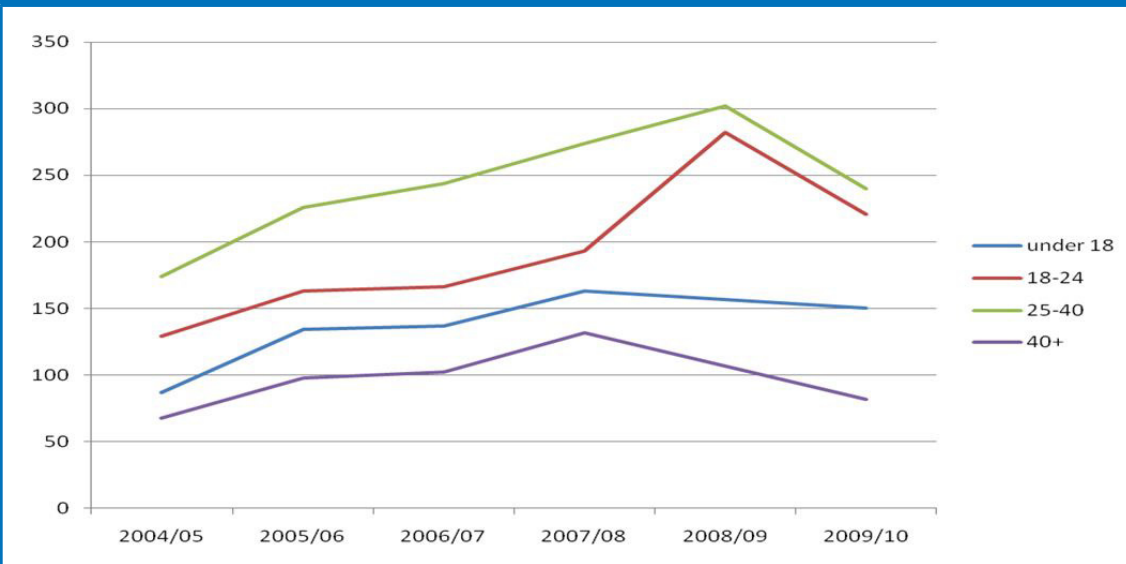


Consistent with most other research, Figure 25 shows that males are more likely to be assaulted than females (57% and 43%, respectively) although the difference is not substantial. The available data suggests that assaults on females declined from 2008–09 to 2009–10. This tends to differ from previous Victoria-wide data which reports that 34 percent of assault victims were female, in contrast to Geelong's 43 percent (Victoria Police 2011).

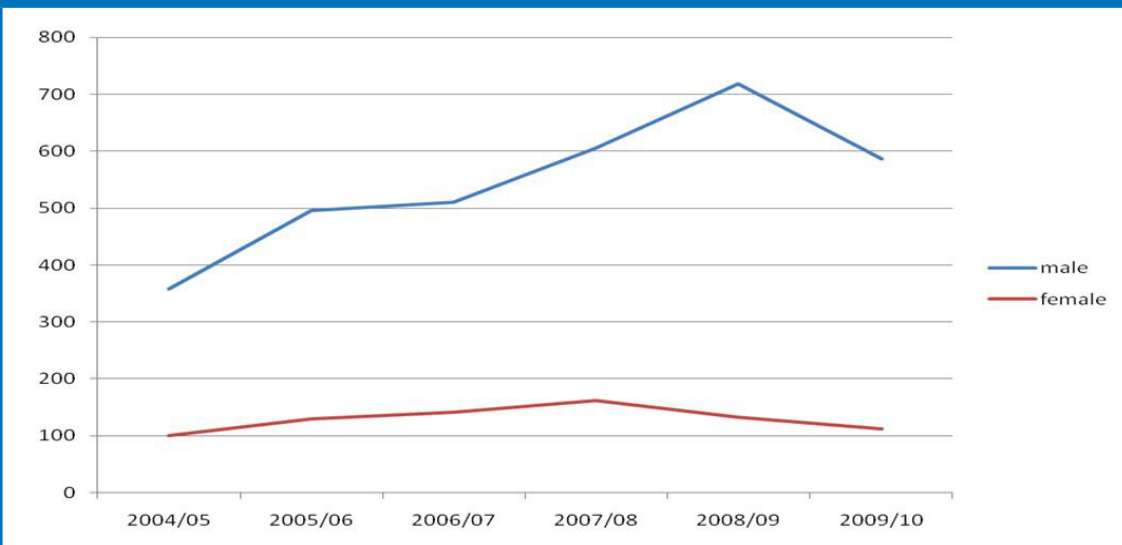
Figure 25 Assault victims by age: 2004–05 to 2009–10

Offenders

As shown in Figure 26 victims of assault were overwhelmingly in the 18–24 (28.6%) and 25–40 (36.2%) age groups. Numbers for all age groups show a decline in the number of people committing assaults, most notably in the 18–40 age groups. Geelong rates are lower for those between 18 and 24 (39%) but higher than the Victorian average for the 25–39 group (30%) (Victoria Police 2011).

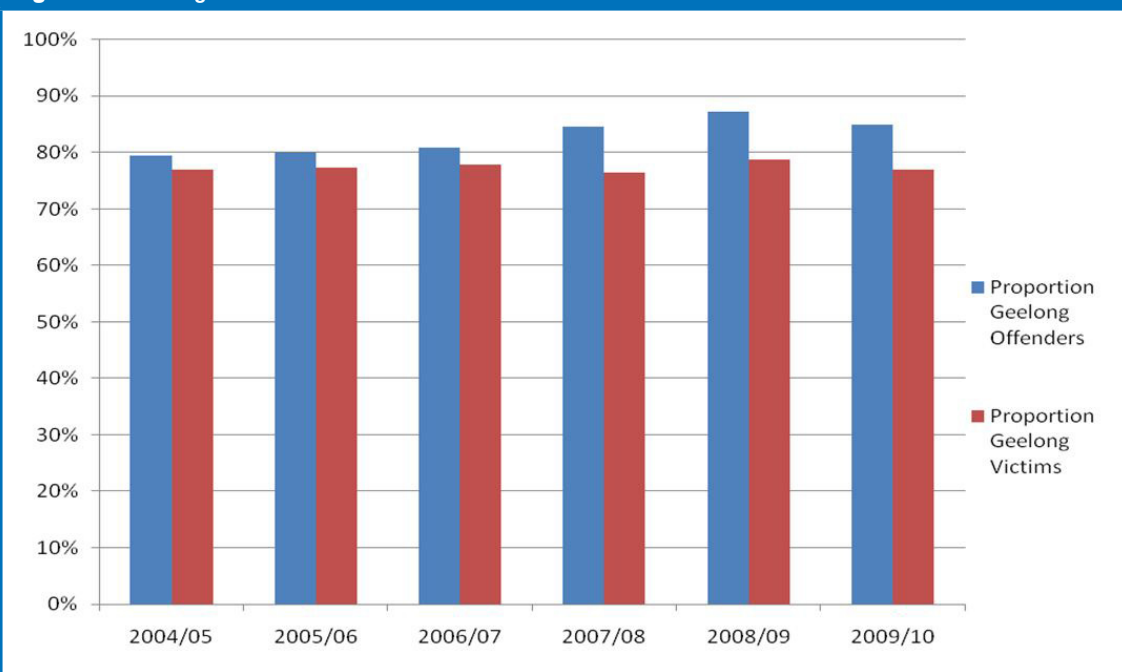
Figure 26 Geelong assault offenders by age group: 2004–05 to 2009–10

Consistent with most other research, Figure 27 shows that males are far more likely to commit assault than females (80.8% and 19.2%, respectively). The available data suggests that there was a decline in male and female assault offenders from 2008–09 to 2009–10. This tends to differ from Victoria-wide data which reports that 13 percent of assault offenders were female, in contrast to Geelong's 19.2 percent (Victoria Police 2011).

Figure 27 Geelong assault offenders by gender: 2004–05 to 2009–10

Offender and victim place of residence

Assault victims and offenders predominantly came from the Geelong LGA, with 22 percent of assault victims and 18 percent of offenders coming from other regions. A proportion of these has remained relatively stable for victims over the past five years (see Figure 28). The proportion of offenders living in the Geelong LGA has shown a slight upward trend in the past five years.

Figure 28 Geelong offender and victim LGA of residence: 2004–05 to 2009–10

Conclusion

Within the Geelong postcode (which includes the nightclub district) the highest frequency of assaults during high alcohol hours occurred between midnight and 1 am on Sunday mornings. Seasonal trends were apparent, noting a peak during the traditional summer holiday month of January. None of the implemented interventions in Geelong have resulted in any sustained decrease in assault rates during high alcohol hours. The 'Just Think' social marketing campaign was linked with increasing rates of assaults associated with

alcohol use, although causal attributions cannot be made in this context. Therefore, it certainly seems clear that the interventions investigated have not been able to significantly curb assaults during high alcohol hours.

The reasons behind this lack of effectiveness are open to speculation. The most likely explanation is that none of the interventions addresses alcohol consumption across the community. Interventions that address total alcohol consumption have consistently been found to be the most—if not the only—effective strategies for reducing alcohol-related violence (Babor et al. 2010; Chikritzhs et al. 2005). Alternatively, it is possible that in the context of increased surveillance through technologies such as ID scanners, CCTV and linked radios, people who attend licensed venues and display violent behaviour have shifted to fighting away from any surveillance. Similarly, the system of banning people from central nightclubs may mean such people have been displaced to venues outside the main entertainment area. Another possibility is that the overt and extensive surveillance by security personnel, ID scanners and CCTV at licensed venues may instil in patrons irrational expectations of crime or violence. This could raise anxiety levels and in turn foster a potentially overzealous interpretation of innocent interpersonal exchanges as being threatening. This could prompt some form of counter-aggression or defensive action, ultimately ending in violence and injury.

Similarly, the highly publicised examples of alcohol-related violence frequently used for the Just Think campaign might be increasing the anxiety and apprehension levels of people involved in the night-time economy. For example, rather than offering practical solutions to avoid or diffuse potentially dangerous situations, the Just Think campaign appears to function by inciting fear through sensationalising worst-case scenarios. This could conceivably be making patrons readier for violence, misinterpreting non-violent cues as aggressive because of their expectation that they are in an environment where alcohol has caused people to be more violent (Borders et al. 2007; Leonard et al. 2003; Quigley & Leonard 2006). This could also lead to stronger, more violent responses to mild aggression (as is common in crowded alcohol-filled environments) because of fear of retribution.

In summary, in line with the current literature, the investigated community-based interventions appear to have little overall effect on assaults during high alcohol hours. Of note is the increase, rather than decrease, in assault rates after implementing the alcohol industry funded 'Just Think' social marketing campaign. The ad-hoc nature of implementing these measures, along with the overwhelming message in Australia regarding alcohol as being one of consumption until intoxication (Room 1988) suggests these trends will continue without measures to reduce whole-of-community alcohol consumption.

3.1.2.1.2. Property Damage

Between 1 July 2004 and 30 June 2010, Victoria Police recorded 14,347 property damage offences in the Geelong LGA.

All property damage

The frequency of property damage offences was determined for postcode (Figure 29) location of incident (Figure 30) time of day/day of week (Figure 31) and month (Figure 32).

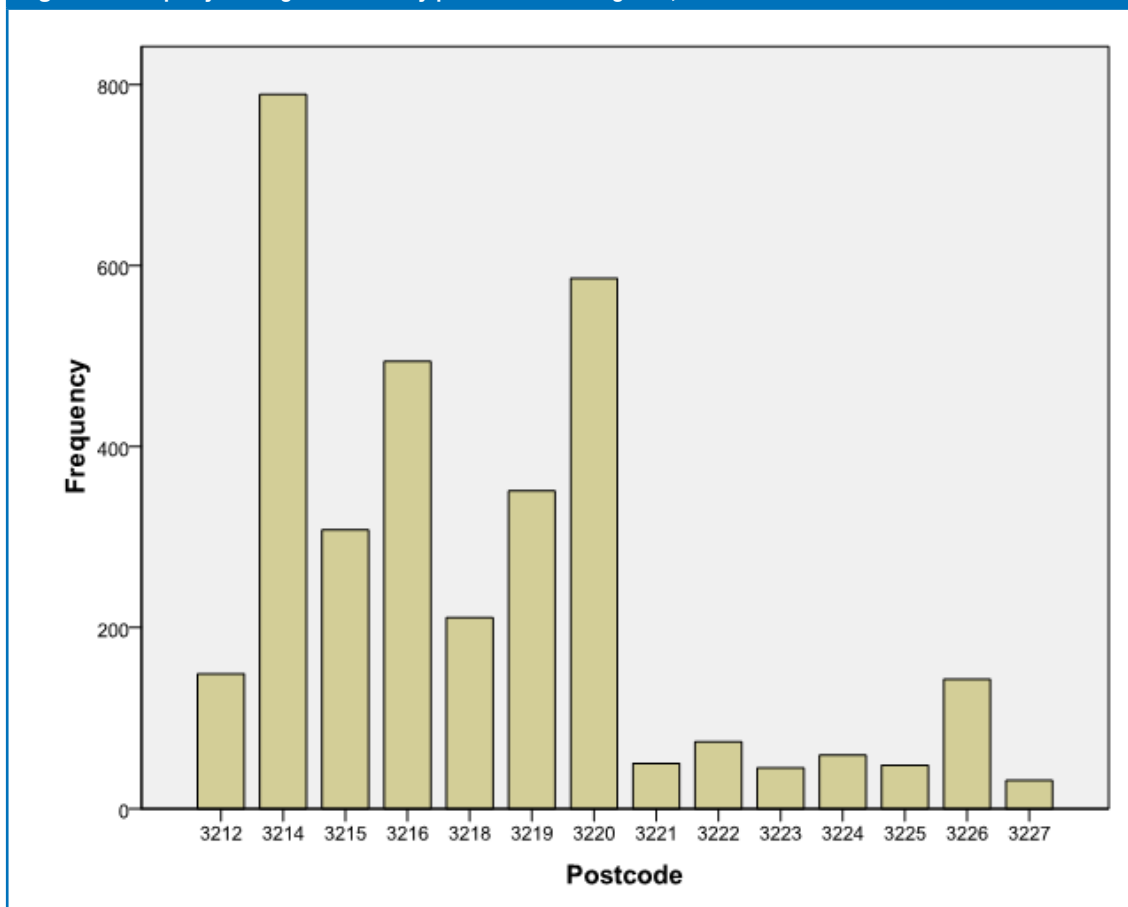
Figure 29 Property damage offences by postcode: Geelong LGA, all hours

Figure 29 shows that the 3214 postcode experiences the most property damage offences for the Geelong LGA (23.6% of cases) followed by the central Geelong area (3220; 17.6%) and the Belmont/Grovedale area (3216; 14.8%).

Figure 30 Property damage offences by location of incident: Geelong LGA, all hours

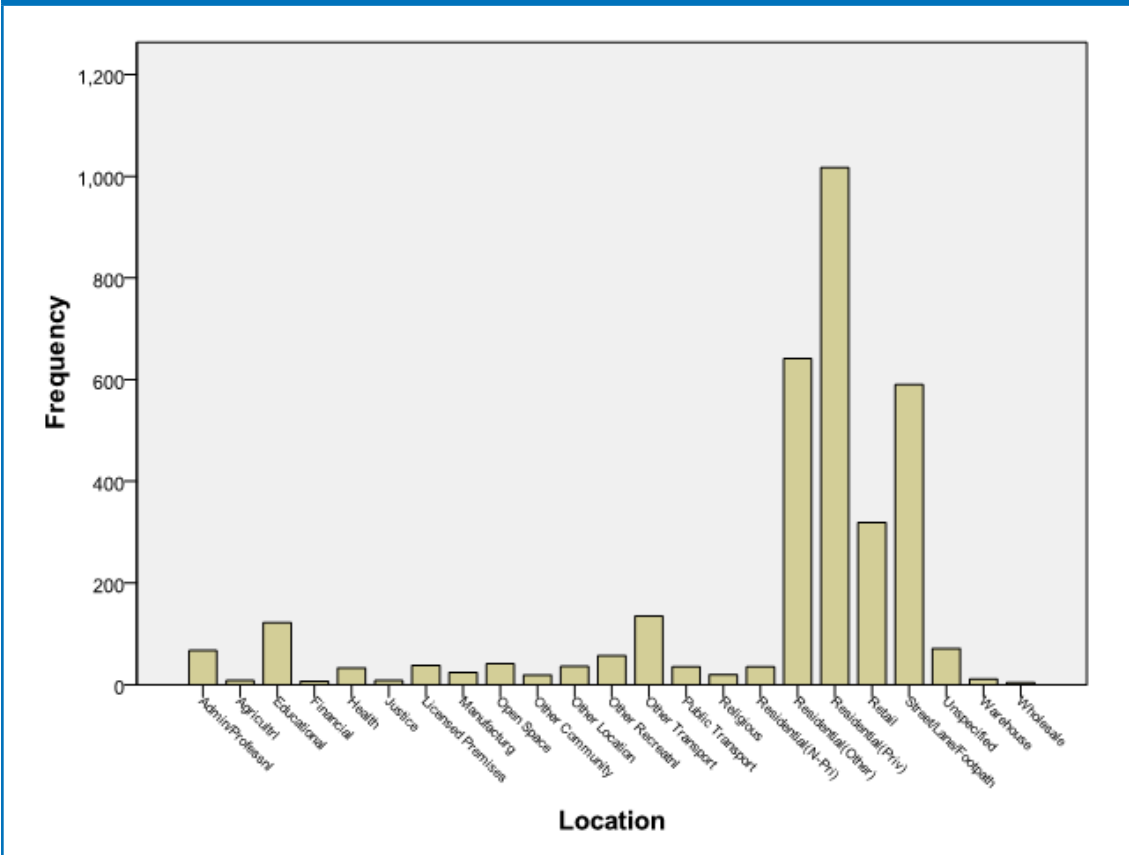


Figure 30 reports that most property damage offences occur in residences (30.5% and 19.2%) and on the street (17.7%). Licensed premises accounted for 1.1 percent of property damage offences across the Geelong LGA.

Figure 31 Property damage offences by time of day/day of week: Geelong LGA, weekend

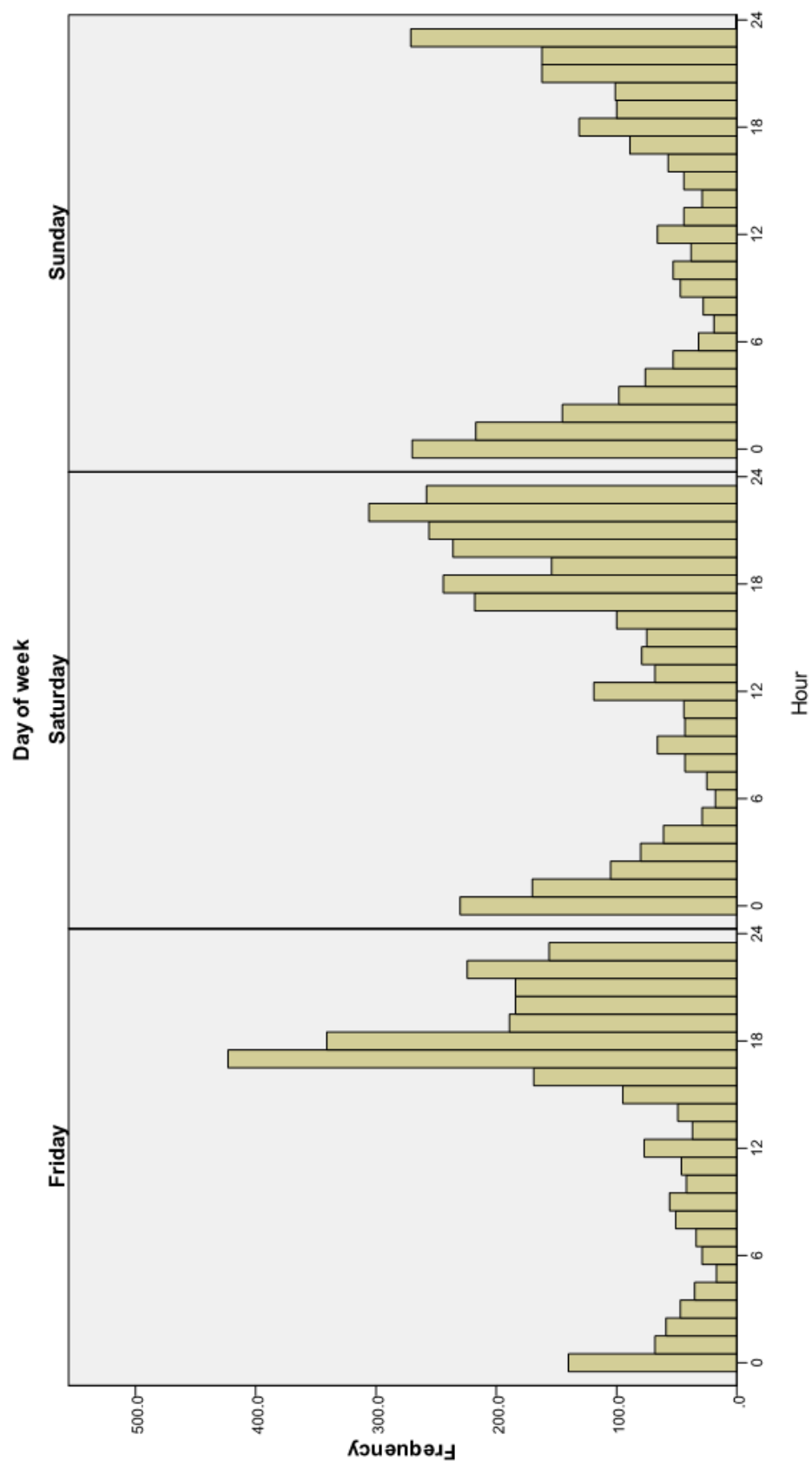


Figure 31 highlights that the peak of property damage offences occurs on Friday evenings, followed by Saturday evenings, outside normally accepted high alcohol hours. Figure 32 suggests no strong annual trend for property damage offences.

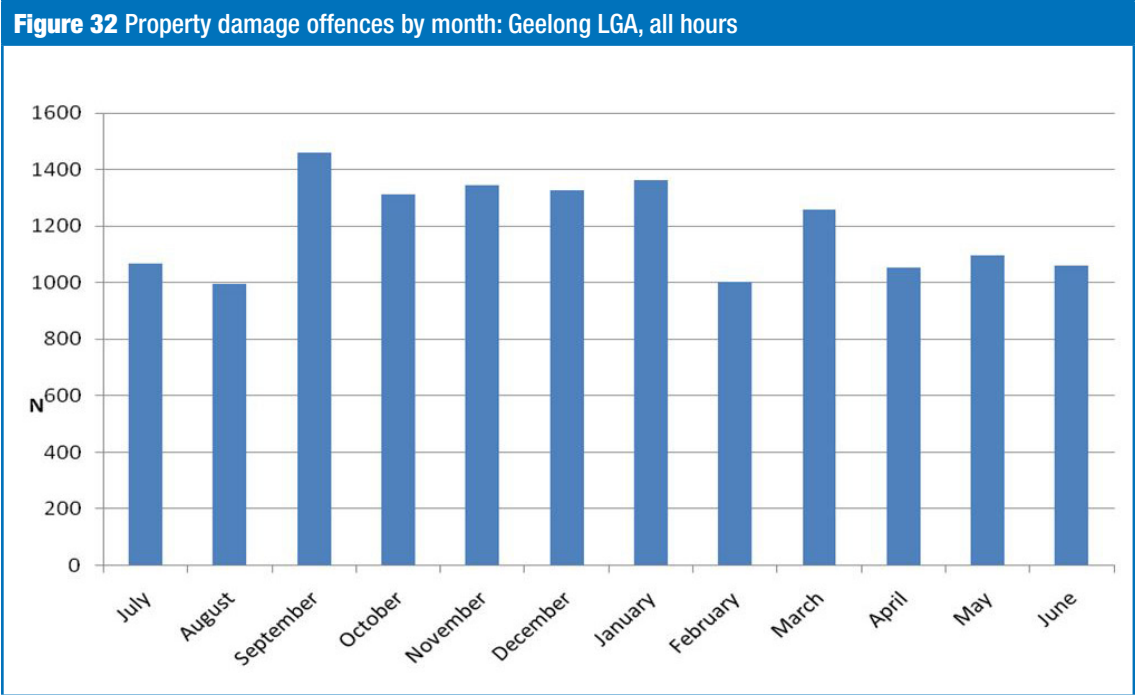
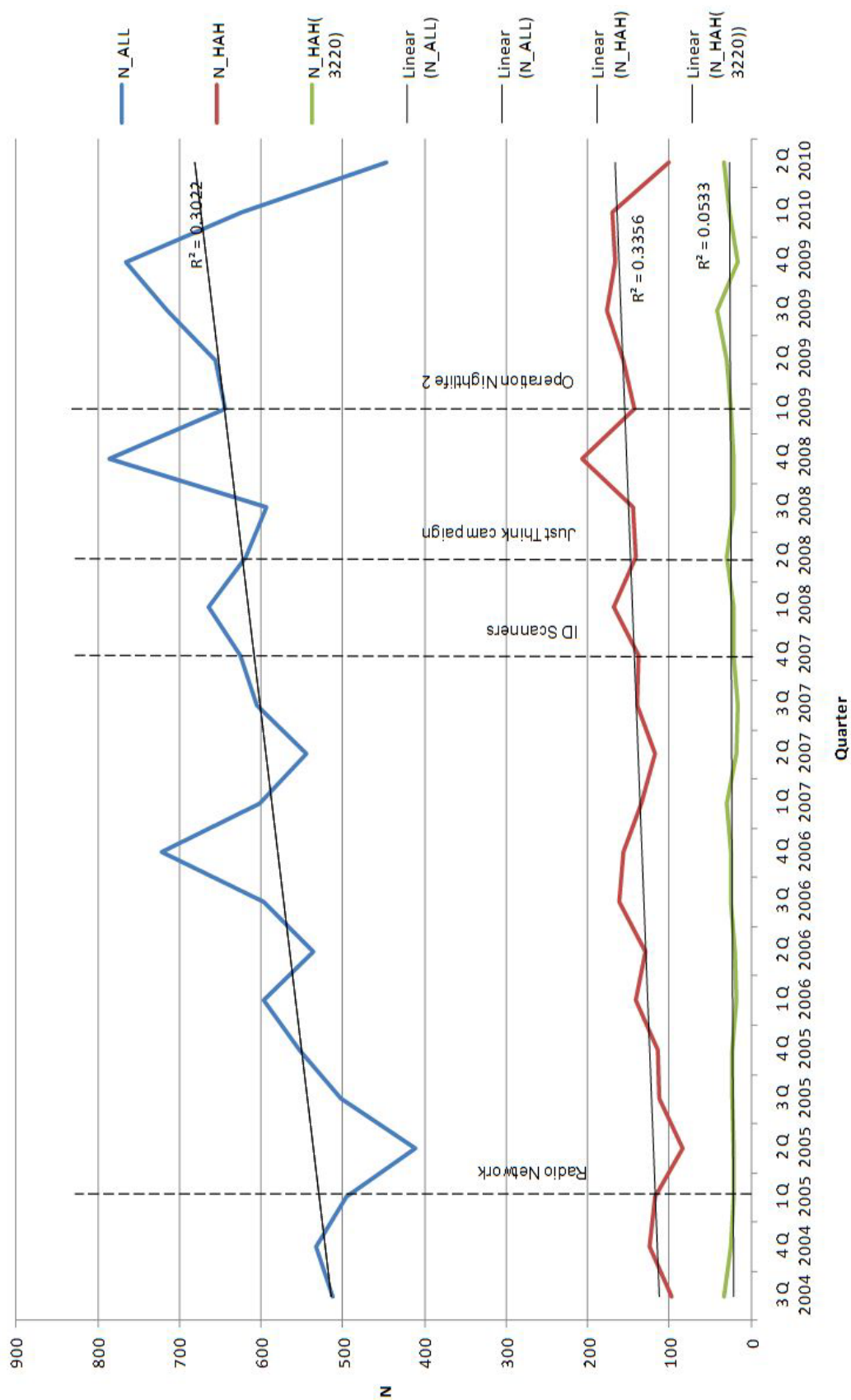


Figure 33 Property damage offences trend over time by quarter: Geelong LGA, all hours and HAH, and HAH (in 3220 postcode)



High Alcohol Times

During high alcohol hours 3,338 property damage offences were recorded between 1 July 2004 and 30 June 2010. Trends across the Geelong LGA were similar to those occurring during all hours with most offences taking place in the 3214 postcode and peaking during Friday afternoon.

Within the 3220 postcode, 586 property damage offences were recorded during HAH. Most offences occurred in the street (29.9%) followed by retail outlets (18.9%). Licensed premises accounted for 3.4% of all property damage offences in the 3220 postcode during HAH, although these were likely to be massively under-reported compared to other premises as most property damage offences in licensed venues go unreported. As with all other times and locations, the peak times were Friday afternoon, followed by Saturday evening.

Trends over time

Figure 33 presents property damage offences 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. This data suggests no trends over time in relation to property offences in the Geelong postcode during HAH. Overall, the data shows that although some property offences occur during HAH, most occur outside this time. Correspondingly, there was no observable effect of any of the interventions under investigation on rates of property offences in the Geelong LGA or 3220 postcode, particularly during HAH.

Victims

Victims of property damage were equally likely to be male or female. However, age plays a major role in victimisation of property damage offences, with victimisation increasing with age.

Offenders

In contrast to victims of property offences, offenders are much more likely to be young males. This is increasing markedly. Eighty-six percent of offences are perpetrated by males; a figure which has increased substantially in past years (see Figure 34). Figure 35 shows that those in the under-18 age group are most likely to be offenders. This proportion increased markedly in 2009–10.

Figure 34 Geelong property damage offenders by gender: 2004–05 to 2009–10

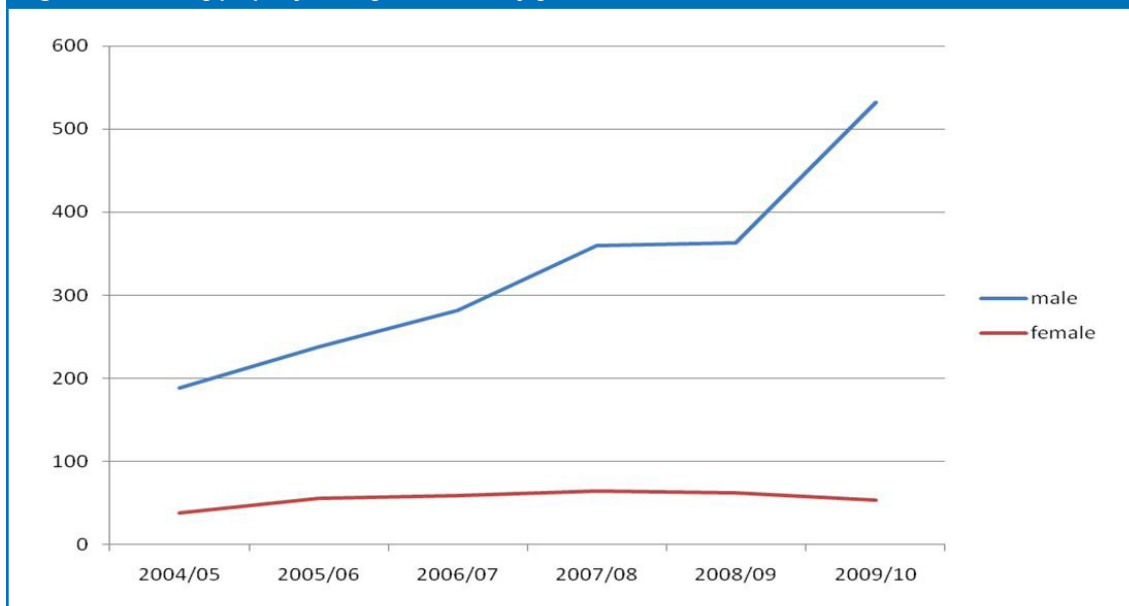
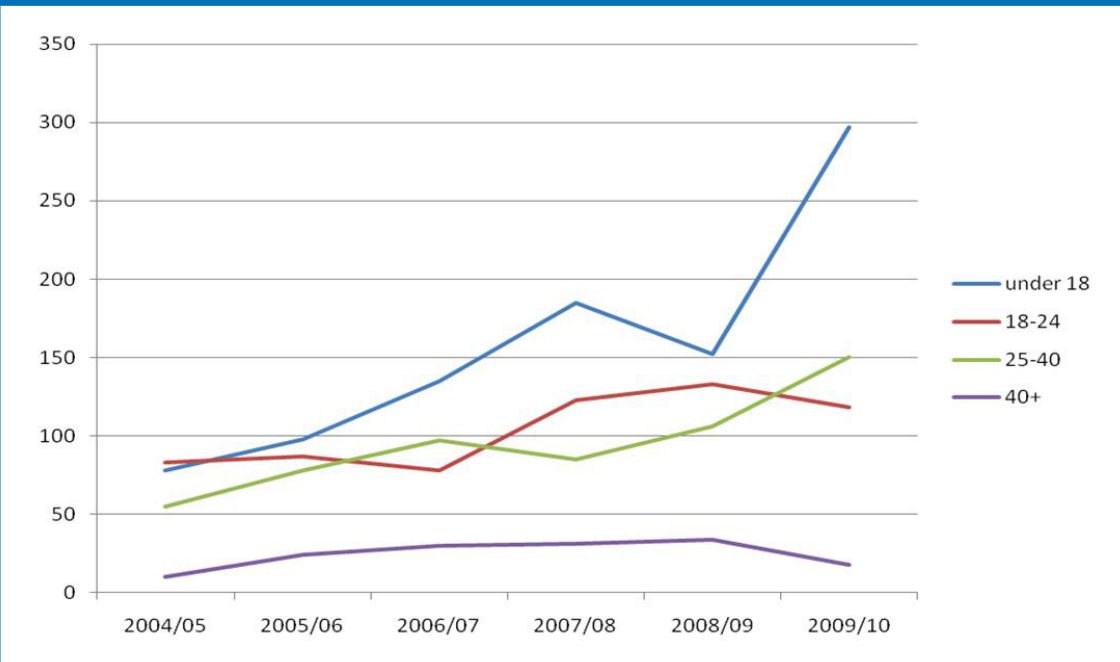


Figure 35 Geelong property damage offenders by age group: 2004–05 to 2009–10

Therefore, most property damage offenders and victims show different characteristics to those who are normally associated with alcohol-related offences. The increases noted in the Geelong LGA contrast with a downward trend of 5.4 percent seen across Victoria between 2008–09 and 2009–10 (Victoria Police 2011).

Discussion

Overall, high alcohol hours do not appear to be strongly related to property damage in Geelong, and while property damage offences increased up until mid-2007, they have increased markedly recently. Although some offences occur within central Geelong, it is clear that most come from suburbs such as Corio, Norlane/ North Shore and Whittington—all of which score high on socio-economic disadvantage. It is therefore logical to assume that interventions focused on licensed venues and alcohol, would have little effect on the property damage rate in Geelong, an assumption that is supported by the analyses.

These findings for the Geelong region reflect the statewide trends of relatively stable rates of property offences over time. They also suggest that while property damage offences occurring in high alcohol times only account for around 20 percent of all property damage offences, this aspect of alcohol-related harm to the community remains a significant burden.

3.1.2.1.3. Drink-driving offences

As previously mentioned, information on drink-driving offences was drawn from both Victoria Police and Geelong Hospital ED data. Victoria Police data relates to: 1) driving under the influence (DUI) offences; and 2) random breath tests (RBT) results.

DUI Data

DUI rates by time of day and day of week

The majority of DUI incidents occurred between Thursdays and Sundays (78.4%, $n = 7,384$) with most cases on any one day being recorded on Saturdays (25.8%, $n = 2,429$). Most of these offences were registered between 7 pm and 5 am (77.5%, $n = 7,300$) with 5,809 (61.7%) cases occurring between timeframe Thursday and Sunday, and 1,940 (20.6%) incidents occurring on Saturdays .

DUI rates by year

Figure 36 on following pages shows the frequency of DUI rates between January 1999 and July 2009 with reference lines for each of the interventions implemented within this timeframe. A regression line (Figure 36) indicates a slight upward trend in the frequency of DUI-cases over time with a positive correlation of $R^2 = 0.22$. DUI rates appear to have increased up until January 2002 after which the frequencies level off. In Figure 37 and Figure 38) the interventions do not appear to precipitate dramatic or lasting declines in DUI rates, although brief down-turns do follow some of the campaigns (eg Enforcement 1 and 2).

Regression Analysis

Linear regression analyses of the data were conducted to ascertain the practical influence of the implemented interventions (IVs) on DUI rates (DV). The IVs were represented by dummy variables coded 0 = pre-intervention, and 1 = post-intervention. The analysis was performed using SPSS Regression, with SPSS Frequencies being used to evaluate assumptions.

To obtain enough cases for the regression analysis, the time series was aggregated by month, and consisted of 127 data points between 1 August 2001 and 31 July 2009. Examining Z-scores and box-plots revealed single outliers in the BAC 1, BAC 2 and high-risk hours categories. These were recoded to the second-most extreme value. Six outliers were detected in the BAC 3 category, but given the low monthly frequency of DUIs with BACs between 0.20 and 0.30 ($n = 127$, $m = 1.51$). These were not altered.

Assumptions of linearity and homoscedasticity of residuals were met. As DUI-frequencies for BAC 2, BAC 3 and Recidivist were negatively skewed, logarithmic transformations of BAC 2 and Recidivist categories were successfully used to normalise its distribution. However, BAC 3 was not able to be normalised, and these results should be interpreted with caution.

The regression analyses generated significant results for all of the data categories with the exception of BAC 3 (see Table 9). As indicated in Table 10, in the data aggregates for all DUI, BAC 1, and high-risk hours, three of the individual interventions (Education 1, Enforcement 1, Enforcement 2) all indicated significant pre- to post-intervention differences. Of these interventions, however, Education 1 was the only one that was associated with a decline in DUI rates over time. Different results were observed for BAC 2 where the interventions Edu/Emotive, Education 1, Enforcement 2 and Operation Nightlife 1 produced significant pre- to post-intervention differences. Here, only Operation Nightlife 1 and Education 1 were associated with drops in DUI rates. Lastly, Enforcement 2, Education 1, Enforcement 3 and Emotive produced significant results in the Recidivist category. Of these, Education 1, Enforcement 3, and Emotive were associated with a drop in DUI-frequency.

Table 9 Regression results by data-category

	R^2	Adjusted R^2	F
All DUI	0.62	0.57	14.04*
BAC 1	0.62	0.58	14.44*
BAC 2	0.40	0.33	5.78*
BAC 3	0.08	-0.03	0.76
High-risk hours	0.59	0.55	13.93*
Recidivist	0.68	0.64	18.42*

Note. * $p < 0.001$; all df = 13, 126.

Table 10 Beta-coefficients and t-scores by data-categories and interventions

Intervention (IV)	All DUI			BAC 1			BAC 2			BAC 3			High-risk hours			Recidivist		
	β	t		β	t	B	β	t	B	β	t		β	t		β	t	
1. Emotive	0.18	0.93		0.31	1.60	-0.16	0.06	-0.81		0.30	0.30		0.30	1.52		-0.25	-2.04*	
2. Enforcement 3	-0.16	-0.62		-0.42	-1.61	0.32	0.00	1.22		0.00	0.00		-0.18	-0.70		-0.57	-3.60**	
3. Education 2	-0.11	-0.23		-0.19	-0.40	0.07	0.00	0.15		0.00	0.00		-0.11	-0.22		-0.31	-1.04	
4. Edu/Emotive	0.19	0.93		-0.16	-0.76	0.63	0.22	3.05**		0.95	0.95		0.12	0.56		0.07	0.54	
5. Education1	-0.93	-3.3**		-0.76	-2.63**	-0.58	-0.27	-2.00*		-0.83	-0.83		-0.77	-2.64**		-0.63	-3.50**	
6. Enforcement 1	0.67	2.67**		0.71	2.82**	0.25	0.09	0.96		0.30	0.30		0.66	2.60*		0.05	0.32	
7. Enforcement 2	0.36	3.72***		0.32	3.30**	0.25	0.15	2.52*		1.40	1.40		0.30	3.07**		0.22	3.51**	
8. Just Think	0.18	0.54		0.04	0.10	0.35	0.41	1.00		1.05	1.05		0.00	0.00		0.34	1.61	
9. Op Nightlife 1	-0.23	-0.71		0.20	0.60	-0.76	-0.12	-2.30*		-0.33	-0.33		-0.10	-0.31		-0.19	-0.92	
10. Op Nightlife 2	-0.14	-1.40		-0.12	-1.24	-0.13	0.01	-1.30		0.04	0.04		-0.13	-1.31		-0.04	-0.66	
11. Op Razon	-0.24	-0.66		-0.16	-0.43	-0.20	-0.40	-0.53		-0.92	-0.92		-0.17	-0.45		-0.02	-0.09	
12. ID scanners	0.10	0.43		0.25	1.10	-0.27	-0.11	-1.20		-0.43	-0.43		-0.11	-0.49		0.13	0.90	

Note. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

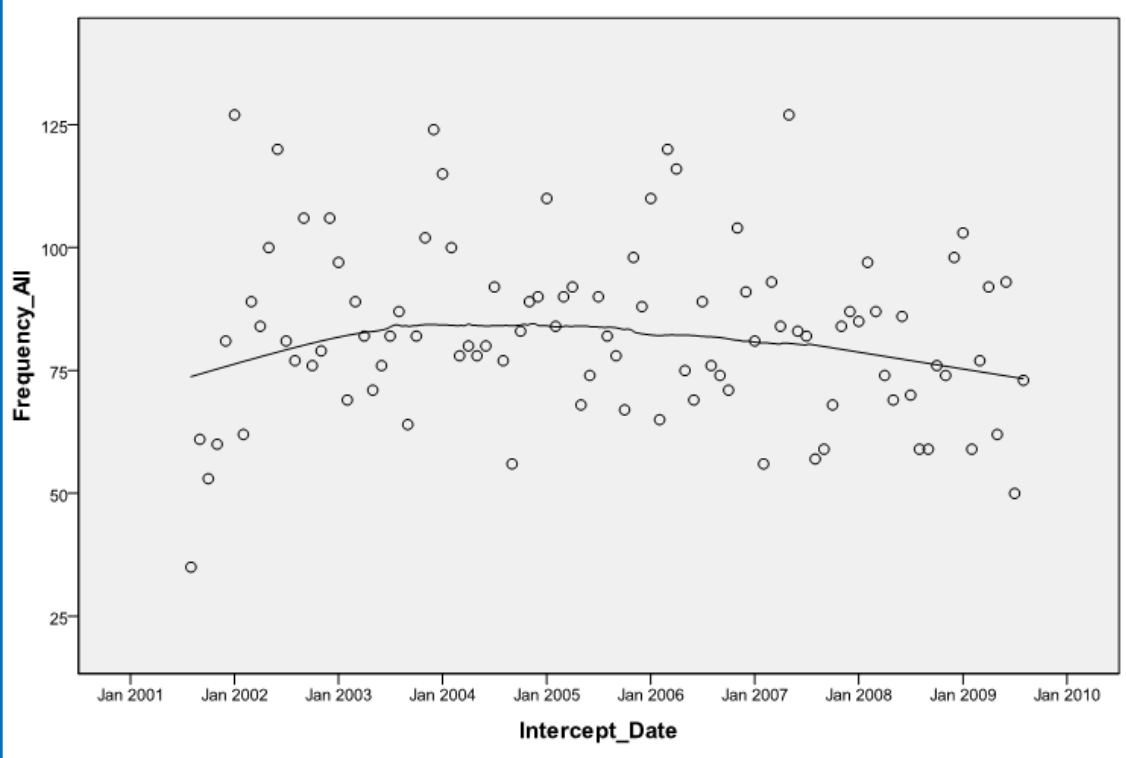
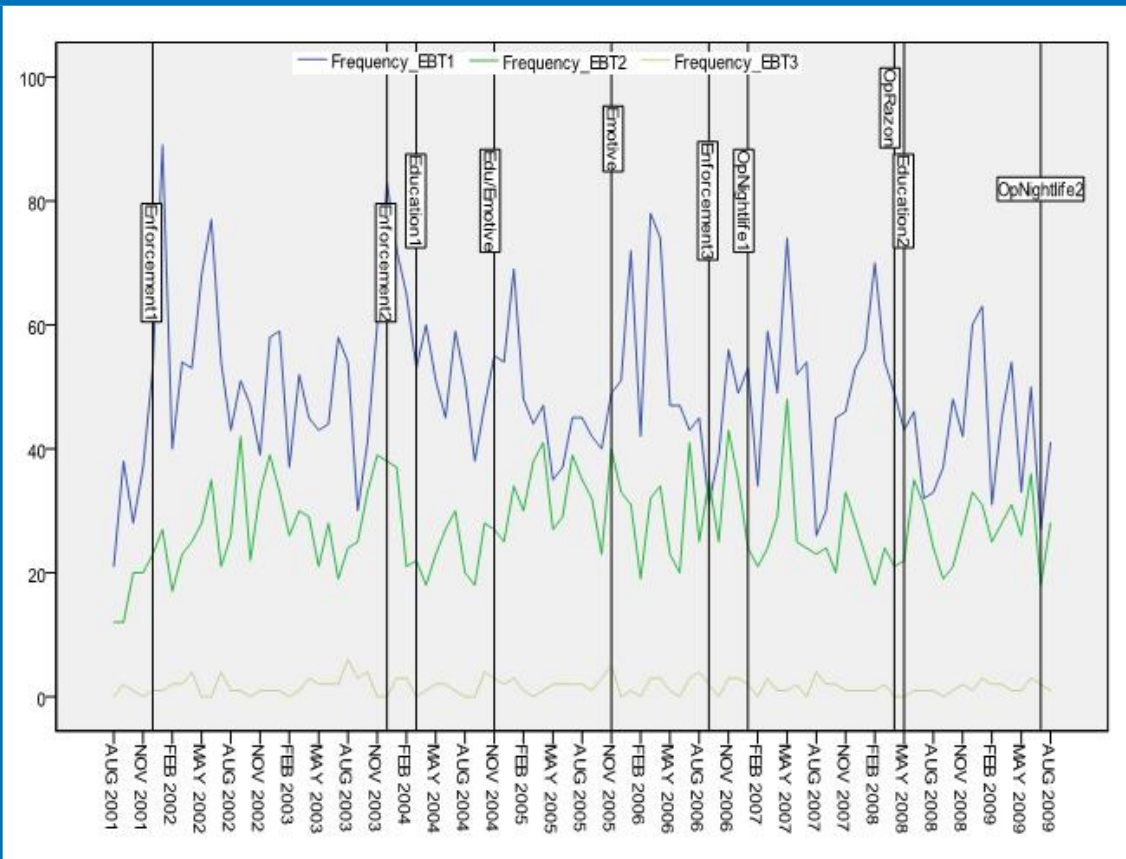
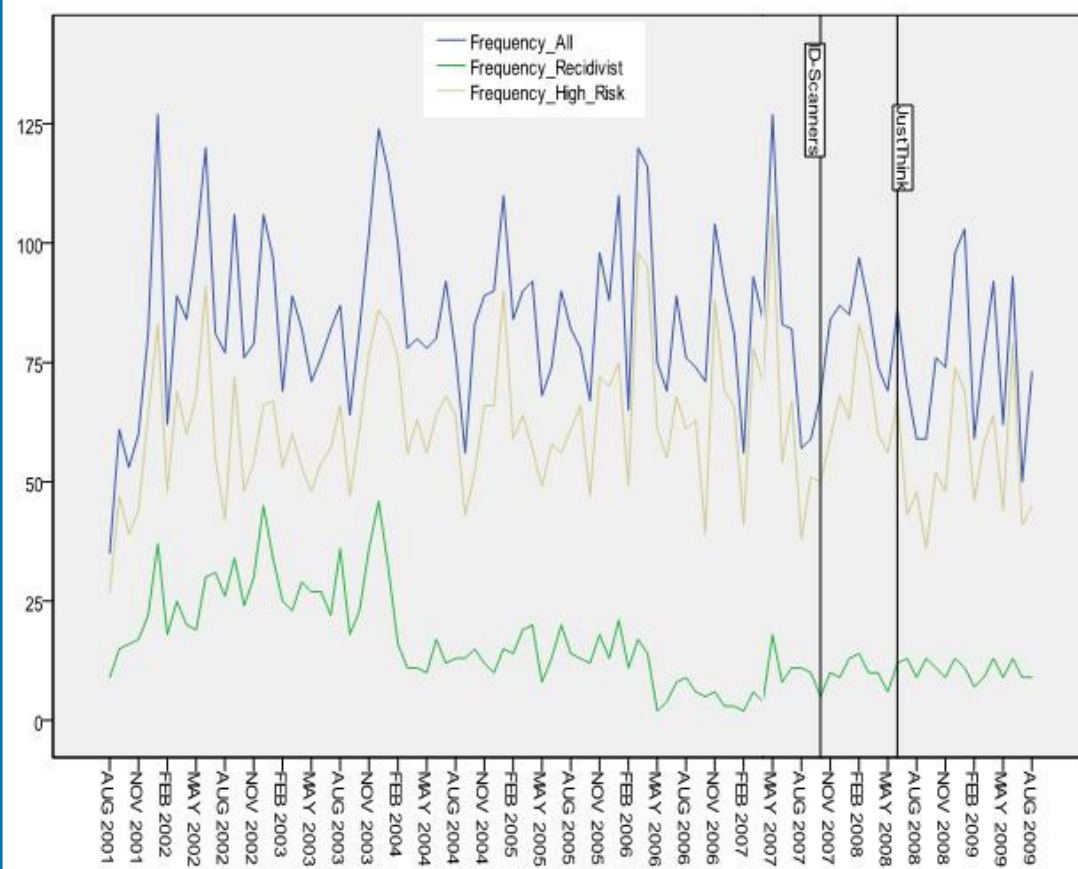
Figure 36 DUI-frequency by month with trend line**Figure 37** DUI-frequency categories by month and year with Transport Accident Commission (TAC)/police interventions

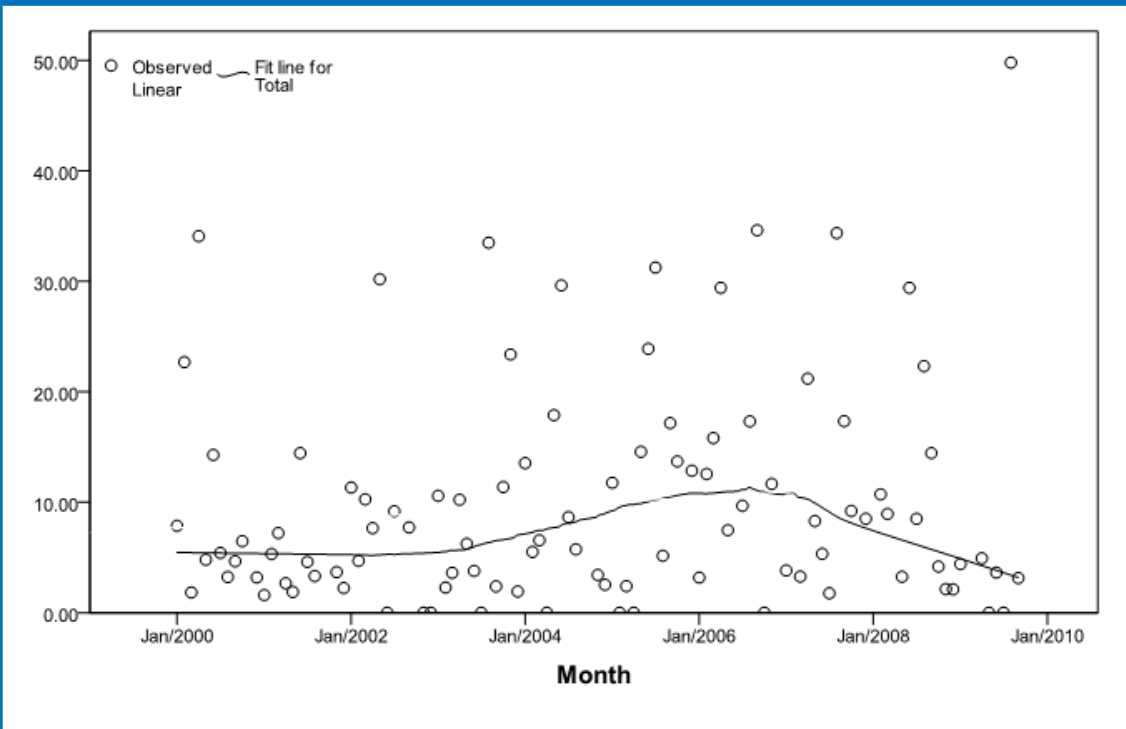
Figure 38 Geelong DUI-frequency categories by month and year with community intervention

Preliminary Breath Test results

In addition to evidentiary breath tests data reported above, some information is available from preliminary breath tests (PBTs). This information includes basic figures on the number of people tested, those indicated for further testing, the gender of people tested, the number of people who refused at each site, and the suburb in which the test was conducted.

The PBTs can be taken at testing stations ('booze buses') or as individual tests on drivers. A mean of 1.03 males and 0.3 females were identified for further testing per site. An average of 408 people was tested per site. Only eight people refused to be tested over the data collection period; all were male. On average, 3.61 per 1,000 people tested were identified for further testing (standard deviation=5.2; Range: 0–71.4).

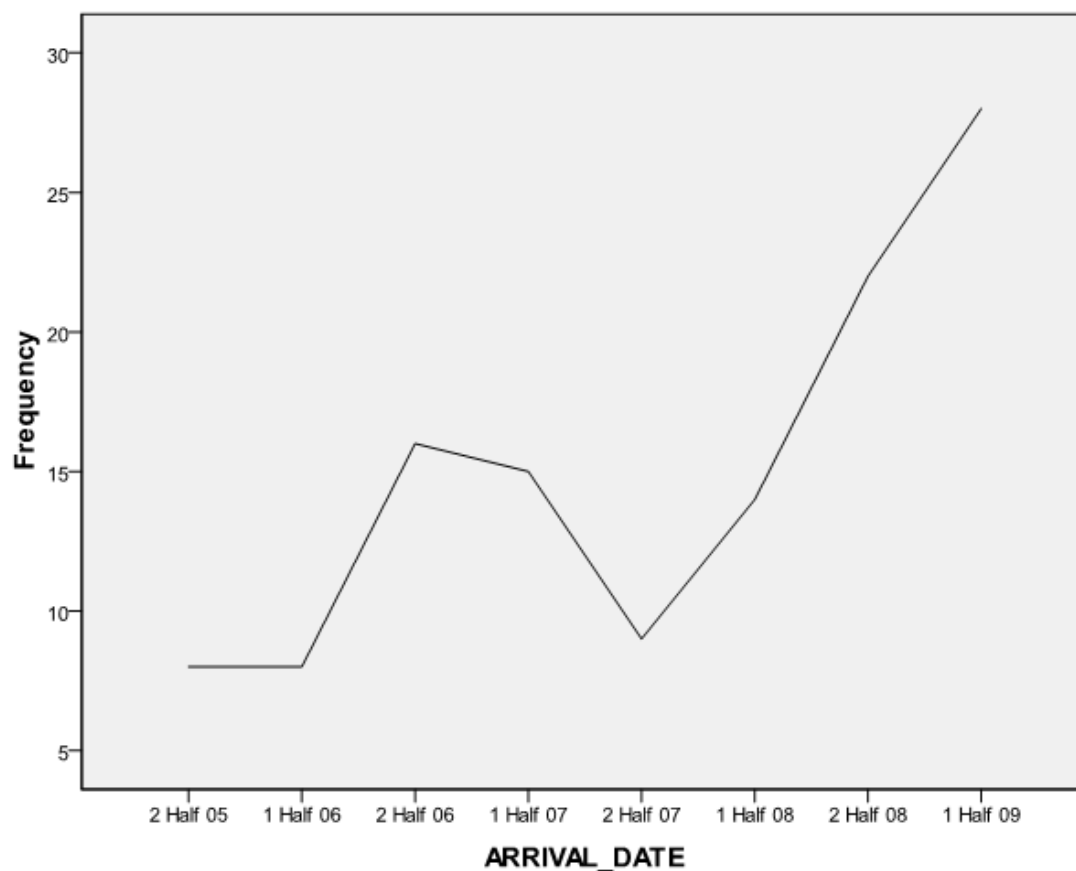
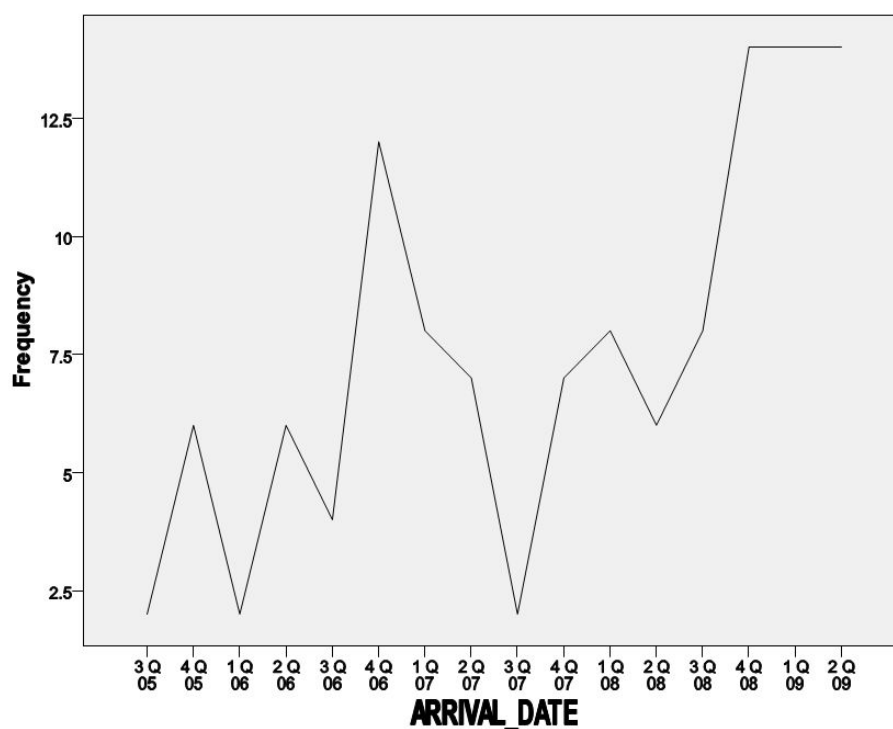
Figure 39 reports the number of 'positive' PBTs over time per 1,000 tests. Trend analyses suggests a non-significant increase over time ($R^2=0.017$, $F=1.727$, $p=0.192$) although a trend line shows a more recent decrease in the rate of positive tests per 1,000 people tested.

Figure 39 Geelong failed breath tests per 1,000 over time

Barwon Health Geelong Hospital Emergency Department data

As previously mentioned, 146 cases were identified where alcohol had been reported in traffic accident related attendances at the ED. Figure 40 reports the number of people attending alcohol-related traffic ED attendance frequency by half year. Figure 41 presents the same data for quarterly intervals.

Few meaningful analyses can be conducted because of the smaller numbers of ED attendances. As such, raw data is presented and demonstrates an apparent rise in the number of people attending the ED with traffic-related injuries and alcohol consumption. However, Figure 40 and Figure 41 show an increase over the previous five years in the number of people attending ED for traffic accidents and who also report alcohol consumption. Where some of the increase may be related to an annual population rise of 1.5 percent, overall ED attendances have increased at an average annual rate of 5.7 percent, with 47,382 attendances in the 2008–09 financial year. Further, increased awareness of alcohol as a cause of harm may contribute to noted increases, although ED staff are qualified health professionals who have been well aware of such associations for a long time.

Figure 40 Geelong alcohol-related traffic ED attendances frequency by half year**Figure 41** Geelong alcohol-related traffic ED attendances frequency by quarter year

Discussion

DUI rates in Geelong over the past decade appear to have decreased incrementally since January 2002 despite the many seasonal peaks and troughs. While data from the Geelong hospital emergency department appear to suggest an upward trend, the numbers are too small to be confident that trends are real. Nonetheless, and as mentioned previously, the practice of estimating DUI rates using police data is inherently difficult given the presented frequency rates indicate police activity in terms of manpower and targeting rather than actual DUI rates. That is, increases in DUI stops are likely to be an artefact of increases in the number of police on the streets as well as their strategic approach during DUI blitzes, which often occur concomitant with TAC drink-driving campaigns.

The findings reported above suggest that interventions that focus on licensed venues have no discernible effect on the level of drunk driving. At one level, this may be unsurprising, however, the strong links between licensed venues and drunk driving observed in the past suggests there may have been some effect. Certainly, interventions which have proven records in dealing with alcohol-related harm in licensed venues, such as increasing the price of alcohol (Wagenaar et al. 2009b) and reducing trading hours, have shown measurable and sustained effects on drunk driving. The other possible conclusion is that the community-level interventions being studied are not effective. This would also be unsurprising, as most interventions implemented at a community level fail to show significant effects, either in terms of drunkenness or violence (Graham 2008; Graham & Homel 2008a). Similarly, other research has consistently found a positive relationship between drunk driving and other crime (Brace et al. 2009).

Of the two community interventions (Just Think and ID scanners) included in the analysis, neither generated any significant effects on DUI-frequency rates across any of the categories. Like other awareness programs, Just Think has not been associated with any decreases in DUI rates, although the campaign is not focused on drunk driving as such. It is plausible that an intervention that improved self-awareness of patrons might reduce drink-driving levels, but these results demonstrate no discernible effect. Similarly, using ID scanners in licensed venues also showed no secondary benefits in terms of drunk driving. These findings mirror those found for alcohol-related injury and alcohol-related assault in Geelong (Miller et al. 2011, 2010a).

In contrast to the community initiatives, regression analyses show significant reductions for four of the interventions (namely the TAC's Emotive, Enforcement 3 and Education 1 media campaigns, and the Victoria Police intervention, Operation Nightlife 1). Further, Emotive and Enforcement 3 precipitated a statistically significant decrease in the recidivist drink drivers, whereas Education 1 was associated with decreases in all categories except those with the highest BAC levels (BAC 3). While Operation Nightlife 1 precipitated a decrease in BAC 2 alone, this association is likely to be spurious as one would expect effects at all levels if the intervention actually affected drink-driving behaviour in the community.

The Education 1 campaign used a media advertisement showing common drinking-contexts—barbecues, work drinks, friend's place—and emphasised the fact that low levels of alcohol could still affect driving performance and have serious consequences. This intervention is associated with drops in all of the categories with the exception of BAC 3, the most intoxicated drivers. The related decrease in cognitive function is likely to further inhibit any effect a media intervention may have on an individual.

In contrast to the Emotive and Enforcement 3 initiatives, which are relatively aggressive (ie 'the police will catch you' or 'someone will get hurt') the Education 1 campaign is broader. It relies on creating awareness and knowledge around the topic of drink-driving by displaying common settings in which alcohol is consumed before driving. In light of its generic approach, it is feasible that the Education 1 campaign could affect DUI rates in the given categories.

Conclusion

Of the twelve interventions examined for this report, four were associated with decreases in DUI rates. Emotive and Enforcement 3 were related to significant decreases in the recidivist category only, while Education 1 caused a drop in DUI rates across all categories with the exceptions BAC 3. Operation Nightlife 1 was associated with a drop in the BAC 2 category alone. While these results may be intuitively reasonable given the content and strategies of the respective interventions, data limitations are noted.

3.1.2.2. Newcastle

This section presents data for non-domestic assault and street offence. Both cover all hours followed by the high alcohol hours for a defined area covering the Newcastle inner-city and Hamilton entertainment precincts. Data are also reported by suburb and the location of the incident.

3.1.2.2.1. Non-Domestic Assaults

All times (all hours and days of the week)

Figure 42 shows that most incidents occurred in the suburb of Newcastle (67%) followed by Hamilton (19.7%).

Figure 42 Proportion of non-domestic assaults (all times) occurring in Newcastle/Hamilton (1 January 2001 to 31 December 2009)

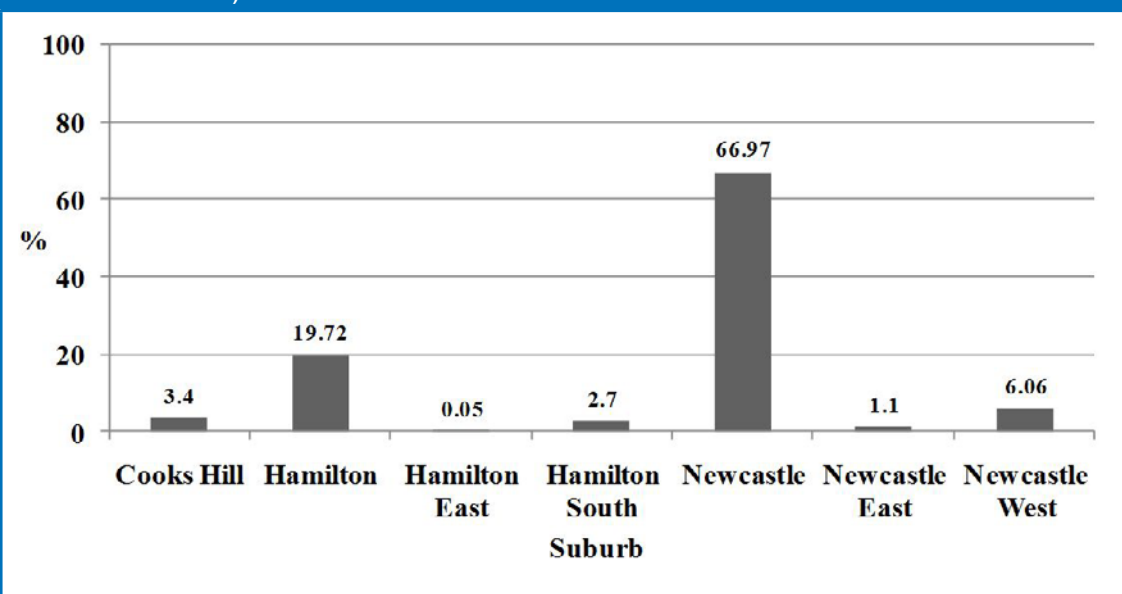
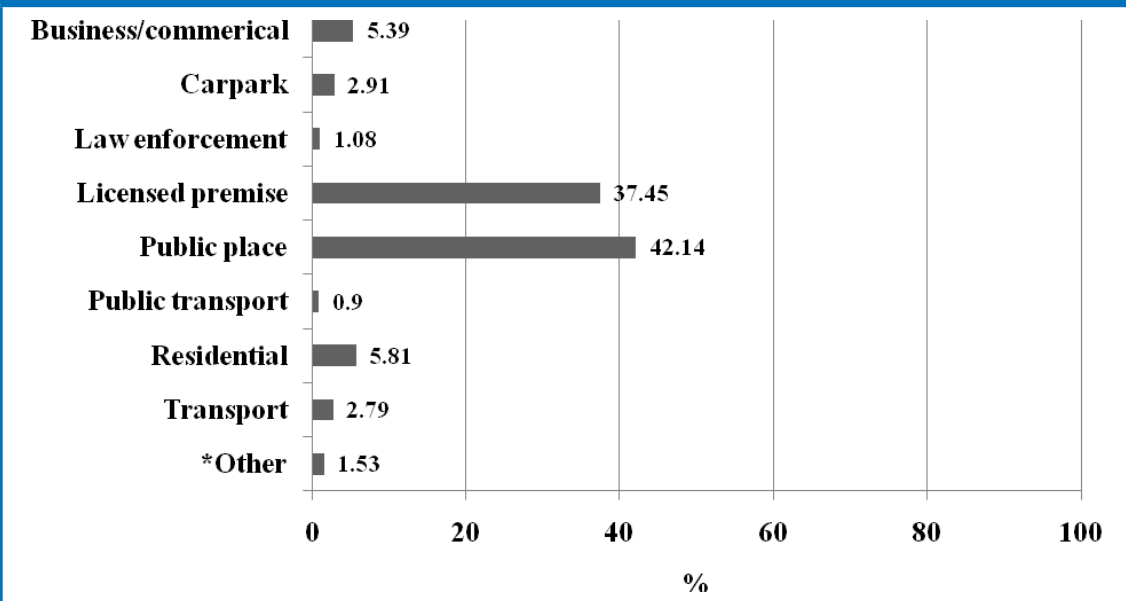


Figure 43 shows that most non-domestic assaults occur in a public place (42.1%) followed by licensed premises (37.5%).

Figure 44 shows that non-domestic assaults peak in March followed by December and January. The peak in March could coincide with the start of the university year. It is also apparent that assaults are more prevalent in the summer months than the cooler months. Figure 45 shows that most weekend non-domestic assaults occur between 8 pm and 6 am (80%) with 41 percent of all incidents taking place between midnight and 3 am.

Figure 43 Proportion of non-domestic assaults (all times) by location, Newcastle/Hamilton (1 January 2001 to 31 December 2009)



*Other: Adult entertainment, health, industrial, marine transport, religious, recreation, utilities, vehicle, unknown

Figure 44 Non-domestic assaults (all times) per month of the year for Newcastle/Hamilton (1 January 2001–31 December 2009)

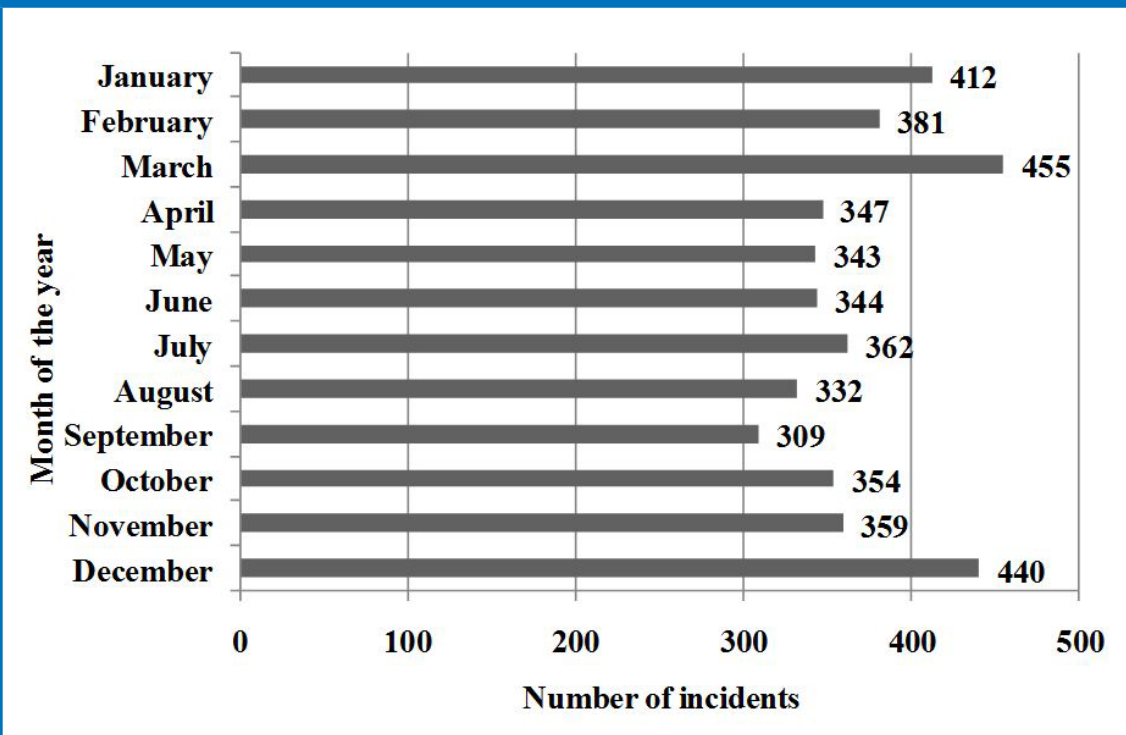
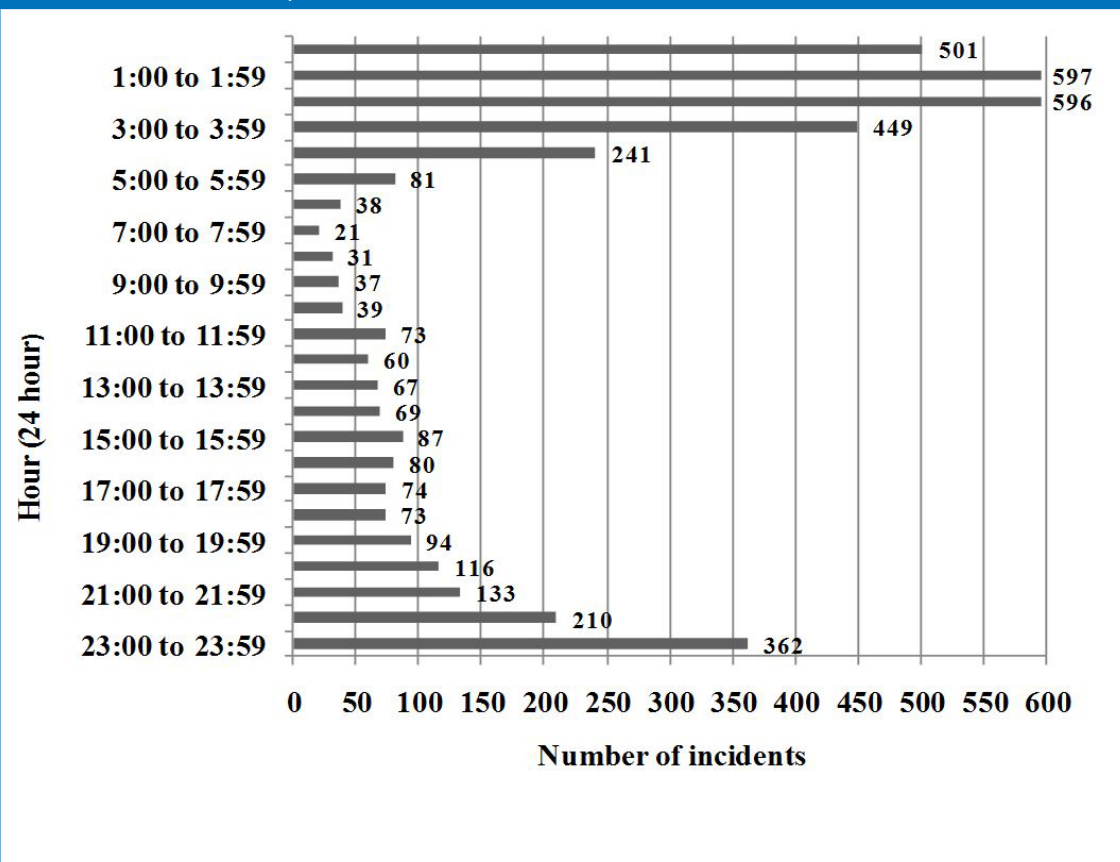


Figure 45 Non-domestic assaults per hour of the day Friday to Sunday for Newcastle/Hamilton (1 January 2001 to 31 December 2009)



In comparison, the NSW Bureau of Crime Statistics and Research (2011) reported that, for NSW, 34 percent of non-domestic assaults occurred in a public place, followed by 24 percent on a residential property and 13 percent on a licensed premise. It was also reported that non-domestic assaults were most likely in the month of January (9.5%) followed by March (9.4%) and February (8.7%). About 36 percent of non-domestic assaults occurred between 6 pm on Friday and 6 am on Sunday, with the peak times being 6 pm to 6 am Friday/Saturday (14.5%) and 6 pm to 6 am Saturday/Sunday (15.8%) (NSW Bureau of Crime Statistics and Research, 2011)

High Alcohol Hours (HAH)

The results for HAH (Figure 46, Figure 47 and Figure 48) are similar to those for 'all times' (Figure 42, Figure 43 and Figure 44) with most non-domestic assaults occurring in the Newcastle suburb (70%) in a public place (45%) or in a licensed premise (40%). These results are slightly higher than the proportions for the 'all times' period. Figure 48 also shows a spike in non-domestic assaults in March, and higher counts over the summer season.

Figure 46 Proportion of non-domestic assaults (HAH) occurring in Newcastle/Hamilton suburbs (1 January 2001 to 31 December 2009)

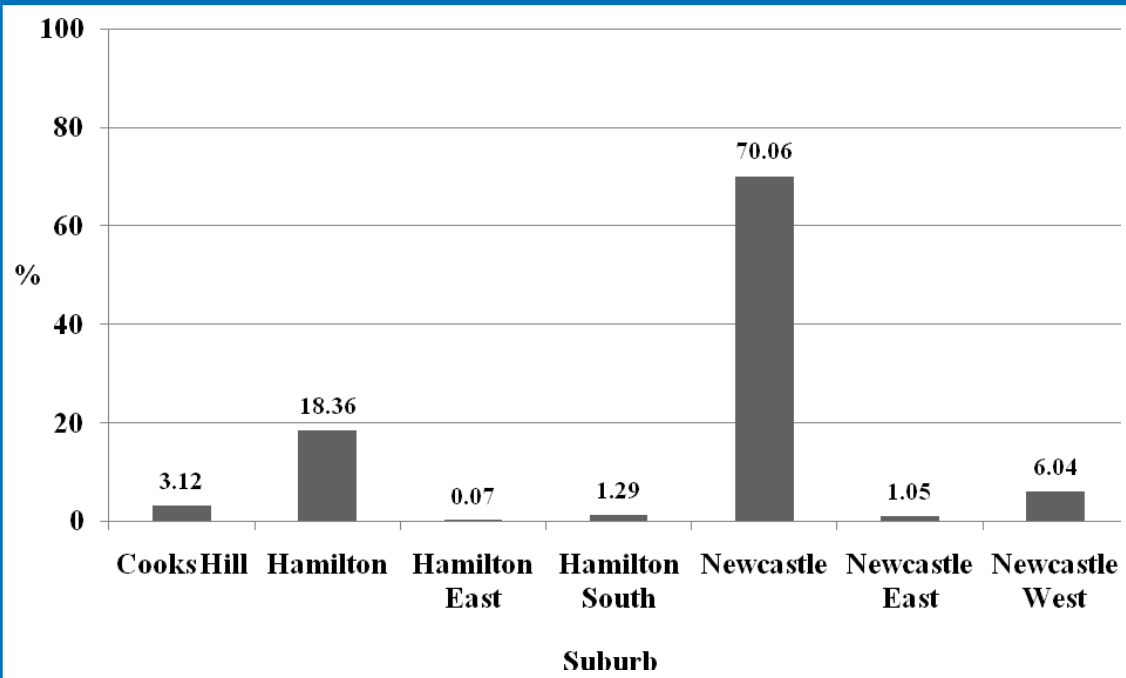


Figure 47 Proportion of non-domestic assaults (HAH) by location: Newcastle/Hamilton (1 January 2001 to 31 December 2009)

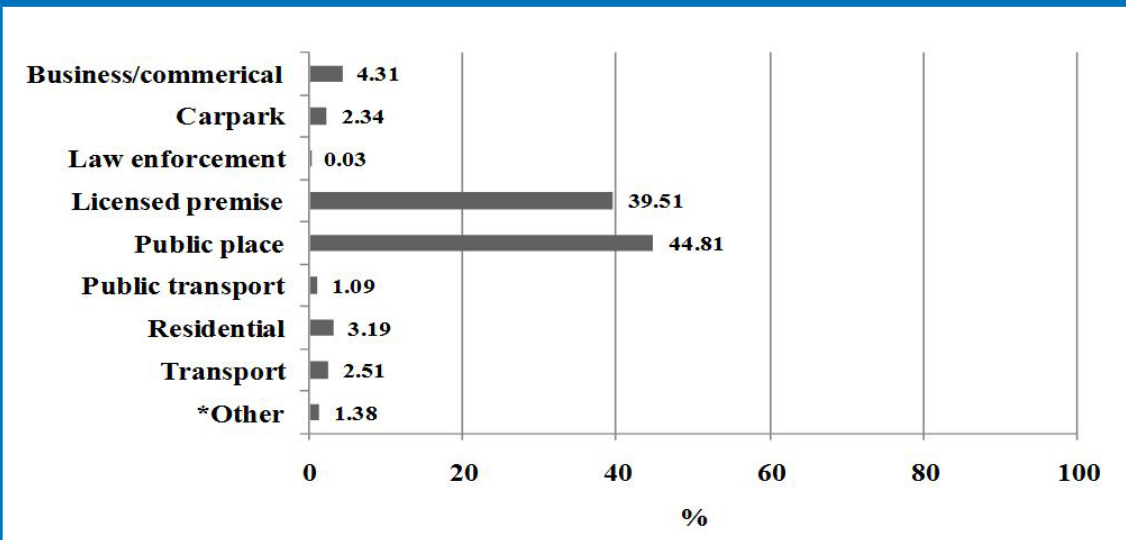
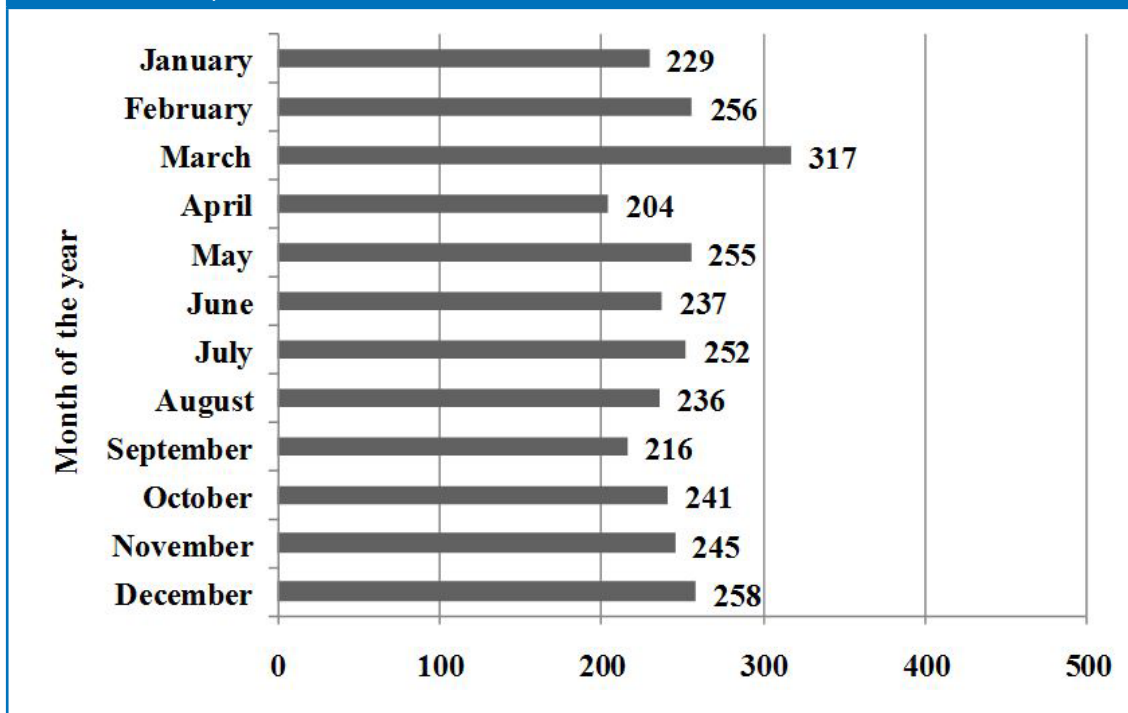


Figure 48 Non-domestic assaults per month of the year for Newcastle/Hamilton (HAH) (1 January 2001 to 31 December 2009)

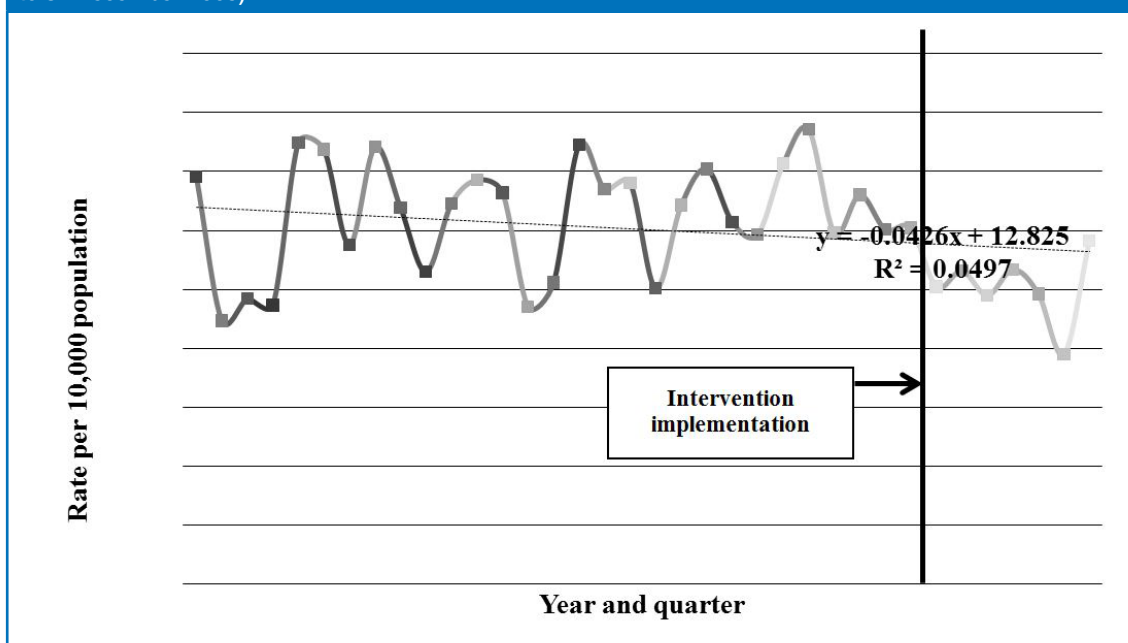


*Other: Adult entertainment, health, industrial, marine transport, religious, recreation, utilities, vehicle, unknown

Changes in non-domestic assaults over-time

Figure 49 and Figure 50 report a significant downward trend at 'all times' and during HAH between 2001 and 2009. In comparison, NSW Bureau of Crime Statistics and Research (2011) reported that, across NSW, non-domestic assaults remained stable over 60 months to the end of 2010.

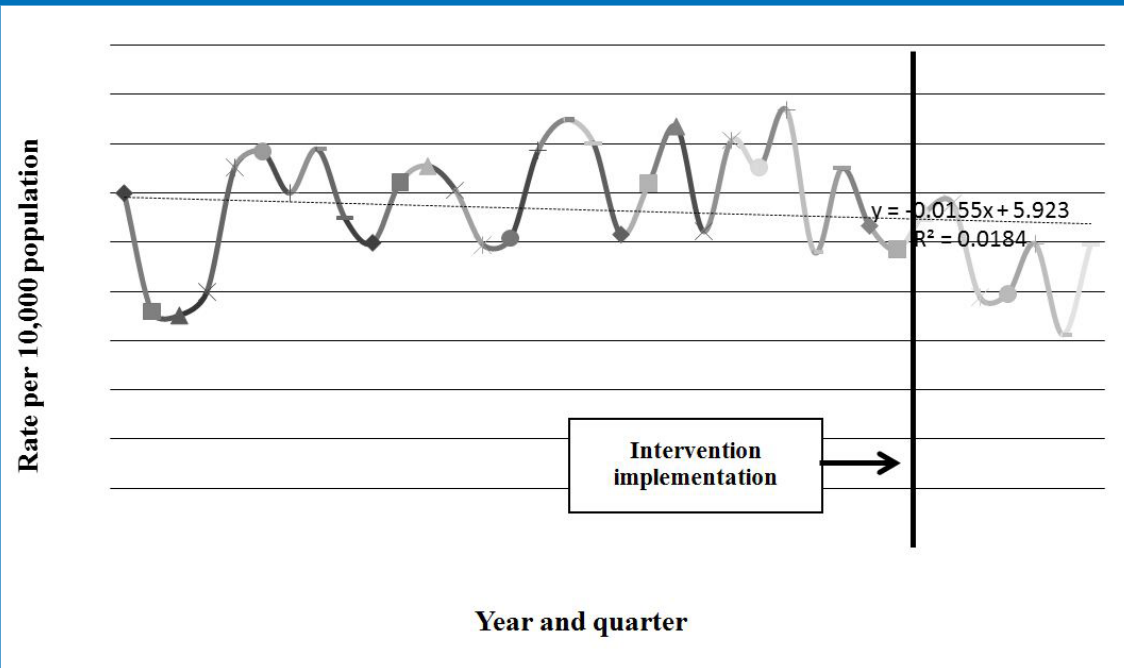
Figure 49 Non-domestic assaults (all times) per 10,000 population in Newcastle/Hamilton (1 January 2001 to 31 December 2009)



Time series analysis

ARIMA analyses were conducted on data for HAH incidents to determine pre- to post-intervention differences in the data. The data was aggregated by month and consisted of 108 observations. The Durbin-Watson test found a value of 0.111 and showed no evidence of autocorrelation, thus no adjustment for autocorrelation was introduced into the model. The time series found a significant reduction ($p=0.0022$) of non-domestic assaults between pre- and post-intervention. This represented an average reduction of nine assaults a month.

Figure 50 Non-domestic assaults for HAH per 10,000 population in Newcastle/Hamilton (1 January 2001 to 31 December 2009)



Victims of non-domestic assaults

Figure 51 Non-domestic assaults per 10,000 population by victim gender for HAH in Newcastle/Hamilton (1 January 2001 to 31 December 2009)

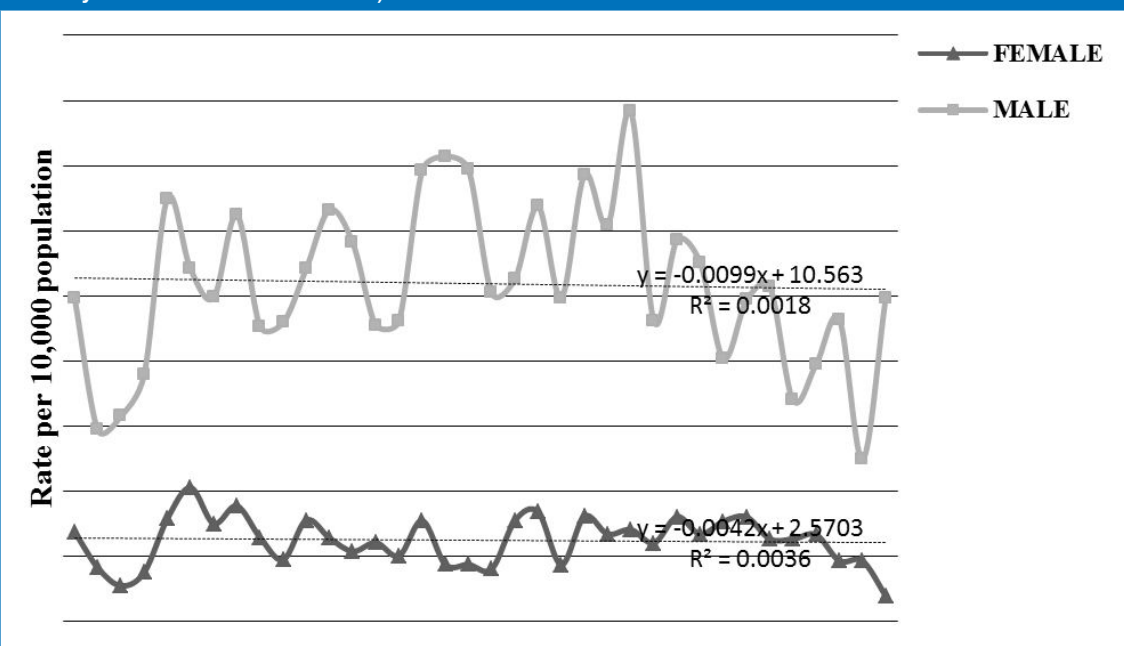


Figure 51 shows that most non-domestic assault victims during HAH were male (80%; n=2661) and that the trend for males is slightly declining over time while assaults on females are stable. In comparison, the percentage of victims that are male is slightly lower for all times of the day (76%; n=5375).

Figure 52 Non-domestic assaults per 10,000 population by victim age for HAH in Newcastle/Hamilton (1 January 2001 to 31 December 2009)

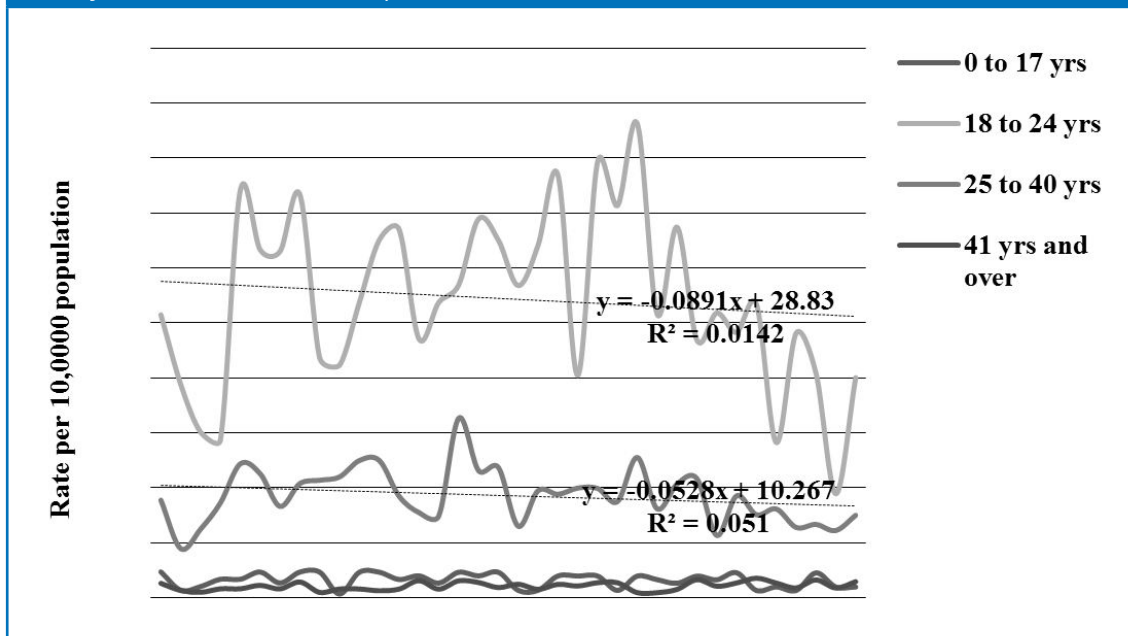


Figure 52 shows that rates for the 18 to 24 year age group are also higher than the other groups, and also decline slightly between 2001 and 2009. The average age of victims during HAH was 25.8 years with a mode age of 19 years, compared with 28.2 years and 20 years respectively, for all times.

Offenders of non-domestic assaults

Figure 53 shows that most non-domestic assault offenders during HAH were male (82%; n=1,473) however, the trends for both males and females have remained relatively stable from 2001 to 2009. In comparison, the percentage of offenders that are male is slightly lower for all times of the day (79%; n=3,242).

Figure 54 shows that rates for the 18 to 24 year age group are also higher than the other groups, with a slight reduction between 2001 and 2009. The average age of victims during HAH was 24 years with a mode age of 18 years, compared with 26.6 years and 20 years respectively for all times.

Figure 53 Non-domestic assaults per 10,000 by offender gender by HAH in Newcastle/Hamilton (1 January 2001 to 31 December 2009)

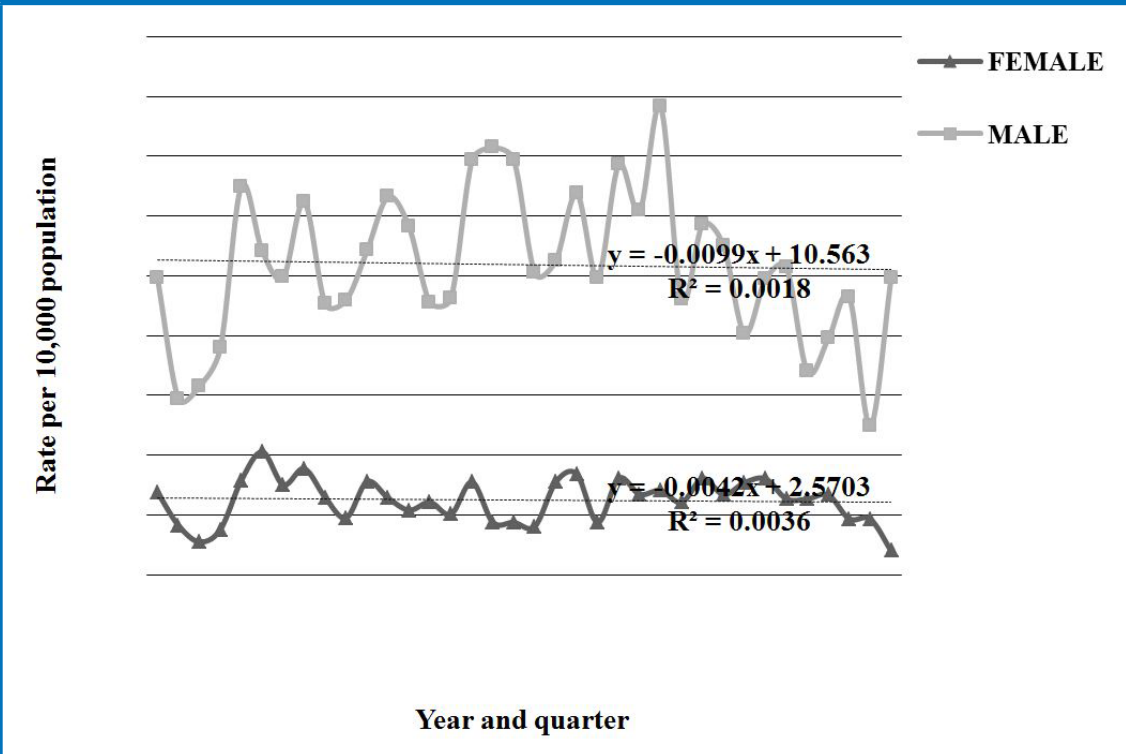
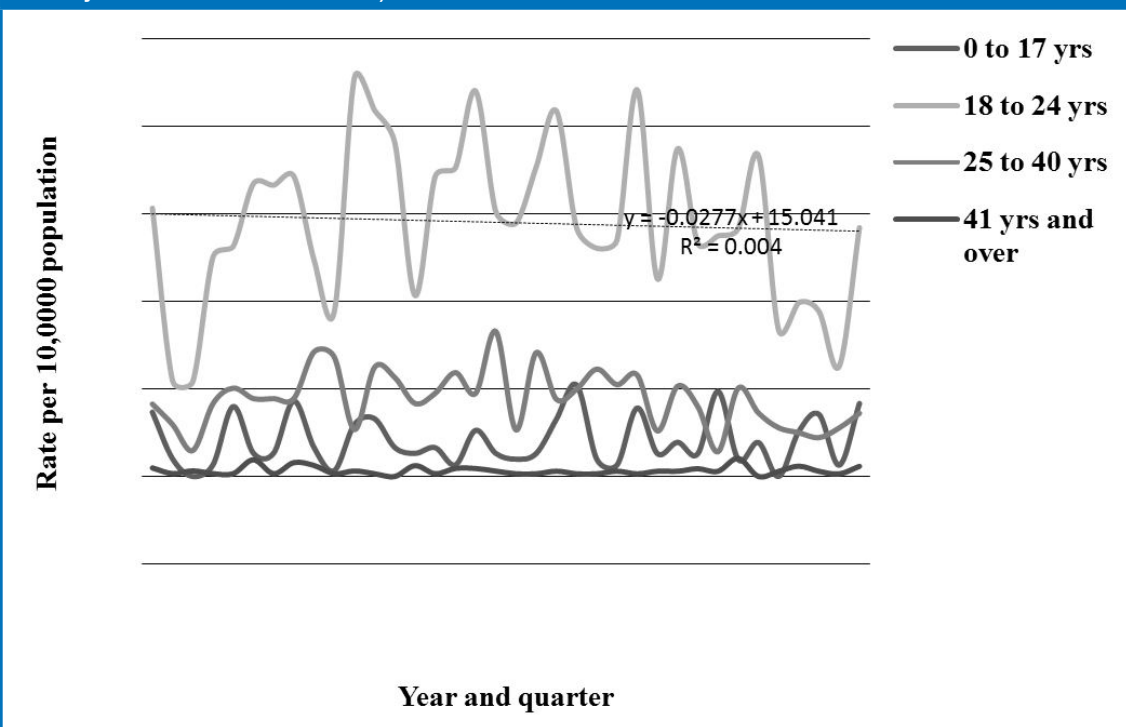


Figure 54 Non-domestic assaults per 10,000 population by offender age for HAH in Newcastle/Hamilton (1 January 2001 to 31 December 2009)



3.1.2.2.2. Street Offences

Figure 55 shows that most street offences occurred in the suburb of Newcastle (69.9%) followed by Hamilton (17.4%).

Figure 55 Proportion of street offences (all times) occurring in Newcastle/Hamilton (1 January 2001 to 31 December 2009)

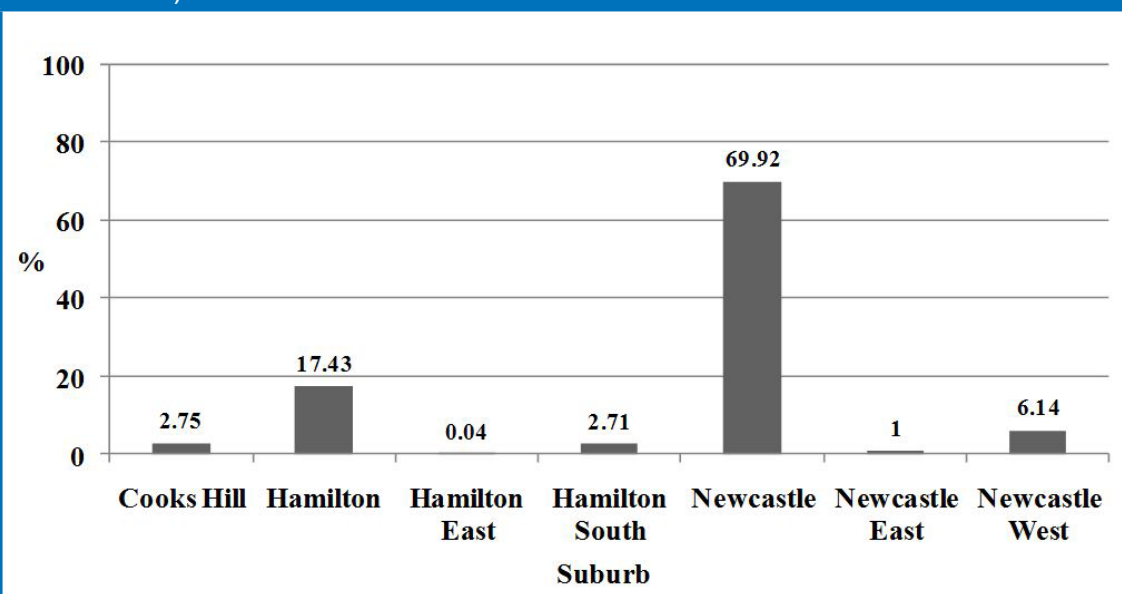
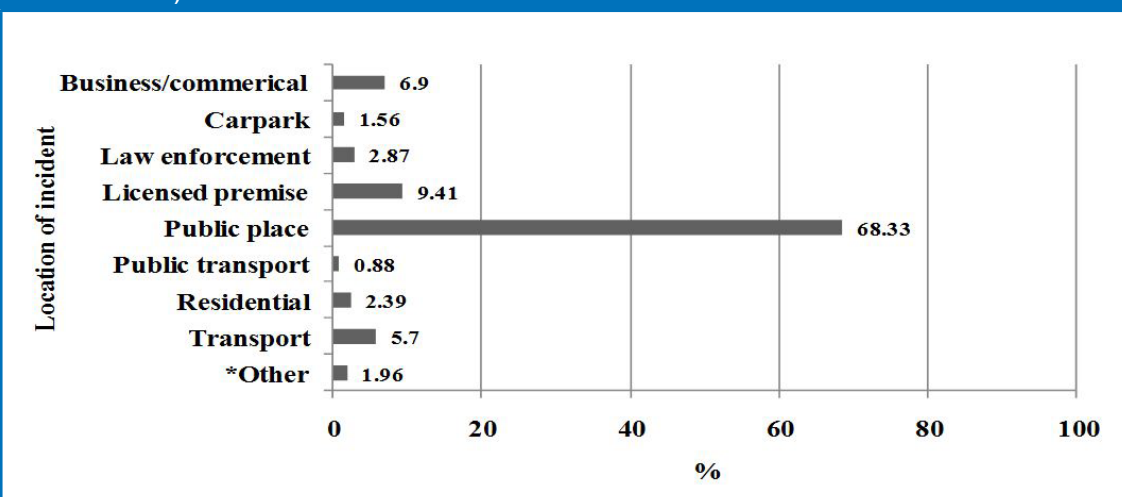


Figure 56 shows that most street offences occur in a public place (68.3%) followed by licensed premises (9.4%).

Figure 56 Proportion of street offences (all times) by location Newcastle/Hamilton (1 January 2001 to 31 December 2009)



*Other: Adult entertainment, health, industrial, marine transport, religious, recreation, utilities, vehicle, unknown

Figure 57 shows that street offences peak in March followed by December and January.

Figure 57 Street offences (all times) per month for Newcastle/Hamilton (1 January 2001 to 31 December 2009)

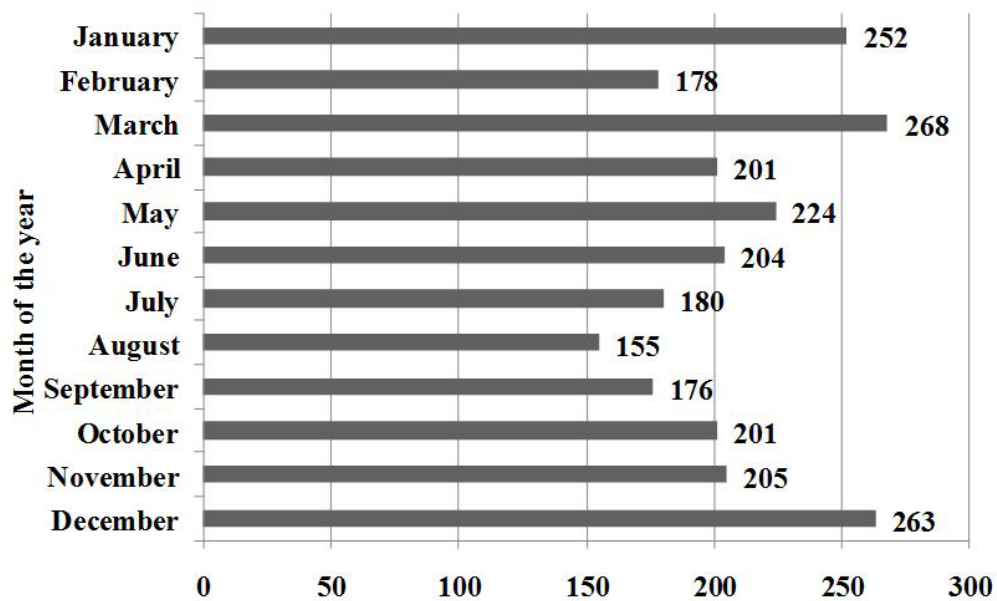
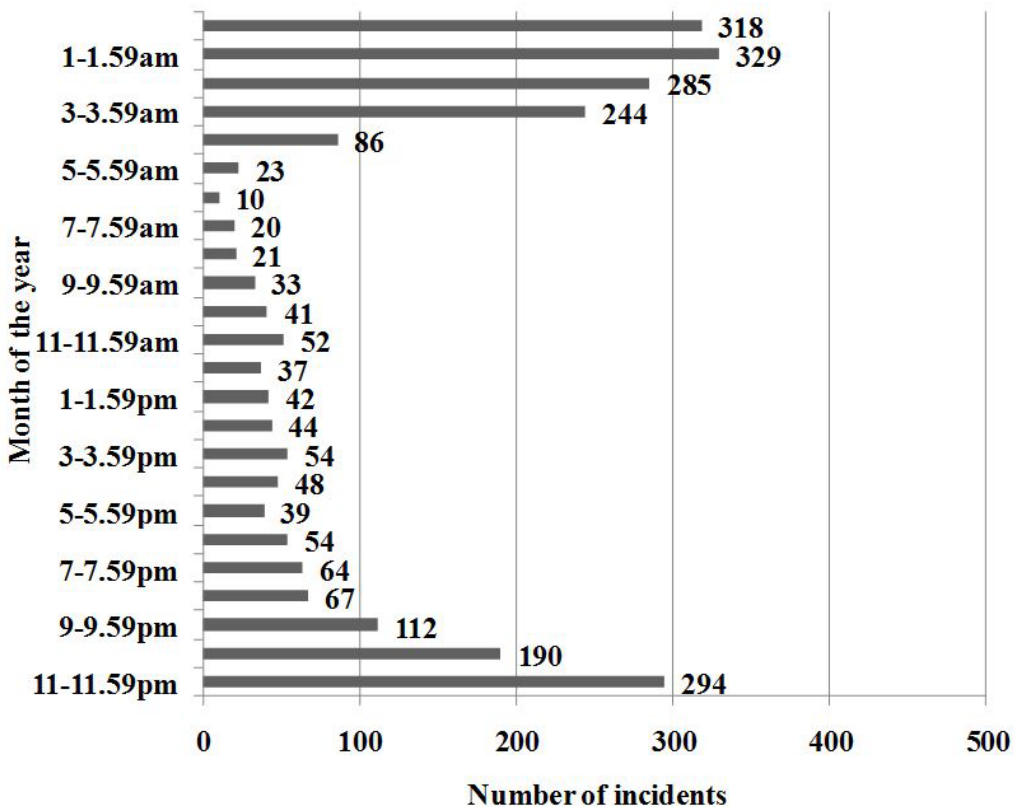


Figure 58 shows that 64 percent of weekend street offences occurred between 8 pm and 6 am, with most happening between 11 pm and 4 am (60%).

Figure 58 Street offences per hour of the day Friday to Sunday for Newcastle/Hamilton (1 January 2001 to 31 December 2009)



High Alcohol Hours (HAH)

The results for HAH (Figure 57, Figure 59 and Figure 60) are similar to Figures 54 to 56 for all times, with most street offences occurring in the Newcastle suburb (74%) in a public place (75%) or in a licensed premise (11%). These results are slightly higher than the proportions for the 'all times' period. Figure 61 also shows a spike in non-domestic assaults in March, and higher counts over the summer season.

Figure 59 Street offences (HAH) occurring in Newcastle/Hamilton suburbs (1 January 2001 to 31 December 2009)

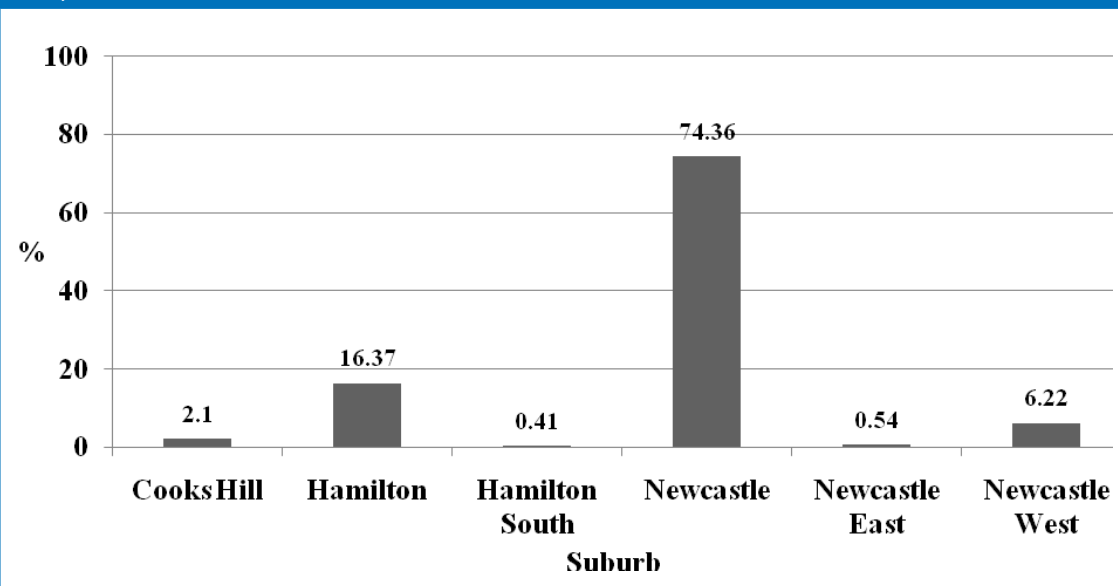
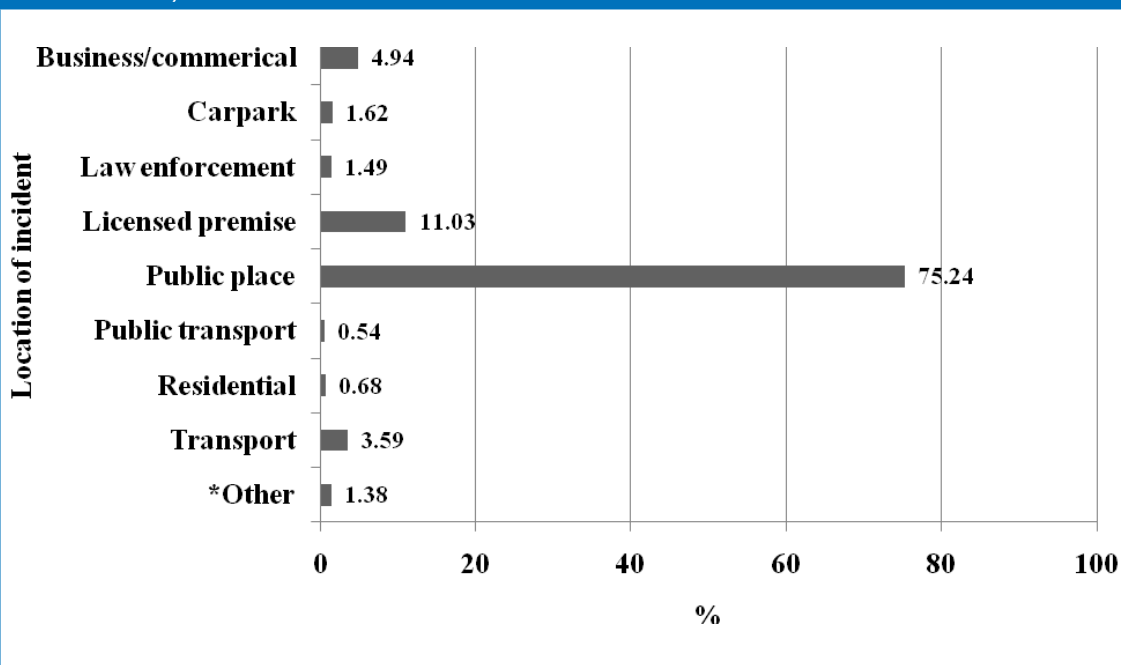
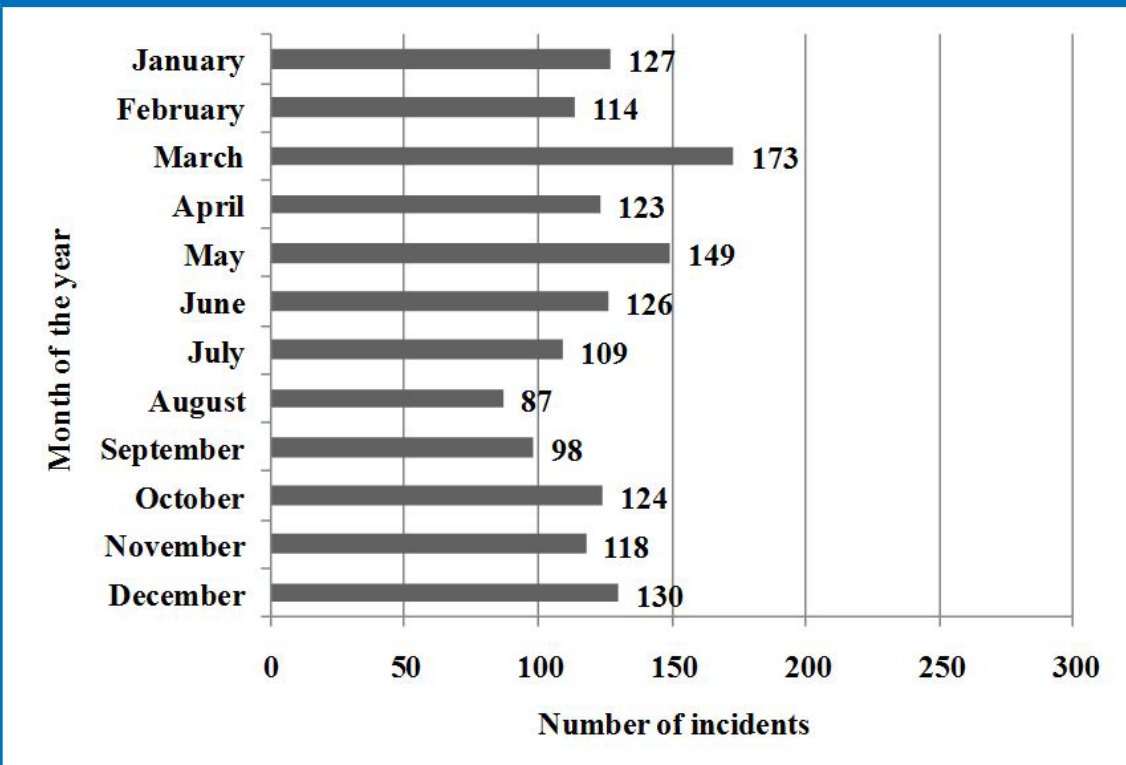


Figure 60 Street offences (HAH) by location of incident in Newcastle/Hamilton (1 January 2001 to 31 December 2009)



*Other: Adult entertainment, health, industrial, marine transport, religious, recreation, utilities, vehicle, unknown

Figure 61 Street offences per month of the year for Newcastle/Hamilton (HAH) (1 January 2001 to 31 December 2009)



Changes in street offences over-time

Figure 62 and Figure 63 show an increasing trend in street offences between 2001 and 2009. This could be due to the substantial increase between Quarter 3 (2006) and Quarter 2 (2007). However, both graphs show a reduction in street offences after the intervention at the end of March 2008, particularly during the high alcohol hours.

Time series analysis

To determine pre- to post-intervention differences in the data, ARIMA analyses were conducted on data for HAH incidents. The data was aggregated by month and consisted of 108 observations. The Durbin-Watson test found a value of <0.001 and showed evidence of autocorrelation. A first order lag was introduced into the model to adjust for this identified autocorrelation. The time series found a significant reduction ($p=0.0371$) of street offences between pre- and post-intervention. This was an average reduction of 10 street offences per month.

Figure 62 Street offences for 'all times' per 10,000 population in Newcastle/Hamilton (1 January 2001 to 31 December 2009)

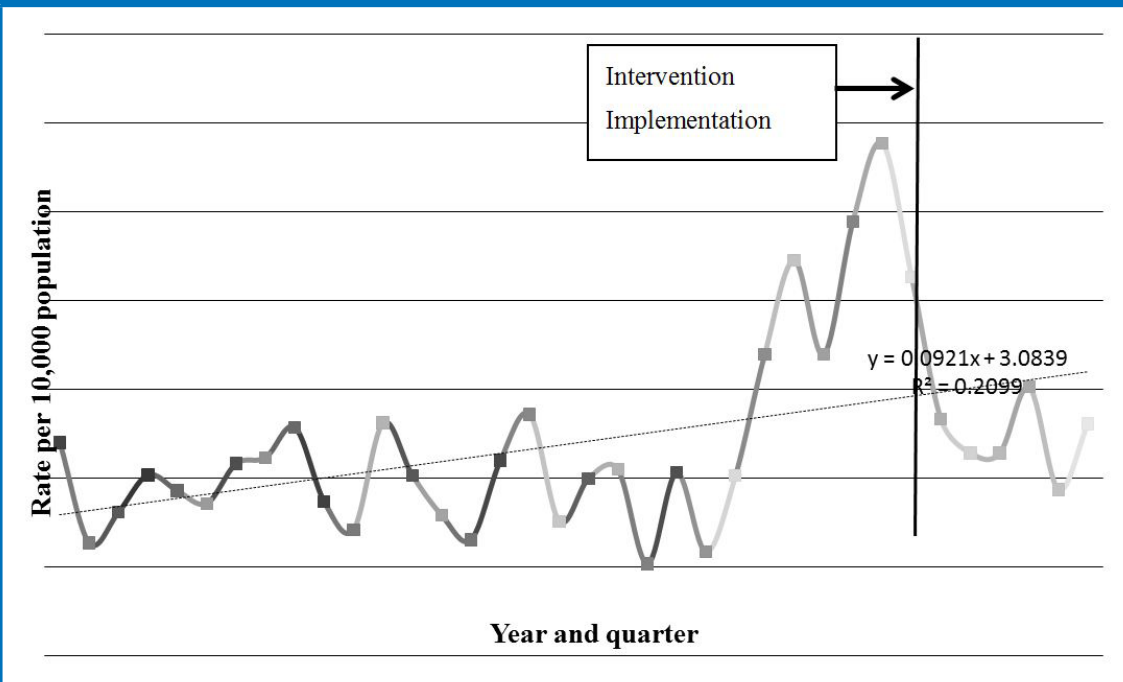
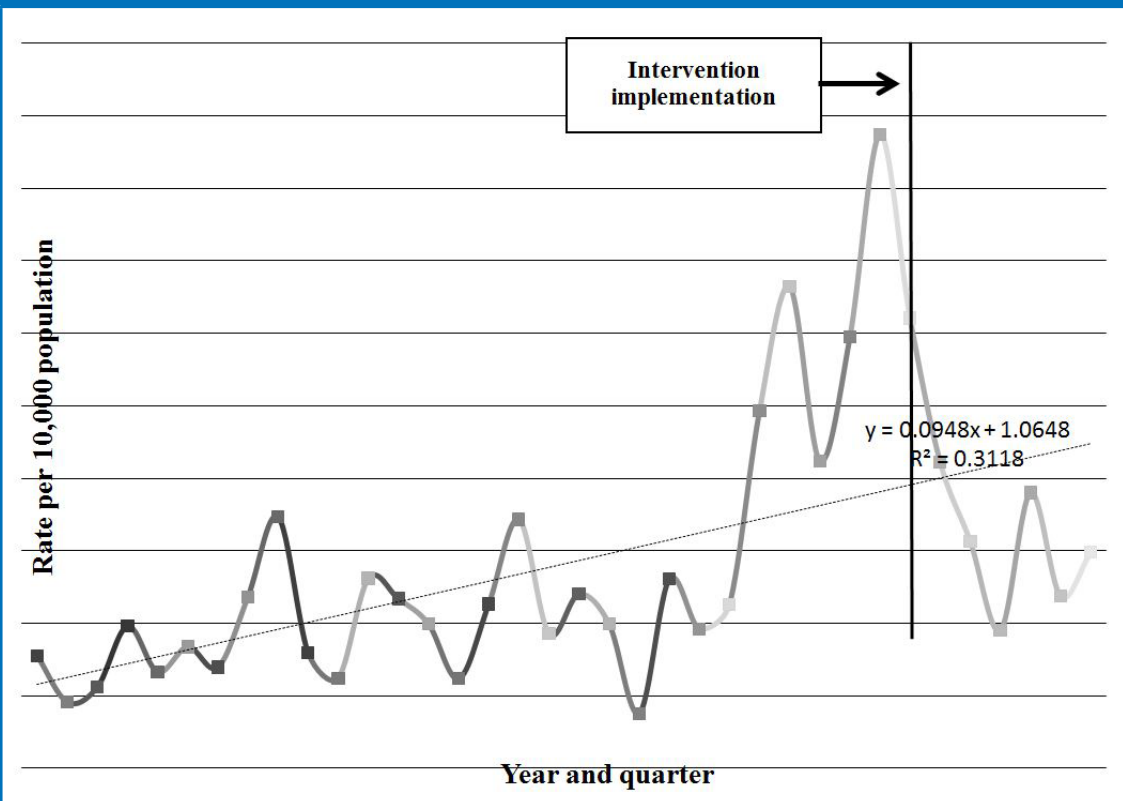


Figure 63 Street offences for HAH per 10,000 population in Newcastle/Hamilton (1 January 2001 to 31 December 2009)



Offenders of street offences

Figure 64 shows that most individuals committing street offences during HAH were male (93%; n=1,485) compared with 90 percent (n=2,422) during 'all times'. While trends for females have remained stable, the trend for males has increased. However, a substantial reduction can also be seen in 2008.

Figure 64 Street offences per 10,000 by offender gender for HAH in Newcastle/Hamilton (1 January 2001 to 31 December 2009)

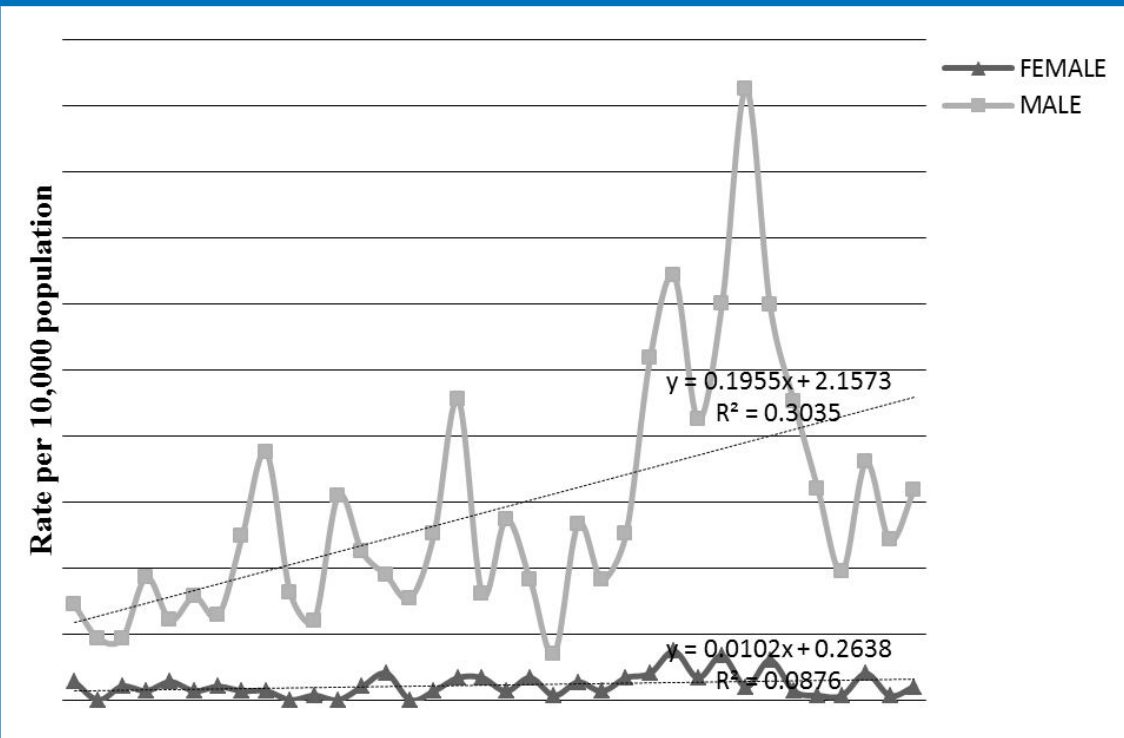
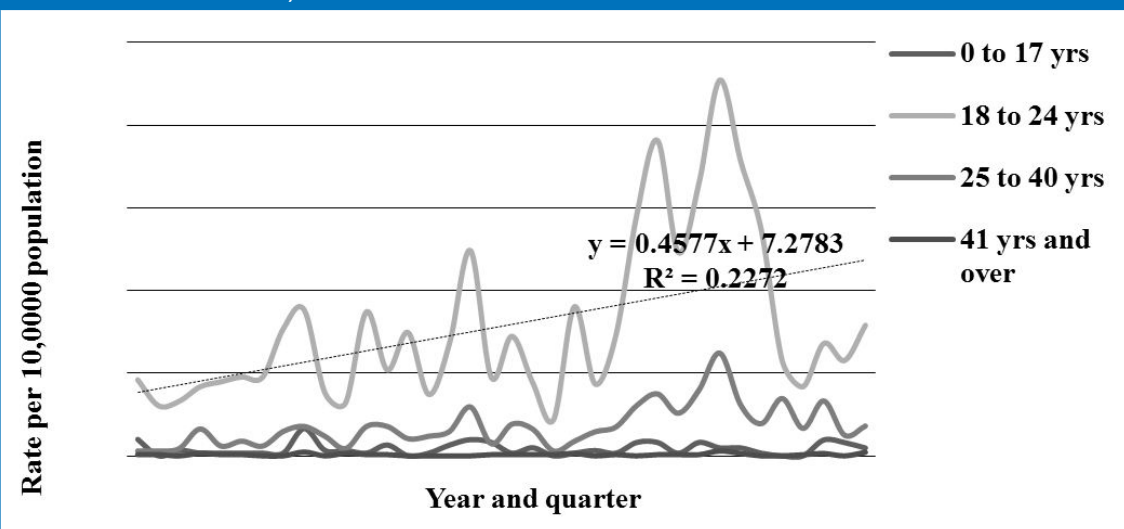


Figure 65 shows that rates for the 18 to 24 year age group are also higher than the other groups and increased between 2001 and 2009. The average age of victims during HAH was 23.3 years with a mode age of 19, compared with 24.6 and 19 years respectively for all times.

Figure 65 Street offences per 10,000 population by offender age for HAH in Newcastle/Hamilton (1 January 2001 to 31 December 2009)



Discussion

The Newcastle crime data show a significant decline in non-domestic assaults and street offences between 2001 and 2009, especially during the high alcohol hours of 10 pm and 6 am. Since imposing mandatory conditions in Newcastle the number of non-domestic assaults per month during high alcohol hours has dropped by nine and the number of street offences, by 10. This is a very positive result and reflects the reduction in night-time assaults reported by Kypri et al. (2010) where a 30 percent reduction was achieved post-intervention.

The results also show that most non-domestic assaults and street offences in Newcastle take place in the Newcastle suburb, in public places or on licensed premises, during March, December and January; and during peak hours (11 pm to 4 am). These results are consistent with other studies as such offences are most likely to occur: in suburbs with entertainment precincts and thus a higher density of venues (Livingston 2008); in public places or on a licensed venue (Briscoe and Donnelly 2001); and during the warmer months of the year (Miller et al. 2011) when people are more likely to be in the precincts late at night. The data reported on the peak times of assaults are also consistent with other studies (Briscoe and Donnelly 2001), as is the finding that the victims and offenders of such offences were more likely to be younger males.

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. 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).

3.1.3. Ambulance attendances (Geelong)

As previously mentioned, data on ambulance attendances for alcohol-related events was only available for Geelong. Ambulances attended 2,251 incidents involving alcohol between 1 April 2008 and 30 June 2011.

Frequencies and demographics

The ages of those tended by ambulance staff ranged from one to 96 years, with a mean age of 34. The age group 18 to 24 was the largest and comprised 23.1 percent ($n=520$) of all cases (see Figure 66). This was almost one third as much as the next largest age group, 35 to 44 years, which accounted for 18.7 percent ($n=421$) of the sample. The prevalence of 18 to 24 year olds was even higher during high alcohol hours (33.2%, $n=254$; see Figure 67). Males were more likely to be involved in alcohol-related ambulance attendances than were females (56.9%, $n=1,280$, male and 37.0%, ($n=833$) female, 6.2% not recorded). This ratio increased slightly during high alcohol hours (59.8% $n=458$ male).

Figure 66 All alcohol-related ambulance attendees by age group (Geelong)

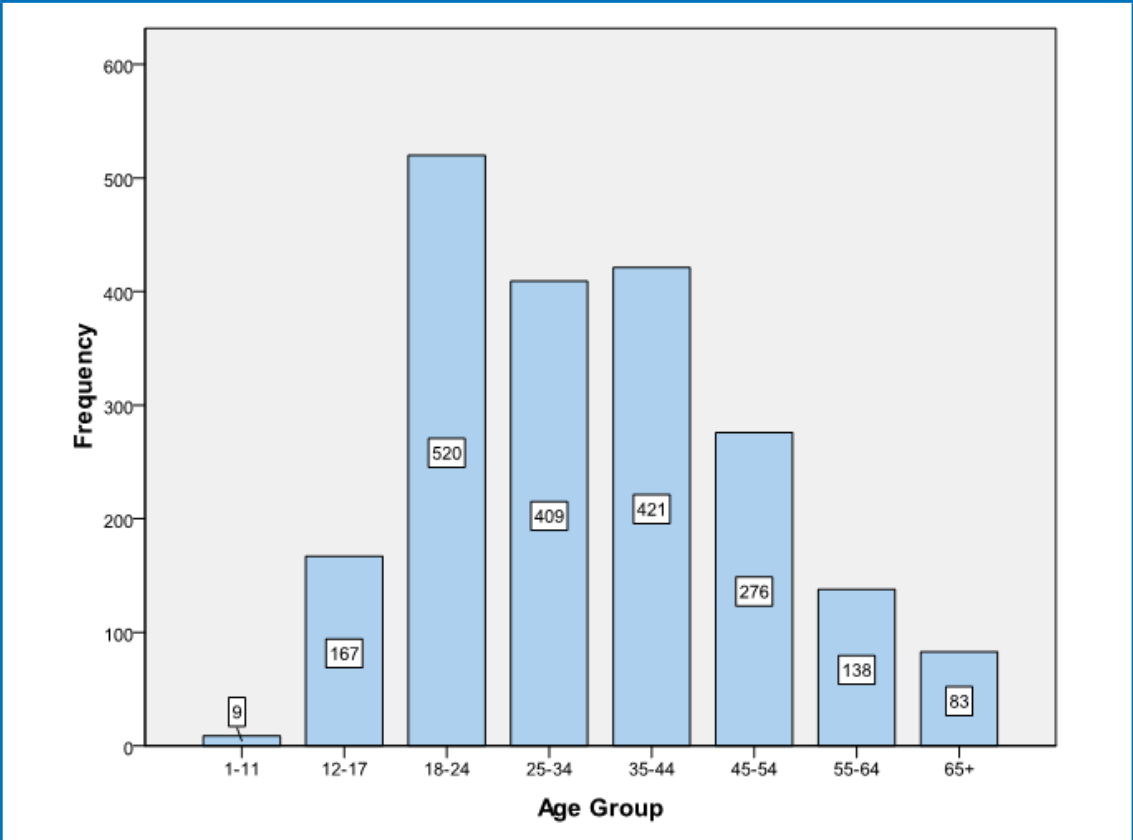
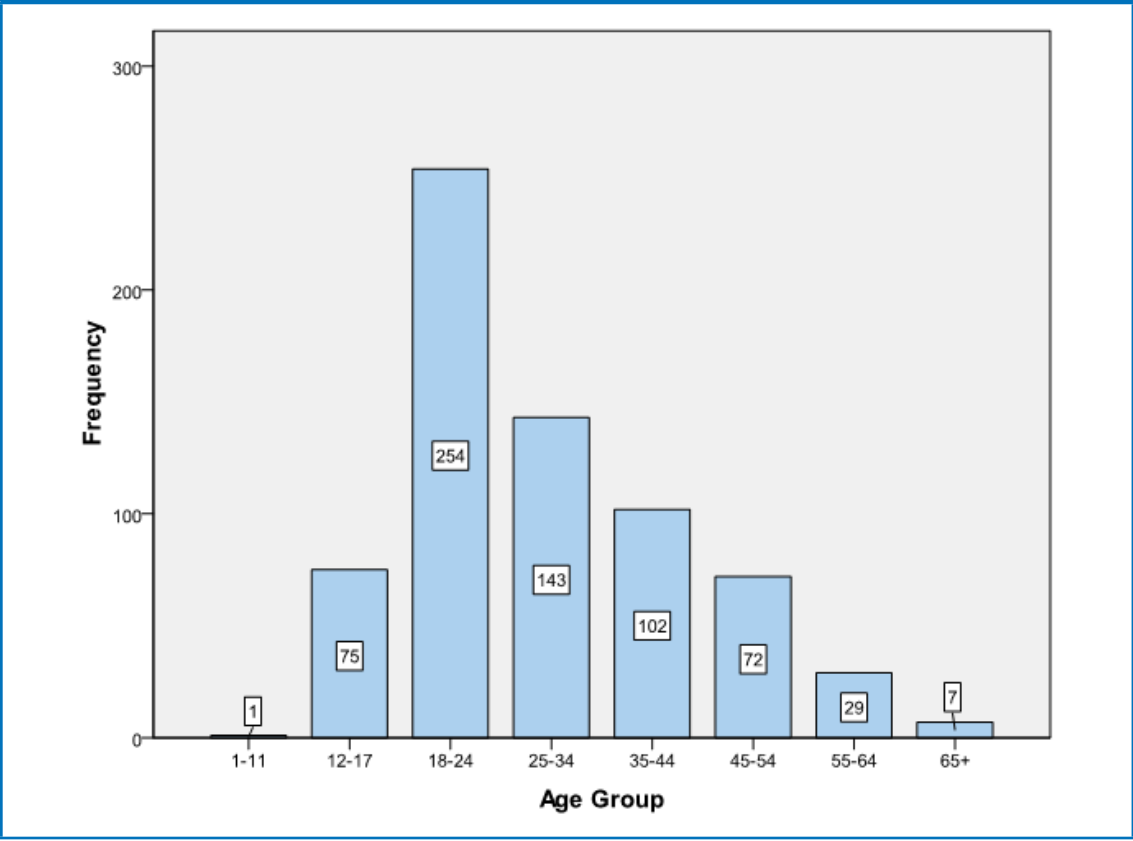


Figure 67 Ambulance attendees by age groups during HAH in Geelong (8 pm–6 am Friday and Saturday)



Alcohol-related injuries by time of day and day of week

Most (43% $n = 969$) alcohol-related incidents took place on the weekends. As indicated in Figure 68, most occurred between 8 pm and 6 am on Friday and Saturday nights. These high alcohol hours account for more than a third (34%) of all alcohol-related cases.

Figure 68 Frequency of alcohol-related injuries by hour and weekend day in Geelong

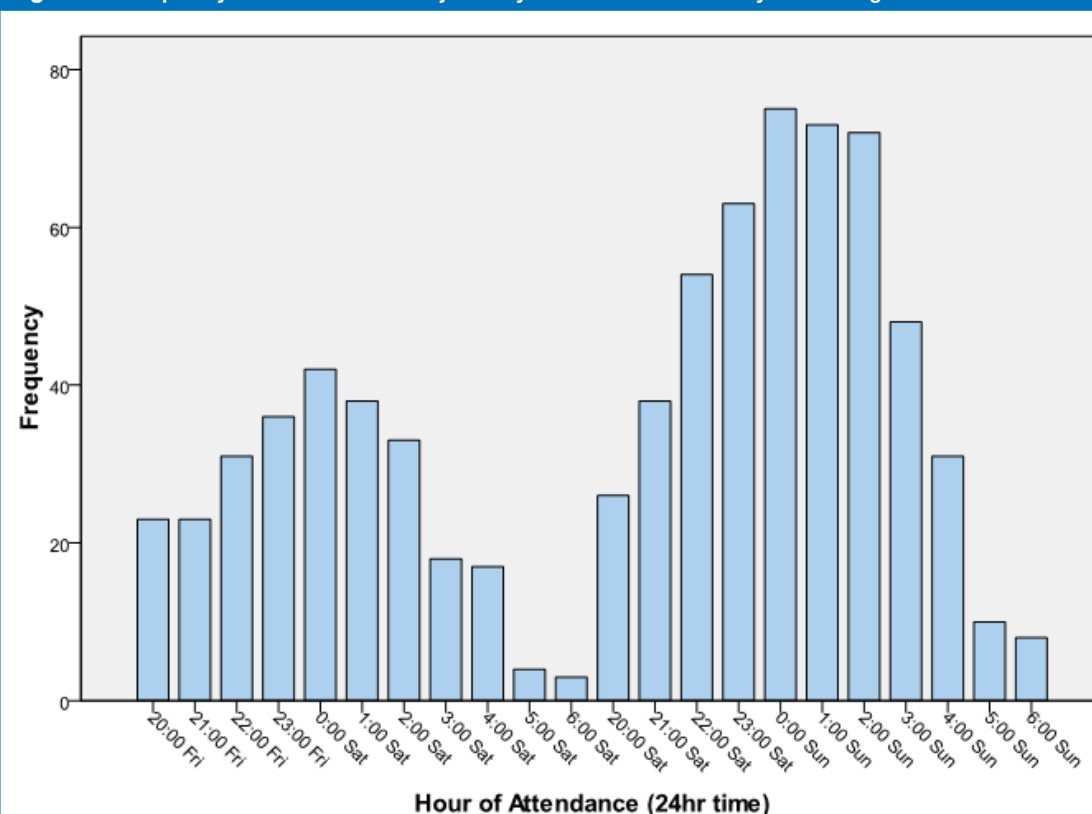


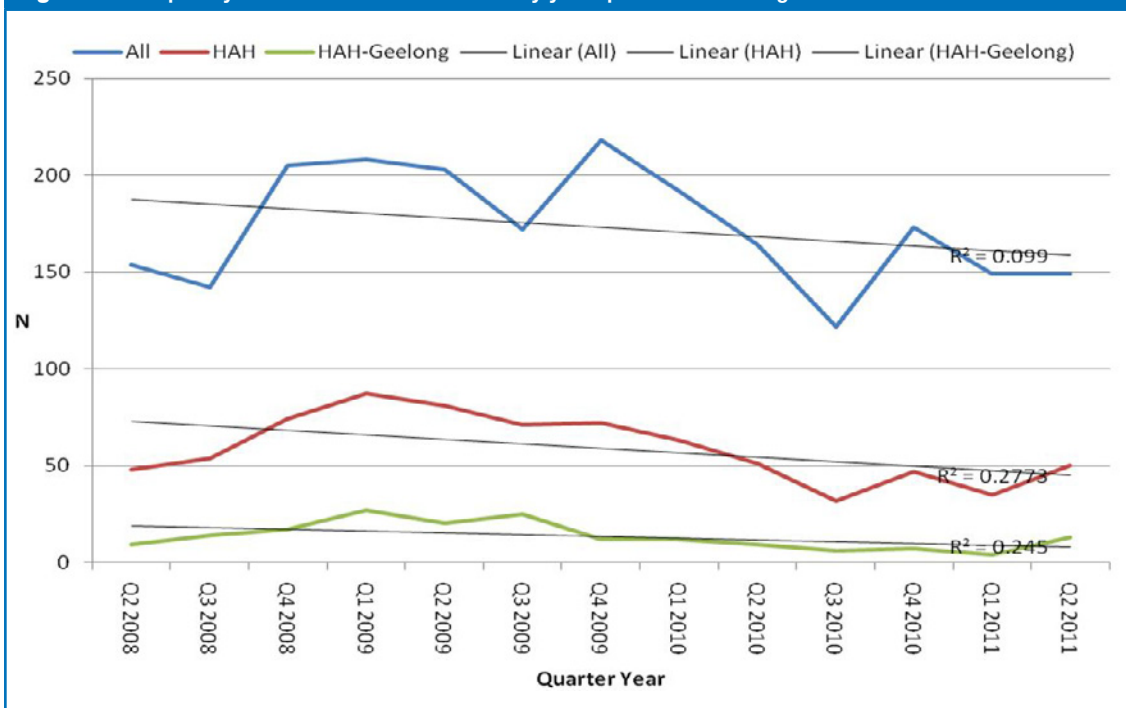
Figure 69 shows seasonal trends through quarterly total ambulance attendances, as well as high alcohol hours only and attendance in central Geelong during high alcohol hours. As with ED and police data, there appears to be an obvious increasing trend due to events such as New Year's Eve celebrations and annual holidays in the fourth quarter of the year (Q4). Similarly, in common with ED and police data, a clear trend shows reduced numbers of alcohol-related injuries in the colder months (June–October).

Location

Table 11 reports the top 10 suburbs attended by ambulances. The most common suburbs visited reflect those seen in police statistics. They highlight the fact that while the largest number of cases comes from central Geelong, a substantial number also come from outlying areas, particularly Corio and Norlane.

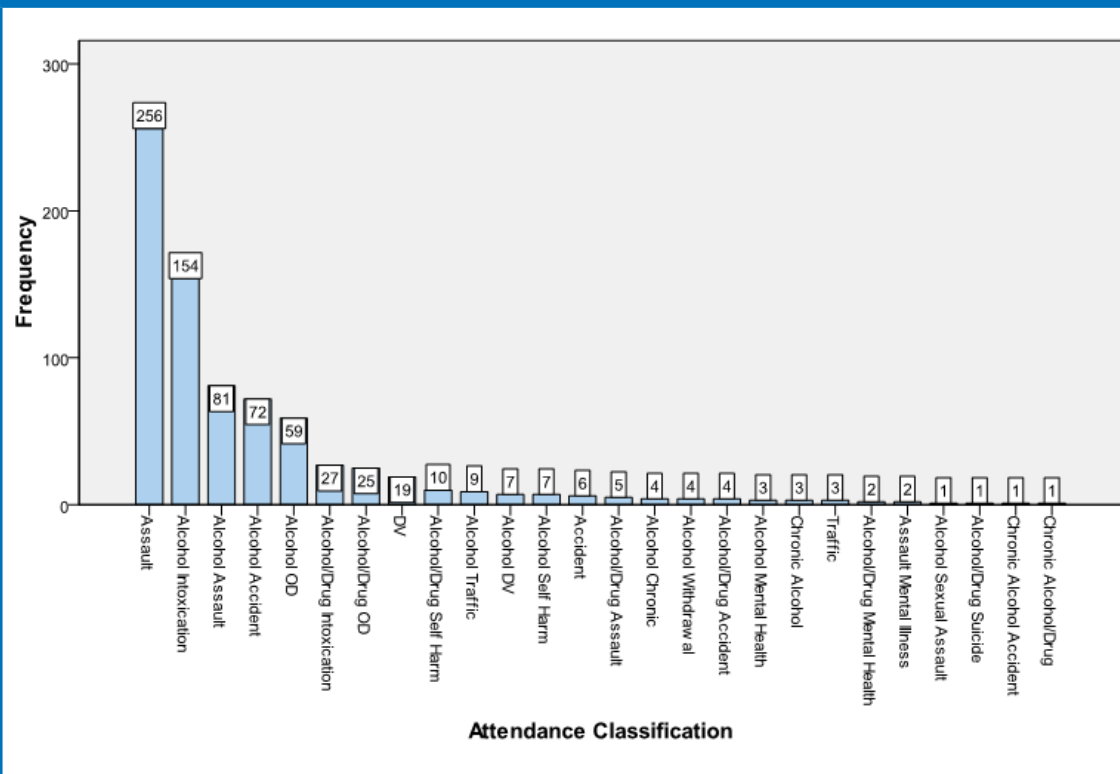
Table 11 Frequency of ambulance attendance by suburb of Geelong

	All hours		High alcohol hours	
	Frequency	%	Frequency	%
Geelong	364	16.2	175	22.8
Corio	230	10.2	66	8.6
Norlane	224	10.0	69	9.0
Grovedale	133	5.9	35	4.6
Belmont	100	4.4	33	4.3
Whittington	76	3.4	23	3.0
Geelong West	75	3.3	24	3.1
Torquay	71	3.2	30	3.9
Lorne	60	2.7	21	2.7
Highton	58	2.6	18	2.3

Figure 69 Frequency of ambulance attendances by year quarter in Geelong

Attendance classification during high alcohol hours.

Figure 70 shows the frequency of attendance classifications during high alcohol hours (8 pm to 6 am Friday and Saturday). Assault was the most common alcohol-related incident, accounting for 33.4% ($n = 256$) of attendances during high alcohol hours.

Figure 70 Frequency of ambulance attendances by classification for Geelong

Summary

Ambulance attendance records presented in the above section are slightly more recent than those available from the ED and substantially more recent than available police data. Ambulance data also describes an essentially different type of alcohol-related harm, which often does not result in either a hospital attendance or a police offence being recorded. As with other secondary data, most alcohol-related ambulance attendances occur on Friday and Saturday nights. Similarly, the mean age of attendees is 34 years and the age group most commonly attended are 18 to 24 year olds (25.3%). Ambulance data also show a similar gender breakdown to ED data, with around 60 percent being males.

Overall the data show a decreasing trend over the past three years, although recent patterns suggest a levelling out of the slight increase in attendances during high alcohol hours. This data corresponds with police and ED data. Ambulance attendance data provide a valuable adjunct to police and ED data, and give an important third source of information on alcohol-related harm in the community.

3.2. Community survey (computer assisted telephone surveys)

The purpose of this CATI study was to examine community perceptions of safety, alcohol-related crime, and attitudes towards alcohol harm-reduction strategies. It also looked at differences in such attitudes between location and frequency of attending licensed premises.

Sample and respondent characteristics

Of the randomly-selected sample of 2,500 households:

- 456 were ineligible;
- 304 were non-contactable; and
- 177 were either partially completed or not conducted.

Of the remaining 1,563 respondents:

- 869 declined to participate; and
- 694 completed the survey (52.7% response rate).

The study sample for the city of Geelong was 318 (51.4% response rate) and for Newcastle 376 (54% response rate). Most respondents were female (57.5%) more than 30 years old (89.5%) non-Indigenous (99.4%) from white-collar occupations—only those employed were asked this question (68.3%) had post-school qualifications (56.8%) and were mid-to-high income earners (50.9%).

Of the respondents, 13.1 percent lived in the inner-city, 86.9 percent lived in the outer-city areas of both cities, and 35.6 percent reported attending a licensed premise in the main entertainment precinct of their city after 10 pm in the last year (Newcastle 35.4%, Geelong 35.9%).

Perceptions and experiences with crime and safety in the precincts

Table 12 shows that most respondents (89.7%) agreed that alcohol was a problem in their entertainment precincts; and around three quarters (76.5%) agreed that alcohol consumed in licensed premises contributed significantly to crime in the precinct. On average, respondents believed that almost two-thirds of crime in the entertainment precincts was alcohol-related (63.3%). The most commonly and consistently reported alcohol-related problem in the precincts was violence (84.4%). About 39 percent of respondents had witnessed or were involved in such events in their precinct in the past year.

More than two-thirds of all respondents said that they never walked alone in the precinct after dark (67.7%) but of those that had, 78.5 percent felt safe doing so. More than three-quarters never waited alone for public transport after dark (76.2%) but of those that had, 85.9 percent felt safe. There were no significant differences between Geelong and Newcastle in relation to perception and experiences of safety and crime.

Table 12 Perceptions and experiences of crime in the main entertainment precincts

Item	Total % (693)	% Live in each city		P <0.01	% Patron of premises in the last year		
		Geelong (n=318) (95% CI)	Newcastle (n=376) (95% CI)		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

Table 12 (continued)

Item	Total % (693)	% Live in each city			% Patron of premises in the last year		
		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
Three most frequent problems by intoxicated/rowdy people in the precincts							
Alcohol-fuelled violence/abuse	84.4	87.2 [81.4–91.3]	82.2 [75.8–87.1]	–	87.1 [80–92]	82.9 [77.5–87.2]	NS
Noise or disturbances	7.3	6.6 [3.7–11.4]	7.8 [4.7–12.8]	–	7.5 [3.9–13.8]	7.1 [4.5–11.2]	NS
Alcohol-related vandalism/theft	4.2	2.3 [1–5.6]	5.7 [3–10.6]	–	1.7 [0.5–5.3]	5.5 [3.1–9.8]	NS
Witnessed/involved in a non-physical or physical argument in entertainment precinct (247)	51.5	50.1 [38.2–61.8]	52.7 [41.3–63.6]	–	54.7 [44.3–64.5]	^	^
Proportion that involved alcohol	96.1	93.1 [30.7–98.3]	97.9 [38.2–99.7]	–	96.8 [32.7–99]	^	^
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
Never walk alone in precinct after dark	67.7	66.3 [59.4–72.8]	68.9 [62.3–74.9]	–	46.1 [37.5–55.1]	79.6 [74.4–83.9]	<0.001
Feel very unsafe/unsafe waiting for public transport alone in precinct after dark:	14.1	12.5 [8.4–18.1]	15.4 [10.9–21.3]	–	22.6 [15.7–31.5]	9.4 [6.5–13.5]	<0.001
Never wait alone in the precinct	76.2	76.3 [69.8–81.9]	76.1 [69.8–81.5]	–	58.8 [49.9–67.4]	85.6 [81.1–89.2]	<0.001

– Non significant at p-value (<0.01)

One participant refused to answer the question about visiting a premise, thus their data are missing from this analysis

^ 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

When comparing respondents who had visited a precinct venue after 10 pm in the past year and 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 during that time. It was also found that significantly more people who had not been a patron in the past 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; $p<0.001$).

Awareness and attitudes to local strategies

Geelong respondents

In Geelong, the strategies that respondents were most aware of were increased transport (75.8%) and the CCTV network (74.2%) while the least-known strategy was the radio network (23%). More than 90 percent

of participants supported all strategies with increased enforcement in venues receiving the highest support (97.9%) and the radio network being the least supported (91.8%).

Awareness for all strategies was highest for respondents who had visited a precinct venue after 10 pm in the last year, significantly so for all except the transport strategy. Support for each strategy was similar between patrons and non-patrons with the exception of ID scanners where patrons were significantly less supportive ($p = 0.022$).

Table 13 Community awareness of attitudes towards Geelong strategies

Item	Total % (318)	% Patron of premises in last year		P <0.05
		Patron (n=114)	Non-patron (n=204)	
Aware of Geelong liquor accord	28.6	40.4	22.1	0.0020
Aware of CCTV network	74.2	83.3	69.1	0.0196
Support for CCTV network	92.4	91.6	92.9	NS
Aware of radio network	23.0	30.7	18.6	0.0416
Support for radio network	91.8	85.7	97.4	NS
Aware of ID scanners	66.4	80.7	58.3	0.0002
Support for ID scanners	93.8	92.4	95	0.0220
Aware of secure taxi ranks	44.7	59.7	36.3	<0.0001
Support more taxi ranks	95.1	94.1	96	NS
Aware of transport strategy	75.8	79.8	73.5	NS
Support transport strategy	93.4	90.1	95.3	NS
Aware of increased enforcement in venues	29.9	41.2	23.5	0.0025
Support increased enforcement	97.9	97.9	97.9	NS

Newcastle respondents

Most respondents (89.9%) were aware that restrictions were imposed on late-night hotels in the Newcastle entertainment precinct. The strategies which most respondents were aware of were reduced trading of the venues (94.2%) and a late-night lockdown (84.8%). The strategy that was least known was secure taxi ranks (34%). All Newcastle strategies appeared to gain strong community support, with increased enforcement of venues gaining the most (99.3%) and reduced trading hours receiving the least (77.1%).

Awareness of the strategies was generally higher for respondents who had visited a precinct venue after 10 pm in the previous year, significantly so for increased enforcement, secure taxi ranks, alcohol-free zones and lockdowns. Support for all strategies was similar for respondents who had visited the precinct and those that had not, with all strategies being supported by more than 60 percent of respondents. Those who had visited a precinct venue were significantly less supportive of early closing and alcohol restrictions.

Table 14 Community awareness of and attitudes towards Newcastle

Item	Total % (375)	Patron of premises in last year %		
		Patron (n=133)	Non-patron (n=242)	P <0.01
Aware of restrictions on imposed venues	89.9	91.0	89.3	NS
Aware of early closing	94.2	97.1	92.6	NS
• Support early closing	77.1	66.7	83.1	<0.0001
Aware of lockouts	84.8	94.0	79.8	0.001
• Support lockouts	80.3	72.0	85.6	0.0036
Aware of any drink restrictions	79.0	93.2	71.2	<0.0001
• Support drink restrictions	88.6	79.0	95.4	<0.0001
Aware of alcohol-free zones	82.7	90.2	78.6	0.01
• Support alcohol free zones	86.2	82.5	88.5	NS
Aware of secure taxi ranks	34.0	42.1	29.6	0.05
• Support more taxi ranks	98.4	98.2	98.6	NS
Aware of transport strategy	49.7	55.6	46.5	NS
• Support transport strategy	94.7	93.2	95.6	NS
Aware of increased enforcement in venues	39.6	52.6	32.5	0.0005
• Support increased enforcement	99.3	98.6	100	NS

Thirty-five percent of Newcastle respondents had visited a venue after 10 pm in the main entertainment precinct during the previous year. Such respondents were asked a series of additional questions relating to the perceived effectiveness of the implemented strategies. Table 15 shows 78.2 percent of respondents thought the streets were safer and 91 percent thought the venues were safer since the restrictions had been imposed. Respondents thought that the drink restrictions (27.1%) increased enforcement (21.8%) reduced trading (18.8%) and lockouts (15.8%) had made the greatest impact on alcohol-related crime in the precinct. More than 80 percent of people thought that crime had reduced overall (82.5%) and 33.1 percent thought that the restrictions had made no impact on numbers of patrons. In addition, 47.4 percent thought that the lockouts had reduced the number of people on the streets after 1.30 am; however only 12.8 percent thought that there was adequate transport at this time. Forty seven percent of people thought that reduced trading had lowered the number of people on the street, but only 15 percent thought that transport was adequate at closing time (3.30 am).

Table 15 Community perception of effectiveness of Newcastle strategies among respondents visiting the precinct at night

Item	Total %
Been to premises in last year	35.4
Strategies effective in making STREETS safer	78.2
Strategies effective in making VENUES safer	91.0
Strategy with greatest impact:	
• Early closing	18.8
• Lockout	15.8
• Drink restrictions	27.1
• Increased transport	3.0
• Alcohol free zones	0.8
• Taxi rank	1.5
• Increased enforcement	21.8
• Don't know	7.5
• None have had an impact	3.8
Lockouts	
• Effective in reducing the number of people on the streets after 1.30am	47.4
• Adequate late night transport at lock out	12.8
Early closing	
• Effective in reducing the number of people on the streets at closing time	47.4
• Adequate late night transport at closing	15.0
Alcohol-related crime has changed	55.6
• More crime	8.1
• Less crime	82.5
• More aggressive/severe/violent	25.7
• Less aggressive/severe/violent	14.9
• Don't know	5.4
Restrictions changed number of people out	
• More people out	15.0
• Less people out	20.3
• No change	33.1
• Don't know	31.6

Support for strategies in entertainment precincts

Respondents who indicated they were aware of a harm-reduction strategy were asked to indicate their support for that strategy. High levels of support were found for most of the strategies, with the drink-driving and enforcement approaches gaining the most support. For drink-driving strategies, 93.7 percent supported increased random breath test stations in unexpected areas (eg not main streets) however, only 38.7 percent supported lowering the legal blood alcohol concentration for all drivers. For enforcement, increasing visible enforcement of venues received the most support (96%) with increased server liability receiving the least (28.1%). Most support (79.2%) favoured restricting access to alcohol by reducing the trading hours of late-night venues in high-risk areas, with 76.7 percent supporting mandatory lockouts. Most respondents (77.2%) thought that lockouts should happen before 1 am. Overall, increasing the price of alcohol received the least support at 24.7%.

Support for increasing the minimum legal drinking age was significantly higher for Newcastle compared to Geelong (48.7% and 36.2% respectively; $p < 0.0001$). While no significant differences existed between the cities supporting reduced trading hours and lockouts, there were significant differences in support for the times of such strategies. Newcastle respondents supported earlier closing (28.5% vs. 11.7% $p < 0.0001$) and lockout times (61% vs. 36% $p < 0.0001$) compared with Geelong.

Respondents who had visited a precinct venue after 10 pm in the past year were generally less supportive of strategies aimed at restricting the supply of alcohol. While more than half the patrons supported reduced trading hours, significantly more non-patrons supported the measure (55.1% vs. 79.8% respectively; $p < 0.0001$). Non-visiting patrons were also less likely to support mandatory lockouts (67.9% compared to 81.6% for non-visiting respondents; $p = 0.002$); restrictions in venue density (37.9% compared to 60% for non-visiting respondents; $p < 0.001$); and lowering the legal BAC (31.7% compared to 41.8% for non-visiting respondents; $p < 0.01$).

Table 16 Support for evidence-based strategies targeting alcohol-related harm in entertainment precincts

Strategy	Total % (693)	% Live in each city			% Patron of premises in the last year		
		Geelong (n=318)	Newcastle (n=376)	P	Patron (n=247)	Non-patron (n=446)	P
		95% CI	95% CI	<0.01	95% CI	95% CI	<0.01
1. Enforcement of licensed venues							
Increasing visible licensing inspections in premises	96.1	95.6 [93.3–97.9]	96.5 [94.7–98.4]	NS	95.6 [93.0–98.1]	96.4 [94.7–98.1]	NS
Increasing penalties for premises and staff who neglect to serve alcohol responsibly	87.2	88.5 [82.9–92.3]	86.2 [80.4–90.4]	NS	87.2 [80–92.1]	87.2 [82.4–90.8]	NS
Police asking intoxicated offenders location of their last drink, and warning premises	77.3	79.8 [73.3–85]	75.3 [68.6–80.9]	NS	70.8 [61.8–78.4]	80.9 [75.7–85.2]	0.008
Increase server liability (for actions after patrons have vacated the premises)	28.1	30.8 [24.4–38.1]	25.8 [20.2–32.4]	NS	23 [16.5–31.3]	30.8 [25.3–36.9]	NS
2. Restrict alcohol access							
Closing all late-night licensed premises earlier	71.1	71.5 [64.7–77.6]	70.7 [64.3–76.7]	NS	55.1 [46.6–63.7]	79.8 [74.5–84.2]	<0.001
If supported, appropriate closing time:							
• Before 12 am	21	11.7 [8.1–16.8]	28.5 [22.9–35.7]	<0.001	8.5 [5.3–14.4]	27.7 [22.3–34.1]	<0.001
• 12.01 am to 1 am	20.7	14 [9.9–19.6]	26.1 [20.3–33.2]	<0.001	15.3 [10.1–22.8]	23.6 [18.7–29.5]	NS
• 1.01 am to 2 am	25.1	29.3 [22.9–36.7]	21.8 [16.7–28.1]	NS	24.6 [17.8–33.3]	25.4 [20.4–31.3]	NS
• 2.01 am to 3 am	23	31.9 [25–39.5]	15.9 [11.5–21.5]	<0.001	32.6 [24.5–41.9]	17.9 [13.7–23]	<0.001
• After 3 am	8.1	11.8 [7.6–17.5]	5.1 [2.8–8.7]	<0.001	16.7 [10.7–24.8]	3.4 [1.9–6.1]	<0.001
Reducing trading hours of premises located in high-risk areas	79.2	78.2 [71.7–83.7]	80.1 [74–85.1]	NS	65 [55.9–73.3]	87 [82.5–90.5]	<0.001

Table 16 (continued)

Strategy	Total % (n=693)	% Live in each city		% Patron of premises in the last year			
		Geelong (n=318)	Newcastle (n=376)	Patron (n=247)	Non-patron (n=446)	P	P
		95% CI	95% CI	95% CI	95% CI		
Mandatory lockouts for all late-night licensed premises	76.7	74.4 [67.4–80.4]	78.7 [72.5–83.9]	67.9 [58.9–75.9]	81.6 [76.4–85.8]	NS	0.002
If supported mandatory lockouts, appropriate lockout time:							
• Before 12 am	50.0	36.2 [30.7–41.8]	61.3 [56.1–66.4]	31.3 [25.2–37.3]	60.1 [55.4–64.9]	<0.001	<0.001
• 12.01 am to 1 am	27.2	26.7 [20.6–34]	27.5 [21.6–34.5]	33.2 [25.1–42.5]	23.9 [19–29.6]	NS	NS
• 1.01 am to 2 am	15.4	26.4 [19.6–34.2]	6.6 [4–10.6]	21.6 [14.8–30.2]	12 [8.6–16.7]	<0.001	0.04
• 2.01 am to 3 am	4.4	6.8 [3.6–12.5]	2.5 [1.1–5.5]	8.6 [4.4–16.2]	2.1 [1–4.6]	0.009	0.003
• After 3 am	0.9	1 [0.2–4.7]	0.8 [0.2–3.8]	1.7 [0.4–7.4]	0.5 [0.1–2.6]	NS	NS
Stricter restrictions on alcohol discounts and promotions	71.9	72.1 [65.1–78.3]	71.8 [65.1–77.8]	65 [56–73.2]	75.7 [70.1–80.6]	NS	NS
Restrict number of new alcohol outlets where a high outlet density already exists	52.2	53.2 [46–60.4]	51.3 [44.5–58.3]	37.9 [30–46.7]	60 [53.8–66]	NS	<0.001
Increasing the price of alcohol	24.7	26 [20.2–33]	23.7 [18.4–30.1]	17.7 [12.2–25.3]	28.5 [23.3–34.6]	NS	NS
Increasing legal age of alcohol consumption above 18 years (eg to 21 years)	43	36.2 [29.8–43.4]	48.7 [41.8–55.8]	35.4 [27.7–44.2]	47.2 [41.1–53.5]	<0.001	NS
More severe penalties for drink-driving	89.2	87.5 [81.5–91.5]	90.7 [85.9–93.8]	88.5 [81.4–92.7]	89.7 [85.3–92.8]	NS	NS
Lowering legal blood alcohol concentration for all drivers	38.2	35.9 [29.3–43.1]	40.2 [33.5–47.2]	31.7 [24.2–40.3]	41.8 [35.9–48]	NS	0.01
Increasing visible random breath testing when offenders more likely to be caught	93.7	93.6 [88.7–96.4]	93.9 [89.4–96.5]	93 [86.6–96.4]	94.2 [90.5–96.4]	NS	NS

3.2.1. Discussion

The results indicate that almost 90 percent of Geelong and Newcastle residents were concerned about alcohol-related crime in their main entertainment precincts, have low perceptions of safety in such areas, and support alcohol harm-reduction strategies designed to address the harm associated with licensed venues. Given the perceived safety problems, it is unsurprising that most respondents reported feeling too unsafe to walk or wait for transport alone after dark.

No significant differences existed between Newcastle and Geelong. Respondents who visited venues were more likely to walk/wait for transport alone after dark, and felt reasonably safe doing so. Community awareness of strategies in Geelong varied according to type of respondent. Late night patrons were significantly more aware of all strategies with the exception of transport. More than 90 percent of Geelong respondents supported all strategies. Both patrons and non-patrons had similar levels of support, with the exception of ID scanners, where patrons were significantly less supportive.

Community awareness of the harm-reduction strategies implemented in Newcastle appears to be high. Respondents who visited venues late at night supported evidence-based strategies, with slightly less support for reduced trading and drink restrictions. These results back the argument that people will support strategies that are unlikely to affect them personally (Wagenaar et al. 2000; Wallin & Andreasson 2004). Giesbrecht (2004) stated that strategies that were narrowly focused, unobtrusive and generic, gained more community support; and that support was lowest for strategies that control access to alcohol and affect all consumers.

In relation to the range of alcohol harm-reduction strategies that could be implemented in entertainment precincts generally, support was high; however levels differed between strategies. The most-supported category targeted drink-driving counter-measures, with most people supporting more severe penalties for drink-driving (89.2%) and increasing visible RBT stations where offenders were more likely to get caught (93.7%). This result is similar to other Australian studies where 85 percent of Australians supported more severe penalties (Australian Institute of Health and Welfare [AIHW] 2008, Hawkins et al. 2009). Likewise, the AIHW reported that 86% of Australians supported more visible RBT stations (AIHW, 2008).

The study also shows support for increased enforcement for licensed premises with increasing visible licensing inspections gaining the most support (96.0%) followed by increased penalties for premises and staff (87.2%). These results are higher than those reported by Hawkins et al. (2009) where 82 percent supported more inspections and 74 percent supported increased penalties for non-compliance of the liquor legislation. In contrast, only 28 percent of respondents in a Swedish study supported increased visible enforcement (Wallin & Andreasson 2004). These differences could be attributed to varying cultures, policing levels, government policies and study methods. Also, recent media coverage regarding the high levels of alcohol-related violence within the entertainment precincts may also affect this view.

Consistent with other national and international studies, the category with the least community support was restricting the availability of alcohol. Despite this, our study found moderate support for reduced trading hours for all late-night premises (71.1%) reducing trading hours for premises located in high-risk areas (79.2%) mandatory lockouts (76.7%) and stricter restrictions on alcohol discounts and promotions (71.9%). Respondents' level of support for reduced trading (71.1%) was higher than those reported by the AIHW (34%) Hawkins (49%) and Wallin (31%). This higher level of support could be due to increased public awareness of alcohol problems in the study areas, and a higher level of perception that action is required. Regarding lockouts, the observed level of support (76.7%) was similar to the 71 percent reported in Hawkins et al. (2009).

Increasing the legal age of alcohol consumption within Australia has historically been a controversial topic (Schofield et al. 1994; Smith 1986). Current discussions of changing the legal drinking age have been seen in the media. The results showed that 43 percent of respondents supported such a strategy, compared to 42 percent in the AIHW study and 62 percent in the Netherlands (Bongers 1998). Increasing the price of alcohol (eg taxation) had the lowest level of support, similar to other studies: 18 percent (AIHW 2008) 25 percent (Richter 2004) 25 percent (Bongers 1998) and five percent (Wallin 2005). Again, differences between studies

could be attributed to varying cultures, policies, governments and study methodologies. Results found that attitudes towards alcohol harm-reduction strategies were similar across two regional city areas with only three of the 15 strategies being significantly different (appropriate closing time, appropriate lockout time and increasing legal age of consumption). The most significant differences were evident between patron and non-patron groups. Non-patrons were more likely to support strategies aimed at restricting alcohol availability.

Conclusions

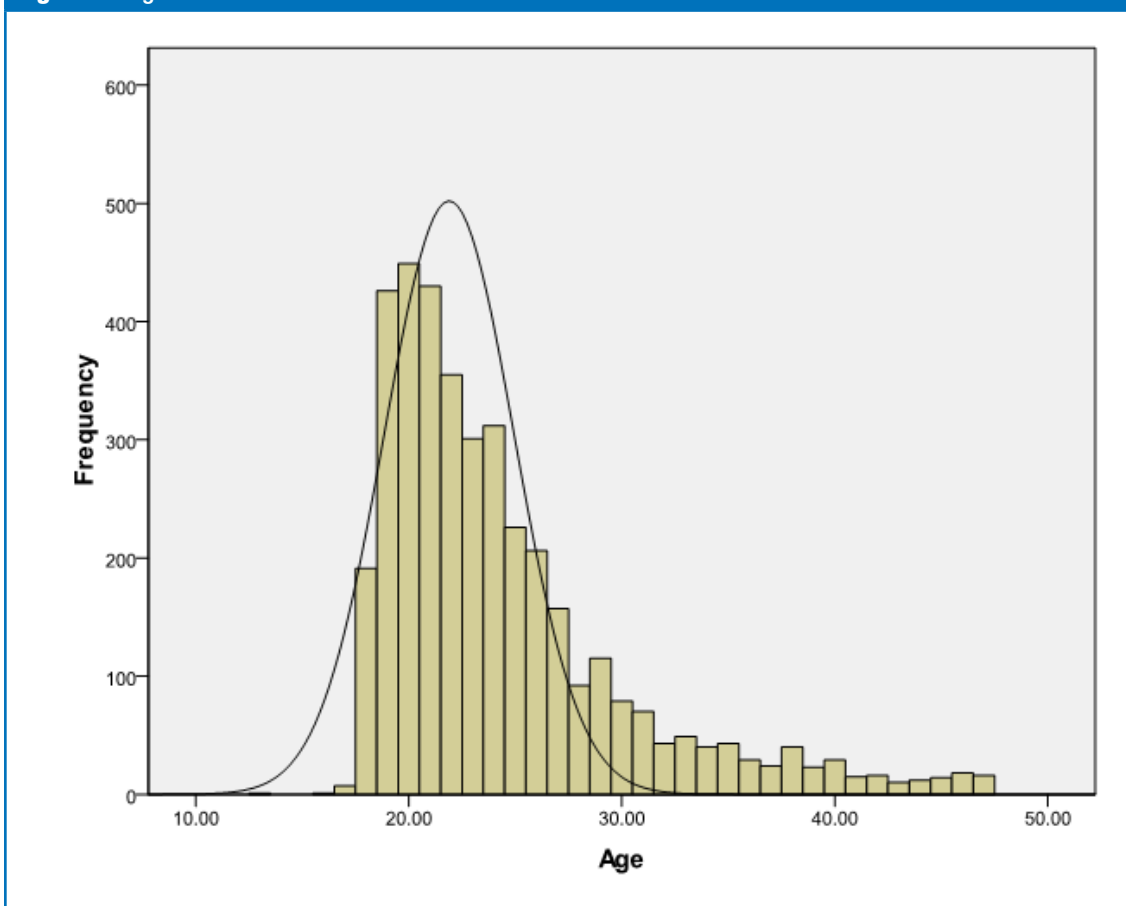
Despite the limitations, it is clear that residents perceive alcohol as a significant social problem in entertainment precincts, and support most evidence-based alcohol harm-reduction strategies. The minimal difference between the study areas demonstrates that Australian regional cities are similar in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

3.3. Patron Interviews

As previously mentioned, 3,949 people agreed to be interviewed. A total of 93 people were interviewed more than once; two people were interviewed three times. Table 17 shows a summary of characteristics for the patrons interviewed, comparing the different interview sites.

3.3.1. Sample characteristics

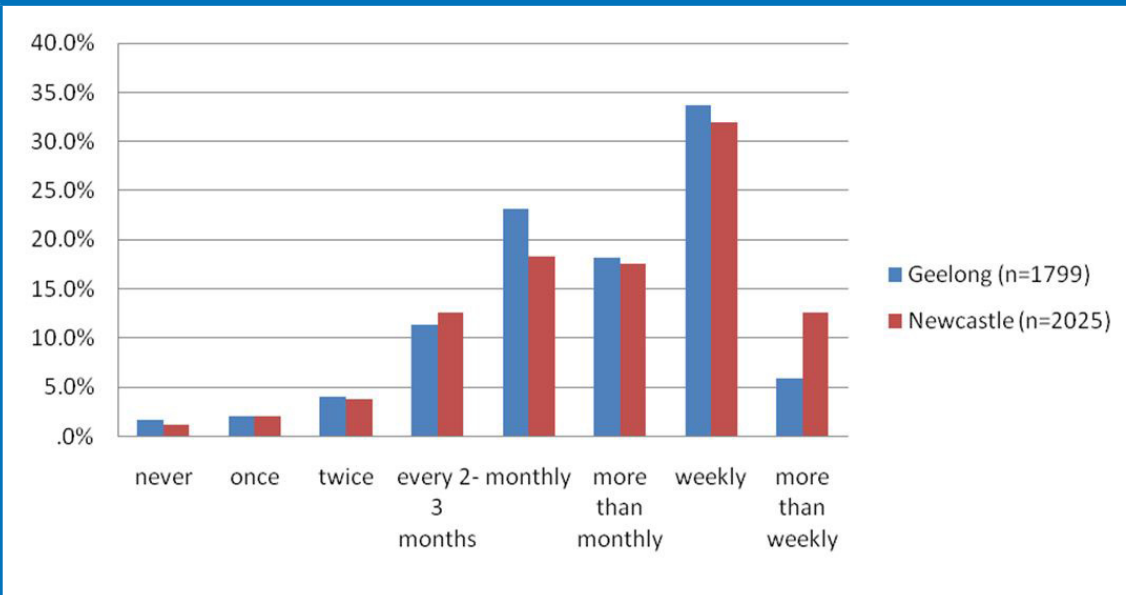
Around half (54.4%) of the interviewees were male, with minor site differences (G, 52.3%; Nc, 56.3%). The mean age of interviewees was 24.3 years (standard deviation 5.8) and the mode age was 20 years, ranging from 17 to 47 years. Males were, on average, significantly older than females (24.7 and 23.9 respectively; $t=3.99$, $p<0.000$). Figure 71 shows the age distribution of interviewees.

Figure 71 Age distribution of interviewees

Most interviewees reported going out in the entertainment areas of Geelong/Newcastle (ie spent evening in licensed venues) regularly in the past year, with almost one third going out every week (33.7% in Geelong and 31.9% in Newcastle). A larger proportion of Newcastle interviewees reported going out 'more than weekly' than in Geelong (12.6% and 5.9% respectively). Most other categories were very similar, although the two samples were statistically independent ($\chi^2=59.42$, $p<0.000$). Figure 72 reports the findings for both sites on how often interviewees typically spent a night in licensed venues over the past year.

Table 17 Summary table—patron interview sample

Item	Geelong	Newcastle	Total	
Gender (female)	47.6%	43.6%	45.5%	P=0.029
Mean age (standard deviation)	23.9 (5.5)	24.7 (6.0)	24.3 (5.8)	P<0.0001
Median age	20	20	20	
Frequency 'going out'				$\chi^2=59.42, p<0.000$
• 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%	
Been before venues visited:				
• Home with friends	31.4%	23.1%	23.9%	
• Bar	27.1%	22.0%	24.2%	
• Home alone	13.7%	22.9%	18.9%	
Number of venues visited in a night				
• 1	65.1%	56.9%	55.0%	
• 2	28.4%	31.0%	29.8%	
• 3	6.4%	12.1%	9.1%	
Main reason for going out				
• Socialise	34.7%	40.0%	37.5%	
• Special event	35.7%	27.4%	31.4%	
• Get drunk	7.4%	7.6%	7.5%	
Main reason—this venue:				
• Where my friends go	46.0%	33.7%	39.5%	
• Other	21.8%	26.6%	24.4%	
• Good vibe	18.9%	22.0%	20.5%	
• Good entertainment	10.3%	12.1%	11.2%	
Money spent tonight (\$):				
• 0–20	44.8%	35.2%	39.6%	
• 21–50	27.7%	30.1%	29.0%	
• 51–100	16.7%	21.8%	19.4%	
• 101–200	7.5%	8.4%	8.0%	

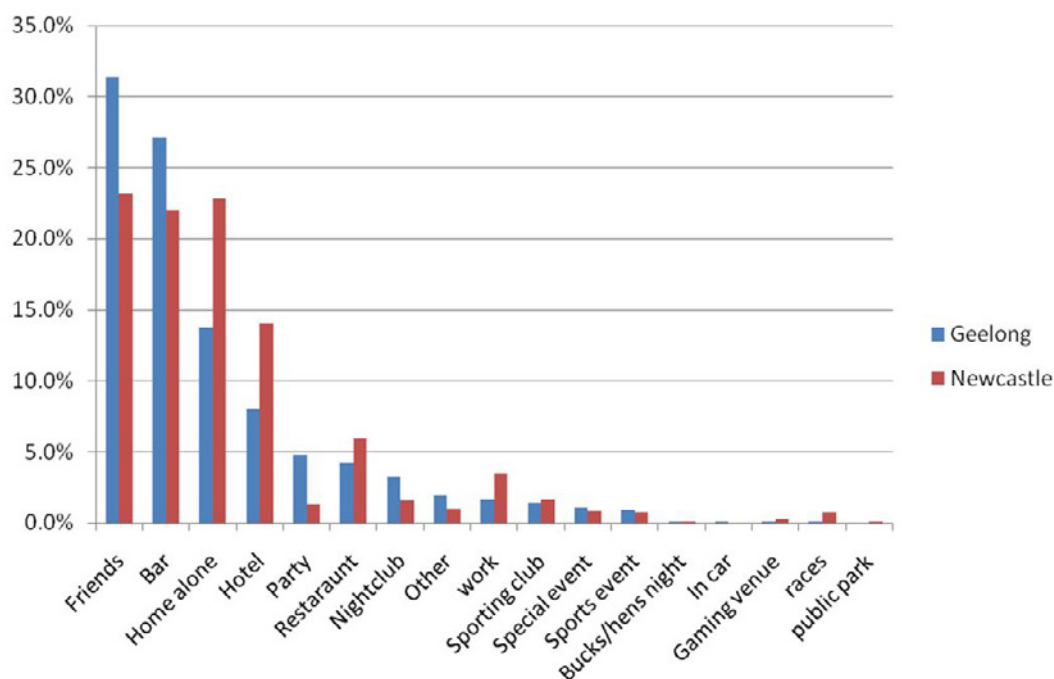
Figure 72 Frequency 'going out' in Geelong and Newcastle

People interviewed most commonly had not been to other venues before being interviewed (41.2%) closely followed by having been to one other venue. Given that all interviews took place after 10.30 pm, this suggests that interviewees in both cities tended to enter venues later at night and not move between venues in the earlier hours. Interviewees in Newcastle were more likely to have been to more venues in the evening ($\chi^2=43.94$, $p<0.000$; see Table 18).

Table 18 Number of venues visited before interview

Number	Geelong	Newcastle	Total
0	780	847	1627
	41.5%	40.9%	41.2%
1	834	783	1617
	44.4%	37.8%	40.9%
2	201	319	520
	10.7%	15.4%	13.2%
3	47	69	116
	2.5%	3.3%	2.9%
4	17	52	69
	0.9%	2.5%	1.7%
Total	1879	2070	3949
% within location	100.0%	100.0%	100.0%

Interviewees were most likely to have been drinking in a private residence with friends before being interviewed, and more likely to have done so if coming from Geelong. Of interest, substantially more people reported drinking at home alone before being interviewed in Newcastle than Geelong (see Figure 73).

Figure 73 'Where have you been tonight?'

These findings may mean that Newcastle interviewees show a trend of going out earlier, directly from home, and meeting their friends out, rather than Geelong where they more commonly meet at a private residence to drink with friends, although these findings would require more in-depth investigation.

In general, reasons for 'going out' appear similar across response categories (see Figure 74). There may be some crossover, however, between the 'other' categories and 'special event' responses for the different sites. People most commonly reported going out to socialise and for special events (eg birthdays, weddings, bucks nights, etc). There may also be substantial crossover between people socialising and also having a 'normal night out'.

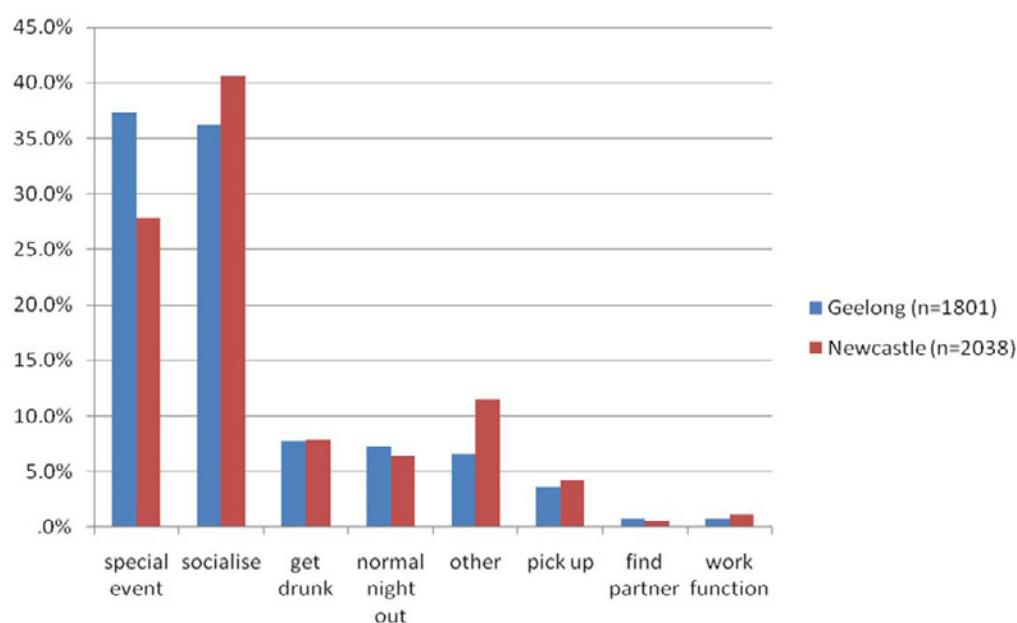
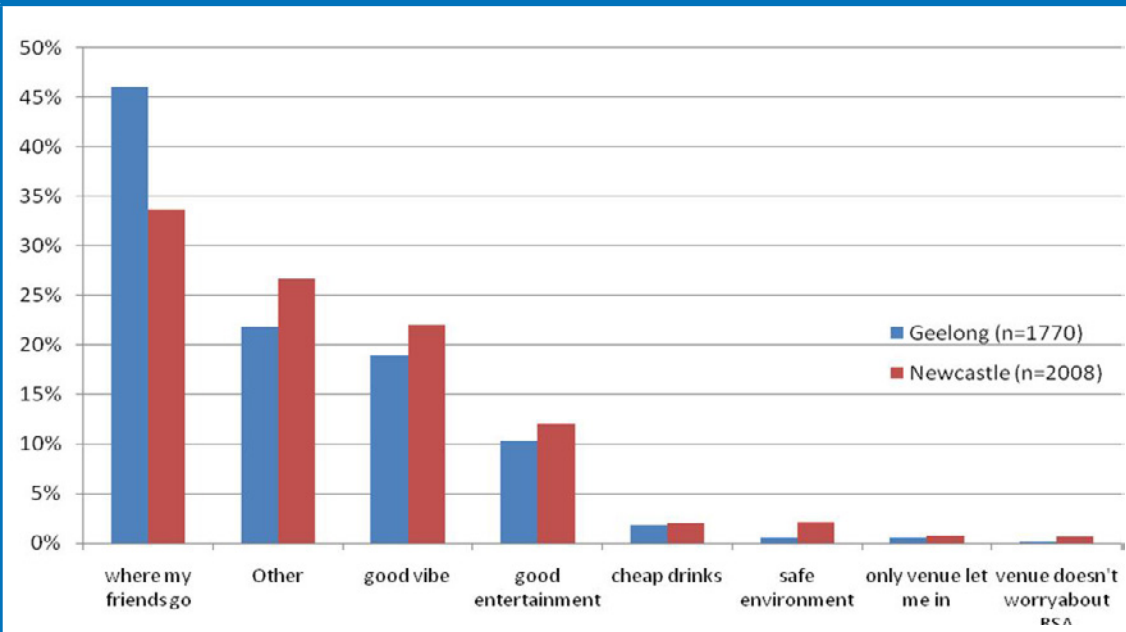
Figure 74 Reason for 'going out'

Figure 75 reports the reasons for people attending the venue they were interviewed in/outside. By far the most common response was that people tended to go to venues that their friends were patronising.

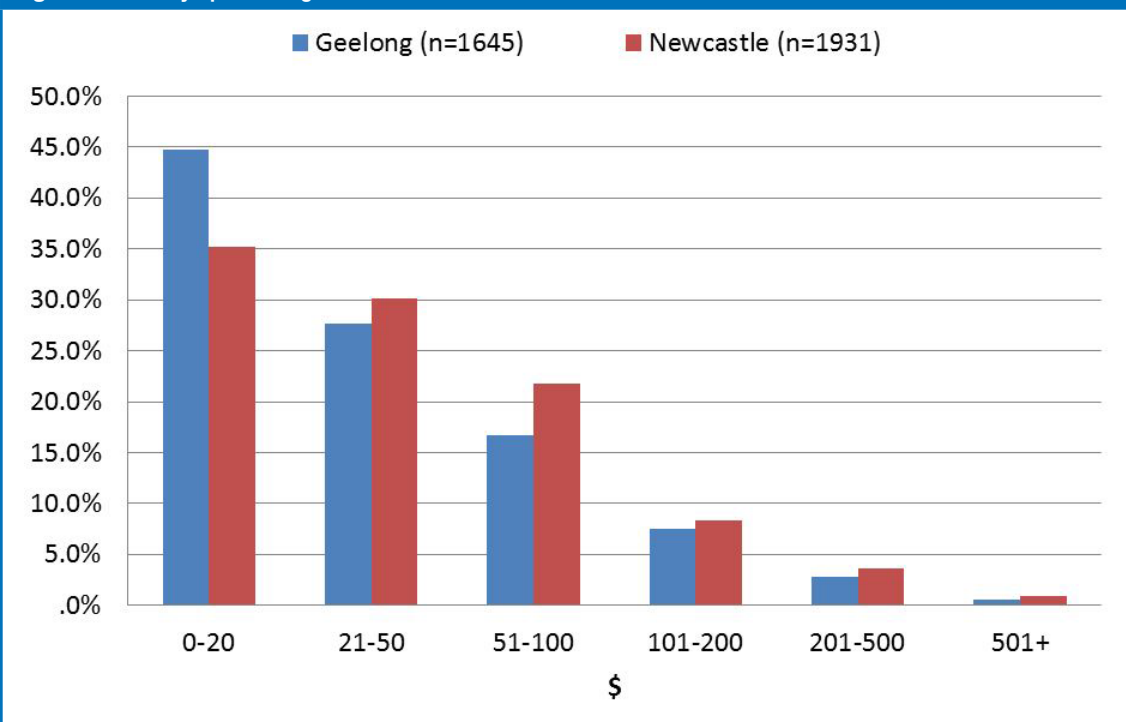
Figure 75 Reason for coming to this venue



Subsequent analyses showed no correlation between the reasons for people attending specific venues and the amount of alcohol they had consumed before going out. On the other hand, there was a significant difference between reasons for people choosing their venues for Newcastle and Geelong, with the most obvious difference being that Geelong interviewees were more likely to report that they were choosing venues because their friends were there ($\chi^2=185.14$, $p<0.000$; see Figure 75).

Finally, interviewees most commonly reported having spent \$0–50 (see Figure 76).

Figure 76 Money spent tonight



Summary

The data demonstrates that the people interviewed for this study were predominantly young adults (18–24 years) with a reasonable balance of genders. The findings also show that Geelong and Newcastle are similar on most of the variables investigated, with a number of notable exceptions. For example, people in Newcastle tended to go out significantly more nights of the week than people in Geelong, suggesting that the interventions put in place in Newcastle do not mean people go out less often than those in Geelong. On the other hand, a variable often noted by the interview teams, which affected the running of the project, was poor weather in Geelong during the study period, whereas Newcastle's weather was much warmer and conducive to socialising. This affected the number of people interviewed and also clearly affected the number of people going out. In general, most people across the two cities go out to socialise and choose venues where their friends go. In both cities, a large proportion of people have been at home with friends before going out, or have gone to a bar earlier in the night.

3.3.2. Substance Use

This section describes trends around interviewee's alcohol and other drug use, including how much they drank before visiting licensed venues. Table 20 shows a summary of interviewees' substance use trends, comparing the different interview sites.

One of the most significant factors noted in the interviews was the amount of alcohol interviewees consumed before attending licensed venues. Table 19 reports the finding that a third of interviewees in Geelong had pre-loaded more than five drinks—the internationally recognised limit for single occasion risky drinking—before going to a licensed venue. The findings also show this number is significantly less for Newcastle, although a quarter of all interviewees still reported consuming more than five drinks before going to a venue. Further, previous research in the UK has shown that people who reported drinking before attending licensed venues (eg at their own or a friend's home) reported significantly higher total alcohol consumption over a night out than those not drinking until reaching bars and nightclubs (Hughes 2007).

Table 19 Drinks consumed before attending licensed venue

Number	Geelong (n=1,789) %	Newcastle (n=1,999) %	Total %
0	27.9	37.1	32.8
1–5	38.7	37.8	38.2
6–10	24.2	19.1	21.5
11–15	5.9	3.6	4.7
16–20	1.8	1.4	1.6
21–25	0.8	0.7	0.7
26–30	0.4	0.1	0.2
>30	0.2	0.2	0.2
don't know	0.1	0.2	0.1

Two-thirds of all interviewees reported pre-drinking, a figure that is higher than estimates from the UK research (57%). This suggests different dynamics at play (Hughes 2007).

The current study found that people who pre-drank were also significantly more likely to be in a fight ($\chi^2=25.47$, $p<0.000$). Almost one in five (17.8%) people in a fight had been pre-drinking, whereas only 11.5 percent of those who did not pre-drink were in a fight. This finding replicates those of Hughes and colleagues in the UK who found that individuals who drank before going out were more than 2.5 times more likely to have been involved in a fight in the city's nightlife during the previous 12 months (Hughes 2007).

The beverage types most commonly consumed at home were beer-heavy (31.4%) spirits (26.7%) white wine (10%) alcopops (7%) and a mix of beer and spirits (10.4%). All other combinations were less than 10% of the

total sample. These consumption patterns tend to mostly reflect national trends for this age group, although high levels of spirit consumption suggest a focus on rapid consumption and consequent intoxication. No significant differences emerged between research sites in terms of the types of beverage being consumed.

Table 20 Summary table—patron interview substance use

Item	Geelong	Newcastle	Total	
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%	
• White wine	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)				
• 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%	
Intox level when interviewed				
• Mean (σ)	4.46 (2.29)	4.39 (2.10)	4.42 (2.15)	$t=0.907$,
• Zero self-rated intoxication	13.9%	14.9%	14.4%	$p=0.023$
Interviewer intoxication ratings (out of 6)				
• Mean (σ)	1.01 (1.39)	0.66 (1.14)	0.82 (1.27)	$t=8.54$, $p=0.000$
Refused service tonight?				
• Asked to leave	0.3%	0.6%	0.5%	
• Refused entry	0.6%	2.0%	1.3%	
• Take a break	0.1%	0.2%	0.2%	
How often refused service?				
• Never	80.1%	72.4%	76.1%	$\chi^2=35.77$,
• Less than monthly	16.0%	21.2%	18.7%	$p<0.000$
• Monthly	3.0%	5.0%	4.1%	

Table 21 reports the reasons interviewees identified for drinking before going out to licensed venues. While social and convenience factors played a role, it is clear that the price differential between packaged liquor and alcohol purchased in venues was by far the most common reason for pre-loading.

Table 21 Why do you drink before going out to licensed venues?

	Geelong		Newcastle		Total	
	N	%	N	%	N	%
Price	566	34.8	689	35.3	1255	35.1
Chance to catch up with friends	280	17.2	191	9.8	471	13.2
Other	217	13.4	168	8.6	385	10.8
Convenience	73	4.5	147	7.5	220	6.2
Don't want to go too early	20	1.2	18	0.9	38	1.1

As seen with venue choice, reasons for pre-loading in Geelong suggest a more social culture around pre-loading where more people catch up with friends before going out. Certainly, most of the alcohol consumed before going out was done so in patron's homes or their friend's homes (see Table 22). This may also reflect the reality of much later options being available in terms of venues being open to 7 am compared to Newcastle venues closing at 3.30 am.

Table 22 Location pre-drinking occurred (%)

	Car	Friend's place	Home	Other	Other licensed premises	Park/beach	Party
Geelong (n=1,152)	1.6	37.7	44.8	6.2	2.6	0.2	7.0
Newcastle (n=1,239)	1.8	26.9	54.5	7.0	5.7	0.8	3.3

Other drug Use

Another element of the night-time economy is the use of drugs other than alcohol. Towards the end of the interview, participants were asked if they minded being asked about any other drug use they may have engaged in, and if not, which drugs they might have used. Interviewers were also able to enter responses to indicate that participants were showing signs of other drug use (such as rapid speech or jaw clenching) but were not disclosing their use, as denoted by the 'refused to tell' response. Table 23 reports participant responses. While there is undoubtedly some under-reporting, the interview responses suggest that other drug use remains a minority behaviour, with only seven percent of the interviewees reporting or demonstrating the effects of other drug use. Interviewees in Geelong were significantly more likely than those in Newcastle to report using other drugs, particularly methamphetamine, ($\chi^2=185.14$, $p<0.000$). These numbers relate well to the 2010 National Drug Strategy Household Survey (NDSHS) findings which found that 2.1 percent of the population had used methamphetamines (also included under our term 'speed') three percent had used ecstasy, 0.2 percent had used ketamine and 0.1 percent had used GHB (AIHW 2011). The NDSHS also reports national rates of recent cannabis use at 10.3 percent of the population, which is considerably higher than the numbers obtained in this study. However, to a degree this is to be expected as, unlike other recreational drugs such as ecstasy and methamphetamine, people tend to continue to use cannabis throughout their lives (AIHW 2011). Other rates appear similar, or that the sample individuals in this survey are over-represented in terms of their drug use compared to the broader society, which again fits the profile of age trends of drug use.

Table 23 Self-reported other drug use

Drug	Geelong		Newcastle		Total	
	N	%	N	%	N	%
Methamphetamine	50	2.7	25	1.2	75	1.9
Cannabis	43	2.3	39	1.9	82	2.1
Speed	27	1.4	26	1.3	53	1.3
Ecstasy	10	0.5	8	0.4	18	0.5
Refuse to tell	20	1.1	25	1.2	45	1.1
Ketamine	7	0.4	5	0.2	12	0.3
GHB	6	0.3	4	0.2	10	0.3
Other	3	0.2	0	0.0	3	0.1
Heroin	1	0.1	4	0.2	5	0.1
Total	160	8.5	118	5.7	278	7.0

However, further analyses showed that although drug use was not common in people interviewed for this study, those who reported using drugs were significantly more likely to report being in a fight ($\chi^2=39.381$, $p<0.000$). 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 that did not report drug use had been in a fight.

Intoxication Levels

Interviewees were asked to self-rate their intoxication level, where 0 was completely sober and 10 equalled 'so drunk you can barely walk, stand, etc'. Figure 77 reports interviewee's self-rated intoxication. It is clear that most people interviewed reported that their intoxication levels were below 5/10, although a substantial minority reported that they were extremely intoxicated. There was no significant difference between Geelong and Newcastle on self-rated intoxication ($F=0.822$, $p=0.365$).

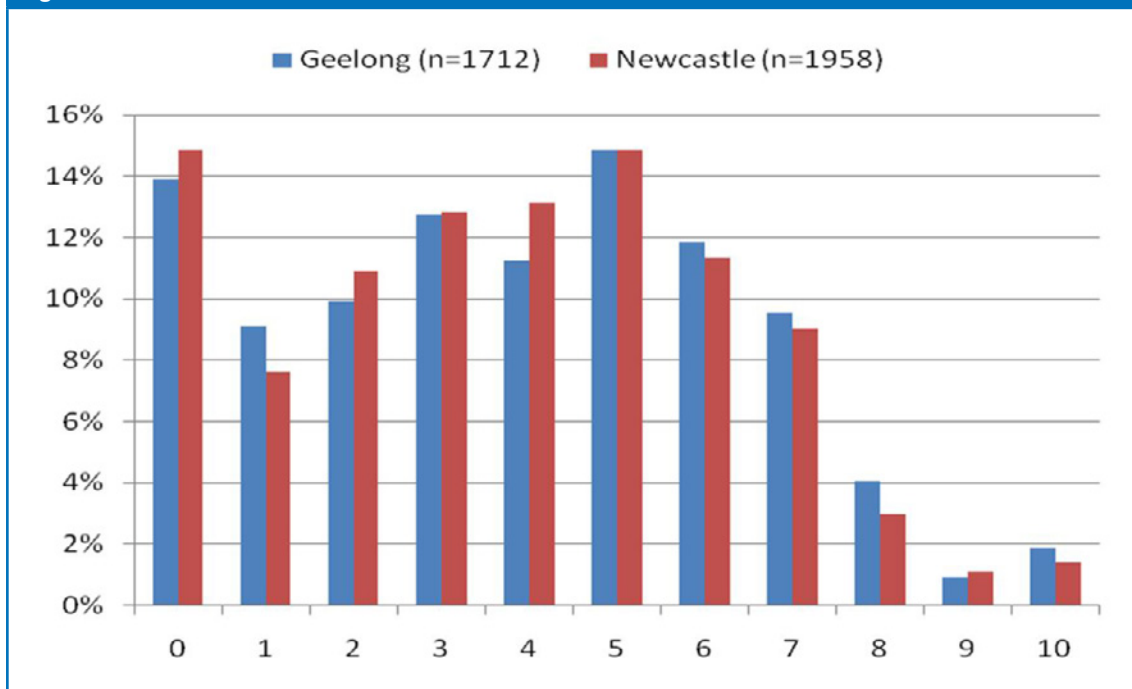
Figure 77 Self-rated intoxication

Table 24 Interviewer rating of intoxication

Number of intoxication symptoms	Location		Total
	Geelong	Newcastle	
0	1020	1392	2412
	54.3%	67.2%	61.1%
1	340	280	620
	18.1%	13.5%	15.7%
2	216	226	442
	11.5%	10.9%	11.2%
3	148	79	227
	7.9%	3.8%	5.7%
4	101	70	171
	5.4%	3.4%	4.3%
5	54	23	77
	2.9%	1.1%	1.9%

In addition to participant self-rating of intoxication, interviewers also noted signs of intoxication at the end of the interview, giving a fairly reliable objective measure of intoxication. The standard five signs of intoxication were used: 1) loss of coordination; 2) slurring words; 3) spilling drinks 4) staggering; and 5) having red/bloodshot eyes. Interviewees in Geelong showed a significantly higher mean number of intoxication signs ($\mu=1.01$) than Newcastle ($\mu=0.66$; $t=8.62$, $p<0.000$). Table 24 reports the findings for interviewer rating for each site in terms of the number of symptoms displayed by interviewees.

Self vs interviewer intox rating

Patterns between self-rating of intoxication and interviewer rating were clearly different. This was reflected in a poor correlation between the two summary variables of $r^2=0.437$. When considering which specific symptoms loaded most heavily onto self-rated intoxication, staggering and slurring words were most strongly correlated with self-rated intoxication ($r^2=0.545$ and 0.497 respectively).

Gender

According to both measures of intoxication, males were more likely to be intoxicated than females. Males reported a higher mean intoxication ($\mu=4.56$) than females ($\mu=4.24$; $F=17.112$, $p<0.000$). Similarly, interviewer ratings of male intoxication ($\mu=0.96$) were higher than ratings of female intoxication ($\mu=0.66$; $F=52.293$, $p<0.000$).

Intoxication over time

Of interest is whether the rates of intoxication in each city showed changes over time. Figure 78 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 ($R^2=-0.65$). In contrast, both Geelong and Newcastle showed declining levels of intoxication when rated by the interviewers.

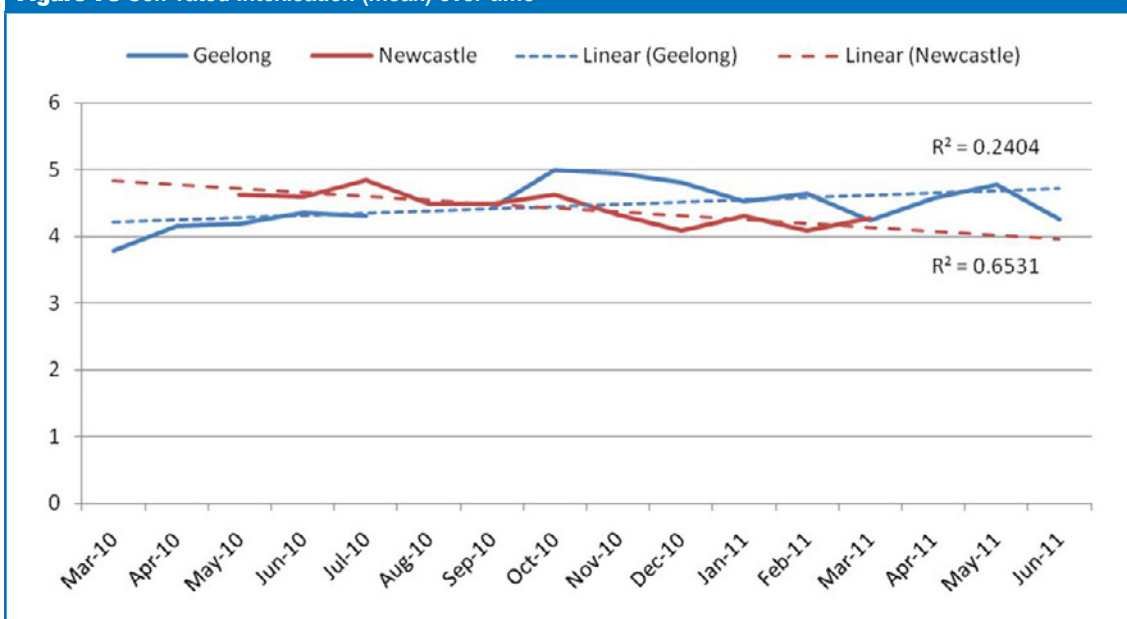
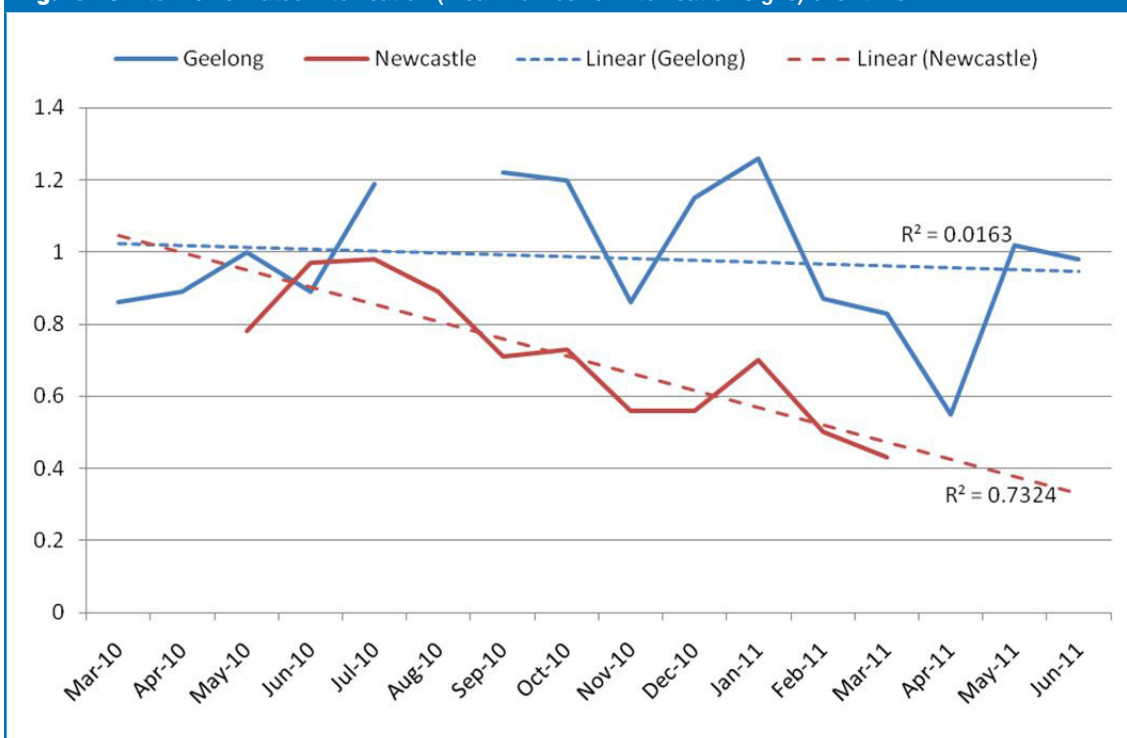
Figure 78 Self-rated intoxication (mean) over time

Figure 79 shows that over the study period, the mean level of self-rated intoxication in Geelong decreased slightly ($R^2 = -0.0163$) whereas the mean level of self-rated intoxication in Newcastle decreased at a greater rate.

Figure 79 Interviewer-rated intoxication (mean number of intoxication signs) over time

How often refused service?

Finally, a proxy measure of how often an individual experiences responsible service of alcohol is how often they have been refused service when intoxicated. Table 25 shows that people in Geelong are less likely to report being refused service than those in Newcastle ($\chi^2=35.768$, $p<0.000$).

Table 25 How often refused service when drunk?

	Geelong	Newcastle	Total
Daily/almost daily	0	3	3
	0%	0.1%	0.1%
Less than monthly	300	438	738
	16%	21.2%	18.7%
Monthly	57	104	161
	3%	5%	4%
Never	1,506	1,499	3005
	80.1%	72.4%	76.1%
Weekly	16	26	42
	0.9%	1.3%	1.1%
Total	1,879	2,070	3,949

Summary

At both sites, the patron interviews showed substantial levels of intoxication, both self and interviewer-rated. While there was no difference between the two sites in self-rated intoxication, both interviewer-rated intoxication and self-report of being refused service suggested that people in Geelong are more likely to be intoxicated and less likely to be refused service than their counterparts in Newcastle.

Interviewees in both cities reported high levels of pre-drinking and reported that they did this primarily because of price. In line with previous research, people who pre-loaded, experienced higher levels of violence.

Other drug use was comparatively low in both study sites, although Geelong showed significantly higher self-reported drug use than Newcastle, particularly relating to methamphetamines. Rates of 'party drug' use (eg meth/ecstasy) were in line with population rates, although cannabis use was substantially lower for this population than normally identified in household surveys. Of note, people who reported drug use were more likely to experience violence in the night-time economy. The issue of illicit drug use and its relation to harm deserves further investigation.

3.3.3. Safety

Interviewees were asked a number of questions regarding their sense of safety and what they do to stay safe. Table 26 reports the main findings of the interviews in relation to safety. 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. There was no significant difference between sites in terms of interviewee perceived safety. By far the most common way for interviewees to stay safe is to remain with friends, followed by 'not walking alone'. Newcastle interviewees reported this strategy more often, which may reflect the greater distances and less-governed areas between that city's nightspots. Finally, although more innocuous sounding, the 'do nothing' response reflects a reality that most of the incidents described by people required both parties to be actively combative.

Interviewees reported taxis as the most favoured way of getting home. To a degree, this reflects both cities being heavily focused on cars and not having extensive public transport networks in the same way as Sydney or Melbourne. However, Newcastle interviewees were more likely to identify walking home as an option compared to Geelong. This may reflect the warmer climate or suggest more people living near entertainment districts. Walking was also identified as being more convenient than taxis—which, although the most popular option, was also viewed as the least convenient option, potentially due to lack of taxis,

Table 26 Summary table—patron interview safety

Item	Geelong	Newcastle	Total	
How safe do you feel in this venue (0–10)?				
• Mean (σ)	8.52 (1.81)	8.61 (1.72)	8.56 (1.77)	$t=-1.55, p=0.121$
How do you keep safe at night?				
• Friends	57.7%	55.8%	56.7%	
• Not walk alone	11.6%	24.9%	18.7%	
• Do nothing	8.8%	13.6%	11.5%	
How do you plan to get home?				
• Taxi	52.6%	34.1%	42.8%	
• Car–passenger	19.6%	21.7%	20.7%	
• Car–driver	10.7%	12.9%	11.8%	
• Walk	9.8%	16.6%	13.4%	
• Don't know	4.5%	4.3%	4.4%	
Convenience				
• Mean (σ)	7.39 (2.99)	7.11 (3.24)	7.23 (3.14)	$t=-2.69, p=0.007$
• Car–passenger	9.44	9.19	9.30	
• Car–driver	9.31	8.52	8.85	
• Courtesy bus	9.22	10.00	9.42	
• Walk	8.24	8.27	8.26	
• Taxi	6.09	5.30	5.73	
• Don't know	3.12	3.49	3.41	

3.3.4. Experience of violence

This section describes trends around interviewee's experience of violence in the night-time economy, particularly over the 12 months before being interviewed. Table 27 summarises interview participants' experiences of violence, comparing the different interview sites. As already noted, pre-drinking and use of illicit drugs were both associated with a greater likelihood of patrons experiencing violence. 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 ($\chi^2=0.10, p=.920$). Interviewees who had been in a fight in Geelong were more likely to have been drinking at the time ($\chi^2=8.187, p<0.004$). There were no significant differences between sites in terms of the interviewee's reports of whether people involved in fights had consumed other drugs.

Table 27 Summary table—patron interview experience of violence

	Geelong		Newcastle		Total	
	Frequency (n=1,897)	%	Frequency (n=2,070)	%	Frequency (n=3,949)	%
Witnessed fight	1,165	62.7	1,199	58.6	2,364	60.6
Involved in fight	276	15.7	312	15.3	588	15.5
Had been drinking at the time of the fight? (yes)	231	79.9	236	70	467	74.6
Had one of the parties been taken drugs?	80	29.4	93	28.1	173	28.7
• Yes						
• Don't know	86	31.6	84	25.4	170	28.2
• No	106	39	154	46.5	260	43.1

3.3.5. Experience of interventions

This section describes trends around interviewee's experience of interventions in the night-time economy, particularly over the 12 months before being interviewed. Table 28 shows a summary of interview participants' experience of different types of interventions, comparing the different interview sites. Interviewees in Newcastle reported seeing police significantly more often than interviewees in Geelong ($\chi^2=9.372$, $p=0.002$). In both cities, police were most commonly seen driving on the street. Interviewees in Newcastle were more likely to report seeing police doing walkthroughs inside venues.

Table 28 Summary table—patron interview experience of interventions

Item	Geelong (n=1,821) %	Newcastle (n=2,042) %	Total %	
How often have you seen police tonight?				
• Never	58.0	53.1	55.4	$\chi^2=9.372$, $p=0.002$
• Once	23.2	26.1	24.7	
• Twice	8.5	9.9	9.2	
• A few times	6.0	8.0	7.1	
Where did you see them?				
• Driving on street	25.50	27.90	26.80	
• Street [foot patrol]	9.00	7.20	8.10	
• Venue [walkthrough]	1.80	4.30	3.10	
Have you had your ID checked tonight?	55.9	69.2	63.0	$\chi^2=42.062$, $p<0.000$
No behaviour changed due to interventions	91.10	70.70	79.00	$\chi^2=195.14$, $p<0.000$

Table 29 reports that most of the people who had been out already had their IDs checked. Interviewees in Newcastle were more likely to have had their IDs checked than people in Geelong ($\chi^2=42.062$, $p<0.000$). A substantial proportion of Geelong interviewees reported having their ID scanned, and this proportion would likely be substantially higher if interviews had been conducted at the end of the night.

Table 29 ID checking across sites

	Geelong		Newcastle		Total		Pearson Chi-Square
	n	%	n	%	N	%	
ID checked overall	578	55.9	817	69.2	1395	63.0	$\chi^2=42.062, p<0.000$
ID scanned	102	9.3	83	6.8	185	8.0	
ID scanned–facial	278	25.3	121	9.9	399	17.2	
Checked by security	285	25.9	779	63.7	1064	45.8	
Checked by bar staff	5	0.5	0	0.0	5	0.2	

Not surprisingly, given the nature of the interventions implemented in Newcastle compared to Geelong, more people in Newcastle reported having changed their behaviour because of the interventions (see Table 30; $\chi^2=243.214, p<0.000$). However, self-reported changes in behaviour tended to vary widely and do not suggest a trend towards more responsible drinking practices, although some interviewees may respond to the question reactively. Further, while some interventions might influence people to drink less, others may change their drinking habits to consume alcohol before going out.

Table 30 Behaviour change due to interventions

Behaviour changed?	Geelong %	Newcastle %	Total %
No	91.1	70.7	79.0
Drink less	2.9	4.5	3.9
Other	2.1	2.4	2.3
Drink more	2.0	5.4	4.0
Go home earlier	1.0	7.5	4.9
Go home later	0.7	1.7	1.3
Drink before going out	0.2	7.3	4.4
More aware of behaviour	0.2	0	0.1
Take drugs–increased	0	0.3	0.2
Take drugs–initiated	0	0.2	0.1

3.3.6. Patron perceptions of intervention effectiveness

Table 31 reports the mean effectiveness ratings given by patrons interviewed. A great many patrons were not aware of some of the interventions being discussed and few knew of all of the interventions. After collecting data for two months, it was clear patrons did not know about the effectiveness of a radio network, CCTV, RSA marshals, RSA training or having more police. These questions were removed from the interview schedule to keep the interview as brief as possible.

Patron interviewees believed that ID scanners were the most effective intervention across both sites. Although a smaller number of interviewees discussed Geelong's night bus, this intervention was rated well ($\mu=6.03$) by those who commented on it. In Newcastle, the patrons also supported the lockouts and reductions in trading hours.

Table 31 Patron ranking of intervention effectiveness

	Geelong			Newcastle		
	μ	N	σ	μ	N	σ
Night Bus	6.03	587	2.602			
Safe taxi rank	5.56	952	2.387			
ID scanners	6.53	1,094	2.585	6.65	1,415	2.887
Lockouts				5.04	1,421	2.611
Drink restrictions				5.8	1,553	2.621
Reduced trading hours				4.97	1,435	2.77

3.3.7. Summary

The patron interview study is one of the largest studies of its type conducted to date. It is also the first longitudinal study of its kind to enable the objective study of patrons in specific entertainment districts over time. The study successfully obtained 3,949 interviews (90.7%) from the 4,374 people who were randomly approached either within venues or in line-ups waiting to enter venues. The high consent rate means that there is a very high certainty that the study reached the target population of people attending late night licensed venues in the regional cities of Geelong and Newcastle.

The sample was almost equally proportioned in terms of gender (54.4% of the interviewees were male) with minor site differences. The mean age of interviewees was 24.3 years, with a mode of 20 years. Males were significantly older than females. Most interviewees reported going out in the entertainment areas of Geelong/Newcastle (ie spent evening in licensed venues) regularly in the past year, with almost one third going out every week (33.7% in Geelong and 31.9% in Newcastle). Geelong and Newcastle are similar on most of the variables investigated, although people in Newcastle tended to go out significantly more often than people in Geelong. On the other hand, a variable often noted by the interview teams, which affected the running of the project, was poor weather in Geelong during the study period, whereas Newcastle's weather was much warmer and conducive to socialising. In general, most people across the two cities go out to socialise and choose venues attended by their friends.

The patrons interviewed showed moderate levels of intoxication, both self- and interviewer-rated. Self-rated intoxication, interviewer-rated intoxication and self-report of being refused service suggested that people in Geelong were more likely to be intoxicated and less likely to be refused service than their counterparts in Newcastle. Data over time shows intoxication rates in Newcastle declined across the study period where they remained mostly stable or slightly increased in Geelong.

Interviewees in both cities reported high levels of pre-drinking and reported that they did this primarily because of price. In line with previous research, people who pre-loaded, experienced higher levels of violence. Other drug use was comparatively low in both study sites, although Geelong showed significantly higher self-reported drug use than Newcastle. Of note, people who reported drug use were more likely to experience violence in the NTE.

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. Interviewee-perceived safety differed little between. By far the most common way for interviewees to stay safe was to remain with friends, followed by 'not walking alone'.

Interviewees reported taxis as the most favoured way of getting home, reflecting both cities being heavily focused on cars. Walking was also identified as being more convenient than taxis, which although the most popular option, was also viewed as least convenient.

Interviewees in Geelong were significantly more likely to have witnessed a fight in the past 12 months than those in Newcastle ($\chi^2=6.852$, $p=0.009$). In contrast, interviewees in both cities were equally likely to have

experienced violence in the past 12 months ($\chi^2=0.10$, $p=0.920$). Interviewees who had been in a fight in Geelong were more likely to have been drinking at the time ($\chi^2=8.187$, $p<0.004$).

Interviewees in Newcastle reported seeing police significantly more often than interviewees in Geelong ($\chi^2=9.372$, $p=0.002$). In both cities, police were most commonly seen driving on the street and interviewees in Newcastle were more likely to report seeing police walking through venues. Most of the people who had been out already had their IDs checked. Interviewees in Newcastle were more likely to have had their IDs checked than people in Geelong ($\chi^2=42.062$, $p<0.000$). More people in Newcastle reported having changed their behaviour because of the interventions put in place (see Table 30; $\chi^2=243.214$, $p<0.000$). However, self-reported changes in behaviour tended to vary widely and do not suggest a trend towards more responsible drinking practices.

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.

Conclusion

Unsurprisingly, more stringent measures implemented in Newcastle have had greater effects on levels of intoxication in Newcastle. Importantly, the levels of intoxication of patrons continued to decline, long after the s. 104 interventions were put in place. This suggests an ongoing effect on the nightlife culture in the area. In contrast, Geelong's interventions, which have mostly been focused on harm-reduction through managing problem patrons and violent incidents, rather than intoxication, 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. Such large self-report data add a valuable insight into the dynamics of the night-time economy and highlight many of the nuances around intoxication and behaviour in social environments. They also suggest that legislative changes may be more effective in altering the drinking culture than measures focused on awareness and behaviour change.

Venue Observations

Observations were conducted successfully over the 14-month data collection period.

3.3.8 Prevalence of strategies and differences between sites

The results in Table 32 show that, across both sites, the most prevalent strategies observed were not serving more than four drinks per purchase (86.7%) RTD drinks with more than five percent alcohol (85.5%) not being served after 10 pm, shots not being served after 10 pm (84.4%) closing before or at 3.30 am (82.9%) and no stockpiling of drinks (77.5%). The least prevalent were ID scanners (35.7%) and lockouts (44.1%).

In relation to the Geelong strategy of using ID scanners, these were used at 56.4 percent of observations increasing to 70.2 percent after 1 am. Observers were asked for 'proof of age' using an ID scanner on 48.4 percent of observations, increasing to 52.6 percent after 1 am.

For the Newcastle strategies, compliance with the conditions was high with most observations reporting not serving RTD drinks with more than five percent alcohol after 10 pm (97.4%) not serving shots after 10 pm (96%) and 95 percent ceasing the service of alcohol at least 30 minutes before closing time. Despite RSA marshals being mandatory after 11 pm, such staff were only identified on 68.5 percent of observations.

Comparing the prevalence of strategies between Geelong and Newcastle, venues were more likely to implement strategies unique to their site. For example, significantly more ID scanners were observed in Geelong compared to Newcastle (56.4% and 16.4% respectively; $p<0.0001$). The same is true for Newcastle

with the venues being significantly more likely to have water stations on all bars (86.6% and 9.7%; $p<0.0001$) not serving shots after 10 pm (96% and 0%; $p<0.0001$) and not serving RTD drinks with more than 5 percent alcohol after 10 pm (97.4% and 0%; $p<0.0001$). Such RSA strategies can be implemented by any venue at any time as an RSA practice; however, it is evident that venues are more likely to implement such strategies when they are mandated rather than voluntary. However, some venues appeared to be undertaking strategies voluntarily. For example, while not serving more than four drinks per purchase and not allowing the stockpiling of drinks are Newcastle strategies; these were also observed in Geelong venues.

Table 32 Observations reported measures relating to the strategies being evaluated by DANTE (2010–11)

Table 2. Interventions Reported: Measures Relating to the Strategies Being Evaluated by SAMRA (2016-17)				
Measure	All (N=129) %	Comparison by site		
		Geelong (N=62) %	Newcastle (N=67) %	P-value <0.05
ID scanners				
ID scanner located at the main entrance	35.7	56.4	16.4	<0.0001
ID scanner located at main entrance at venue trading after 1 am	55.5	70.2	36.4	0.0007
Observer was asked for 'proof of age' to be checked by an ID scanner*	31.0	48.4	14.9	<0.0001
Observer was asked for 'proof of age' to be checked by an ID scanner at venues trading after 1 am *	41.6	52.6	27.3	<0.0001
Drink restrictions				
Shots were not being served after 10 pm*	84.4	0	96	<0.0001
'Ready-to-drink' alcoholic drinks containing more than 5% alcohol were not served after 10 pm*	85.5	0	97.4	<0.0001
Staff were not serving more than four drinks per purchase	86.7	75	89.5	NS
Staff were not serving alcoholic drinks with more than 30 mL alcohol (eg double nips)	55.7	14.4	97.4	<0.0001
Staff were not allowing patrons to stockpile drinks (more than two unconsumed drinks at a time)	77.5	71	83.6	NS
Free water stations were available on all bars	49.6	9.7	86.6	<0.0001
The venue stopped serving alcohol at least 30 minutes before closing time^	84.4	66.7	95.0	0.0326
RSA marshals				
Identifiable RSA marshal was observed after 11pm	35.9	19.1	68.5	<0.0001
Reduced trading hours and conditions of entry				
A lockout was implemented*	44.1	11.8	76.3	<0.0001
The venue closed before or at 3.30 am^	82.9	66.7	91.3	NS

*Interactional measures with a sample size of 153 for Geelong and 152 for Newcastle (305). All other measures were 'observational' and had a sample size of 62 for Geelong and 67 for Newcastle (129).

^Not all venues were observed at closing time on all occasions

Prevalence of other strategies that can contribute to reductions in intoxication and/or alcohol-related violence (Aim 3)

Entry procedures/crowd control

The most prevalent strategy involved staff monitoring all entrances (83.7%) while the least prevalent was applying a door/cover charge for entry (34.1%). However, venues were more likely to apply a charge

after 1 am (44.6%). Implementing some strategies differed significantly between the sites. For example, Geelong venues were more likely than those in Newcastle to apply a door/cover charge (51.5% and 17.9% respectively; $p<0.0001$) however, Newcastle venues were more likely to apply charges after 1 am (59.1% and 33.3% respectively; $p=0.0098$). Geelong venues were also more likely to monitor all entrances compared to Newcastle venues (91.9% and 76.9% respectively; $p=0.0151$). Such a difference could be explained by the higher prevalence of ID scanners in Geelong.

Patron characteristics and intoxication

Only 6.2 percent of observations found a crowd that was mostly female, and 31.8 percent found a crowd that were older (25 years and over). Thus, most observations reported a mostly young male crowd, which has been identified as a risk factor for alcohol-related violence (Graham & Homel 2008a). In relation to patrons displaying any signs of intoxication, less than half (45%) of the observations reported a crowd where most patrons were not showing any signs of intoxication.

Sites did not differ significantly in the age and gender of patrons. However, Geelong venues were significantly less likely to have lower levels of intoxication compared to Newcastle (35.5% compared to 53.7% respectively; $p=0.0374$). Thus, the prevalence of intoxication was higher in Geelong than in Newcastle.

Responsible service of alcohol

Few observations (32.6%) reported on providing food (while serving alcohol). Just over a half the observations reported no serving double nips of alcohol or serving all drinks in plastic containers. Most observations reported no drink promotions that encouraged excessive drinking (81.2%). The prevalence of food service was significantly higher in Newcastle than Geelong (59.7% and 3.2% respectively; $p<0.0001$). This was to be expected as this action is legislated by the *NSW Liquor Act 2007*. Newcastle venues were significantly more likely to not serve double nips of alcohol than Geelong venues (97.4% and 14.4%; $p<0.0001$). Again, such a practice is classified as 'high-risk' under the NSW Liquor Act. Plastic drink containers were also more common in Newcastle (65.7% compared to 40.3% for Geelong; $p=0.0039$). This difference may be due to imposing such a strategy on a number of Newcastle venues under the NSW Government's '48-high-risk' conditions legislation.

Table 33 The proportion of observations where the following practices were observed (2010–11)

Variable	All (129) %	Comparison by site		
		Geelong (62) %	Newcastle (67) %	P-value <0.05
Entry procedures/crowd control				
All 'proof of age' checked at door	60.5	58.1	62.3	NS
All entrances monitored by staff	83.7	91.9	76.9	0.0151
Door/cover charge for entry	34.1	51.6	17.9	<0.0001
Door/cover charge at venue trading past 1 am	44.6	33.3	59.1	0.0098
Patron characteristics and intoxication				
Under 50% male patrons	6.2	3.2	9	NS
Under 50% aged < 25 years of age	31.8	29	34.3	NS
Under 50% of patrons showing ANY signs of intoxication	45	35.5	53.7	0.0374
Responsible service of alcohol				
Substantial food available while alcohol served	32.6	3.2	59.7	<0.0001
Premises had NO alcohol promotions	81.2	82	80.6	NS
All drinks served in plastic containers	53.5	40.3	65.7	0.0039

Table 33 (continued)

		Comparison by site		
Variable	All (129) %	Geelong (62) %	Newcastle (67) %	P-value <0.05
Bar staff and security characteristics				
Bar service staff to patron ratio > 2:100 patrons)	94.6	91.9	97	NS
Less than 50% of bar staff were female	44.2	48.4	40.3	NS
Bar staff NOT observed being hostile/aggressive to patrons (on average)	97.7	98.4	97	NS
Bar staff observed being friendly to patrons (on average)	82.8	75.8	88.1	NS
Security staff to patron ratio > 1:100	95.3	100	91	0.0158
Less than 50% of security staff were female	97.6	100	95.1	NS
Security observed being friendly to patrons (on average)	95.9	95.2	96.7	NS
Safe transport options				
Designated driver program*	5.8	9.5	5.3	NS
Staff allowed to call taxi for patrons*	37.6	0	62.8	<0.0001
Courtesy transport for patrons*	0	0	0	NS
Advertise nearby secure taxi rank (eg signs)	17.8	1.6	32.8	<0.0001
Physical environment				
Crowding around bar service area less than two deep	73.6	71	76.1	NS
Flat surfaces available to place drinks (non-vertical bars)	97.7	98.4	97	NS
Glasses/cleaning undertaken frequently	83.7	80.6	86.6	NS
Lighting level allowed for easy observation	20.9	16.1	25.4	NS
Noise level allowed for normal or intimate conversation	38	32.3	43.3	NS
Fair to good traffic flow	73.6	59.7	86.6	0.0005
Social environment				
Low level of sexual activity (no groping, explicit activity)	73.6	74.2	73.1	NS
No level of touching or harassment towards female staff and patrons	94.6	95.2	94	NS
No serious non-physical argument witnessed during observation	93	93.5	92.5	NS
No serious physical argument witnessed during observation	93.8	93.5	94	NS
No signs of illicit drug use (eg ingesting/smoking drugs, exchange of money for small items)	78.3	74.2	82.1	NS
Closing time procedures^				
No unacceptable patron behaviour at closing time (eg leaving with open drinks, refusing to leave)	80	91.7	73.9	NS
Venue took actions 30 minutes before closing (eg turning on the lights, announcements, asking people to leave)	84.1	66.7	95	0.0326

*Interactive measures with a sample size of 153 for Geelong and 152 for Newcastle (305). All other measures were 'observational' and had a sample size of 62 for Geelong and 67 for Newcastle (129).

[^]Not all venues were observed at closing time on all occasions

Bar staff and security characteristics

Most of the observations reported not witnessing hostile behaviour by bar service staff (97.7%) mostly male security staff (97.6%) friendly security staff (95.9%) a security staff to patron ratio of greater than 1:100 (95.3%) and a bar service staff to patron ratio of greater than 2:100 (94.6%). However, the observations also

reported that bar staff tended to be female rather than male, which can be an issue due to lack of confidence by females to undertake RSA actions compared to males (Graham & Homel 2008a).

The only strategy that was significantly different between the sites was the ratio of security staff to patrons with Geelong venues being significantly more likely to have a ratio of greater than one per 100 patrons compared to Newcastle (100% and 91% respectively; $p=0.0158$).

Safe transport options

Few observations reported venues implementing safe transport options for their patrons. The most prevalent was allowing staff to call taxis for patrons (37.6%) and the least prevalent was courtesy transport (0%). Significant differences were found in staff calling taxis for patrons (62.8% for Newcastle and 0% for Geelong; $p<0.0001$) and advertising nearby secure taxi ranks (32.8% in Newcastle and 1.6% for Geelong; $p<0.0001$). It should be noted that patrons of Geelong's venues are encouraged by staff to use the taxi rank systems rather than venues calling taxis for their patrons.

Physical environment

Most observations found that venues had flat surfaces or non-vertical bars for placing drinks (97.7%) and cleared away glasses/cleaned tables frequently (83.7%). Minimal crowding around bar service areas and fair/good traffic flow were noted at almost 75 percent of observations. However, only 20.9 percent reported that the lighting level allowed easy observation and 38 percent reported that the noise level allowed for normal or intimate conversations. It is a concern though, that around one in four observations reported crowding, one in five reported poor lighting and three in five reported high noise levels; all of which are risk factors for alcohol-related violence.

Social environment

Low levels of touching/harassment were observed towards female staff/patrons (94.6%) and no non-physical or physical arguments (93% and 93.8% respectively). Low levels of sexual activity (such as groping and explicit sexual contact) and no sign of illicit drug use were also noted in 75 percent of observations. However, inversely, this meant that sexual activity was observed at around one in four observations, and illicit drug use was observed during one in five observations. Geelong and Newcastle showed no significant differences.

Closing time procedures

All venues were observed at least once at closing time during the study period. Overall, 84.1 percent of venues took actions at least 30 minutes before closing time to inform patrons (eg turning on the lights, turning off the music, making announcements). No unacceptable patron behaviours at closing time (eg stockpiling drinks, refusing to leave, leaving with open drinks) were observed on 80 percent of occasions. Observations in Geelong were significantly less likely to undertake actions 30 minutes before closing time than Newcastle (66.7% and 95% respectively; $p=0.0326$).

3.3.9. Discussion

The observation results indicate that late-night venues are significantly more likely to adopt practices if they are mandatory compared to voluntary. This is especially the case for strategies involving the responsible service of alcohol, for example prohibiting drinks such as shots and RTD drinks with more than five percent alcohol; RSA marshals; free water stations on all bars; and the availability of substantial food while alcohol is being served.

Implementing such strategies was highest in Newcastle, where mandatory conditions are imposed as opposed to Geelong, where strategies are voluntary. In Newcastle, it is mandatory for venues to not serve

'shots' or 'RTD drinks' with more than 5 percent alcohol after 10 pm; provide substantial food for their patrons; and provide free water stations on all bars. The results show that none/few Geelong venues were voluntarily adopting such strategies. It should be noted that Victorian legislation was introduced during the study relating to providing free water; however, the method of supply was left to the discretion of the licensee.

Implementing the Geelong-based strategies varied, with less than half installing ID scanners. However, more venues (70%) had ID scanners after 1 am, which is the high-risk period for licensees. Observed compliance with the mandatory conditions in Newcastle was relatively high; with drink restrictions, 3 am closures and lockouts being high. Most practices were observed on at least 80 percent of occasions. The least observed strategy involved employing an identifiable RSA marshal after 11 pm (36%).

In relation to other strategies/practices that can contribute to reducing intoxication and/or violence, a high proportion (more than 80%) of observations found that: all entrances were being monitored by staff; no alcohol promotions were visible that encouraged excessive drinking; friendly/non-hostile staff were present; staffing levels were adequate; flat surfaces were available to place drinks; sexual activity was minimal, there were no signs of illicit drug use; patron behaviour at closing time was acceptable (eg leaving with open drinks, refusing to leave and loitering around the venue after leaving); and actions were taken to inform patrons of closing time (eg turning lights on, announcements to patrons and turning the music off). These results are encouraging, given their identified link with alcohol-related violence.

However, a number of risky practices were identified that are associated with increased levels of alcohol-related violence within venues. These included: most patrons being male and under the age of 25 years; intoxication; lack of 'substantial' food availability; lack of safe transport options; poor lighting; high noise levels and lack of door/cover charge for crowd control.

Geelong and Newcastle revealed some significant differences. Geelong venues were more likely to have all entrances monitored by staff, intoxicated patrons, door charges at any time, and a high ratio of security staff to patron numbers. In comparison, the Newcastle venues were more likely to have: door charges after 1 am; food available, plastic containers, staff being allowed to call taxis, advertising the nearby secure taxi rank, good traffic flow and good closing time procedures. However, it should be noted that there are legislative differences between Victoria and NSW. For example, providing substantial food when alcohol is served is mandatory under the NSW Liquor Act but not the Victorian legislation. Likewise, it is illegal in NSW for an intoxicated patron to remain on a licensed premise; however, in Victoria such patrons are allowed to stay but must be refused service.

The results reported in this study are similar to other national/international studies into practices by licensed venues. The levels of physical aggression (6%) were similar to other studies (mostly under 10%)(Graham & Chandler-Coutts 2000; Homel et al. 2004). However, the prevalence of non-physical aggression (7%) was much lower than Homel in 2004—28 percent pre-intervention and 19 percent post-intervention). The proportion of patrons displaying any signs of intoxication (55%) was similar to the 56 percent reported in a Swedish study (Andreasson et al. 2000). The proportion of occasions where food was not available was lower than cited by Homel et al. (2004)—67 percent compared to 85percent. They also reported that the proportion of bar and security staff observed as being unfriendly was also lower (18% and 33% for bar staff; and 4% and 38% for security staff). They observed higher levels of sexual activity (75.9% for males and 64.7% for females) compared to 26 percent found by this study. However, when comparing studies, caution must be taken due to differences in measures, methods and legislation between sites.

3.4. Key informant interviews

This section provides a detailed account of the perspectives of a range of key stakeholders including ID scanner manufacturers, liquor accord members, liquor licensees, police, other government officials, security personnel and ancillary interviewees.

The results presented in this section focus on the major areas under investigation. While many topics covered

in the interviews are not reported here, that data will form the basis of topic-specific papers in the future. The main goal of the style of presentation of the results in this section is to demonstrate the different viewpoints of key stakeholders in and around the night-time economies in Geelong and Newcastle. As a general rule, the discussions were focused on the specific occurrences in Geelong and Newcastle and avoid state-level players who might discuss issues from a different perspective.

The data presented below incorporates:

- generic issues of alcohol, violence and drug use trends in both cities, as well as exploring the relationship between these variables; and
- specific interventions, seeking major themes and viewpoints on the interventions, as well as trying, where possible, to identify lessons to improve future implementation of such measures.

3.4.1. Intoxication

Of the 75 interviewees who discussed the issue of intoxication, 64 identified it as an issue for their local community, whereas 11 suggested it was not an issue for them. Most Newcastle key informants reported that in the past two years levels of intoxication had gone down (60%) or remained stable (30%) although one NSW licensee reported that intoxication levels had increased in their clientele because they were rushing to finish drinking. On the other hand, most Geelong key informants reported that intoxication levels were stable (70%) or increasing (10%) although four Geelong key informants did report decreased levels of intoxication.

One of the most common themes was the complexity of intoxication—across context (streets or venues) throughout the evening and between individuals. For example:

If you can define intoxication it would be great wouldn't it? You can have one guy who can sit in the bar for five or six hours and have their beers and walk out the same as they walk in. You can have another guy walk in and have one drink and he struggles to get out. The hard part is that the guys that can't handle their alcohol, I think intoxication is a bad word for it, I think it's the attitude of the customer and I always take the theory if they're offending others or harassing others in a social environment that's classed as antisocial so that's when I evict them. As long as they are not breaking the law and driving home. [Vic licensee]

Another major issue was that intoxication was at the centre of most alcohol-related harm:

In 2004 the commander who was here at the time in Newcastle ... pulled all the licensees together and said basically, look enough is enough. You need to address these issues yourself otherwise if you don't deal with them we will have to go down the track of trying to force some conditions to be imposed. So that was 2004 and there were a number of things that happened between 2004 and late 2006 in terms of trials of security patrols and NightRider buses, no shots policies, RSA marshals etcetera for the venues. But still at the end of 2006 we were at a point where we were number two or number one in the state for Friday and Saturday assaults so the reality was that there hadn't been an improvement, we didn't believe there had been. ... in late 2006, early 2007 we started on a process of heavy enforcement of the Liquor Act. We also had very heavy enforcement of the behaviour of patrons in the streets, so street offences—so we targeted all those. What it showed us was that intoxication was still a major issue. We had a lot of breaches of the Liquor Act. [NSW police officer]

While the above quote discusses a number of elements, it reflects a policing point of view regarding the importance of intoxication on subsequent behaviour and drives the logic behind intervening with the drivers of intoxication to reduce alcohol-related harm.

3.4.2. Have intoxication levels increased or decreased?

A number of key stakeholders in Geelong reported that intoxication levels had decreased:

I think intoxication levels are definitely dropping ... due to the increased attention of the police. I think definitely. [Vic licensee]

... it's decreased very marginally since we've started our nightlife but that could change. [Vic police officer]

a decrease ... because they are under the pump. The licensees are under the pump. That is just it. They've got to. [Vic security officer]

On the other hand, quite a few also reported that intoxication levels had increased:

I think it has increased but that goes with the fluctuation of the town. There is a bit more of an understanding on drunkenness now. I think it has increased a little bit. [Vic security officer]

However, one key informant (KI) reported a trend that is reflected in other data sources:

I think there's more issues with intoxication outside licensed premises. [Vic licensee]

By far the most common response by KIs was that intoxication levels remained comparatively stable.

... it's probably at the same level. It's probably not getting worse but there is certainly a high level of intoxication especially with the 18 to 25 year olds. [Vic security officer]

In contrast, most KIs in Newcastle reported a decrease in intoxication levels.

I think the key issue here is that I believe the level of intoxication has reduced and therefore that is having an effect on the way people behave. [NSW police officer]

I definitely noticed, maybe not the levels of intoxication, but I noticed the differences at different times of the night.

Intoxication was huge compared to; I keep comparing from then to now, intoxication levels were huge. [NSW police officer]

Only one KI from the industry in Newcastle reported that levels of intoxication had increased there: 'there is more intoxicated people now than there was three years ago and even four years' [NSW licensee].

However, as with Geelong, many KIs also reported that intoxication levels remained stable: 'they are still getting intoxicated' [NSW licensee].

The varied responses from both sites highlight the different experiences and perspectives regarding this issue, which are so typical for the field.

3.4.2.1. Attributions of causality of change

Different key informants attributed trends to different factors, reflecting different roles and experiences. A clear difference also existed in the way in which key informants discussed 'changes', related to the contextual elements at play in Newcastle and Geelong. The main difference discussed was the implementation of the s. 104 restrictions in Newcastle and most key informants in the area clearly used this intervention as a point of reference. On the other hand, Geelong key informants spoke more of general trends, and their timelines often seemed to stretch back much further. As such, attributions of causality for changes in intoxication differed substantially across the two sites. However, discussions around stability of trends tended to focus on the same sorts of issues, such as changes in gender-related trends and the types of alcohol being consumed.

One common reason proposed for a reduction in intoxication levels in Geelong was the increased pressure on venue operators and staff:

Q. From your years of experience in the field do you think there is an overall increase, decrease or no change in intoxication levels of patrons?

A. Decrease.

Q. Why do you think that is the case?

A. Because they are under the pump. The licensees are under the pump. That is just it. They've got to. But I've worked at a lot of places, like I said I was at xxx's for five and a half years and if you were a quarter pissed then or half pissed then, you were out, that was the way we ran it and we ran it successfully. You'd knock back a lot of people on the door and that's where you'd have a lot of your problems on the door. But you stood firm and that was it. [Vic security officer]

Another often identified issue behind why intoxication trends did not improve is that, as well as troublesome patrons, there were occasionally troublesome venue operators. One part of this equation identified by key informants in both cities was that venues, which are directly operated by their owners, tended to be more successful and responsible:

In Newcastle we've got a lot of you know, ah, pubs that are run by the owners as opposed to ... and we've seen a decrease, all these investment companies that were buying all these pubs and clubs they are starting to get out now because they realise it's just one of those things; you just need to be there. You'll find the most successful clubs at, not always but usually the most successful clubs are the ones that the owners or the owners got a direct involvement in. [NSW licensee]

A more general response that was also seen a number of times is that there has been a general change in culture over time leading to greater levels of intoxication, and subsequent related harm:

A. I think it's a combination of cheap promotion drinks but also it's the culture and mentality. Like it's just different now. They have to go out and get drunk. They have to go out and take tablets. They have to go out and have a fight to have a good night and that's girls too. That is overall. It's just changed. Even if you go back to the days of the woolly back in the 80s most of your blues were always on a Friday night when they had the \$25 all-you-can-drink and as great as that was to have; people go to a venue to get drunk and then they come to another venue and they are blueing on the street and I'm getting it all the time up at XXX. [Vic security officer]

On the other hand, some KIs suggested that drinking cultures today reflected those of the past:

Newcastle's got the typical small-town Australian drinking mentality. They are all the same. The kids grow up in a culture of what else can you do kind of thing to a degree. I know that's really simplified but to a degree that's how it is. So a lot of the guys, a lot of the people that go out, they go out and drink to, let's face it, go home with a member of the opposite sex or fall down drunk in the gutter, one of the two. We definitely have a binge mentality. It's not only in Newcastle, it's anywhere small town. It also exists in the city obviously but I guess in the city you've got more options, you've got more things to do. So there's not as much emphasis on the 'we have to drink this amount' or 'we have to drink that amount'. We definitely have a binge mentality. Newcastle is still a very blue collar town. We like to think that we're not but we are a really beer market and sometimes not a champagne market. I think that just comes along with being a beer market you know. It's not a good thing, it's not a bad thing, but people like to drink in this town and drink a lot! [NSW licensee]

When you look at the history of the town it was built basically on convict settlement, which progressed to heavy industry—BHP and mining. Traditionally a lower socioeconomic group—I hate to sound pompous but traditionally you'd find that lower educated groups of people, and I think that is a cultural thing. It's slowly changing as we become more I guess, cosmopolitan for a better word and more or less reliant on industry. Pursuing educational careers or more marketing or retail or whatever. I think our level of demographics is increasing. [NSW licensee]

A common reason given for why intoxication and harm rates might remain stable was that although a range of factors are at play, problems can normally be attributed to a small number of troublemakers:

... it's a combination of everything. If there is alcohol—you go to a local pub, the early openers at 10 in the morning—you've got people who've had too much to drink. It's difficult to try and stop them. It's Australia's culture. You go to Europe, it's different. They are happy to have two or three beers over a night. It's not our culture. There are a lot of people going out to get blind. They're not going out for a few drinks, they are going out to get blind—and that's realistic—they do that. It happens with schoolies and they are all 18, 19. It hasn't changed for forty years. It is a culture. Most people are great, even when they've had too much to drink they are fantastic. It's only those one or two—they are the troublemakers that upset everyone else in this room. [Vic licensee]

Another strong theme to arise from the interviews was that intoxication is the ultimate goal for many of the patrons and that patrons are safer in a controlled environment than in uncontrolled parties:

... it obviously is. Is it an issue? Well that's what people come out for. Once again I believe that's part of our culture. Is it an issue? Not most of the time. Once again, 99 percent of us go out for a good time, but [venues] are a little different. XXX is more of a nightclub. I've had very minimal incidents at XXX and maybe because it is that earlier closing time, the broader range in age groups, but [at the nightclub], you'd hardly have a night when you don't have an incident or two with intoxicated people. Whether that's refusing them entry at the door or asking them to leave, or an altercation but the severity of those is minimal and my belief is that they're better off in an environment that is controlled than when they do get out there on the street or when they're at private parties at home. [Vic licensee]

Finally, one senior police officer noted the changing nature of alcohol trends and some of the volatility on any specific night depending on many findings, including the police on duty.

... it's decreased very marginally since we've started our nightlife but that could change, it all depends on the weather, what's happening, as I said the football finals, that can make them all come out of the woodwork and they started drinking a bit earlier so they got a bit drunker and once again it comes back to how many police you've got patrolling it and the calibre of the police you've got on the street. If you've got a good brawler crew on you'll get a lot more. [Geelong police officer]

In summary, there were different perceptions of what causes changes in levels of intoxication over time between the two sites, although there were also many similarities in terms of different understandings of why some trends remained the same.

3.4.3. Illicit drugs

The role of illicit drugs in the NTE was discussed by 97 of the KIs, many of whom held very different opinions about the importance of illicit drugs in relation to the harms experienced, but also in regards to general drug-taking cultures.

Drugs most commonly seen

Key informants in Geelong and Newcastle talked about 'ecstasy' and 'speed' as the main illicit drugs being used.

I would definitely see a lot of screwed up people there every weekend and I think that could be why they are fighting as well because they don't know what's going on.

Q. What illicit drugs do you think were most common?

A. Ecstasy, speed and that kind of thing. [Vic security officer]

I think the ecstasy tablets, you hear that they are pretty cheap. I think too there's a misconception that it's just 18 to 21 year olds that take it and there's a lot of people that, you know, they're mothers and they're in their thirties and their forties and they are taking them. I think it's become normal. [NSW licensee]

However, some have proposed that cocaine is becoming more prevalent:

... there has been a bit of a shift towards coke lately I think. One, it's getting a little bit more accessible. It's probably having a little bit more of a resurgence I think. A lot of it reflects on what happens locally. They've done a few good busts lately on ecstasy and that, at the moment in town is pretty hard to get apparently. I think pills would still be the choice because they are easy and they're cheap. [NSW licensee]

Finally, a number of KIs identified increased steroid use as a major problem, one that exacerbates many of the elements that already predict alcohol-related problems.

Steroids is the leading drug that concerns me. The others don't really concern me apart from ... an aggressive person generally is going to be aggressive. Drugs will probably numb him a little bit or numb that person, it may be female, I don't know. But steroids, to me, is probably the main force in a lot of violence. You know they pump an extra high-end dose of testosterone into you and then ... the violent levels are generally up, add a little bit of alcohol which is a part of the aggression that actually just takes away consequences. It doesn't actually make you aggressive, you make yourself aggressive, alcohol just takes away the consequences in your brain. So that is what I don't get. [NSW licensee]

Although, KIs do perceive all drugs and drug use negatively:

I'd prefer working at raves than working in nightclubs because everyone at the rave is just on ecstasy, and even though I know it's banned, everyone does it anyway, but they are easier to control. No one gets into fights; the worst thing you've got to worry about is people dehydrating. [NSW security]

The above narratives show that KIs have identified a range of drugs as being used in the night-time economy. From the narratives, a number of key themes emerged relating to illicit drug use and its impact on the NTE.

A topic which is not faced

A common theme regarding illicit drug use was that it was something that did play a major role in harm in the NTE, but that it was not being adequately addressed. Licensees, venue staff and industry representatives were the major source of such a perspective. There was no difference between Geelong and Newcastle in terms of the issues mentioned or the perceived level of inaction.

... to me the drugs are nearly the unsung, it's the problem that's easy to just sweep under the carpet. I actually think that if the authorities went to stringent, if things got a lot worse for us licensees, I could see things going a lot more underground. People doing drugs at home and before they come into town a lot worse than they are now. [Vic licensee]

It's like drugs, the issue has come up a couple of times but nobody seems to want to face the fact that certainly drugs are out there and there is a, obviously an increase in drug sales and violence have been on the same level—going up. [NSW licensee]

... it's a massive issue. I say that because anecdotally everyone knows that kids today are out buying it. They can get ecstasy tablets cheaper than they can get their RTDs. Yes it's going on. Do we know the true picture? No we don't. We put this on the police and made calls for random drug testing and we said we'd fund it. [NSW industry representative]

One distinction noted by a number of licensees and security personnel is that there may be a difference in the types of violence and problems associated with patrons using drugs compared to those who are using only alcohol.

Especially on the more violent ones. In twenty-odd years of working in this industry there are not too many drunks that I have ever feared. Kids on pills scare the absolute hell out of me. You cannot for the life of you get them out, talk sense to them or talk them down and they are bullet proof. The media never ever bring that part up. It's my fault. Someone that is heavily intoxicated or drunk would more likely throw and punch and fall over. [NSW licensee]

... they lose it. They lose it in a big way. And it even gets a bit scary — 'how am I going to restrain this guy?' — he's going to go a lot stronger than me, he's going to go a lot longer than me. You get puffed out and somebody needs to come in and hold him while I have a breather for a second. Yes definitely, but that's rare cases. You don't see too much of that. Without condoning it, because by no means do I, but I've also seen a lot of people a lot more easy going ... yeah, it's the type of drugs that make a massive difference ... we've worked at venues where it's mainly just people taking pills and that and in terms of security, it was good times. [NSW security officer]

This assertion fits logically with the different natures of the drugs being used, but requires dedicated research to assess whether these anecdotal reports are supported by rigorous research, as it may simply be a mistaken assertion. A research design akin to the drug use monitoring in Australia (DUMA) program matching blood samples of offenders at peak alcohol hours and events should help identify the types of drugs present in serious offences versus minor offences, and the levels at which they seem to play a role—if indeed that is the case.

Not a major issue

On the other hand, the most common theme was that while illicit drugs were certainly used by some people in the NTE, they were not a major problem, nor were they increasing.

I would say no change ... I think there is different kind of drugs going around. I think that it is an Australia-wide problem that cocaine seems to be on the rise whereas pills and those kind of things I think are on the decrease. I don't know whether the kids think there's a ... there's a safety in cocaine or whether it's cheaper ... We probably kick a heap of people out for being intoxicated but really they are drugged. If they are acting you know ... different to normal well then they are going to get kicked out. Whether it be drugs or alcohol. [NSW licensee]

... from my experience alcohol has a greater effect or impact than drugs. We have (inaudible) our ice people that are just off their face on ice and with speed they'll just fight and punch on. So while I'm not saying that drugs aren't a problem, they certainly are, but to me alcohol-related or alcohol-affected people are more noticeable, most definitely yeah. I don't think they've changed a great deal. I think there is still quite a high level of drug usage out there for recreational drug use [NSW police officer]

I can't remember going to an issue with someone here in Geelong for a long time. [Vic emergency services worker]

An additional nuance to this issue raised by some KIs is that some of the stakeholders with a vested interest may use illicit drugs as a smokescreen minimising alcohol's role in societal problems. For example:

People raise them as a red herring the only stuff that I hear is that they probably aren't a big deal. They are there obviously [NSW government official]

... your statistics says it's not! As much as ... the licensees are like: it's drugs, its drugs, it's drugs! Yeah, I will give you there are drugs in nightclubs, that just goes hand-in-hand but it's not to the degree that they think it is. [NSW police officer]

I hear different stories. At times people say 'no'. We had a youth forum and people said 'no, not really'. I've heard some of the nightclub people say 30 percent. I've heard cops say 20 to 30 percent, so it's there, but it is not as great as alcohol, but it's a significant percentage. I think there is some venues that are known for it and it does disappoint me that police will tell you it's known and yet it still occurs. [Vic government employee]

Thus, while there are different opinions about the degree to which drugs exist in the NTE, and the role they play, it is clear that illicit drugs are being used inside licensed venues and probably warrant some intervention.

Energy drinks too

In addition to illicit drugs, a recent trend has changed involving psychoactive substance use in the NTE relating to highly caffeinated 'energy drinks' being combined with alcohol. All industry key informants also acknowledged the greater diversity of new cocktails of drinks popular among young people, and the consumption of different illicit substances had the capacity to magnify the problem of violence in the night-time economy. As the following quote demonstrates:

I think if anything, it probably needs research ... energy drinks. I just think that if you mix, and they are coming in shots now of guarana, ginseng, caffeine, all mixed together with a high sugar content and throw alcohol in. Without alcohol you drink these things and you can feel yourself twitching. So if you've got a touch of anger there. I just think those mixed with alcohol and/or mixed with other pills is probably as big a reason as anything to increase levels of anxiety, or anxiousness that doesn't take much to trigger off (aggressive or violent behaviour). [Vic government employee]

Concern regarding the role of the combined effects of energy drinks and alcohol was consistent across research sites and between different types of KIs, with industry personnel expressing similar concerns to government officials.

Q. Are they mixing these illicit drugs with alcohol?

A. Yes, I believe so, and together with your bloody energy drinks it's a cocktail with who knows what results. I think some of these people that I see, these thuggy kind of people that we're talking about, that when they're off the gear they're decent people, when they're on the gear, they're not. They have no fear, there's no holding them back once they're on it. It's a definite problem everyone wants to point at the alcohol, no one wants to actually touch the drugs and it is an underlying problem. [Vic licensee]

... they still will drink the energy drink. I don't think that's a great thing for society but they still ... I guess we don't...to buy a drink is very expensive in a nightclub. So I think they pre-fuel the majority of their alcohol. [NSW licensee]

Licensees in both Geelong and Newcastle reported choosing not to sell energy drinks, but it may be that many more would prefer not to, but are required to because of the competitive environment within which they work.

I'm really fascinated with the whole issue of the high energy drinks and the impact they have and I'll be really interested to see some work that comes out of that. I think that'll be very, very good. And you see licensees who say they don't want to sell that stuff: 'I don't want to sell Red Bull, I don't want to do it, but every other bar's doing it, if you don't do it they'll go somewhere else to drink and so you're forced to do it'. [Vic government employee]

Therefore, in addition to further research into the role of illicit drug use in alcohol-related harm in the NTE, there is enough anecdotal evidence to suggest further research is warranted regarding the effects of energy drinks in the NTE.

3.4.4. Violence

Most of the interviewees reported violence as an issue (N=76) whereas seventeen reported it was not an issue for their area.

3.4.4.1. Violence trends

The trends in alcohol-related violence reported by key informants in Geelong and Newcastle were distinctly different. Of course, these perspectives reflected a wide range of views, but can be categorised to a degree. Ten key informants from Geelong reported that violence rates were increasing, whereas no Newcastle key informants reported that violence rates were increasing. Five key informants in Geelong and Newcastle reported that trends had remained stable, particularly over the past two years. On the other hand, 17

Newcastle key informants directly reported that violence had decreased in Newcastle, compared to 10 in Geelong. Many KIs did not directly respond to the question or focused on a small aspect of the issue.

As mentioned, within responses that agreed on certain outcomes, people diverged substantially in how they described the nature of the trend or how they interpreted reasons behind the change.

Change in culture of violence

Most KIs discussed a wider societal increase in violence and the way in which this played out in the night-time environment. KIs focused on two perceived changes: 1) increasing violence in society; and 2) changes in where violence was occurring.

More violent society

A common theme from the KI narratives was that society was becoming more violent. This perception was reported in both Geelong and Newcastle.

I don't think it is in the venues. I think society has changed a lot in the last ten to fifteen years and I think the advent of like, we celebrate as a society; there's cage fighting and ultimate fighting and people have got much more access to rationalise and normalise—I've hit someone—that is normal. [NSW licensee]

I think it has increased but that goes with the fluctuation of the town. There is a bit more of an understanding on drunkenness now. I think it has increased a little bit. I don't think it's the cause of a lot of the problems associated with the drinking. Years ago when I first started you'd have your drunks, you'd walk them out. Basically in the 16 years that I've done security I've maybe hit seven guys and that is pretty good because normally they take a swing, they are pretty drunk, you push them away, you talk to them. As long as you can talk to them you normally get away with it. But in the past probably seven years I've noticed it getting a tad worse because the problem is what they are taking with the alcohol. [Vic security]

KIs also talked about the change in the severity of violence:

Unfortunately they go in mobs now and that's the problem. I think there was more violence back then but it's more severe now because of the way they are doing it. Like once they are on the ground they are still laying the boots in. [Vic security]

I mean back when I first started there was violence but it wasn't like it is these days. These days it's not one-on-one or anything like that. It's five on one or six on one, it's mainly groups and I think what is making it worse now; I haven't really witnessed it here, but I mean you do read it in the papers, is where weapons are being used and it's come to that stage where people are carrying knives. But I mean personally I haven't witnessed it in the club scene. In my other job, that's what I deal with. [NSW security]

... it's probably more vicious. My theory is that it has been hyped up so much it gets back to the Wild West thing. If someone is going to have a go at you, you just have to assume they've got a gun so you shoot them first. So the violent thing on the street is if you don't knock this guy senseless he's going to do it to you because the media has hyped it up that it is a war zone out there and this kicking when they're down and just wanting to cave their heads in, that wasn't the norm years ago. You'd give someone a blood nose and they wouldn't do it again. [Vic licensee]

The narratives above allude to the complexity of violence in social situations within Australia. While there have been declines in most crime categories including homicide (the most extreme form of violence) assault remains stubbornly high. In particular, domestic violence and sexual assault continue to rise. Further analyses of these trends suggest that although many are no longer directly related to licensed venues, as they were in the 1970s and 1980s, alcohol still plays a major role and continues to be the major coinciding factor (Chikritzhs & Liang 2010). While other factors such as changes in reporting procedures and greater community awareness have played a role, these only account for a percentage of the increase. Rates have

continued to rise well after the changes have been put in place. Indeed, most (72% or 310,000) men who were physically assaulted by another male said that the perpetrator had been drinking or taking drugs, and 28 percent said that they themselves had done so (Australian Bureau of Statistics [ABS] 2007). Similarly, almost half (47% or 92,300) of the women physically assaulted and most women (84% or 50,600) who were sexually assaulted by a man said that the perpetrator had been drinking or taking drugs (ABS 2007). Therefore, while societal trends in violence are clearly increasing, many still appear to be related to alcohol and alcohol may be driving these increases.

Changes in location of violence

Another aspect to the changes in violence in the NTE has been the shift from inside venues to outside. In the early 1990s it was reported that more than half of offences occurring on the street had been associated with licensed premises in Australia (Buss et al. 1995). However, recent data suggest that this may have changed with better reporting and changes in the marketing and sales of alcohol. Key informants from Geelong and Newcastle reported a change along these lines:

... assaults across Geelong are up slightly, but in the actual city, around the clubs and that, they are down, and inside the clubs they are down or very low, down to 20 a month which is quite good, but we are still getting a few in the street, in the centre where we're trying to police at the moment by the pushing-and-shoving, we're giving on-the-spot tickets and trying to get as many police out as possible. But you're always going to have some assaults. The majority of assaults now are in the home between mum and dad or just friends in the house—some of the parties get out of hand, and you get a lot more assaults in that area than you do in the city. [Vic police officer]

This reflects recent findings from Geelong, suggesting that most assault cases during high alcohol hours occur on the street or in the home (Miller et al. 2010a).

Stable

As with levels of intoxication, most KIs reported that levels of violence were comparatively stable, particularly in Geelong.

... it's really all the same. It's the same like every weekend. One weekend there would just be more fights than the other one ... I think because they let anyone and everything in. Like they let some really bad crowd in there and they do, like the bouncers do let in people that they know, like bikies, really rough people and those kinds of people can make everyone else feel intimidated and stuff like that. But there were always fights. [Vic security]

One KI suggested that some of the perceived increases might be driven by media attention to the matter, at least in Geelong, but that they had not experienced any significant shifts in violence levels.

I actually don't think there's been a major increase. I think it's been quite a steady number throughout but I believe what's probably been highlighted is media has come into play so I think the general population knows about these incidents more so than previously. So in my experience from metro and even in Geelong I don't think there has been a massive increase. [Vic emergency services worker]

While most reported stable levels of violence, a number alluded to changes in the gender ratio and suggested that more females were involved in violent events.

I think we've seen a bit of an increase in female situations. Non-alcohol related. The majority of the time most of the incidents aren't alcohol, they are not an alcohol-related fight. It's not because someone tipped their drink or ... it's because they've got ADA, or she said something about him, her boyfriend now is having to deal with it. I would say 90 percent of our incidents have pre-existing issues. [NSW licensee]

This trend will be discussed further in relation to arrest and other available data.

Declining

As mentioned previously, a substantial number of KIs reported that violence rates were declining, particularly in Newcastle. Within these reported trends, informants in both locations reported several consistent themes.

A reduction in assaults is due to a reduction in patrons

A very common theme regarding the observed reductions in violence documented in Newcastle is that it is due to a drop in the number of people in the night-time economy as a result of the measures, and that less people result in less conflict.

... the 104 and 79...I'm not going to give you simple answers I'm afraid but I think it's too difficult to say yes or no. The stance at the moment; the stats that are used again and again and again by the police and different agencies is about a forty percent drop in assaults. The difficulty with that, which I'm sure has been pointed out to you before, and is pretty apparent, is that there's no record, there is nobody measuring the people that are actually coming into the city so immediately you have a problem with; did the trading hours just limit the amount of people coming into the town? And you would expect that if it has limited by forty percent then you would expect a forty percent drop in assaults more or less, roughly. But because we don't have that evidence it's a really hard one to say, but ultimately the police position and probably a number of other people's position would be we are happy that the assaults have dropped. You talk to other people, hoteliers and people that like to see a vibrant city—the place is very quiet, very quiet. [NSW government employee]

Similarly;

... probably a decrease but I attribute that to the fact that the numbers in town just aren't there. I mean I think out of the fifteen hotels that were involved in the curfew there is only five operating now I think and there is only two open late, three open late now till three o'clock not five o'clock and I think that if you talk to any of those guys you will find that their trade is down too. Obviously a couple of them are mates of mine and we talk and I know their trade is down unbelievably. A significant profit level of the business has gone you know. It's not even numbers, your turnover's down—obviously with a business you reach a certain level, then you start making money and even though that may have reduced it by ten percent, it might reduce the profit by twenty or thirty percent. [NSW licensee]

Newcastle used to be a really vibrant city, which was the birthplace of a lot of our popular live music bands and a lot of this has been jeopardised because of these draconian conditions and restrictions that have been put in place. Yes, our alcohol-related violence has decreased but that's because a lot of people have stopped going there anymore. [NSW industry official]

There were no competing narratives on this topic, but, unfortunately, there is no objective evidence to demonstrate the numbers of people entering the Newcastle NTE, nor any data on where they may have gone.

Greater regulation

In contrast to the Newcastle narratives, some Geelong KIs also reported a reduction in terms of violence levels, but related them to increased governance and regulation of licensed venues, rather than the reduced trading hours.

If anything it's reducing I think, people are particularly since that one particular rape, and I think also because there has been so much attention from liquor licensing and police and that. I know these days that if someone says you're too intoxicated—they take it on board a lot better than they used to I think. And I think slowly but surely it is sinking in to a greater extent. Unfortunately, there's always going to be thugs out there, but I think for the most part people are more aware of situations and it's actually unusual in venues, in the better run venues to get incidents, there's not many incidents within the venues. Most of it is on the street. [Vic licensee]

I can only relate it to here. I'd say we have decreased. It just came down to us putting our foot down and banning certain individuals—the ones who would walk around all huffy and puffy and tough. [Vic licensee]

These KIs may have been able to achieve a reduction in terms of the incidents inside their venues. It is clear that they believe that greater pressure from licensing authorities results in reduced levels of harm. However, as they point out, such reductions should be considered within the nature of the environment and when alcohol and youth interact, it is likely to involve some level of friction.

Police note and focus on the outcomes they need to prioritise

In the end, different stakeholders will focus on different things. Where licensees explain a drop in harm as being related to a drop in patronage, police have an over-riding mandate to reduce crime. Although many police would prefer to achieve this in ways that do not harm business, in the end they are held accountable to the public in terms of crime statistics.

Q. Do you think that the imposed conditions have had an effect on reducing alcohol-related violence in Newcastle?

A. Most certainly. Both by way of crime statistics and what we've seen on the street. One of the biggest things we saw in the first few weeks was the reduction in the levels of intoxication. It was noticeable. Actually noticeable. The other thing, I think what most police would tell you, and I don't get out there every weekend now, but they'll tell you that in that initial period we also saw a reduction in the seriousness and the ferocity of the assaults that were taking place and I'd only put that down to the fact that people weren't as intoxicated so they didn't lose control to such a degree, but there is no doubt that it had a positive impact on crime. [NSW police officer]

Similarly:

There were high levels of intoxication. The violence associated with that was extreme. Especially Friday nights, Saturday mornings, Saturday nights, Sunday mornings and then Wednesday nights are our university night here, uni night, so high levels of intox and I would see that flow onto antisocial behaviour in the street and street crime such as malicious damages, which is witches hats and street signs being pulled onto roads and what not.

Q. After the section 104 imposed conditions were implemented, did you notice an increase, decrease or no change?

A. A noticeable decrease in [intoxication levels], alcohol-related crime, antisocial behaviour and general unruliness in town, most definitely noticeable. [NSW police officer]

These narratives highlight the importance of understanding different motivations and performance indicators behind different interventions. They suggest that the interventions in Newcastle have clearly been successful when judged by the performance indicators that the community imposes on the police force. In such an environment, other concerns may be difficult to legitimately consider for those held responsible for public safety.

3.4.5. Responsible Service of Alcohol (RSA)

A major part of the environment surrounding the NTE, harm and intoxication, is the concept of RSA and its operationalisation. The RSA is the most popular intervention employed in licensed venues around the world and remains controversial in terms of its effectiveness and outcomes (Babor et al. 2010). No specific intervention was introduced during the time of this project and so its effect could not be assessed objectively. However, KIs identified major thematic issues in relation to RSA. These narratives are not evidence of effect, but do serve to highlight potential benefits and room for improvement within any conceptualisation of improving safety in the NTE.

Of the 52 KIs who directly discussed the effectiveness of RSA in reducing alcohol-related harm, 33 reported that it was effective and 21 reported it was ineffective. A further 21 identified benefits associated with RSA and 18 identified specific limitations.

In terms of people's understanding of RSA and the way it ideally works in a licensed venue, the KI's narrative below provides a salient ideal:

I believe every employee of the bar has to complete a responsible service of alcohol course so they are well aware of what they are supposed to be doing. But it's not uncommon to see people rolling out of venues completely intoxicated. [Vic licensee]

Needs to reflect the licensees and managers' attitudes

One of the strongest themes to arise from the interviews was that RSA within a venue ultimately reflects the attitudes of the venue operators towards RSA and its relationship to their profit margins:

Q. So it comes from management and owners saying ...

A. ... they don't really say.

Q. Wrong word, inferred?

A. It comes across that just get their money you know? And don't worry about it. Like I said maybe more RSA, because RSA is only four hours. I think it needs to be on-the-job training as well. Like I said security needs to go around and sort of nip it in the bud before it gets too late or it gets too far. [Vic security officer]

... it's not just security, as well it would be the bar staff because part of being accredited with RSA is to say: 'hey you've had enough, go away'. But it comes back to the owners and making money really. [Vic security officer]

Enforcement

Another key theme to arise was that RSA was often related to how much the laws surrounding it were enforced. This was seen earlier in terms of discussions surrounding levels of intoxication and is also reflected in the narratives below:

I think reducing people's intake whether it's through policing the RSA laws more heavily or reducing the amount of hours venues are open, can certainly have an impact on what people are drinking which in turn I think will have a positive impact. [Vic security officer]

However, it was also noted that identifying intoxicated people could be difficult when they were trying to act soberly to buy drinks or get into a venue.

Alcohol is a big thing there. It is just the limitations of RSA and that idea that you can really find out whether somebody is drunk. It's quite easy to fake it or you just get people that are a bit slack in implementing it and enforcing it so there is a lot of limitations there. It's better than nothing, I guess it's good. You will always get people that are so inebriated and if it wasn't there you might still have people serving them. So it's good that it's there but it has difficulty in distinguishing people. People when they are drunk are still actually pretty smart and can pretend that they are (inaudible) or someone else is buying the drink and there's not that management of them being brought back to the table—the notion of the wider area rather than just the bar area where they are purchasing alcohol. But anyway, to answer your question it is a good thing. I guess it's a good thing that it is there. [NSW licensee]

Another issue raised was whether patrons would invent some ways around RSA laws, such as 'side-loading' or bringing their own drinks to the venue.

Again it's hard to say. If we turn around and say limit the amount of drinks people can get at the bar, what's to stop people loading up before they come out? What's to stop people trying to sneak drinks in? You know. [NSW licensee]

These major themes suggest the reality that no system is perfect and that systems should be put in place which can assist staff to identify intoxicated patrons and practices such as side-loading where patrons smuggle alcohol into a venue. Measures such as random bag checks or having lines monitored for intoxicated patrons, may assist.

3.4.6. Pre-loading

The vast majority of KIs identified pre-drinking as a major issue facing the NTE, both in terms of economic viability and social and health harms to the community. One of the main themes to arise around pre-drinking was that it was primarily caused by a very substantial disparity between the price of alcohol between on-premise venues and packaged liquor stores.

A. It's crazy isn't it! And it is so cheap. Last week I order three (inaudible) and one didn't show up so I had to go to Dan Murphy's. The stuff that I can buy from Dan Murphy's is cheaper than what I can buy from my wholesaler ... They just get so much of it and no one is policing it. The worst thing is that the police can't do anything about it. They know they cannot do anything. I think if you look at the statistics 70 percent of alcohol is not sold on licensed premises. [NSW licensee]

... it's hard to tell. There was pre-loading before. I think, look I mean, if I look at young people I know I actually do believe they are pre-loading more. I think a lot of that comes down to the cost of alcohol in town and in the venues. And also it comes down to the cheap availability of discounted liquor from the big chains as well. So there probably is a bit more yes. [NSW police officer]

So I think whether it's an economic thing where there is just a huge amount of bottle shops and the Dan Murphy's and the Coles and the Woolworths are selling alcohol for, to the public, cheaper than we can buy it wholesale which ... we are, we're not a small hotel and you know, we buy a lot, not a lot but we buy more than a lot of other hotels, and Dan Murphy's sell it to the public cheaper than we can buy things wholesale so I think you've got this huge disparity in cost and then you can go to Dan Murphy's and they're not going to ask you how much you've had to drink and have you had dinner tonight and do you really think you should have another drink. You can get a trolley-load of things, have it at home, have doubles, have bombs, have shots and then come out. So I think it is, I think it needs to be, bottle shops need to be more regulated. I think what it causes too, is for people to come out later. [NSW licensee]

This trend has very real implications for licensees, both in terms of their ability to manage intoxication, and their financial viability.

... pre-loading is an issue. What you'll find is you'll find young girls get here and they are okay. They come to the door, they speak okay, they are walking fine, no outward signs, and then all of a sudden two drinks later they collapse. [NSW licensee]

... obviously we are less hours here everything has been decreased so much, a lot of the young ones now are pre-loading quite to a point where they get to the hotel and they pretty much don't drink—they are already loaded so we are stopping them at the door. [NSW licensee]

Licensee KIs repeatedly referred to the substantial differential between the costs they incur managing intoxication—as a cost related to their provision of alcohol—compared to packaged liquor outlets which, while obviously contributing to alcohol-related harm, paid for none of the associated costs.

I think is part of the drinking problem, as much as pre-loading. You load up at home and then you go out because you don't want to pay nightclub prices—that is reality, and how are they going to curb that? Are they going to tell Dan Murphy's to stop selling it, or sell it in limited amounts because that is essentially what's happening. You are telling me to sell it in limited amounts and that's the way the government wants to go and anytime you proscribe it, they are just going to create another prohibition and please do it as fast as possible because I will be a millionaire in two weeks. It will create underground drinking bars and it's not hard. I don't see it as a—it's not a deterrent unless you are going to limit alcohol right across everywhere, like what they've done in the Aboriginal communities which took a lot of political will. [Vic licensee]

Alternatively, as seen in all of the issues discussed, a small minority of KIs from NSW did not believe pre-drinking was an issue in the NTE:

Q. Were there any differences in the levels of pre-loading that were noticed?

A. No, I don't think that's changed. But it's very hard for me to say. I don't think so. I think people still preload the same as they did. I've got daughters and I know that that's what they do, so no one has sort of said anything about pre-loading more or less. [NSW police officer]

Well, I think it doesn't really matter because if the guys on your front door, if they are doing their job right they assess everyone. So they've got to be able to pick the signs and symptoms. It comes down to them just being on their game. We make sure that our front door staff are very well trained in everything. [NSW licensee]

Side drinking

As previously mentioned, side-loading (or consuming alcohol purchased elsewhere) also creates a substantial problem for venue operators. The ability to maintain intoxication levels and responsible service of alcohol is significantly impaired when they are competing with very cheap discount liquor and creative patrons seeking to maximise their fun while minimising their expenditure. The phenomenon also has very substantial implications for their financial viability.

Every kid I know, everybody, if they don't carry a hip flask to try and get around pricing then they start drinking at home. What I'd like to see is a police officer stand up to Coles Myer and the Woolworths chains and restrict their businesses, reduce their hours and put a premium on their pricing. Their pricing is so cheap it is, it is not ridiculous, not at all, it is a competitive market but don't even think about looking at licensed venues when it comes to liquor—you are kidding yourselves. [Vic licensee]

As the above narrative implies, the differential between on-premise and off-premise alcohol sales deserves substantially more research and will require innovative solutions. Only one KI suggested an initiative to deal with pre-loading or side-loading, recommending the system currently being considered in New Zealand of different venue-specific age restrictions on the purchase of alcohol:

A. I mean XXXX actually came up with the idea that an 18 year old can get into a hotel but a 21 year old can buy take away. And I thought that was a good idea

Q. Was it supported by others?

A. Not supported from what I can see. A 21 year old is not going to give it to a 17 year old but an 18 year old will give it to a 17 year old ...

It is clear from the above that most KIs believe pre-loading and side-loading are major issues, especially for the profit margins of licensed venues, and maintaining order inside. The issue clearly warrants further research and determined action.

3.4.7. Just think campaign (Geelong only)

Of the 31 KIs who commented on the 'Just Think' campaign, 22 suggested it was ineffective and nine thought it was effective. Many KIs identified the importance of the media in shaping community perceptions of alcohol-related harm, but most felt that current practices failed to adequately address the issue. For example:

I think the media have a very important role to play in a whole range of areas. One is they create the perception of safety in a town. I have a view of our main print media and I think on occasions they have really, haven't done anyone any favours and in actual fact they've only been concerned with one thing and that's sales. They couldn't give the proverbial about who, what or how is effected or how badly, they just want to sell the paper. And they have written some stories that are factually incredibly wrong, but have put people in a difficult position and justify their actions by what's occurred but in actual fact they haven't done anything—they are actually the victim, but they've been portrayed differently. But they've got an important role. [Vic community representative]

An issue that was raised about the campaign a number of times was that it was run with a profit motive at its core:

This is Murdoch press—they are working for a commercial company who has a history of tabloid stuff. They have to make a profit. They've got shareholders, so yes, the editor does have a say but I tell you there is a few levels, so we've got to understand that too. They are not a charitable, and as they remind us, they are not there to make us look good. If we want to look good we buy our own space, so I think we need to better understand what it's like being in the media and we would say to them if you talk down Geelong, it's long-term bad for you. Because you are about selling newspapers, if you can sell newspapers you can sell advertising, if you can sell advertising you'll make money. [Vic government official]

This element was also reflected in the way in which the campaign was run in competition with local initiatives that had been in place for a long time, such as the Community Safety Committee, the Liquor Accord and the Nightlife Association:

The way [the *Geelong Advertiser* editor] did it I guess wasn't engaging and so they've come to people like council and the Geelong Safety Committee afterwards and said can you come on board. And what does that mean? They want money, they want money from us. So when you did all the launching and getting all the awards you didn't want to know us then and we issued press release after press release after press release from the Safety Committee but you wouldn't print that. So now that you want us to promote something of yours and you want money ... a true partnership is more than that. [Vic government official]

This context of mistrust and competition was contrasted with the high profile campaign getting huge media support from Geelong Advertiser stablemates within the Murdoch empire, as well getting attendance and support from high-profile people such as the then Prime Minister, Kevin Rudd.

Effective

While implementing the intervention was controversial and there were mixed motives involved, a number of key informants reported their belief that the campaign was effective.

There have been other strategies like Just Think Campaign that probably has had an impact on people's thinking but as I said before, alcohol certainly reduces people's judgement. I think when people get to an intoxication level, I don't think that any campaign they may have picked up or read about or heard previously is going to change their thought process at that time. They may think later that was dumb, I shouldn't have done that, whereas before they may not have given it two thoughts. When you are heavily intoxicated you're not thinking straight anyway. [Vic licensee]

To the Adi's [*Geelong Advertiser*] credit it has obviously gone nationwide; you've got all the AFL captains there around grand final time, everyone getting on it in one form or another. To their credit, yeah, their motives may not be the same as yours and mine and the police but I would love to get to the stage, you know where they had the drink-driving campaign and it got down to drink drive—you're a bloody idiot. When I was 18 to 20 growing up people drove around pissed all the time. I think the culture has definitely changed now. I was a major culprit of that. I now have an old ute that I bring into work at night now. If I have a few drinks I leave it here, I don't think in the old days it would have happened. I would love the Just Think campaign to go down that road where you are thought of as a bloody idiot if you fight. You know what, I think it's starting to happen. [Vic licensee]

I think it is probably one of the better campaigns, it just makes people think and puts a bit of a stigma on those that don't. So I think that is probably the best campaign of them all. [Vic licensee]

While some believed that the campaign was a good thing, they also indicated that suggestions of effectiveness reported within the pages of the *Geelong Advertiser* failed to accurately describe the context of this intervention.

I think that was very clever and well done. I think taking it out onto the television with the captains of the AFL is well done and very clever and I think from that aspect ... the Adi hasn't measured at all. If you sit there and ask them the same question they'll go well there is a 35 percent sustained decrease, but that is all the stuff we had in place in the first place that you were criticising and wouldn't support and wouldn't talk about. How do you know it was Just Think? So I think they should measure and the chances are they'd get some good results because I think generally it's pretty good. [Vic government official]

Ineffective

As mentioned previously, although some people believed the Just Think campaign was effective, most KIs reported it was ineffective. For example:

It's frustrating because you watch something like the Just Think campaign where the Geelong footballers got up there and it's sort of gone partly national, the AFL have got involved and all we see is a drunk Brendan Fevola, we see drunk idiots, all footballers, a lot of them were creating this kind of stuff at the Brownlow, violence on the football field, you know, Campbell Brown talking about fixing people up because they are dogs and all this sort of stuff. This is the example they are setting and it's the wrong one, and it's the wrong education by heading down that way, and I think they ignored, and so did the Geelong Adi, there was a drunken fight at East Geelong Football Club. Now not once was there a Just Think message on any of the reporting of that because their close affiliation with Geelong football. They are hypocrites. If that had of happened at a nightclub, they'd have posses of people standing there with placards, you know, getting a lynch mob and wanting to hang someone, but when it happens in and around stuff that is their bread and butter they are very selective, so again I don't see how it can actually work. I think they are very, very selective in what they do. They are selective in and around when they put the Just Think message around any sort of alcohol-fuelled violence. They don't target liquor stores or anything else where alcohol-fuelled violence has flared up, it's all done around late-night venues and they've struggled to get a front page for nearly two years on any of the central Geelong places, that's a credit to the licensees and what everyone else has done for it to actually show and I suppose I cynically tell people when they say how bad Geelong is, I say well what makes you say that? And they say well what we saw in the paper. And I'll say can you tell me the last time you saw a front page about violence in Geelong? And they need to think about it for a while and say [XXXX], and I'll say it didn't happen at a late night pub, that happened at a pub that shuts at 11 o'clock at night. Oh, well when you put it like that, I suppose it is pretty safe. You know but it's this kind of perception, and I think the Adi creates that. It sells papers, and people have said you have worked there that if it bleeds, it leads and that's what's lead the Just Think campaign. The way they did it, they kept putting certain images around the place and make it look bad, but all of a sudden the Geelong Adi are using popular people like footballers, they've shown themselves to be leading the way, but I am yet to see any evidence where the Just Think campaign has helped. When you are photographing those people that were brawling outside of Camera House at midnight one night, we should find these people, these were the same people the next day wearing orange shoelaces at the Geelong Football club supporting Just Think—so it's a joke. [Vic security officer]

I don't think it's done much at all. Because when you are on whatever you are on and you're drinking you don't think of that. [Vic security officer]

In addition to the points raised above, it was also suggested that the campaign was mostly for the benefit of those other than the target audience.

Just Think is designed specifically for people who read newspapers not so much people who come out. Most kids wouldn't even read about it. [Vic licensee]

It's my argument that the nice prefect from Joeys and Clonard and Sacred Heart [local Catholic schools] who won the ultimate prize, who ran the Just Think street march, they were probably always really responsible young people who probably weren't going to go out and beat the crap out of other people.

Probably. So it was a bit of preaching to the converted. Not saying that boys from Joeys aren't going to go out and punch the bejesus out of each other, but ... they'll probably have a set of morals. [Vic government official]

A limitation identified by a number of KIs was the lack of practical strategies and behavioural adaptations beyond simple awareness:

I think that as a public health campaign I think it has a place. There is no doubt that footballers in particular are role models for young men and I think that any information or campaign that has a simple message that can be delivered is a good thing. I'm not sure that it's actually translated to anything. There is nothing in behind it and I think that it has also created a void of publicity around other interventions, which I see as a bad thing. [Vic government official]

Thus, while the Just Think campaign was considered in a positive light, most KIs did not believe it was actually effective in reducing violence, nor did they think that it addressed the core elements of alcohol-related harm: intoxication. Further, a number of key informants felt the campaign was compromised by its obvious profit motive and lack of practical strategies.

3.4.8. RSA marshals

A more tangible intervention implemented in Newcastle, as a part of the S. 104 conditions, and trialled on an ad-hoc basis in a number of the larger venues in Geelong, is the employment of RSA marshals—staff employed specifically to monitor the crowd for intoxication and work using positive communication and early intervention. Most KIs reported that RSA marshals were a good concept:

It is a question of the practice. I think the concept of having a person who is intended to seriously control the situation, who is a responsible person to take action to make sure that people don't reach a certain point or undertake certain activities—that is conceptually perfect. [NSW government official]

There were a number of key benefits identified associated with RSA marshals, but KIs also reported that, as with most intervention, variations in the motivation of licensees, and staff capacity were likely to influence overall effectiveness.

... it's about the culture of the venue as much as anything. Does that mean then that the venue would be quite happy to stop serving them alcohol that they're buying and give them free water? I don't know. What's the culture of the venue about? I think it's been shown down at schoolies, it was received quite well, the two pubs at Lorne and Torquay last year did that. People saw that as a sign that they were taking that quite seriously and I think particularly for schoolies when you've got young people who aren't experienced pub goers and drinkers it is very responsible. It's very easy to have a couple of extra drinks than you really need to, and all of a sudden you've gone from being a bit merry, a bit happy, to gosh the room is spinning and I feel like I'm going to be sick. I think the idea of RSA monitors is a really interesting one. I'd love to see some more data about that, but once again, what else is happening in that venue, have all staff had extra training, is there a patron management plan that is adhered to not one that just sits in a cupboard that no one cares about, does the manager actively know the license? ... Again I think the RSA monitors are a really interesting, I think they can't be harmful but what's the culture of the venue, how will they support it, what else exists in that venue, do they have a designated quiet zone, a chill-out area, do they have a policy on what to do with an intoxicated person ... The other side of that is how much do you take on responsibility for individual's behaviour? Is it okay if I go out and get pissed and I expect the venue to send me home in a taxi? [Vic government employee]

I think they should be implemented. We have had that. That has died off a little bit but I do think that they should be there. There should be at least two of them walking around as well. That takes the pressure off us—that's right. We are not Mr Fix-it men. We are human. We make mistakes too. We try our best and I think that is all a security guard can do but I do think things could happen to make things a lot easier for us to carry out our job. I have to say the police have been good in Geelong. They've backed us 100 percent. I'd never say they haven't been good. I just think our part should tighten up

a bit with more guards. I really do and I think it would take a lot of stress off a lot of things. That would enable us to make sure we kept everything a lot tighter on a busier night. [Vic security officer]

On the other hand, others were less optimistic about the benefits of RSA marshals:

A load of garbage.

Q. So you don't think it would have an impact on reducing alcohol-related harms?

A. You've got to look at the demographic. If you are playing with the 18 to 25 year old males, everyone loves the stereotypes but it's the metrosexual, footy jock, that demographic. They're out there to get, firstly it's a tribal hunting thing, then if there's no girls around for them to be obnoxious with, then later in the night it's going to be a drinking war. It's got nothing to do with, I don't think, RSA marshals or anything. It's like everything I see in life education is the silver bullet and we are not utilising it at the moment at all. You don't have to be, you're not ... if you want to be accepted in a peer group or gang or whatever, in the US you've got to kill someone. Out here you've got to drink until you get arrested. Not that long ago there were groups of guys going around and I think it was a \$200 bounty, who could be the first processed through the cells. So, oh my god, we are obviously dealing with rocket scientists, so I don't think RSAs will make any difference. [Vic licensee]

One of the more common themes to arise from KIs was that the role proposed for RSA marshals is one which should be a job done by existing security:

I believe with all the awareness going on now I think that between your bar staff and security staff you should be able to monitor it pretty well. I don't believe you need a specific RSA monitor walking around because that's what most of your security should be doing anyhow. That's part of their job I believe. [Vic licensee]

A. It's something we're trying to do down here. I think personally, security has that role anyway. That is their primary role there apart from dealing with conflict. It could create confusion. You might have an RSA marshal and another security saying that's not my job. I don't think it will have much effect. [Vic licensee]

A. It's really something that security officers were doing prior to that anyway. I didn't even realise that was part of the restrictions. The reason for RSA marshals as I understood it started was because of the security industry, making it a lot harder to get security guards and we were putting on RSA marshals on our own just because we couldn't get enough security guards. So yeah they are useful of course, as long as they are used correctly. But security guards themselves do the same job at picking out intox. [NSW licensee]

Another theme raised by KI narratives surrounded the lack of any clearly defined training requirements or credentials as being problematic:

Q. Do you think that if each hotel was mandated to supply an RSA marshal late at night that it would be effective in reducing intoxication on licensed premises?

A. My personal opinion is no. Having worked at Crown complex they were probably the largest provider of RSA officers. I think there's a lot of issues around RSA officers. In my Crown experience they are paid by the food and beverage department who actually provide the alcohol to customers, not to say that they don't try and do their job quite diligently but I think it's a little bit more than having RSA marshals in the venues and I also think you need to be very clear on who can be an RSA marshal. The ones at Crown aren't crowd controllers and I think you're walking a very fine line around legislation to who is a crowd controller and the duties they carry out and who is a RSA marshal when it's not a formal position, so you will find that [at] venues you have the people carrying out the duties the same as a crowd controller which leads to a whole range of things like whether they are people that aren't suitable to be crowd controllers then come back into the industry through a back door loop, which they do. Are they crowd controllers and, if they are, they should all be carrying out that role the same as bar staff. Why would you then have to have a specific person to do it? If it's around a duty manager or a licensee they

are already obligated under the Act so again it's a nice buzz thing to have and it's probably a nice thing to put people in a fluro top and I know Torquay hotel had done it quite successfully but they did it as a pilot for people who hadn't yet got their crowd control licence, so they had their RSA certificate and they were using it as a bit of a training ground for them to hone their skills on people interaction but it does leave them wide open to litigation by an over-zealous police officer or if something did happen where does everybody stand, and I think it's too grey. If you were going to do it you'd, god forbid, you'd create a whole new course for people around an RSA officer or RSA marshal so you'd have to have specific training but from there you'd have to make sure that whoever was doing it was actually qualified and are they doing something they were trained to do. [Vic security officer]

I am not an advocate of that at all. Why have, if your security is doing half their job they can be 'your' in adverted commas, your RSA man or person rather. So I don't think that would go down too well in the licensed premises. People enjoying themselves, having a drink, a few laughs, it gets boisterous you know, bloke grabs mate in headlock and rolls him around—that is not uncommon behaviour. Does that mean they should be thrown out of the hotel or licensed premises? I don't know. RSA man comes across and says that's it—no more drinking for you guys. Now they might have only had a very small amount. They don't know that. So you make a pretty quick judgement on someone because of a split second bit of behaviour. Let's say you've watched them over time, and those people only, watched them go to the bar, so 12 times they've been at the bar so that's how much they've had to drink—I am making a decision of their ability now to behave themselves. Big call. And is that RSA qualified to do that? What is their history, background, education in judging people, or making that call. So not a fan of that at all. [Victoria police officer]

As with generic RSA training, a number of KIs reported that the effectiveness of an RSA marshal would depend on the attitude of the venues management and that staff would be employed accordingly.

I don't think a monitor would work. I think that comes down on the venue manager or the bar manager. It's part of their responsibilities. Why employ somebody else to do it? I don't have a problem with somebody from outside coming in and walking around your venue, but if they are going to do that, just put on more police. I think it's a waste of money doing that. It'll just make the venue managers lazy as it takes away more of their responsibilities. [Vic licensee]

The reality is that those people still work for a person who wants to make money out of selling alcohol and if you are an RSA marshal and your boss says to you just be an RSA marshal but let them get as pissed as they like ... they are not all saying that but my feeling is that RSA marshals probably aren't a significant part of what's happened, personally from what I've seen. [NSW police officer]

Benefits

While many KIs were obviously sceptical about the implementation of RSA marshals, a number of KIs identified some benefits not addressed by the critics. For example, a number of KIs suggested that RSA marshals sent a different message to security or bar staff and they acted as a physical reminder of the RSA imperative:

Q. Do you think RSA marshals have been effective in reducing firstly, intoxication in licensed premises?

A. Yeah I think it has. It's made them at least more aware of it. The staff are a bit more aware of their responsibilities with RSA and even the licensees know that their staff need to be responsible not just the security, but the staff themselves. [NSW police officer]

I think the RSA marshal going around your venue though from a point of view of patron awareness we are starting to give the message that, to our patrons, that it's not acceptable anymore. And the RSA marshal; if they are proactive within your hotel and going around talking to people and trying to establish rapport with people, and just get them talking to see what level they are at, and you have that regularity with that RSA marshal coming in each week, I don't think the issues are there when they are finally turfed and told to go. [NSW licensee]

One KI also discussed the benefits of having a female RSA marshal as an alternative to the traditional male security role:

So generally we have a male and a female and we find that a female is really effective—that it's non-confronting. She'll talk and particularly with, we have older people here and if she goes up to a male he's like 'Ah okay! Yes I should go!' so it's not just a big security guard saying look, time to go. [NSW licensee]

Another licensee also identified the benefits of RSA marshals in terms of improving communication with their patrons, addressing the gaps in security:

We probably have a higher ratio of RSA marshals because we find that you don't end up with security that are just doing it. You end up with better communicators. [NSW licensee]

The guy that we've got is a security guard, but his primary role is RSA. He's an older guy of forty years old and has been in the industry for twenty years. He roams the venue. He constantly walks around and he does probably ten kilometres in seven hours but he's constantly walking around to people telling them to settle down and relax. He is unbelievable. He's fantastic. [Vic licensee]

While there is support for the implementation of RSA marshals, and the above narratives identify the benefits, a number of KIs pointed to the importance of considering venue size in relation to such an intervention:

We've got two bars so it's pretty easily controlled. We don't get everyone, like sometimes they sneak in and someone else buys them drinks. We haven't got a big venue so we can sort of monitor it, not saying we're one hundred percent perfect. But I don't know about that marshal, it's a big job for someone to say they're intoxicated. [Vic licensee]

Therefore, KIs generally support implementing RSA marshals, but suggest that they are unlikely to be effective in a venue if management is not promoting RSA. However, there are also some clear benefits that might eventuate, though further evaluation is required. Implementation of this measure would need to consider the size of the venue.

3.4.9. Drink restrictions

Key informants were divided on the effectiveness of restricting the types of drinks served. Of the 97 that made specific responses to such restrictions, most believed that restrictions on certain types of drinks and purchasing patterns were effective, although many also noted some limitations. In contrast, 33 KIs believed they were mostly ineffective.

A range of KIs believed that drinks restrictions were likely to be effective because they also send messages about what 'responsible' drinking looks like:

I don't mind that, I don't mind that more than the restriction of hours ... I think that that is sending a message to people; you can come in here, you can have fun, you can have some drinks but we are not going to fill you up to the gun-whales until you can no longer stand up and you are falling down drunk and vomiting in the toilets or on the carpet ... I think that actually sends a message that we take our responsibility, rather than imposed. [Vic government official]

Q. We were also talking about drink restrictions. How much of an effect do you think that drink restrictions have played on the levels on intoxication?

A. I think it's been a fair bit ... uh ... a couple of the places before that you used to see girls standing there with two ... Smirnoff blacks! You know, standing there drinking two Smirnoff blacks sort of thing and you'd go wow that's ... knocking back two Smirnoff blacks! They are rocket fuel sort of thing at one o'clock in the morning! And you don't see that anymore so that's a good thing. [NSW police officer]

That is common sense really because nobody ever gets a shot just by itself. You've got to have something to chase it down with! (Laughs) Who just gets a shot and sips on it? In saying that, you're only really getting a shot to get ripped. You are not having a shot ... oh maybe a celebratory one or

something, but ninety percent of shots are to get hammered, so yeah. That is just a common sense cultural sort of thing really. [NSW licensee]

A number of KIs identified that a major element of any drinks restrictions should be educating patrons so that they are aware of the conditions imposed, and the consequences for licensees. It was felt that any time such restrictions were put in place, this should be seen as a necessary element of the intervention.

A lot of them get annoyed with it because there is no information, no education. That's my biggest thing, before the restrictions and that up here there was no education, no knowledge, they don't let anyone know what's happening. I agree with a lot of it. I think no double shots is good. RTDs well, we don't sell them here which is good. We don't have a big market for it. We didn't over at XXX either. And the no drinks, no more than four per person, it's good in theory but they can just go line up their drinks at the table and come back and get another four and you can't stop it. [NSW licensee]

As long as we approach it in the correct manner, no. I think with education and publicity about all that, I think it would be good actually. If it's obviously in the papers and the media, where everyone is aware of what's going on in a positive manner, this is the reason why we do it. [Vic licensee]

However, a number of KIs believed that drinks restrictions were unlikely to be effective for a range of reasons. These included substituting, and patron attempts to avoid the restrictions through practices like side-loading (drinking liquor carried with them).

Yes, the Rebels and the Bandidos [motorcycle gangs] love that idea so they can sell more pills. If people are going to get told what they have to drink, they'll find an alternative way to get their buzz. The drug thing is out of control now and until the government starts to see what the real problem is, not alcohol. It's pills, it's antisocial behaviour starting from their homes, the lack of control in the school system where they can do whatever they like and it's one in one million, or in ten thousand idiots out there, there is no controlling them. But the rest of the people can go out, have their ten drinks, completely have a great night and enjoy themselves without some tool in a fluorescent top coming over and saying I think you've had enough sir. Have a water. Yes good, I'll go and have that with my pill! [Vic licensee]

In some ways yes, and in some ways no. I mean yes I think on premise it does curb the danger, but it doesn't stop the pre-loading. It doesn't stop the flasks in the pocket or that sort of stuff ... [NSW security officer]

Benefits

With the introduction of drinks restrictions, a number of benefits were identified, beyond simply reducing consumption. For example, industry sources reported that the laws allowed servers to more easily enforce RSA guidelines:

A. From my point of view I think it's positive. I think a lot of bartenders ... it's just that excuse that we can just give and then not have to really worry did we do the right thing or not. It's just across the board; yes sorry we can't do it. Because I don't think a lot of people in this industry have the care factor about ... I just call it being humane. Like people do need to be cut off. Some people can't, unfortunately aren't capable of making that kind of decision for themselves. I've always, always used my discretion with things like that. If someone walks in, and clearly the last thing they need is a shot, it's good to be able to go 'I'm sorry we can't do that'. [NSW licensee]

I've had a perfect example is bucks parties and things like that. So they come in and they want ... oh come on! I just want tequila—he's getting married! Or twenty-firsts or whatever, you know, and there is always an excuse. It's like come on! Really! And I just sort of go 'guys if you really wanted to drink so much you should have partied at home, like pass out on your own couch'. It's what it's come to these days but it's good because really when it comes down to it we are the ones that are responsible for such a massive amount of people ... you can't be. [NSW licensee]

Another KI suggested that an unforeseen benefit of restricting certain RTDs was to improve profitability.

From the financial perspective it's probably better because it then moved patrons away from an RTD back into bulk spirit sales where the margin is better. But where it becomes a little silly is if a patron wants to come and have a scotch on the rocks, you can't. [NSW licensee]

Limitations

One of the principle objections raised was the mandatory enforcement of the drinks restrictions, rather than following the voluntary practices being used in other jurisdictions:

That features as a voluntary initiative from numerous liquor accords. In principle, we don't have a problem with that at all. I think our concern is about mandating stuff as a one single solution across the whole state. If that works for that venue then there's no problem with that. The Distilled Spirits Industry Council Australia will tell you 'hang on a minute there is nothing wrong with having a neat scotch at two in the morning as long as you just have the one'. Sure, that is true but when you are trying to look at overall initiatives to put in place at your venue to reduce intoxication and improve safety, if you think that is a measure that is going to work for you, then no problem. So in terms of that being thrown into the Newcastle model as one of many solutions, I don't think it was a bad one. It probably has had some effect. [NSW industry official]

Therefore, while some limitations were noted regarding drinks restrictions, they were not seen as being overly controversial or difficult to implement by KIs.

3.4.10. Radio network (Geelong)

Creating a radio network in Geelong between venue security, the Safe City camera operator, police and other stakeholders was generally viewed as a useful and practical strategy in the NTE. Of the 52 KIs who discussed the radio network, 49 reported that using a network was effective in reducing alcohol-related harm, whereas three believed it was ineffective. In addition, 63 KIs identified benefits and 41 identified some deficiencies. The basic premise behind the network was seen as preventing intoxicated or troublesome patrons from one venue, entering another venue.

Prior to the conditions we were seeing someone getting removed from a premises for a fight or for being intoxicated and we'd physically follow them up the street and they'd get into the next venue. So there was a problem prior to the conditions that there was no communication between venues; it was everyone for themselves. [Vic government official]

We can have a maximum of 16 cameras, that's all we can handle. Probably ninety-nine percent of the time I deal with the crowd controllers out the front. The perception that they think we do, I think they think we have instant control, not control, instant access to police, but we don't. With the brawler van that you've heard them talk about there's one officer that has the portable part of this nightlife radio if they haven't got a flat battery before they come out or they remember to take it. About ninety percent of the time it's okay, it works. All the venues can talk to that officer in the brawler van on the radio system we're all together on the system together. With the brawler van probably Thursday and Friday nights, if they're working (the radios) and they're not always working they (the police) are accessible on that radio probably seventy to eighty percent of the time. When it gets really busy on Saturday nights and public holiday nights we have a lot of people in town and ... two thousand to three thousand people around the place, they come out and get an arrest then they go straight back to the station to process that person. If that person has got outstanding warrants and other things it will take them that much longer to deal with all that. Come back out again, someone says 'come and pick up this drunk', they come over and deal with him and then back to the station so probably fifty percent or more of the time on busy nights they're not available. They also go out to other venues ... outside the CBD it takes them outside the range of this radio, so they don't get very far out of the CBD when they're out of range of the radio—it's only little short-range radios. [Vic government official]

While the network has been well received in Geelong, it has struggled to be implemented in the Hamilton entertainment district:

Q. What has been the reluctance?

A. This is the dumb part. This is where publicans aren't the sharpest cues on the rack! What it is, we all ring each other, but we can't ring each other in the middle of the major business because first of all you don't want your staff engaged in telephone calls. Secondly, you can't hear them and then the racket going on at the other end he can't hear you either, so you are better off with a radio. I think it was just fear of a new thing. Dissatisfaction with the police and OLGR [Office of Liquor Gaming and Racing], with not communicating correctly with us. The fear that everything OLGA brings or everything the police brings are another restriction, another layer, which thought would affect business. I think there is a little bit of 'just because [XXX] runs his place one way doesn't mean I want to have to run my place the same way'. But really when you look at it, we all ring each other—what's the goddamn difference? I would put it on the doormen out the front. He would control it and have it there for the police if they want to do their little radio check. [NSW licensee]

Key informants identified several benefits including the stated objective of preventing problems before they entered the venue:

Being at the end of a long line of pubs in Beaumont Street I think it's really important we always had communication between all the venues and work together as far as those things go and we always have. Particularly like either the Gateway or the Hamilton Station which is just surrounding us they would ring and say we've just had a big group from the races or something that are completely smashed. It just helps; it's really easy to be able to go 'okay great'. We can meet them at the door and don't even have to let them in and just say sorry guys, or any violent behaviour or things like that. Because if they're not going to have it, well we're not going to have it, so it's kind of feeding in together and say that none of us will tolerate that behaviour. [NSW licensee]

Another KI identified that initiatives such as radio networks build a culture of cooperation:

[We use it] all the time. Whenever someone is kicked out, we'll hear about it. Whenever something happens, we'll hear about it. A description, what they are wearing and saying that with a description. [Vic security]

However, it was noted that the system could be improved by ensuring that all stakeholders held up their part of the agreement:

I think that's good. It's a pity the police don't carry their end of the bargain up, but as far as the other venue operators and the camera operator back-up at the police station there, it's a good tool. [Vic licensee]

There can be no negatives when you improve communication no matter how bad they might be, there is no negative because if you are able to let people know what's going on. [Vic police officer]

There are times that unfortunately it doesn't get used to its full potential and that's because maybe staff have changed venue or police haven't had it out and there are some problems around it at the amount around how the police are able to use it and access it and so forth, but we'll work through those. Again, I think it's about connecting venues to each other. It's certainly made a difference for our camera operator. So whoever is running the camera, they've really got much quicker access to what's happening and as we've increased our number of cameras, our number of screens have increased, so it's made it much more effective for our camera operator to go straight to an issue and then be able to feed information directly to the police. I think that's been fantastic. [Vic government official]

Police also reported that the network allowed for earlier intervention:

We can act and nip something in the bud before it turns into an assault or something like that, yeah, so we can get in a lot earlier at potential hot spots or potential problem people before something actually happens. [Vic police officer]

Although, another police officer suggested one potential problem:

A. If anything it was negative feedback from the police—only some members.

Q. Because there was too much communication directed to them?

A. Just because it was just another thing that they had to be concerned with, and they've got a lot on their plate and like you've gotta monitor this radio and this radio and gotta do everything else and they're like 'do I need this?' They were also concerned with untrained security staff telling them what to do. Like if you know how to manage people, people can come up on those radios—we don't have to jump, we don't have to do anything—it's just being aware. [Vic police officer]

In addition to this, a key issue for many venue staff was that involvement didn't mean action from police:

It all depends on whether the police have the resources. Either they don't have the people on the other end of the radio or there isn't enough police manpower around town to resource any dramas that you've got. And we have a pretty good, we have a great relationship with the cops and normally if we call them, what we would consider, we've got an issue with someone, compared to what they are dealing with, our stuff is small fry. Or I'll point out if I can liken Geelong as a juggernaut about to spin out of control down a highway and we are worrying about someone parallel parking in comparison. We never use it and I don't have scanners either and I'm dead against them. [Vic licensee]

Finally, another benefit identified was that joined-up initiatives such the radio network increase the consequences of bad behaviour for patrons which is likely to have a longer-term effect on such behaviour:

Yes again it helps, but I have a huge resistance to mandating anything. And, as I said, through 170 odd liquor accords who have got it at the moment, that is a voluntary initiative through some of them. It doesn't work for every area, but in certain areas it is good and to go further than that then other initiatives put in like banned from one, banned from all. If you get thrown out of a venue or ejected from a venue for bad behaviour or whatever that radio network is useful in saying look, we've just removed person x. He's coming down your way, we'd advise that you don't let him in. By an accord presenting a unified front like that certainly helps to send a message to individual patrons and helps with our overall message of saying hang on, you have to take a bit of personal responsibility yourself for your behaviour. If you are wanting to act like an idiot in this venue then you won't be going anywhere for the night. [NSW industry official]

3.4.11. Secure taxi ranks

'Safe' taxi ranks, where the ranks are supervised by security personnel, either employed by venues or council, had been established in both Geelong and Newcastle. The issue of transport in and out of entertainment districts remains one of the great challenges facing all of the stakeholders involved. It has also been shown that improving transport options in entertainment districts reduces alcohol-related harm (Hemel et al. 2004).

That is a problem in every major city in Australia and it's that one time of the week between sort of that midnight, 5 am on a Saturday night and I don't think you can do anything about that. Just looking at it, I've got a father that owns a couple of taxis so I'm always hearing the double side of that and it's not going to be viable to have those taxis on the road for the rest of the week. You can only handle a certain amount of taxis in a certain area. It's a problem. I know personally I hate not having a car here on a Saturday night because it's a pain in the arse to get home. Any other night I can just jump in one pretty much anytime. Saturday nights ... it's just those few hours on a Saturday night and I don't think there is an answer to it to be honest. [Vic licensee]

The quote below sums up the overwhelming feeling of KIs towards safe taxi ranks:

I think they're great. Unfortunately it is really hard to get a taxi here. I've never experienced something like it. [NSW licensee]

Although they are supportive, the real problem becomes a simple lack of taxis.

Look I think the taxis in general ... when we have all our police accord meetings and stuff like that this is always number one or two on the list. Taxis, lack of taxis. The taxi drivers themselves don't want any more taxis obviously because they lose other work, but then at the same time I know how hard it is to get a taxi anywhere at stupid o'clock, three o'clock in the morning somewhere in this town. We are desperately under-taxed as far as I'm concerned. I get it from their point of view, they want to maintain our numbers so they have to do all the work, not share the workload around. We definitely need more taxis in this town. Secure taxi ranks are a great idea as long as they are watched and as long as there is somebody there maintaining that they are secure taxi ranks. As you know, as we both know I'm sure taxi ranks can get quite—I was here first, no I was here first etcetera, so sometimes you are just leaving yourself open to trouble as well and it needs to be controlled. I know I drive past King Street hotel at three o'clock in the morning there is always somebody out there controlling it. It seems to be run really well. That just happens to be on the way that I go sometimes, so I don't really know about how everybody else runs their rank. [NSW licensee]

While KIs consistently desired more transport options, given current taxi availability, they identified a number of benefits associated with safe taxi ranks. Some KIs reported using safe taxi ranks meant that taxis were more likely to service the area and create a safer working environment for the drivers:

Before the safe taxi rank came he [taxi driver] would never come and pick up outside a venue because a swarm of people would come to the car and the car would end up getting kicked. It was too hard. He would always just come up Mercer Street or up Moorabool Street and just pick up someone that's just walked out and then turn around and come back in again. But the biggest problem with that was that you'd never get people out of the city so at the moment they're all directed to come into that safe taxi rank, I'm sure a lot of them don't, but a lot more do than used to and I'm sure it would have reduced violence undoubtedly. [Vic licensee]

The culture of Geelong and Newcastle, the general lack of public transport and the mindset of intoxicated or tired people means that taxis are going to be the preferred mode of transport for people within these cities:

This is the thing and the issue is between here and Sydney is that where I live there is no public transport out in Fletcher, even the buses out there only go as far as Wallsend and then it's private bus service from Wallsend to Fletcher. You've got to catch a cab. Not that I come out in town but to do the same thing you've got to get ... and it's a growth suburb. It's the biggest, newest suburb around. There is nothing out there to get out there. And it's not like Sydney where everybody catches public transport to work or from work or wherever. It's our mentality that Newcastle we can drive twenty minutes to anywhere we want and we can park right outside where we want to go. You can't do that in Sydney or probably Melbourne for that matter ... You only have to drive twenty minutes from wherever to get wherever you want to go and you get a park out the front. That's it. That's our mentality. And if I want to go out on a night on the town I want to do the exact same thing. I want to get a lift in or get a taxi straight into there and get a taxi straight to my home. I don't want to catch a bus you know. [NSW police officer]

One major issue identified, and currently the subject of a royal commission in Victoria, is the role of the taxi industry in maintaining this situation by actively discouraging alternative solutions. For example:

We were utilising like a maxi taxi setup with a different company. ... they used to do back and forth to the airport, so they had buses sitting around of a night and I thought 'hey we can do this!' We went through the ministry of transport and had it all okayed they way it operated. The taxis black banned us because we started using this service so we got less taxis. So we then got rid of that service otherwise we had no taxis. [NSW licensee]

Therefore, within the current context of taxi availability in both Victoria and NSW, providing safe taxi ranks represents a practical measure which helps reduce alcohol-related harm. Until the basic supply issue with taxis, and the current culture of not using public transport, can be addressed, safe taxi ranks represent a good investment.

3.4.12. ID scanners

Some general and uniform themes emerged in each of the key stakeholder interviews relating to the benefits and problems of ID scanners in regulating participation in the Geelong and Newcastle night-time economies. However, there were also some divergent views depending on how certain key stakeholders were associated with this technology.

Scanner Manufacturers

Two different ID scanning systems currently dominate the night-time economy market. Manufacturers and consumers of both were interviewed for this study. ID scanners provide another means of enhancing the safety of patrons in and around licensed venues. This was the principal impetus behind the development of the biometric fingerprint scanning system, which is currently operating in several Australian nightclubs. For these system developers, the problem of violence in and around licensed premises is fairly simple to comprehend and provides sufficient justification to warrant the development and implementation of scanning technologies.

... ninety-eight to ninety-nine percent of kids or patrons that go out to a nightclub are actually good kids that go out and have a good time, go home and don't cause anyone any problems. It is one to two percent of idiots who create mayhem for everyone else. [Manufacturer 1]

[T]he safety of venues, it's as simple as that. That is the primary thing. It is the key thing. If you come under that, you are talking about the ability to identify miscreants and the benefit for people that have them. In all cases their business has increased because more people want to go to the places because they feel safe ... By removing the anonymity, those who are prone to bad behaviour, and not necessarily just because of alcohol, there are plenty of people who don't drink that are just nasty pieces of work, but the fact that they know, that they're not anonymous, it's pretty much a surety that they are going to be caught, be able to be identified and then caught, so they don't do it. They'll go elsewhere. Those who are inclined to get untidy when they are drinking are aware of the system when they are sober. [Manufacturer 2]

The problem of controlling underage drinking was equally prominent in the thinking behind this biometric system. Underage drinking is conceived as 'bad for business'. Hence, biometric scanning is seen to offset the business liability caused by underage people attempting to enter environments that are marketed to an older clientele.

Being seventeen and getting into a licensed venue is a national sport in Australia ... and that's the reality. And if you want to test any system, stick it out the front of a nightclub and watch what the seventeen year olds are doing because they are testing it. [Manufacturer 1]

The manufacturers propose that the benefits of ID scanners are considerable. This is because of the useful data the system can store and generate relating to patronage trends. The systems can simultaneously be a security device and business investment, providing trend data on patron characteristics that can be used for general marketing purposes.

Each venue receives a detailed statistical report of what's happening. It's a weekly report. It's 27 pages long ... First of all you can see things like male and female break-up, customers' entry, so ... on Friday night we had 122 new males and 106 new females, a total of 228 people ... Add to that the normal fingerprint entries of people that are already in that venue's database, so it gives you the break-up of male female, new customers. Also what it gives you is the new customers that came to my venue this weekend, what's the age break-up? Of the new customers, where are they coming from? ... What is the age break-up of my customers that came in last weekend? Time of arrival? What time did each group of people arrive? New males? New females? It gives a point to analyse my business ... We really don't know what the venue is like before we get there, so all we can really do is take a four-week average and say measure that venue's traffic flow for four weeks and draw a line in the sand. This particular venue

here, we draw a line in the sand at 1,315 people over three nights' trade. This is how it has traded within the twelve months it's had (the system). This is another venue ... We took the first four weeks average and we draw a line in the sand. It was trading over two nights of 2,853 people coming through the venue. Twelve months later—3,818. The increase in trade far outweighs the cost of (the system) ... It was quite a popular venue. It had a fair bit of rubbish (patrons) in there. So in the first couple of months as you can see things went down slightly. When they got rid of the rubbish ... from then on. [Manufacturer 1]

This manufacturer views the benefits of security as primarily marketing benefits. However, there is also a human dimension to safety that has the capacity to reform some young people who cause trouble in late-night venues. This is that young people place importance on their capacity to socialise in licensed venues. Hence, anything that makes that socialisation safer and easier to monitor is considered worth the investment.

On numerous occasions I had nineteen year old kids in my office crying because I have destroyed their social life. Well hang on a minute, you destroyed my toilets, knocked three teeth out of someone and I've destroyed your social life? [Manufacturer 1]

There is a novelty behind this development that transcends many of its practical security and business applications. It seems patrons are more than willing to provide their biometric data to gain entry into venues entering this system. Maintaining security of that data therefore makes business sense, in an environment where most people engaging in the night-time economy are young people, just out for a good time.

The issue of deterrence is related to this removal of anonymity as providing the primary benefit, with an additional, though secondary benefit deriving from the capacity to identify offenders.

[T]he deterrent is the primary factor. And I say that because incidents drop when [ID scanners] go in ... so that is the primary ... Those that don't care; we can't stop the psychopath or those that are so impaired that they don't know where they are and doing something stupid—we can't stop that and that is where the identifying factor comes in. But that is definitely secondary, but for identifying crime it is an invaluable tool. [Manufacturer 2]

In terms of data networks, many interviewees see sharing information across venues as an important aspect of ID scanning. In particular, they see the ability to be informed about patrons banned from other venues, potential beyond a specific city and potentially at a national level.

... we always believed that it would be extremely effective in changing the social behaviour of miscreants. We wanted to do it right at the beginning, but Geelong after they got comfortable using the system. We didn't do it straight away, until they were comfortable using it. Now it is pretty well standard—you get the system, you get the network. The obvious benefit is that if someone is banned from one location, they are probably going to flip you the bird and walk off and go to the next one. If they are banned from nine or ten, and when I say banned it comes up flagged at nine or ten and they elect to not let them in either, then they sit on the couch and have a hard look at themselves and decide to change. Because they can't go where their friends are going.

Q. So its social exclusion brought about by the networking of the scanner technology?

A. ... it depends what you want ... Within that database every state and territory is flagged within the database so we know every unit and where they are located. An individual location can elect to go on no shared ban list, or a statewide ban list, or two states or three states or the lot. [Manufacturer 2]

An additional dimension of data networking concerns the interface between the police and ID scanning systems held by private entities (nightclubs). Geelong piloted a trial in late 2009 in which police were given a portable ID scanner to use on the streets to enter banning information that would then enter the nightclub ID scanner network. However, the manufacturer has also identified the need to address concerns about the accountability of the system and the need to protect against inappropriate use of bans or poor security practices and the desire to highlight the privacy dimensions shaping the operation of the system.

We control the central banned list. They can ring up and challenge the ban. We will ask them first if they have gone to the venue and spoken to the individual who's given it or we can tell them which individual issued the ban, once I've identified if they really are who they say they are and obviously we have enough information to do that. If there is a dispute we will take that up with the— I've never had to do a dispute but it is well-known that we will take that up with the venue and we will make a judgement call on it. I've only ever had two calls where people have contacted us directly. It happened to be that I took those calls at that time. One was the guy couldn't remember what he'd done and he wasn't told at the door and he should have been. We say you tell them everything. Turn it around and show them. Here's your picture, here's your details. Because usually if you turn around and say what you did, the hands go straight in the air and they go 'oh yeah', and they cop it because they can't argue with that. But in this case it was a person banned. They guy phoned me and said I'm banned from all these locations and I can't get in anywhere and I want to know why. And I said what do you mean? Didn't they tell you why they wouldn't let you in? No, they couldn't tell me. I said, okay, I'll tell you, so I established that he was who he said he was, went on the server and the editing on the server is done every 48 hours right, every second day. And for some reason this guy's data, there was nothing in the notes about what he'd had done. In that case it's pretty clear with the operators, if I see that, the ban is lifted immediately. So I just told him that it was his lucky day and deleted it. We couldn't tell him what it was, so we couldn't prove justification for being there.

So when the new signs came out it has on the bottom the privacy statement where our last line is if there is any questions or queries to contact the manager of the venue in writing and the address and we also include our contact details via email or by writing. [Manufacturer 2]

But this does not necessarily translate into support for broader regulatory standards or requirements or at least not from an external regulator but rather by setting industry standards via the market.

The fact that there are no protocols ... leaves the use of these things vulnerable. They have been highly effective and the misuse of one could bring down a lot of good work and that worries me quite a bit. So in terms of—is regulation needed for it? Yes, but the problem is when you get regulators involved in doing it they are largely going to come from an angle that is myopic and not a balance of what the real objective is; and that objective is making it safe. And making places safe there has to be some surrendering of privacy. And for that to be managed properly, that data needs to be accurate. So there are some concerns regarding it being regulated because I think a lot of them will just miss the whole big picture but also I have concerns about some of the systems that are out there ... [Manufacturer 2]

The context of ID scanner implementation

The implementation of ID scanners occurred within the context of increasing public concern about alcohol-related violence and no evidence-based community level interventions. Within the Geelong region the problem of alcohol-related violence is poorly understood and poorly reported in official sources. A general perception exists that more alcohol-related violence is reported in the Geelong region, however access to accurate data has been extremely limited. This is seen to inhibit the development of informed harm prevention strategies geared to local trends and requirements.

I just had a look at the police data for this area and there's been an increase in assaults but it's not broken down into assaults by area ... And when you go to liquor accord meetings they sort of report back and say there's been a thirty percent decrease, at one point there was a thirty-odd percent decrease in assaults around licensed premises which I was trotting out everywhere, but because it's not officially released data it's very hard to put in reports. So I'd love some of that to be more concretely recorded so we do know whether there's been (a substantial increase or decrease). Anecdotally the police say there's been less but I don't know about that. I'm writing a report now for a parliamentary committee and I can't find data that says there's been a reduction in assaults at that level unless you go through the process of applying for that data and buying it and whatever you have to do. [Vic government official]

Added to this is the inherent contradiction in the liquor industry between business considerations and safety. This contradiction can complicate the policy development role, but also seems to place undue reliance on invoking quick-fix measures to overcome the problem of violence in the night-time economy, given the inability to develop more targeted, evidence-based harm-reduction methods.

I guess some venues have a very particular interest and they would argue that they've had more of their fair share of attention but they are in commercial competition with each other. So it's a really difficult balance for them to strike and I think they've done a very good job to come together and form an association and advocate for improvements and lots of them have been willing to commit. It's lots of money and lots of time to engage in these processes. Some of these who are putting in the ID eye scanners, they are eleven, twelve, thirteen grand. Some people have just put in two, and train staff and ongoing training. That is a significant investment so I think they've been good to do that. But at the end of the day they're there to make money. They're not charities. They're there to make money and they are in competition and if they see that they've invested all this money but the crowds are going to the discount liquor joint up the road, they're going to have to do something. How long do you expect a business to suffer financially? So I think there are some issues and some concerns that some venues would have about the operations of other venues ... you talk to those venues and they say 'Yeah, but if we're selling eight dollar drinks and they're selling two dollar drinks we know where people are going and we don't really want to get into the two dollar drink market, but we want to have people in our venue. We've hired all the right security, we've got top DJs, it's costing us a lot of money to be opening the doors every night. We want everyone through the door.' I think some of the difficulties too [are] for some of the very, particularly the very late-night venues. [Vic government official]

One notable theme here contrasts with the scanner manufacturer's interview—the issue of ID scanners as a measure of venue safety. As the above quote illustrates, there is an underlying perception that sensible business does not necessarily equate with providing greater safety, it is more like cheaper drinks need to be offered to more clients. As such, it might be counter-productive to manage that dimension of the night-time economy, and potentially rely on scanning technologies as the principal method for promoting safety. This is because where a youth market is concerned, cheaper drinks that are supplied readily are likely to be a more desirable social option.

Thus ID scanners were considered as simply one form of technology coexisting with others to provide a response to alcohol-related disorder. However, the following quote indicates liquor accord informants are sceptical about the lack of uniformity underpinning the ID scanner trial in the Geelong region. Part of this inconsistency involves the range of ID scanning technologies being implemented at different venues. This makes networking the data, as was originally intended by the trial, impossible. This undermines the effectiveness of ID scanners as a genuine harm-reduction strategy.

I think the venues will say it has allowed us to very quickly identify people that are causing problems. It's all very well to have people on the camera, but if you don't know who they are you could be looking for them for months. So it's meant that people can go 'Yep, that's the photo of the person who did that assault or glassing or whatever and there's their ID and there they are'. I think there have been great benefits in being able to do that. I think, particularly those very late venues, you've got that much higher potential for stuff to happen and I think they're best placed in those very high-risk venues. I like the ones that pick up the fake IDs. My concern about them is we have venues that some have the networked ID-eye, that have got some good security provisions and do pick up fake IDs and so forth and then you've got a couple of venues that have just got the black box scanner ones and the problem is they are sort of riding on the coat tails of the other program a little bit, and I worry that people go to those other venues and think I'm scanning my ID it's all okay and people don't know. We don't advertise the fact that these aren't networked. But what are the security provisions, are they effective, how well can you use it and people can get into those venues with any ID, it's not picking up a fake ID. [Vic government official]

Despite these limitations, this group of key informants agreed with most others that the major benefits of ID scanners relate to their value as a technological deterrent to antisocial or violent behaviour, and their potential benefits in detecting fake ID documents. However, liquor accord participants employed by local councils did

not always view ID scanners favourably. In particular, there were concerns over information privacy, storage and the capacity of any technological measure to induce substantive behavioural change.

I don't think the information is that secured. I think that there are times that we have to have some responsibility about what we do and movement around the place, so I'm not sure that I want my child's every move monitored. And I don't know that it actually does a lot towards contributing to people taking responsibility for their actions. Sure, it might mean that people think twice but we all know that a drunk's a drunk ... [I] have an objection on the grounds that I don't see that it instils anything in someone to take more responsibility for their actions. It leaves me with some disquiet ... I think ... it instils a false sense of security ... [Vic government official]

Consistent standards were also needed to improve the effectiveness of the Geelong ID scanner trial. An important analogy was drawn with the haphazard rollout of CCTV systems in late-night entertainment venues and precincts. This appeared to be mirrored with the rollout of the Geelong ID scanner trial. The causes behind this lack of consistent standards remain unclear, but are implied by the differing nature and uptake of various systems, by establishments participating in the trial.

Major themes regarding ID scanners

The main findings from interviews with KIs fall under the following eight themes.

Scanners are mostly good

The most salient finding from this cluster of key informant interviews is that ID scanners were seen as a valuable add-on or supplement to a raft of additional measures implemented in recent years to reduce alcohol-related violence in the Geelong CBD. Licensees approved fairly highly of ID scanners in regulating patron entry into Geelong's CBD region. However, acceptance was not uniform and venues in Newcastle found less benefit. Further, many venue operators and industry representatives highlighted the reality that ID scanners would be difficult to implement in some venues as they currently operated and would require changes to their infrastructure. There was a perception that ID scanners promoted the idea among patrons that a venue was safer than it would be without the scanning devices.

It just helps I think with managing trouble. It promotes a safe venue. Even if it wasn't to work, you've got to get ID-scanned to get in, therefore if nothing else it's a good way of promoting a safe venue. [Vic licensee]

While such sentiments were often expressed, many key informants did qualify their support to say that this did not necessarily mean that their use should be mandated, or was appropriate for all venues.

... while I think they are a great idea, they are a great idea for particular areas. They are not a great idea to be rolled out across the whole state. [Industry representative]

However, the main discourse is that proponents consider the very presence of ID scanners as a 'sign' or 'signal' to potential troublemakers that their behaviour is subject to an extra layer of technical surveillance. This justifies creating a digital record of patron ID data, because it helps to provide additional knowledge of who attends major venues to venue managers, security personnel, and investigating police after an incident has been reported. In addition, using scanners seems to enhance the development of a regular clientele base of known patrons, which is easier to monitor.

[The] key objectives I suppose of the ID scanner [are] to know who is in your venue basically. If they're doing the right thing, the venue, by making sure they scan everyone whether a person's eighteen or fifty-eight, least they know who's in the venue and, if an issue evolves they know who's done it and can identify when that person's arriving. [Vic licensee]

Valuable crime solution tools

One of the strongest perceptions to arise from the KI interviews was that ID scanners were an invaluable tool for both police and venue operators in solving crime. An example from within a venue:

We've probably only had really two requests for scanner data and one of them was an investigation into bag snatching inside the venue. We had a couple of young girls that went on a bit of a rampage and were pinching handbags and stuff. So we actually used the ID scanner, it was really quick and simple. Once we identified where the stuff was going missing from we just watched the footage until we saw the girls steal it, backtracked them until they came in the door, and got their ID's and passed them onto the police. [NSW manager]

There was a glassing at the venue the very first night we put the system in. With ... video surveillance we identified the guy, it took us about three minutes to identify him, the guy was actually caught down the road. He had actually left the venue, gone up the road and was ringing his mates to come out of the venue—so we had the perpetrator. The police had locked him up. [Manufacturer]

They are interested sometimes in people entering, what time they entered or left the venue and it may be that the perpetrators of the crimes, sometimes it's the victims, to see when they left and all the rest of it. There have been instances of damage and what not down in Bell Street where we can just capture them on cameras; we've solved a few crimes in that regard. The police are very positive about it obviously. [Vic licensee]

Many of the venues involved in this project with scanners were able to provide multiple stories of incidents where crimes were solved quickly by using ID scanners. Such cases undoubtedly represented a very strong positive for police and licensees, as well as the community more generally.

Perceived reductions in levels of antisocial behaviour

An overlying logic of reliance and dependability supports the adoption and extended use of surveillance technologies, even if they are inherently limited in producing genuine reductions in violent behaviour. The same logic supports the introduction and further rollout of ID scanners in the Geelong region. This is because their technical capacity supplements conventional human methods of regulating patron entry, is relatively cost effective, and the technology can assist in preventing harm within licensed premises. These benefits appear to offset any limitations associated with the current technology used in the Geelong region, such as the inability of scanners to detect fake identification documents used by underage patrons attempting to unlawfully enter licensed venues.

I think it's a great idea simply because, unless they are using false ID, which they still do, it gives [security to] the people who have good intentions [and] have nothing to hide, but people who want to come out and cause trouble probably have something to hide and are probably reluctant to come in. [Vic licensee]

Some respondents went so far as to suggest that using scanners had led to substantive behavioural change among patrons due to a discernible shift in patronage. As the following licensee of a prominent Geelong nightclub indicates:

I was apprehensive at first but since I implemented them over two years ago it's probably been one of the biggest tools that I believe has changed the behaviour of the patrons in our venues. [Vic licensee]

ID scanners can also help to identify victims of violent activity when they might be injured. So the scanners have a dual function: helping to prevent entry where a patron is listed as banned from a venue; or enabling retrospective investigation of a suspected troublemaker where the incident warrants formal reporting to the police. One key informant provided descriptions of two incidents where the details of troublesome patrons were passed on to police. In both cases, the scanners made it possible to verify identities promptly and so hasten formal processing.

[The main benefit of ID scanners is] ... being able to identify someone if they get injured, cause trouble, injure someone else. We've had a couple of incidents where we've been able to track the person through the venue and then watch them, where they've come in, and then we can go and find who they were and pass [their details] on to the police. They link up the footage of them coming in, the photo of them scanning in and their licence, so they can go back to the person and say 'Right, this was you!' [Vic licensee]

... [W]e were able to identify them [a suspect] through our ID scanners and give that information to police that resulted in an individual being arrested. So it's fantastic. And also an incident in the venue, we are able to quickly identify them, ban them, and if they come to the venue, 'Sorry mate! You're banned! You were involved in an incident'. [Vic licensee]

While many KIs believed ID scanners to be effective in reducing antisocial behaviour, a substantial minority believed they did not have a significant impact, particularly in relation to preventing violence or other antisocial behaviour.

In theory yes, but in practicality no. I think what still happens, still happens regardless of who's been scanned or not. [NSW licensee]

I think that when people are really, really drunk they forget things like that and everyone's so used to being scanned into clubs anyway that people don't really take much notice, they just think it's just what you have to do. [Vic security officer]

I think too, probably like all things that act as deterrents in society, that there's a percentage of people that that does act as a deterrent [for] and there's probably a percentage that they're going to do what they are going to do anyway. [NSW licensee]

I think it doesn't matter where you are, when you are out in a social environment sort of thing, a lot of the things that happen that are not bad so to speak, are impulsive things. Like you grabbed my girlfriend on the arse, you spilt a drink on me, you bumped into me—things aren't planned to go that way, things just happen. It's spur of the moment. People getting glassed and things like that—it's brain snaps. It's not people going out with the intention to go out and hurt somebody otherwise they'd have a knife in somebody. Whatever procedures you have in place you are always going to have the occasional brain snap especially when you mix alcohol and a lot of people geographically in the one place. You are always going to get those sort of things. As much of a deterrent as it is, it's not going to stop. [NSW licensee]

Deterrence

A prominent and contested theme relates to the deterrent value of ID scanners. Some KIs proposed that by deterring those who might engage in undesirable behaviour within licensed premises, the profile of patronage shifts to generate a safer environment and richer mix of patrons. As the following licensee indicated, introducing scanners had 'a huge impact' in changing the nature of venue patronage to produce a safer environment. This has been primarily through deterrence in preventing 'idiots' from attending the premises:

I have to say it did impact on our business. At the start a lot of so-called idiots wouldn't go into the venue, but after three months I saw a quick change in our clientele and a lot of people felt safer, particularly girls and women ... [Vic licensee]

Licensees view this form of technical surveillance as an important means of enhancing conventional methods of human surveillance, particularly in crowded venues. The technical capacity to store and review the personal details of those entering a venue is, however, equated with the concept of deterrence at a very general level. On the other hand, many KIs found that the fundamental elements surrounding most violence in licensed venues would be unaffected by ID scanners:

It's about fifty:fifty really. They care and they don't care. That's a hard one. They're still troublemakers. They are still idiots. They just don't have any respect or anything for anyone. I don't think it really stops them much at all. [NSW security]

Therefore, while there is general approval of using scanners, its effectiveness is compromised by the lack of consistency associated with implementation, and the inability to network data adequately across venues, and with relevant police sources. This supports the need for further review of the technical capacities of each system adopted in the Geelong region, and the use of other spatial and environmental methods to help reduce alcohol-related violence and disorder.

Selective scanning

A basic application of the ID scanning system is that all people entering a venue can be identified. However, it was widely reported that licensees and security staff adopted innovative measures to offset the problem of delays in patron entry and long queues forming outside licensed premises during peak times or major event promotions. To encourage quicker entry, one respondent indicated that 'we tend to target them [young people] more ... [but t]he majority of, say ninety percent of our customers get scanned'. For others, it is common practice at peak times on Saturday evenings to only scan male patrons.

When it gets busy or sometimes, it's an older system, so sometimes it gets jammed up and if it needs recalibrating it can take longer, so we would then usually just do males. You take your odds that if there is going to be trouble it will be mostly males—not all the time though. It [the system] probably needs to be upgraded [Vic licensee]

Therefore, traditionally vulnerable, visible or particularly troublesome populations, such as young men in the case of ID scanners, become the main or only subjects to which new forms of technological surveillance applies in practice. Not only does this defeat the intention of using ID scanners to supplement human methods of identity-checking as a condition of entry into licensed premises, but it also creates an additional gap in both the proactive and reactive dimensions to the technology by focusing its application on one sector of the venue population. This discriminatory application is of concern to some licensees because 'we have had [order maintenance] dramas with females as well'.

I can speak freely about this now as I don't have to worry about the police using their 'big stick' (which equates to fines) ... (it) wasn't a licensing requirement to scan everybody but the police can easily find something else to fine you for. Sometimes if you had bus loads, really busy night, if you knew the group, regulars, or group of girls (girls because ninety-nine percent of the time it's the guys causing trouble) then you would send them through without scanning because of the mighty dollar) it takes time to scan people which, when you have a window of approximately five hours of busy trade the quicker you process the patrons the more money you make. [Vic licensee]

Selective scanning undermines the intention behind implementing this technology. It produces discriminatory outcomes, with the potential to reshape the profile attending nightclubs.

Privacy

While licensees reported some concerns among venue patrons over the use of ID scanners, this was offset by a broader perception that scanners had produced a discernible improvement in patron behaviour and reduced levels of violence in participating venues. However, it could equally be that the lack of complaints from members of the public indicates the same sorts of 'privacy ambivalence' identified by Hollerman and Ponder (2007). In principle, the privacy dimensions are largely beyond the direct control of individual licensees, unless there is no agreement with the company installing the systems to maintain the data. In this respect, any privacy limitations of the Geelong ID scanning system could be offset by a more sophisticated, albeit expensive, form of biometric scanning documented by the key informant interview with one major manufacturer of this technology.

The issue of privacy appeared not to produce concerns among patrons, or licensees administering the scanning system. This very lack of concern can be interpreted in two main ways. Firstly, issues involving data security appear not to be of direct concern to licensees, but are more a question for the manufacturers and security consultants who administer the technology 'behind the scenes'. Secondly, the lack of substantial public resistance to having personal data scanned on entry into licensed premises suggests either an indifference towards privacy issues or an endorsement of the technology.

The first week we had a couple of people ring up complaining about where it [the scanned data] is going to be used, but there are only two people at both ends that have got access to the scanner information, so we don't use it for any marketing purposes and we were told quite specifically from [the security consultants]. [Vic licensee]

Privacy is an acknowledged limitation associated with ID scanning technology, but generates limited public resistance. The general response to patron questions over privacy by licensees and security personnel using the technology is to reassure patrons about the benefits to venue security, or to reinforce that 'it's the law' in the Geelong region, because other venues are participating in the trial and the police have sanctioned its use. However, most respondents expressed limited concern for data maintenance and privacy, which were generally managed by the scanner company rather than individual licensees or security personnel.

Every twenty-eight days everything gets deleted unless the person has been put on the banned list and that gets stored on the server in Melbourne. I can't access any of that stuff. I can't do anything with it. I can only ring the people up in Melbourne and say I've actually put this person on the banned list for a year. [Vic licensee]

But another key informant provides another perspective:

Q. Was the system password protected? Did you need to have a special password?

A. No it was fairly open. Sometimes when they stuffed up, sometimes when they froze and stuff like that you could get back to them really easily.

Q. So were you able to access the screen of someone that had been scanned in previously during the night?

A. Yes.

Q. And management were aware that everyone could access the full system?

A. Yes, but I never did it really, but they could do it. Just say XXX saw someone in the club that he didn't want to be in the club, he could look up and see if it actually was them and stuff like that.

Q. Were security able to access the scanner's previous data to see what that 'hot chick's' name was?

A. Yes, definitely.

Q. Did that occur frequently?

A. I mean I used to do that if I saw a cute guy, I'd see what was his name, but you never really remember what the name is anyway.

Q. But they did come and have a look at scanner records occasionally?

A. Yes. [Vic Security]

Managing the data from ID scanners adds a new variable to the problem of security in night-time economies. This involves scanning companies in marketing, installing, managing and maintaining the technology and the information it generates. This shift to corporate 'responsibilisation' [indirect techniques for leading and controlling individuals without being responsible for them] creates a series of additional governance deficits. Given the largely self-regulating industry-based privacy framework in Victoria (Information Privacy Act Victoria 2000) and various concerns over the limits of current federal privacy laws, it is possible that much patron compliance with ID scanning is a symptom of the broader uncertainty over whether licensees, security personnel within licensed venues, ID scanner installers or police are accountable for how the technology is administered in practice.

The common practice in participating venues is to display clear signage at the point of entry that illustrates the data storage policy. In most cases, licensees considered an effective method of reassuring patrons who questioned the viability and data storage practices associated with the Geelong trial.

We had clear signage at the front of the premise explaining that the patron's details were kept for 28 days and then destroyed ... We aimed to store it for 28 days which was the same requirement for video footage for our liquor licence, then deleted to ensure computer didn't get overloaded with data. [Vic licensee]

While no licensees expressed this point directly, the implied nature of venue signage enables patrons to consent to their information being scanned and stored. However, the consent dimension has several problems, when it is considered the alternative to not agreeing to have ID documents scanned might be denial of entry to the venue, and many persons undergoing the scan are at varying levels of intoxication. It is also clear that some venues do not display signage as they believe 'everyone was used to it now'.

Some resistant to using it

A substantial minority of venue owners were highly sceptical of this innovation. They questioned its effectiveness in reducing violent or antisocial behaviour. For many, this initiative cannot stop antisocial or violent behaviour. Nor can it improve venue amenity or replace properly implemented methods of enhancing physical or human security in licensed premises.

They [violent patrons] don't care. The people who cause violence, how do I put it? It is such a spur of the moment [thing]. It's almost that flight or fight type mentality that wild animals have. It's that instant—'You've dissed me in some way, bumped my shoulder, chatted up my girlfriend so I'm going to have to beat you to a pulp and when you are down, glass you and kick you', which I don't know, is a little bit of an overreaction perhaps ... I'd liken it to the death penalty. How many crimes has it stopped? This is exactly the same thing. It's a great way the police can feel warm and fuzzy, but it's doing nothing, and not to mention creating lines [of people] in pouring rain ... I hate lines here. [Vic licensee]

Some scepticism was also associated with how young people processed messages associated with surveillance and technology. For some, the attitudes of young people towards social software programs on the internet, and mobile phone technologies, have the capacity to undermine any positive deterrent effects associated with ID scanning technologies.

With younger ones today, big brother is always watching no matter what they're doing. Mobile phones and stuff they don't care. Half the time they video themselves doing shit ... I don't think kids care ... about police. Like if a copper used to say to us 'Get here!' you'd shit yourself. Nowadays they're like, 'What do you want?' They don't care and they know the police can't make them do anything ... [Vic licensee]

For the following respondent, the benefits of ID scanners as a means of reducing violence in their own right are questionable.

... it may have made some people think twice (about engaging in violent behaviour). I just don't think that the people that cause trouble are really thinkers! We always had a pretty good track record regarding violence but naturally where there is alcohol/drugs/loud music/dark environment/different nationalities ... there will unfortunately always be incidents/disagreements and violence. For the minority that think about causing trouble, they may choose to drink where a venue doesn't have ID scanners, but for the young kids that frequented my venue, majority of incidents would be heat of the moment incidents ... It is another measure or tool against violence which in turn makes people think, if you know what I mean? It's like marketing? The best thing that would reduce violence is simply, harsher penalties in courts ... If they were a requirement on liquor licence then they would have a lot more merit, obviously there would then have to be technology/database standards associated with this. [Vic licensee]

The concern of licensees interviewed for this project over the level of approval and support of ID scanning, reflects wider concern that the effectiveness of new commercial and technological methods of addressing longstanding social and behavioural problems is overstated. This concern is reinforced in the next series of key stakeholder interviews among door staff and security. Their views about the effectiveness and desirability of ID scanning technologies offer a pertinent counterpoint to the 'smooth' acceptance of these technologies in substantially changing patron dynamics or reducing violence in and around late-night venues.

Increasing personal responsibility

Another common theme, particularly from industry sources, was that ID scanners help to promote positive behavioural change among nightclub patrons. The significant element of the quote below is the analogy between ID scanning technologies and CCTV in deterring antisocial or violent behaviour.

I think again they are a good one in terms of making the individual hopefully have a bit more of a think about their actions. Just like CCTV or we are looking at the little pencil cameras that the security wear on them. That is another one where the patron knows that their details are there and if that has any effect on their subconscious about maybe having to 'behave myself a bit better because they'll know who I am', well then it's not a bad initiative. But as you would know from Geelong you have to weigh that up with privacy implications and storage of the information etcetera, etcetera, but we've got venues around NSW who have voluntarily put them in themselves and they feel that it is something that works well for their business. [Industry representative]

Discussion

These transcripts demonstrate a more complex relationship between claims regarding the success or otherwise of this technology in reducing disorder in and around licensed venues. The appeal of technological fixes for social problems is often seen throughout history and, as demonstrated above, they are seldom completely effective. Moreover, questions relating to data security represent serious concerns, which need to be clarified and properly managed. This divergence of views highlights the contested terrain surrounding the effectiveness of ID scanners in reducing violence in and around the Geelong and Newcastle CBDs. It provides a rich source of information to help formulate new policy initiatives associated with this technology.

These views challenged the prevailing opinion that the Geelong trial had been a success in reducing alcohol-related violence. For liquor accord informants, the key problem is developing meaningful evidence-based policies to prevent alcohol-related harm, given the lack of available police evidence on the nature and frequency of such harm. Given the limited available data, ID scanners can only be viewed as one element of a more holistic strategy. Such a strategy would require a combination of measures to understand and challenge the nature of the drinking culture, as well as incorporate a range of initiatives within and around licensed venues, such as ID scanners.

Although licensees and police tended to view ID scanners very favourably, questions remain as to how venue managers and door staff share information about their effectiveness. It seems door staff and security consider that ID scanning systems have had little bearing on the violence and aggressive behaviour experienced during peak periods. Equally, signage at venues does not seem to provide adequate explanation of the process. The disjuncture between licensee approval of ID scanning, and door staff scepticism, suggests any direct correlation between scanning strategies and reduced violence is tenuous.

A number of questions remain relating to the ethics and efficacy of selective scanning, either as a strategy to reduce the length of queues during peak entry periods, or as a legacy of some other favourable treatment of friends, relatives or colleagues by door hosts and security staff. However, this issue also raises questions as to whether mandatory scanning of all patrons is necessary at all, given the most uniformly agreed benefit of ID scanning was its impact on detecting fake IDs and reducing the incidents of underage entry into participating venues.

The final two issues of note relate to the impact of police in generating interest in the ID scanning system, and broader notions of privacy associated with data maintenance and storage. Police favour scanning systems, presumably as an additional means of promoting surveillance and increased behavioural responsibility in the night-time economy. However, the extent to which ID scanners make police investigation and prosecution more efficient, at the expense of allocating more resources to foot patrols and other human security initiatives remain to be explored. Police access to scanned data also requires further examination, given various privacy concerns outlined in this report. The general level of patron approval of ID scanners appears to be informed by a lack of knowledge of applicable privacy requirements in relation to data storage and access. The absence

of any clear alternative to scanning at participating venues, or an adequate complaints mechanism, heightens the view that patrons were generally ignorant of the problems associated with data management, and simply prioritised their desire to enter a late-night venue over the possible issues associated with data security breaches, or inappropriate access by night-club staff, police or third parties.

3.4.13. Lockouts

For the most part, KIs spoke negatively about lockouts as a strategy for reducing alcohol-related violence, although there were very different perspectives on the issue. It was clear that lockouts held some benefits and limitations that were generally agreed upon, and some that were not. Of the 91 that commented directly on effectiveness, 58 reported that lockouts were ineffective, whereas 33 reported them as effective.

The logic behind the measure was explained as:

We asked for a one o'clock lockout and a three o'clock closure and then the decision that was made gave us quite a lot more than that actually. Talking about why we suggested one o'clock and three was that it was very simple. We wanted to stop movement on the street between one and three. A lot of the assaults we were seeing because of the migration of patrons between venues, that interaction with intoxicated people on the streets, and we believe that by having a lockout in place we would have a period of two hours where we would really minimise the movement of people and hence we would reduce the ability for crime to occur or the opportunity for crime to occur. We also thought that by having the lockout is that it would enable the premises to manage their patrons better because it meant that once you were in there at one o'clock if you misbehaved it wasn't like the old days where you went to Fanny's and you got kicked out so you went to the Brewery and got kicked out so you went to the next place. So it enabled them to manage their patrons. And with the three o'clock closure it was very simple; we were of the view that reducing trading hours would reduce intoxication because the ability for people to drink till five o'clock in the morning would be taken away. [NSW police officer]

Different businesses will be affected in different ways. Some will not be affected at all — 'we've thrived through this whole situation' — whereas others are affected disproportionately, primarily because a lockout means that patrons will choose more options in terms of how long they can stay out:

The study that we did showed that nine of the fourteen hotels that got into trouble financially, we found that that was probably more of the early traders and not the later ones. The issue was, and we'll get to the lockout shortly, but if you only had a midnight licence versus the 3 am licence and there is a one o'clock lockout, well people, the midnight traders, people just stop coming to their venue, full stop. They went instead to the 3 am one because they knew they'd be lockout at 1 am so why not just stay there then? [NSW industry official]

One of the major benefits identified by KIs was that lockouts allowed police to allocate resources more effectively:

I thought it had a big impact. It's got other side effects for police as well. It gives us a bit of a breather at that time of the morning when you can sort of take a deep breath and get ready for closing time. You can deploy some of your resources to the suburbs where traditionally we wouldn't have been. And that was the other thing as well; not only the lockout, but the earlier closing time has allowed us to employ police to suburban areas where you've got break and enters and car theft and stuff like that as well. But the lockout I think is very effective. [NSW police officer]

Another benefit KIs identified was that lockouts improve patron behaviour because of the fear that they will not be allowed in elsewhere if they are ejected from one venue, eg:

People now who attend licensed premises, and if it's after the lockout period or the curfew period, whatever you want to call it, they know they've got to behave themselves because if they get kicked out they can't go anywhere else. There has also been a culture and I've had numerous comments from licensees that suggest that when someone is approached by a security guard they are more receptive and more responsive to being told to tone it down or slow down your drinking otherwise you've gotta go because of that reason. I also think the culture is improved and there's less migration between

the premises too which has stopped a lot of those fights in between premises on the street. [NSW government official]

Lockouts were also posited to reduce people moving between venues and the nature of people on the streets after the lockout is in place:

So anyone now that is walking on the street and they all know now that they've got to be in by one or one-thirty, they are heading straight to there. And after that, they are either, if they are on the street, they are looking to get home. Because they can't get in anywhere else and obviously the streets aren't deserted, but certainly the numbers are not there. [NSW police officer]

While KIs identified some benefits, many also identified limitations. One issue informants observed was that lockouts were a small part of the picture:

It's interesting, the lockout we think has had a, in the scale of things, a minor effect, a positive effect. It was introduced because Newcastle had a massive problem with what's called patron migration where the lemmings would leave half of the hotels that shut at 3:30 am and migrate again to the ones that would shut at 5 am in the search for the never-ending drink. So the crap about the six o'clock swill, which the hotels use, we don't want to go back to six o'clock swill. The reality was it was a six o'clock swill, it was a ten o'clock swill, it was a midnight swill and it was a 5 am swill as young people, as I was back in those days, would drink till the last minute to try and get as drunk as you could. So this is another myth that needs to be exposed. So a curfew in some extents mitigated that migration thing where people migrated from one hotel to the other which does, in a small sense, reduce the amount of traffic and people bumping into each other, which was small on the scale of things. The problem with it is, again the political overlay, is that the media and the politicians are only focussing on the curfew, the lockout. In fact the ABC only refers to as ... and it's interesting when you look at it, the media only speak of the lockout, they don't want to use the dirty word of closure and it's fascinating how they don't want to use the 'C' word, the closure word which research shows was fundamentally by far and away the biggest impact. So we don't want to talk about the lockout too much because the media and ministry are deliberately ... and the government in coalition, are all focussing on this lockout, which on the scale of things was very minor. So that discussion about lockouts itself is inherently political. It's important we point out to you how that itself use of the word 'lockout' has been abused. [NSW community member]

...it's debatable again. Instead of having a lockout, why not just cut everyone's licences—no one can be open after 3 am, no matter what, with the exception of Crown Casino. There is no 7 am licences, everything is maximum 3 am, 1 am, 11 pm. Whatever it is, just make it mandatory across the state instead of going town by town. Done, too bad, no go, we don't give licences for that anymore. We cut everyone's licences back, whether they get a rebate for it or whatever. Give them no choice but to do it, that's a better way to do it. [Vic licensee]

Many KIs reported on the importance of lockout times being consistent across districts, ensuring one entertainment district is not unfairly affected compared to another:

Q. Is there anything else besides the interventions that we've spoken about that you think could or should be implemented that would be effective in reducing alcohol-related harms?

A. I think if the lockout was the same as Newcastle that it would improve things. [NSW licensee]

Several KIs proposed that the noted effect of the lockout limited the number of problems recorded because it limited the number of patrons:

I think it does get incidents down but only because it reduces the number of patrons that are out. [NSW licensee]

Further, KIs identified that there were definite consequences for venues enforcing lockouts which had the ability to cause problems for venues, for example:

I cannot see any gains in having an angry boyfriend outside while his girlfriend is inside ... I honestly don't believe that there is anything to be gained out of it. If venues and everyone is doing their jobs

properly I don't think there are any gains in it at all and I think the city, the feedback I've had is the cities that have implemented it haven't had any great benefits from it. [Vic licensee]

Although, these problems may be short-lived:

Q. Was there an influx of issues just prior to curfew time when patrons were trying to get where they needed to be for the evening?

A. Yes, one of our reports show that in the early stages, but after a period of time patrons became adapted to it. Became aware obviously and adapted and made an earlier conscious decision where they wanted to go and got to the venue within plenty of time. We spoke to patrons on several occasions that go there one or two minutes past the lockout and were standing outside the venues saying this is ridiculous—we can't get in, and they just had to educate themselves to get there earlier. [NSW government official]

The experience of Newcastle left a number of KIs calling for consistency across the board:

The NSW government should say okay, we are going to close licensed venues at 2 am, have a two o'clock lockout across the state and everyone should adhere to it. Whether it's the Star City Casino or the Pullman pub, this is it. But we don't. We have so many tiered different. What we've had or what we've created is no consistency and that creates confusion in the minds of people who come here. One of the greatest problems is I come from Sydney, I go out in Sydney quite often and it has a two o'clock lockout. I come to Albury, still in NSW, and I'm going out and I'm thinking I really want to get to this other pub to meet up with my friends. It's 1.35 am, I'll head down there and I'll have fifteen minutes to get in. I get to the door at 1.40 am and I've had a few drinks and I'm looking forward to meeting up with someone that I haven't seen for years and I'm told by someone that I can't come in. That Albury has a 1.30 am lockout. I think if you're going to have a lockout, make it consistent. [NSW licensee]

Or:

One of the issues that has thrown up which is a problem for us, an opportunity for us, I guess I should look at it, is the provision of public toilets late at night. Because once people leave at that time of night they can't get back into establishments, the only places open tend to be pubs and clubs. [NSW government official]

Importantly, lockouts affect different venues, based solely on the time they close, rather than on whether they are the source of problems. Paradoxically, they undermine the ability of earlier closing venues to trade:

What we found in Newcastle was that the lockout really hurt some of the early closers because people were just going to the later venues. [NSW industry official]

Basically what happened with the curfew, we would open till two-thirty, quarter-to-three. They'd come to us about 11 o'clock from other venues, stay at our place for probably two to three hours and by about one-thirty/two o'clock they'd start leaving. Going to Fanny's they were open till 5 am, King Street was open till five and ... I think a couple of the other venues in Hamilton were still open till 5 am. So that happened, but what that did when the curfew came in—it cut us out. We were basically the smallest venue and we knew at one o'clock that if you had no-one there it was not worth opening and it just got worse and worse. [NSW licensee]

Overall, key informants identified a number of problems and benefits associated with implementing lockouts. While the mix of interventions made it difficult to demonstrate any standalone effect in Newcastle in terms of secondary data, there was good evidence from a wide range of key informants that lockouts on their own had substantial limitations. The major benefits reported included reduced number of people travelling between venues late at night and increased flexibility for police. On the other hand, major limitations noted were; lockouts indiscriminately targeted some venues without good logic or sense only because of trading hours, they created problems for venues in terms of situations at the door, and lockouts failed to address the core problem of intoxication.

3.4.14. Fines

Although the issue of fining people for antisocial and drunken behaviour was not explicitly part of the study, and not therefore included in questions asked of key informants, two people did discuss the use of fines by police. One Victorian licensee raised the issue in the initial round of interviews, before the Nightlife 2 intervention had been put in place.

I think the only thing that is really going to change the way people do things is hitting them where it hurts. Most people don't know the rules and the laws that if you refuse to leave you can be fined. No one knows that but then no one ever gets fined and there's no education about the rules and the laws and things like that. People believe it's their right to come to a pub. I had someone tell me this wasn't private property the other day that it was public property and therefore I couldn't kick them out! People don't listen to police and security. I don't think they're going to listen to a staff member that is an RSA officer if you like ... [Vic licensee]

Another Victorian licensee discussed the effect of on-the-spot fines during the follow-up interviews, conducted at the end of the study.

I think one of the great things that have also come in is the on-the-spot fines. The on-the-spot fines have really uh ... all of a sudden ... it used to be bragging rights and I probably talked about this eighteen months ago, where if you got locked up for what do they call it? Drunk and disorderly, it was almost bragging rights. There was no fine associated, you got locked up for four hours and then you were let out to your mates to brag about it. Now I just see these on-the-spot fines given out and it costs you \$250 and \$500, it can cost you \$1,000 to go out for the night if you want to be a smart-arse. There used to be guys that used to stand at the door and yap and give my guys grief and it ends up in violence—it's stopping a lot of that sort of thing now. It's really uh, that was really a step in the right direction ... [Vic licensee]

While there was little data relating to key informants' attitudes towards the fines as an intervention, those collected were positive and no people raised objections about them. The key informant also suggested how the fines might work, in terms of addressing issues of behaviour and attitudes towards police and other enforcement or even hotel staff. In essence, they suggested that while focused on antisocial behaviour, the fines could also act to change attitudes towards people enforcing behaviour in the night-time economy and give some power to these people, including police, in interactions with intoxicated or antisocial patrons.

3.4.15. Reduced trading hours

The major difference between the interventions in Geelong and Newcastle was the restriction of trading hours. While Geelong continues to trade until 7 am, venues in Newcastle are required to close by 3.30 am. Before the restriction, seven venues in Newcastle were permitted to remain open until 5 am. Therefore, although Newcastle had trading hours further reduced, they were already effectively trading for restricted hours compared to Geelong.

The intervention has been very controversial and all of the KIs proffered opinions about the effectiveness of the measure, its limitations and how it could be improved. Of the 77 KIs who commented directly on the effectiveness of reducing trading hours on reducing harm, 40 believed it was effective and 37 believed it was ineffective. Eighty key informants identified flaws in the intervention, whereas 39 identified benefits.

Most KIs understood what the goals of the intervention ultimately were and that the primary goal was intoxication:

Q. The reduction of trading hours. What do you think were the key objectives of the reduction in trading times?

A. Again it was to do with the level of intoxication, the amount of alcohol that was being consumed. So we knew that if we reduced the amount of time people had to drink then generally they drink less and particularly that time of the morning where people are getting to the point where they are becoming intoxicated, the idea was to prevent that high level of intoxication. I think that has had the effect. [NSW police officer]

Restricting trading hours was the most controversial of the measures implemented in Newcastle, although it is also by far the most evidence-based of all interventions implemented and the only intervention recommended beyond RSA by major policy reviews (Babor et al. 2010; Graham & Homel 2008a). With such an intervention, KIs raised many issues, both in favour of and opposed to restricting trading hours. In addition, a number of practical issues were also mentioned and are reviewed below.

Consistent application

One of the most common issues identified with the restriction implemented in Newcastle was that when such measures are implemented, they should be done so across the board, whether that be statewide or nationally. A wide range of KIs reported that implementing restricted trading hours in one area and not in adjoining areas affected the viability of businesses and undermined the effectiveness of the measure.

The curfew may not have had such a big impact on our businesses if it was state-wide because people wouldn't have had the option to find another alternative. [NSW licensee]

I wouldn't like to see it mandated anywhere without some consideration of all of that particularly for Geelong, if you are going to do it in Geelong then you've got to do it Melbourne and Ballarat and everywhere else because young people have said they will just go to Melbourne. [Vic government official]

But once again it's a hard one. What happened in the old days—pubs shut at 11 pm, clubs shut at 1 am so what everyone was doing was finishing at the pubs and going to the clubs, and pubs were missing out on trade so it went from 1 am to 3 am to 5 am to 7 am. It's just that competitive process. I think 3 am is perfect. I think all venues should shut at 3 am. [Vic licensee]

I think curfews and I think earlier closes could work, but everyone's got to have the same deal. It's no good doing it here and not in Hamilton or not in Lake Macquarie. And give people notice. You need to say something like on the first of July 2010 you are going to have a two o'clock close. That's it. A two o'clock close across the state and yes, then people would be educated. You need to change the culture. [NSW licensee]

Could lead to changes in drinking cultures

A common theme from KIs was that blanket reduction in trading hours would be likely to lead to positive changes in drinking cultures. For example:

If they were going out earlier, they wouldn't have the time to stay at home. If you knew that you could only go out for two hours and you were paying twenty dollars to get into a club, you'd probably want to get your money's worth. I think by reducing the hours that people can go out to, honestly there is no reason why people need to be out to seven in the morning. [Vic licensee]

Although changes might be positive, others identified possible negative consequences associated with early trading hours.

I'm showing my age if I said everything should close at three o'clock! But then you know when we started drinking everything closed at midnight sort of thing, one o'clock maybe, and there would be parties everywhere. Everyone would find a house party—go to a beach party or go to the river party or ... whereas that's not what the young crew do now. [Vic licensee]

However, the increase in house parties may not have eventuated:

Q. Has there been an increase in house parties etcetera due to the reduction in trading hours?

A. No, because you are looking at ... people go out because they want to go out. That's why. They want to go out and meet their friends, so I don't think that would have any impact at all. If you are going to stay home you are going to stay home so I don't think so. [NSW police officer]

A different type of change in drinking culture may be that patrons change the way in which they drink during the evening:

Q. Do you think patrons started earlier?

A. I think they are starting to now. And I think town has changed now. There is new development like the Mirvac thing and all that has helped the town. I think the Honeysuckle Hotel has opened and they get busy early and I think if you talk to the other late operators they've got to do more to get people in earlier—and that's giving it all away as far as door charges and all that sort of stuff ... and then people leave earlier. So yes I think people are coming out earlier. I mean in my hotel they definitely are because as I said we are a big restaurant. To be fair we were a pub and now we are a restaurant—and that's what we are. [NSW licensee]

Another KI also proposed that restricting trading hours might benefit the NTE culture, reducing the need for people to supplement their alcohol use with the use of other drugs simply to be standing at the end of the night, with the cultural status that carries.

I think it would help not just the alcohol but I reckon the drugs. Kids think they've got to take the pills to keep them going until seven in the morning. [Vic licensee]

Finally, as one very experienced venue operator suggested, changing the hours of operation will change the culture in which patrons socialise:

Q. So if there were no competition or licensing issues would 1 am still be your ideal time to close?

A. For me, yes. Because, personally, I don't want to deal with the ... I'm not as young as I used to be, and I want to get home. And I know from experience that the later you open the later you get the clientele, and the later your clientele is—there is a difference between early clientele and later clientele as anyone in the industry would be well aware of. So for me personally, one o'clock is fantastic. I've had enough, and I know from experience and I've seen studies of it and observations I've done, the later your licence the later they come, so I'd rather get them in early and fresh when I know what they're doing and I know what I'm doing and at one o'clock when I've had enough they can all go. [Vic licensee]

These narratives suggest an important precedent—that changing trading hours changes drinking culture in a much more objective, measurable and immediate way than interventions such as ad-hoc advertising campaigns.

Very late trading not necessarily profitable

Another key theme to arise from the KI narratives was that late night trading was not necessarily profitable for many licensees and that they stayed open as late as possible because of the perception that patrons would naturally be attracted to the venues where they could party the longest:

One of the biggest things we found was that when we'd speak to an individual licensee they'd say I'd love to shut at three o'clock and we'd say great, shut at three o'clock. No but I can't shut at three o'clock because if I shut at three and they don't then I'm going to lose all my patrons, which is a fair comment. So on an individual basis there were quite a few that said that this doesn't sound too bad to us but you'll have to get everybody involved and we couldn't. No-one. Just the nature of industry, probably not just in Newcastle, is that small businesses competing for a slice of the market, no one wants to be the first one to put their hand up and say that I'm going to restrict my trade, so certainly finance was a big part of it but we could have overcome that if they'd all have gotten together through the accord and say we are going to do this. [Newcastle police officer]

Similarly, this licensee reports how earlier trading is better for many businesses, provided their competition can be guaranteed to have similar restrictions.

I think that grog sales has pretty much gone by that time nearly anyway. The earlier close, I guess I have more against the curfew than the earlier closing. I think it wasn't viable for our business to stay open between four and five anyway because it was dead. Nobody was drinking. We did it because we'd been

doing it for so long. I think that may have been a better solution but would they have got that voluntarily, probably not. [NSW licensee]

Q. Do you think that it would affect the financial viability of the venues that trade until late?

A. It would either help them or hurt them. People will either go there earlier, where they would normally be quiet or people just won't go there. I don't know. It's one of those things, but whatever they are going to do they need to make it mandatory and not have the ability to get people out of it I think is probably the better thing. [Vic licensee]

Such narratives point to a fundamental flaw in the free trade, market-driven model and any notion that unregulated markets can self-regulate. Clearly, as often pointed out, alcohol is not an ordinary commodity and customer desire is not the best variable on which to base licensing hours. The following narrative also highlights the need for such measures to be mandatory:

When you spoke to them about their profit levels post three o'clock in the morning, most of them were quite happy to tell you off the record that 'really we don't make a great deal of money at that point in time most of our patrons have spent their dollars, from three o'clock we are losing our patrons up until 5 am we've still got to have all our security, all our staff there and all the other overheads' so that was an interesting, not a revelation I suppose, but a fact that they informed us of. [NSW police officer]

Decreased patrons and income

While the KIs reported above did not experience any effects reduced trading hours, or did not believe they would be affected, others interviewed for the study did experience financial difficulty because of reduced trading hours, or believed they would negatively impact on the business.

Q. In regards to the section 104 conditions imposed in Newcastle do you think that has had an effect in reducing alcohol-related violence?

A. Yes, to a degree, but as we say it was a sledgehammer to a peanut type approach. Basically we commissioned an independent study of the actual effects of that and we found that nine of the fourteen hotels that either as a result of these restrictions: closed, had receivers appointed or changed hands. And if that is the ideal outcome to try and reduce alcohol-related violence well then that's outrageous. You had those restrictions but in addition a lot of the licensees all over and above that put in place their own initiatives. There is no dispute that something had to happen. That is not the issue. The issue is how they went about it. ... We say this could have been achieved through less draconian and absolute harsh measures that were put in place. [NSW alcohol industry employee]

On another front, some KIs seemed to believe commercial interests required some consideration:

I think there are some issues around ... people are paying a lot of money for liquor licences and if you are going to start reducing their hours of trade, particularly some of the venues that only start to get busy at 1 am or 2 am, and then all of a sudden you are going to say sorry we are going to shut you down at 3 or 4 am or 2 or whatever ... then there's actually going to need to be some ... uh ... some recognition of that in the liquor licences and the cost that people are paying for their licences. So I think that is a bit of a ... I don't know how you manage that. I think that is going to have to be very carefully managed. [Vic government official]

Certainly, some businesses were affected because their trading hours were primarily during those affected by the restrictions:

Our core area was after midnight to close. When they made the decision we were all tarred with the same brush. The fact that I wasn't opened was not even taken into account. As a result of that within weeks all our bands were cancelled. So we were a late night venue that had bands all the time. So those people instantly lost; uni students lost an income, fifteen staff all lost their income. [NSW licensee]

There certainly is a drop in numbers. What you find is that the bigger places do better. We do quite well, but the smaller places they're not breathing air. Because what curfews do is that everybody's got

to be ... they've got to make their decision to be somewhere by x time and the smaller venues that fit say one hundred and eighty people—eighty might want to get to the big venue by 1 am. If you take eighty people out of one hundred and eighty people venue you've got a crappy atmosphere. That then snowballs and people won't want to go there the next week and all of a sudden they are closed and that's what happened with a few places. Look, we don't need more beer barns, but what happens as a result of a lot of this stuff is the little guy loses. And then we get a situation like in NSW where all the big publicans are vying for the scraps of all these little pubs that are closing. [NSW licensee]

Effectiveness

Most KIs believed that restricting trading hours would lead to a reduction in alcohol-related harm. Within the city of Newcastle, a number of KIs reported this as a major outcome:

Q. Do you think that the reduction of trading hours had an effect on the amounts of antisocial behaviour/ alcohol-related violence in the city?

A. Yes. And people really were getting away with a lot. They honestly were and I think if we'd taken a bit more responsibility ourselves in licensed venues, maybe it wouldn't have got to this, but letting people get so intoxicated and out of hand. I do remember those days and it was really scary, it is really scary. [NSW licensee]

Similarly:

... it's just reduced the level of intoxication. Now whether the people are drinking the same amount but over, coming out a lot earlier I don't know but look you'd have to ask the venues that I don't really know.

Q. Do you think the strategy has been effective in reducing alcohol-related harms in Newcastle?

A. Yes I do. Yes. [NSW police officer]

Or:

If they can't drink, they can't drink. It's as simple as that. As I said before, the later your licence, the later they are going to go out. [Vic licensee]

As the KI points out below, reducing trading hours in Newcastle had exactly the effect noted in previous research around the world:

Q. Do you think the reduced trading hours was the major contributing factor to the decrease in assault levels in Newcastle?

A. Well it's not what I think, it's what the conclusive peer-reviewed, independent research has shown. And it's not rocket science because with a binge drinking culture of drink as much as you can as quick as you can to get as pissed as you can which we think is the best definition of binge drinking, that type of culture, it's not rocket science that if you reduce the time to drink then by definition you will reduce the amounts of intoxication. And that's been shown. [NSW community member]

Therefore, a substantial number of KIs reported that Newcastle's reduced trading hours was an effective way of cutting back alcohol-related harm, and some KIs from Geelong believed the approach would have a similar outcome there.

However, other KIs disagreed, and proposed that trouble would simply be moved to earlier in the night and in extreme cases, be accompanied with the frenzied drinking observed with 6 pm closing times of the 1950s:

Q. Do you think that if there was a reduction of trading hours across the board that it would have an effect firstly on the amount of alcohol consumed?

A. No I don't think so. I think ... well I guess it would in that those that can only go out after a certain time can't go and drink so there's going to be less consumed. My staff might go to Home House afterwards or those venues that finish at 1 am that might come here afterwards. Those people aren't going to get to drink so I guess there would be less consumed because there is a certain clientele that

will be ... what's the word ... sort of biased against, it's not the right word but I can't think of it. Those that do go out would probably just start drinking earlier I think. [Vic licensee]

I don't think prohibition works. I mean I was talking to an older policeman who told me stories of the six o'clock closing and those types of things and they used to have big prison vans and basically get called to pubs because there was fights at six o'clock in the afternoon. So do we really want to say to everybody to get as wasted as possible and then try to cope with that? You've got a larger population now too. How do you then deal with an even larger population drinking themselves to excess at that particular time? And I think now too, with the combination of drugs, either prescription or illicit also goes into the mix with how people behave with alcohol. [Vic security officer]

Transport

One of the other issues identified by key informants and often raised in the media relates to potential problems with transport and the discourse of people flowing onto the streets at the same time having difficulty finding transport and leaving safely. This was one of the major reasons quoted by the Blair government in England to extend the country's trading hours. For example:

I think that if they all closed at three o'clock for example you are going to end up with a massive amount of people in the CBD all looking for food and all looking for taxis so potentially you've got a recipe for disaster there. Although they may not be as intoxicated as they may have been at seven o'clock in the morning if they had have kept going, you've just got an increased number of people all wandering the streets at the same time. [Vic licensee]

However, others experienced a different outcome:

I don't think so. I think it's probably helped it a bit because not everyone is out on the same time. [Newcastle police officer]

Therefore, the effects on transport remain disputed and require more in-depth study as many cities with unrestricted trading hours, such as Geelong, continue to experience massive transport issues as well.

Requires other measures

Finally, while there were clearly many KIs in favour of restricted trading hours and the ultimate effects of this intervention in Newcastle, some KIs suggested that there would be other consequences associated with restricted trading hours and that other less intrusive interventions should be used:

To try and put on a more objective hat about that, possibly it would, but my concern about that is that you're still not really getting to the root of the problem. You are just shutting venues down so of course nothing can happen there because they are not open but does it mean we are going to see more Corey Worthington' type parties happening? Are you just pushing the problem elsewhere? Until government actually gets off its arse and does a lot more in terms of education. Personally I'm more of a civil libertarian where I think that the majority of the people do do the right thing and don't need to be controlled and regulated and banned. I would like to see more time and money put into actually helping people make their own decisions and a really good parallel argument we raise is look at drink-driving. A generation ago we had a massive problem with drink-driving. What did we do? We didn't close petrol stations at midnight or close the roads at a certain time so people couldn't drive or insist that the manufacturers of cars make fangled cars that can tell when you've had too much to drink and won't work. No. We embarked on a massive education campaign. We made it a personal offence to get caught drink-driving that had personal ramifications ie: you would cop a fine, you would lose your licence or you'd possibly go to jail. We got the police involved in it so it was heavily enforced and highlighted and it was coupled with education campaigns. A generation later, now, yeah sure drink-driving still happens because you are always going to have idiots that are going to do it, but the community self-regulates itself. It is not cool anymore to go out and get completely sloshed and

drive home. Your own friends will take your keys off of you. So why aren't we applying a similar kind of blueprint in relation to our antisocial behaviour? If they are just shutting venues and putting further burdens on the licensees why aren't we looking more at the individual and in ourselves and getting it to a point where it's not cool to go out and right yourself off and bash someone. And your own friends will not laugh at that. So personally you will take a bit more responsibility and pride in your own behaviour. [NSW alcohol industry representative]

* Corey Worthington was a young man who held an infamous party in Melbourne, which got wildly out of control while his parents were overseas on holiday, and police were required to quell the disturbance. Melbourne has 7 am trading for licensed venues.

Therefore, the views of key informants varied substantially regarding the benefits and limitations of reduced trading hours, although few disputed the effectiveness in terms of reducing alcohol-related harm. While many reported preferring to not need such measures, it is also clear that many licensees found that blanket reductions in trading hours, which impacted fairly across the board, was not so unattractive and was unlikely to affect their financial viability.

3.4.16. Summary

This arm of the study successfully interviewed a large group of stakeholders and garnered a wide range of perspectives from both sites. The aim of this set of interviews was not to find definitive answers to whether the interventions under investigation worked or not, rather it was to gain different stakeholders' perspectives on the major issues involved. An important element of this aim is to document the perspectives of stakeholders and identify the areas where people agree and where there is room for disagreement while understanding the motivations of other stakeholders.

Invariably, there were almost always people who believed a measure was effective, as well as those who believed the same measure to be ineffective. While there was often not agreement, the narratives of KIs highlighted that people with different roles used very different baselines to evaluate 'success' and 'failure'. The clearest example of this came when comparing definitions of success for police compared to success for some people who made their living from selling alcohol. Police are held accountable on a comparatively simple, but vital, measure of reducing the level of crime in society. When the community is unhappy with such levels, police come under pressure to act and success is measured primarily through crime statistics. When considering whether a measure was successful, the main criterion was whether crime had been reduced. On the other hand, licensees, managers and others who worked 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 harmed 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 the restricted trading hours intervention and the perspectives of licensees and other industry personnel. Many industry personnel strongly believed the intervention was a failure, even if it had been successful in reducing crime levels, trade had dropped overall. However, many other industry personnel reported that the intervention had been positive, or that they had been able to adjust through 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 fallen somewhat, they were not unhappy about the implementation of restricted trading hours and even welcomed it. Importantly, some noted although they welcomed the trading restrictions, without them being mandated, they felt unable to implement such trade restrictions voluntarily because the nature of business meant that they needed to cater to the desires of their customers:

'I think it wasn't viable for our business to stay open between four and five anyway because it was dead. Nobody was drinking. We did it because we'd been doing it for so long ...' [NSW licensee].

The key informant narratives in this section provide highly informative and insightful comment on many of the issues under investigation. They demonstrate the wide range of issues and perspectives relating to

different aspects of the NTE . These narratives will be used in the following section, along with the quantitative datasets, to discuss the major findings of the project.

4. Discussion and synthesis

Many things happen in the night-time economy, all the time, and they differ somewhat in every city and town around the globe. This changing, exciting, environment is attractive to patrons, business owners and staff alike, but also creates unique tensions and problems. In many cities and towns, these problems are more similar than they are different and while different problems appear in different periods, most of the issues have remained the same for centuries. Namely, when you mix alcohol and people in a social milieu, some drink too much, some fight and some have encounters they will regret. Add to this the sad reality that such risk-laden environments, as well as being fun, also attract predators and troublemakers who can cause devastating individual harm in an instant. In the end, alcohol is no ordinary commodity. Once a few drinks are consumed, an individual's ability to make decisions is increasingly diminished and the more they drink, the more harm they are likely to incur. Within that setting, the responsibility for maintaining safety falls to a number of key stakeholders, including venue operators, staff, police, policymakers and eventually, the local community.

Within this context, there are well-tested methods of dealing with such issues—many of which are controversial because they place limits on individual freedom and more controversially, often affect the profitability of business operating in the NTE (Babor et al. 2010). On the other hand, new interventions are available, which promise to solve or reduce problems, cost little—in particular by using new technology, and adopted the status of 'magic bullets'.

Further adding to the complexity is the reality that it is a competitive business environment, where venues compete for trade and the sale of alcohol is often, but not always, the primary means of income for the business. Even in businesses where alcohol sale income is not the main source (it may be surpassed by door takings or income from gaming or food) alcohol and its price remain an integral part of the business, as do the trading hours and, most importantly, the patron's perception of value for money compared to other venues nearby. As with all forms of entertainment and retail, licensed venues wax and wane in popularity. In Geelong, three nightclubs shut and two of them have failed to sell. One of the venues that was doing poorly, was purchased by people who were not given a licence and were eventually convicted for running the venue without a proper licence. Another was shut because of legal action resulting in the forced sale of the venue, but the venue failed to find commercial interest. Finally, a nightclub with more than 20 years trading history closed because of lack of patronage. At the same time and just around the corner, other venues were overflowing with hour-long queues. In Newcastle, a number of venues also closed or were sold around the time of the s. 104 intervention. Some closed due to financial mismanagement, others were adversely affected by trading hours restrictions and could no longer operate with the same business models. At the same time, some venues overhauled their business models and others remained unaffected by the interventions. In the end, even without interventions and restrictions, entertainment venues wax and wane according to a variety of factors and reflect the complexity of the night-time economy.

The following section will first discuss the major trends observed in the findings of the many arms of the study and use the different data sets to give a comprehensive assessment of the outcomes observed in Geelong and Newcastle. Secondly, it will identify the major issues which the authors believe to be the most important. Given the size and scope of the study, not all findings will be discussed in-depth or all trends compared. Some of this will occur in later, more detailed, academic papers. The aim here is to identify the key findings and provide useful insight and possible policy directions based on the evidence presented.

4.1. Summary of trends

This section summarises the data from the five arms of the study based on topic and describes each of the major trends. Some datasets do not have information relevant to all of the trends and issues being investigated. Some, such as the key informant interviews, add context to the information presented, rather than providing objective data.

4.1.1. Injury

The most objective sources of data related to the level of injury and harm associated with alcohol, come from emergency attendance data across the two sites and ambulance attendance data in Geelong. Emergency department and ambulance attendances represent one of the most reliable identifiers of alcohol-related harm trends in the community, although they substantially under-report the real prevalence (Chikritzhs et al. 2000).

The ED data presented in Section 3.11 shows that injury presentations at the Geelong ED have risen over the study period and have fluctuated substantially, with major peaks in 2002 and 2009. Injuries during HAH have shown an apparent decline since the third quarter of 2009, although the change is not statistically significant (see Figure 8). Indeed, it was clear that the proportion of injuries occurring during HAH had declined by about one percent over the study period (5% in 1999 and 4% 2011). Similarly, the available ambulance data has also shown a non-significant reduction in ambulance attendances since the end of 2009.

Although the overall trend is upwards and there was no apparent effect from any of the interventions put in place in Geelong, the levelling off in indicators since the end of 2009 is promising. It may reflect a 'regression to the mean' effect (Babor 2008; Ripatti & Mäkelä 2008). In this instance, this effect describes the reality that human behaviour often moves between two extremes and that when observed over time, trends will often return to a central point, independent of any intervention. Alternatively, the combination of interventions, may have eventually led to the levelling off, influencing people's behaviour in the longer term. Unfortunately, the data currently collected in the ED does not identify where the injury occurred, meaning it is impossible to determine the events directly related to licensed venues. On the other hand, ambulance data at least identifies suburb and shows that only 22.8 percent of attendances during high alcohol hours were in the central Geelong suburb where the main night-time entertainment district is located. This highlights an important dynamic of the data surrounding alcohol-related harm where a proportion of harm is now occurring away from licensed venues, in the suburbs, demanding a new focus and different types of interventions (Miller et al. 2011).

In contrast to the upward trend observed in Geelong, ED attendances in Newcastle have shown a consistent, though gradual, downward trend over the study period ($R^2 = -0.159$; see Figure 12). Yet, as with the Geelong data, the interventions implemented appear not to have resulted in a significant change in their own right, although each intervention was followed by immediate decreases. In addition to a general decline in the number of ED attendances during HAH, the proportion of injuries in HAH reduced over time (see Figure 13). However, it is worth noting the difference in rates between the two cities. The rate of ED attendances during HAH fluctuates between three and 7.5 attendance per 10,000 over the study period. Newcastle rates appear to have moved from a much higher rate, peaking at 16.10 per 10,000 in 2001 to a low of 9.26 per 10,000 in 2010. However, Newcastle attendances during HAH only represent around three percent of all injury presentations compared to Geelong's four percent. Although there are undoubtedly some differences in the background populations being described, the data presented here shows that Newcastle began with a much higher rate of alcohol-related harm which has been declining. Current trends suggest that ED attendances in Newcastle will reach Geelong rates within the next few years.

Conclusion

Based on strict statistical trends, Newcastle has shown a continuing downward trend over the past 10 years compared to a general upward trend in Geelong, although Newcastle started with a higher rate per head of population. However, visual inspection shows that Geelong has shown greater fluctuation over time and trends over the past year suggest a levelling off from previous alarming increases, although these changes remain non-significant for the time-being. Finally, it appears that interventions implemented in both cities have not been widespread enough in terms of reducing community-level alcohol consumption to affect overall rates of ED attendances during HAH. This suggests further intervention is needed at a broader population level.

4.1.2. Assaults

Police arrest counts provide the most commonly cited sources of data related to the level of injury and harm associated with alcohol (Livingston et al. 2010). However, as often highlighted, such incidents often depend on the level of policing activity at the time. Although this limitation exists, assault cases recorded by police represent a different type of incident to ED. Ambulance attendances can be an important means of identifying alcohol-related harm trends in the community, although they also substantially under-report the real prevalence (Chikritzhs, et al. 2000; Rehm & Frick 2009; Room et al. 2003). In addition to police data, information regarding assault, and experience of violence more generally, was collected from key informants and venue patrons.

The frequency of assaults during high alcohol hours, taken from Geelong police data also shows an increasing trend over time, although assaults during high alcohol-related times seem to have shown a levelling off. This may reflect increased police numbers and innovative policing techniques being used within the Geelong CBD, although none of the interventions appear to be directly related. In addition, policing tactics regarding antisocial behaviour changed in 2009, with the introduction of considerable fines for antisocial behaviour which may mean that the number of assaults reported will drop while the number of fines given out will increase.

In contrast, the findings of this study regarding assaults in Newcastle confirm those previously reported (Jones et al. 2009; Kypri et al. 2011)—that imposing considerable regulatory conditions on the operations of selected licensed premises in the night-time entertainment district (NED) resulted in a significant reduction in the number of non-domestic night-time assaults. More broadly, the findings extend those of previous studies (eg Chikritzhs & Stockwell 2002; Livingston et al. 2010) by indicating that imposing regulatory conditions on licensed premises reduces alcohol-related harms, and that selectively imposing such conditions is also beneficial.

Of further note, is that most assaults during HAH now occur outside licensed venues, in contrast to trends described in the 1990s (Buss et al. 1995) and more than 60 percent of assaults during HAH occur outside the central Geelong postcode.

Distinct differences appeared in the trends reported by key informants in Geelong relating to alcohol-related violence. Ten KIs from Geelong reported that violence rates were increasing, five reported that trends had remained stable, particularly over the past two years, and ten reported that violence had decreased. On the other hand, no KIs in Newcastle reported that violence rates were increasing. Five reported that trends had remained stable and 17 reported that violence had decreased in Newcastle. Key themes to emerge from KIs were that:

- the gender ratio of violent incidents had changed;
- actual assault rates had shown a few changes, but media reporting had become more sensational; and
- the reduction in assaults in Newcastle was due to a decrease in the number of patrons.

However, as mentioned, within responses that agreed on certain outcomes, there was very substantial divergence in how people described the nature of the trend or how they interpreted the reasons behind the change. In trying to summarise the different viewpoints on violence trends, major themes arising from the KI interviews included:

- increasing violence in society, eg 'there's cage fighting and ultimate fighting and people have got much more access to rationalise and normalise—I've hit someone—that is normal' [NSW licensee];
- changes in where violence is occurring, eg 'assaults across Geelong are up slightly, but in the actual city, around the clubs and that they are down, and inside the clubs they are down or very low ... The majority of assaults now are in the home between mum and dad or just friends in the house—some of the parties get out of hand, and you get a lot more assaults in that area than you do in the city' [Vic police officer]; and
- change in terms of severity of violence, eg 'I think there was more violence back then but it's more severe now because of the way they are doing it. Like once they are on the ground they are still laying the boots in' [Vic security officer].

Finally, patrons in Geelong and Newcastle also reported on their experience of violence in the NTE. As already noted, pre-drinking and use of illicit drugs were both associated with a greater likelihood of patrons experiencing violence. 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 ($\chi^2=0.10$, $p=0.920$). Interviewees who had been in a fight in Geelong were more likely to have been drinking at the time ($\chi^2=8.187$, $p<0.004$). Interviewee's reports reflected no significant differences between sites as to whether people involved in fights had consumed other drugs.

As highlighted by Kypri et al. (2010) the finding of significant reductions in assaults in Newcastle, coupled with considering this data over a longer period, provides strong evidence that the intervention was effective in reducing alcohol-related assaults. Further, the restrictions put in place has come at almost no cost to the community, a vital factor when contrasting different interventions, particularly expensive ones such as television awareness campaigns, which have previously shown no effect (Anderson et al. 2009; Babor et al. 2010). Further, intervention strategies that require significant additional enforcement resources, such as saturation policing or blitzes, are unlikely to be implemented into routine practice, and hence less likely to contribute to a reduction in the prevalence of alcohol-related harm, or to do so sustainably. While the additional regulations have had a clear positive effect, the level of assaults in Newcastle remains high, at a level that could be argued to require the implementation of further harm-reduction strategies.

Conclusion

It appears that assaults in Newcastle decreased markedly, reflecting previous research findings. On the other hand, Geelong showed a continued upward trend over the study period with a levelling off and decline in the final year. Anecdotal evidence suggests this decline is continuing. Therefore, while changes seen in Newcastle appear to have occurred rapidly after the interventions were implemented, trends in Geelong appear to have changed eventually, long after the implementation of the interventions, and appear to be statistically unrelated. Of course, interventions in Geelong continued and some were escalated with others virtually disappearing. As with injury during high alcohol hours, Newcastle started off with much higher rates of assaults than Geelong. Declining trends bring the cities closer together in terms of the likelihood of experiencing violence during HAH. Key informant and patron interview data confirm these findings, suggesting that rates in Newcastle and Geelong have declined, but that the changes in Newcastle have been much more noticeable, and that patrons and key stakeholders now report similar—lower—levels of alcohol-related violence.

4.1.3. Intoxication

Intoxication attendances at the emergency department were collected for Geelong only. This followed concerns about the data's reliability. Even the data presented for Geelong should be interpreted with caution, as the rating process remains subjective. Injury codes remain a more reliable source of information. However, intoxication rates have also been monitored through patron interviews and KI responses. Unfortunately, Victoria Police does not release drunk and disorderly data for independent analysis.

Figure 7 reports trends over time for both ED attendances for intoxication (F10.0 codes) during high alcohol times and all injury presentations. As with injury codes, although the overall trend line is upwards, the last three quarters show a declining trend, although it is not significant and occurs within the context of substantial fluctuations. However, this trend does tend to align with other police and injury data. Interestingly, although males are generally over-represented in all forms of alcohol-related harm, females are equally likely to attend ED during HAH for intoxication.

Patron interviews showed substantial levels of intoxication, both self- and interviewer-rated in the two sites. While there was no difference between the two sites in self-rated intoxication, both interviewer-rated intoxication and self-report of being refused service suggested that people in Geelong were more likely to be intoxicated and less likely to be refused service than their counterparts in Newcastle. Interviewees in both

cities reported high levels of pre-loading and reported that they did this primarily because of price. In line with previous research, people who pre-loaded experienced higher levels of violence. Other drug use was comparatively low in both study sites, although Geelong showed significantly higher self-reported drug use than Newcastle, particularly methamphetamines. Rates of 'party drug' use (eg meth/ecstasy) were in-line with population rates, although cannabis use was substantially lower for this population than normally identified in household surveys.

One of the most common themes identified by key informant interviews was the complexity of intoxication: across context (streets or venues) throughout the evening, and between individuals. KIs also reported how intoxication was now more likely to be an issue outside venues, and that this was often related to pre-loading. In general, there was a reported trend across both sites of increased pressure from regulatory authorities resulting in reduced levels of intoxication for people within licensed venues. However, it was often highlighted that patrons were not passive agents, and that many aimed for intoxication as a result of a night out. This tension between customer desire and responsible stewardship was noted by industry personnel and police alike and stood as an important and often unpredictable variable affecting intoxication levels in licensed premises. Experienced KIs reported that the drinking cultures observed in Geelong and Newcastle reflected those of the past and that Australia's drinking culture remained strongly influenced by its past. This perspective aligns more closely with the vast majority of the literature that follows historical drinking trends (eg Room 1997, 1988) and accords with international literature calling for more evidence-based approaches using public health strategies to change culture (eg Babor et al. 2010; Edwards 1997).

Conclusion

Intoxication levels in both cities remain high, reflecting the reality that 'intoxication' is not a passive outcome, and that most people who go out in the NTE view intoxication as one element of enjoyment. However, patron interviews showed that interviewee rates of intoxication declined over the study period, whereas intoxication rates in Geelong generally remained stable. Emergency department attendances, reflecting the most extreme levels of intoxication, appeared to have remained mostly stable with a small decline towards the end.

As predicted by the previous research literature, the Newcastle intervention to reduce access to alcohol appears to have resulted in reduced levels of intoxication. In contrast, the intervention implemented in Geelong focused primarily on violence, rather than intoxication, and had predictably not affected intoxication levels. However, as the international research literature has highlighted consistently, intoxication is a major predictor of aggression in its own right and is therefore unsurprising that the interventions also appeared to have no obvious effect on aggression. However, KI transcripts indicate that more recent trends in Geelong, long after the implementation of ID scanners etc, suggest increased licensing and policing pressure surrounding intoxication. The use of fines to penalise intoxicated people on the streets has resulted in less harm on Geelong's streets, albeit at the cost of greater resources than Newcastle's policy interventions.

4.1.4. Antisocial/street offence behaviour

This section reports on the effects of the interventions on measures of antisocial behaviour in Geelong and Newcastle. Unfortunately, comparable measures were not available between the sites as Victoria Police does not release data on drunk and disorderly offences or data relating to fines. Thus, while Newcastle data is available to measure 'street offences', Geelong data is reliant on trying to find proxy measures.

Property damage in Geelong

One measure which has sometimes been posited as being related to alcohol consumption is property damage. Undoubtedly, some property damage is caused by people under the influence of alcohol. However, there is little specific research to data on property damage offences and the effect of alcohol on their incidence, nor is there data on whether offenders report having consumed alcohol. Studies of college

students in the US have found that damage to neighbourhood or residence hall personal space of others and the unsightly residue of intoxication, such as vomit and litter, are common complaints in the aftermath of student parties where alcohol is conspicuous. In several nationwide surveys conducted throughout the 1990s a consistent eight percent of students admit damaging property or pulling a fire alarm in connection with their drinking during the year (Perkins 2002). Other research found that 12 percent of students claimed to have sustained property damage due to other students' drinking (Wechsler et al. 1995). Australian studies have found some correlation between alcohol consumption and property damage, but that this relationship is heavily mediated by outlet density and population demographics. Stevenson et al. (1999) found that while total alcohol sales alone accounted for 30.7 percent of the variability of malicious damage incidents in Sydney, it only accounted for 5.5 percent of the variability in country NSW. The authors concluded there were a number of reasons to suspect that alcohol does play a causal role in these offences (Stevenson et al. 1999). Adding to this, Donnelly and Wales) found that respondents who lived closer to liquor outlets were more likely to report problems in their neighbourhood from drunkenness and property damage, controlling for socio-demographic factors. Therefore, although some evidence suggests property damage and alcohol consumption are linked, the relationship remains specific for areas with a high density of outlets.

As reported in Section 3.1.2.1.2, overall, high alcohol hours do not appear to be strongly related to property damage in Geelong, and while property damage offences increased up until mid-2007, they have increased markedly recently. Although some offences occur within central Geelong, it is clear that most come from suburbs such as Corio, Norlane/North Shore and Whittington—all of which score high on socio-economic disadvantage. It is therefore logical to assume that interventions focused on licensed venues and alcohol would have little effect on Geelong's property damage rate, an assumption that is supported by the analyses.

These findings for the Geelong region reflect the statewide trends of relatively stable rates of property offences over time. They also suggest that while property damage offences occurring in high alcohol times only account for around 20 percent of all property damage offences, this aspect of alcohol-related harm to the community remains a significant burden.

Newcastle street offences

On the other hand, data available from the NSW Police Force on offences directly related to alcohol consumption were available in the form of offensive behaviour and offensive language. Both types of street offences have reduced significantly since the implementation date, especially during high alcohol hours.

4.2. Effectiveness of interventions

It is not economical to review all interventions but effective measures should not be lost amid the multitude of measures. While some measures are not harmful or absolutely ineffective, they are unlikely to have any major impact. However, they do have a purpose and are worthy of being considered as a part of a suite of interventions, rather than as being stand-alone. Data and discussion on these smaller-level interventions will be presented in future separate journal articles. Measures that have been chosen to be discussed because of their impact (as defined in various ways) or their cost (similarly defined) are:

- reduced trading hours;
- lockouts;
- ID scanners;
- radio networks; and
- police operations/blitzes (including the So you know campaign).

Measures which will not be discussed in any further depth than the extensive data already presented include: drinks restrictions, CCTV, RSA Marshals, safe taxi ranks, NightRider buses, liquor accords and education campaigns. They will not be discussed because they were not implemented around the time of the study

(liquor accords) or because they have been shown to be ineffective (Just Think) or because they were not of significant magnitude to be able to tease out effects (drinks restrictions). Others, particularly the safe taxi ranks and NightRider buses, will not be discussed further because they are essentially a sensible harm management tool which are logical from a wide range of perspectives, most of which are not necessarily open to measurement. Further, the huge variation between different NTEs in terms of transport infrastructure mean that any recommendations arising from this study are unlikely to be helpful in other contexts beyond the simple finding that improving the transport option improves safety and patron satisfaction (Homel et al. 2004).

4.2.1. The Newcastle s. 104 intervention

As mentioned in Section 1, the Newcastle s. 104 intervention consisted primarily of a restriction on trading hours until 3:30 am, and a lockout, along with a raft of smaller elements such as drinks restrictions.

Reduced trading hours

According to all of the independent reviews available nationally and internationally, restricting trading hours is the most effective and cost-effective measure available to policymakers to reduce alcohol-related harm associated with licensed venues (Babor et al. 2010). A consistent and robust relationship between alcohol-related violence and outlet opening hours has received strong empirical support (Chikritzhs & Stockwell 2007, 2006, 2002; Chikritzhs et al. 2005; Duailibi et al. 2007). Perhaps most prominently, a Brazilian longitudinal study of the effects of a ban on alcohol trade between 11 pm and 6 am, found a large statistically significant reduction in homicides of nearly nine per month, or 30 per 100,000 population (Duailibi et al. 2007). Similarly, Chikritzhs and Stockwell found that a one-hour extension of trading hours in the Perth night-time economy was related to a mean 70 percent rise in assaults in and around licensed venues (Chikritzhs & Stockwell 2002). This effect was mainly attributed to an increase in alcohol consumption and patron numbers which in turn was credited to longer trading hours of night-time businesses. In the most recent and comprehensive review of the relationship between trading hours and consumption and related harm, Stockwell and Chikritzhs (2009) identified 49 studies which met the standard of their inclusion criteria. Of these, 25 concluded in favour of the positive outcomes related to early closing times or the negative effects of extended trading hours. Only 14 of the 49 papers were peer-reviewed and included baseline and control measures. Most of these (79%) produced at least one statistically significant result supporting the positive correlation between opening hours and consumption and related adverse effects. Based on the strength of the evidence examined, the review concluded that an increase in trading hours in the night-time economy would, in most instances, result in increased alcohol consumption as well as in related negative effects such as assault and accident.

The findings of this study confirm the basic findings that reducing trading hours results in a decrease in alcohol-related harm, although these findings are somewhat confounded by the introduction of a venue lockout at the same time. However, within its limitations, the findings also highlight some of the nuances around such an intervention and longer-term outcomes in relation to harm and consumption. As with previous analyses, this study documented a significant reduction in assaults reported to police associated with implementing the s.104 conditions. On the other hand, although ED injury attendances decreased during high alcohol hours (HAH) following the implementation of both the Newcastle s. 104 and subsequent Hamilton s. 79 restrictions, these effects were not significant in their own right. This reflects the reality that injuries associated with licensed venues are being overtaken by injuries related to alcohol use occurring in the wider community (Miller et al. 2011).

Interviews with venue patrons as a part of this study showed declining rates of mean self-rated and interviewer-rated intoxication over the study period, even though the study started well after s. 104 was implemented. This was compared to an increase over time in self-rated intoxication of patrons interviewed in Geelong. Yet this also occurs in the context of patrons being more likely to be refused service in Newcastle than Geelong. Although Newcastle patrons were less intoxicated, they reported similar levels of experience of aggression to Geelong patrons, but were more likely to report lesser levels of intoxication of the parties

involved. Patrons in Newcastle were more likely to report having changed their behaviour as a result of the interventions than Geelong patrons. They were also more likely to have seen police on the night they were interviewed, reflecting the implications for police resources discussed by key informants from Newcastle. Finally, while not a measure of effectiveness, and possibly reflecting a real effect, restricting trading hours was the least popular of measures with patrons.

In relation to the effects of restricted trading hours, venue observations found that Newcastle (46.3%) had a significantly lower proportion of patrons showing any signs of intoxication when compared to Geelong (64.5%) ($p=0.0374$) although the result is also confounded by the concurrent restrictions on drinks sales.

Key informants were divided on the effectiveness of introducing restricted trading hours. The intervention has been very controversial and all KIs proffered opinions about its effectiveness, its limitations and how it could be improved. Of the 77 KIs who commented directly on the effectiveness of reducing trading hours in reducing harm, 40 believed it was effective and 37 believed it was ineffective. Eighty key informants identified flaws in the intervention, whereas 39 identified benefits. One of the most common issues identified with the restriction implemented in Newcastle was that when such measures are introduced, they should be done so across the board, whether that be statewide or nationally, eg 'The curfew may not have had such a big impact on our businesses if it was statewide because people wouldn't have had the option to find another alternative' [NSW licensee]. Another common theme from KIs was that a blanket reduction in trading hours would be likely to lead to positive changes in drinking cultures, eg 'If they were going out earlier, they wouldn't have the time to stay at home ...' [Vic licensee]. However, some KIs associated restricted trading hours with a decline in business, with some venues being unable to adapt to changing business conditions. Some KIs proposed that much of the reduced problems observed arose from fewer patrons, although this was heavily confounded by the introduction of the curfew at the same time. While many KIs preferred not needing such measures, it was also clear that many licensees found that blanket reductions in trading hours which impacted fairly across the board, were not so unattractive and were unlikely to affect their financial viability. However, and importantly, it was identified that any changes on such a scale should be done so with some time to inform patrons and allow businesses to adjust the models: 'and give people notice. You need to say something like on the first of July 2010 you are going to have a two o'clock close. That's it. A two o'clock close across the state and yes, then people would be educated. You need to change the culture' [NSW licensee].

I think one of the biggest disasters in NSW is the approach that we seem to have to have, when we have one area doing one thing—it works but we are not allowed to use it elsewhere. It's ridiculous. It doesn't make sense. We should have standard trading conditions across the state and if you are a late-trading venue then you have a set of conditions that you all have to comply with. It really is farcical, it really is farcical. Any licensing officer that you talk to in this state I think will tell you the same—we want standard conditions. It's easy, everyone knows, they're all in the same playing field, you're not discriminated against because you're in Hamilton and I'm in Newcastle. So I think that is the sort of stuff we should be looking at ... [NSW police officer]

An important issue to arise from the KI narratives about reducing trading hours is that relying on market forces to moderate NTE activities denies the competitive nature of business and the reality that patrons will not usually choose what is good for them or for the community. A number of key informants noted that although the introduction of reduced trading hours has been neutral for their business and good for the community and patrons, and many licensees welcomed the chance to close earlier for both personal and financial reasons, they would never have been able to do so voluntarily, eg 'I think that grog sales has pretty much gone by that time nearly anyway ... Nobody was drinking. We did it because we'd been doing it for so long. I think that may have been a better solution but would they have got that voluntarily, probably not' [NSW licensee]. Such discussions informed police requests for the measures ultimately put in place, eg 'one of the biggest things we found was that when we'd speak to an individual licensee they'd say I'd love to shut at three o'clock and we'd say great, shut at three o'clock. No but I can't shut at three o'clock because if I shut at three and they don't, then I'm going to lose all my patrons' [Newcastle police officer].

In addition to the benefits and pitfalls identified by the key informants reported above, an important element for policing and policymakers is the substantially reduced cost of enforcement, both fiscally and on a human

level, associated with reduced trading hours. Many KIs referred to a freeing up of police resources and a much greater ability for police to proactively police streets and venues following reduced trading hours and the lockdown intervention.

... the levels of intoxication and levels of violence certainly have. I would describe it as a dramatic and noticeable change. I suppose speaking from a policeman's point of view, you'd have these things called priority two jobs where they'd place beeps over the radio so the cars basically race to the job—prior to the closures it would be nothing to have, four, five, six, seven, eight priority two jobs where you are under lights with sirens to a brawl or a violence assault occurring at a licensed premises. While they still happen, it's not so frequent. Some Saturday nights you don't have a brawl or a priority two job and it's noticeable. The trucks are back here at three thirty/four o'clock doing correspondence now. Whereas prior to the restricted trade, the trucks weren't getting the opportunity to come back until four-thirty/five o'clock because people were still out there trickling out of licensed premises fighting and ripping sign posts up and brawling and all sorts of stuff. It would be nothing for them to come here at six o'clock on a Sunday morning and go right, now we need to do our paperwork. Now we have that opportunity because the levels of jobs coming in aren't that great from three o'clock till six o'clock. [NSW police officer]

Finally, while there was disagreement among KIs, normally reflecting their occupational background, the CATI survey demonstrated high levels of community support for restricted trading hours for licensed venues with 71 percent of people surveyed (71.5% in Geelong and 70.5% in Newcastle) supporting restricted trading hours. Further, only eight percent of the people interviewed supported licensed venues trading beyond 3 am, although people who already frequented the NTE were much less likely to support restricted trading hours (55.1%) although still only 16.7 percent believed venues should trade beyond 3 am.

Lockouts

Licensed venue lockouts (or curfews) involve venues having a designated time of night after which no more patrons are allowed to enter. The venue may still operate until close, and serve drinks to those patrons already in the establishment, but no new customers are allowed in after the lockdown time (eg 2 am or 3 am). This approach is based on the rationale that much of the alcohol-related violence in the nightlife is due to the movement of people between venues during early morning hours (Graham & Homel 2008b). As such, lockdown interventions are aimed at reducing the number of people engaging in the relatively popular practices of 'pub-crawls' and 'club-hopping' (Graham & Homel 2008b). Currently, the lockdown intervention appears to have been used mainly within Australia although it has been implemented elsewhere (Bleetman et al. 1997). Research examining this type of intervention is very limited, and has generated ambiguous results at best. Trials have been implemented without evaluation being considered and data is normally extremely limited. Results have normally indicated an initial reduction in assaults, but this apparent success is often ultimately attributed to the increased police presence in the NTE. Further, decreases have often prompted an eventual increase in assaults which ultimately surpassed pre-intervention rates, indicating a decay of intervention effects (Bleetman et al. 1997; Miller et al. in press). The evidence on lockdowns thus remains largely inconclusive.

The findings of this study are ultimately similarly confounded, like previous studies of lockdowns, by the combination of the lockdown with reduced trading hours. While this measure has clearly changed the dynamic of the NTE in Newcastle and Hamilton, it is unclear whether that effect has reduced alcohol-related harm per se. Despite being confounded in terms of ultimate effects on assault and ED attendance rates, the other arms of the study highlight some of the benefits and pitfalls of the lockdown implemented in Newcastle. Most of the relevant epidemiological and crime data has been described above in relation to the s. 104 and s. 79 interventions. Similarly, patron behaviours have been described, although it is worth noting that the lockdown is the second least popular intervention discussed with patrons.

On the other hand, key informant interviews highlighted some very important issues associated with lockdowns and their implementation. Regarding effectiveness, most KIs felt that lockdowns were less likely to reduce patron intoxication and aggression, although some reported increased aggression if patrons missed entering the

venue while having friends inside. Of relevance to the Newcastle experience was the way in which different venues were affected. Smaller venues, in particular, were much more affected as patrons sought to ensure they had the most options for the remainder of the night.

The issue was, and we'll get to the lockout shortly, but if you only had a midnight licence verses the 3 am licence and there is a one o'clock lockout, well people, the midnight traders, people just stop coming to their venue full stop. They went instead to the 3 am one because they knew they'd be lockout at 1 am so why not just stay there then? [NSW industry official]

Similarly, We were basically the smallest venue and we knew at one o'clock that if you had no-one there it was not worth opening and it just got worse and worse. [NSW licensee]

Overall, key informants identified a number of problems and benefits associated with implementing lockouts. While the mix of interventions makes it difficult to demonstrate any stand-alone effect in Newcastle in terms of secondary data, there is good evidence from a wide range of key informants that lockouts on their own have substantial limitations. The major benefits noted included reduced number of people travelling between venues late at night and increased flexibility for police. On the other hand, major limitations noted were: lockouts indiscriminately targeted some venues without good logic or sense only because of trading hours; they created problems for venues in terms of situations at the door; and lockouts failed to address the core problem of intoxication.

Conclusion

The large array of data collected for this study has demonstrated the very substantial effect of Newcastle's s. 104 intervention on alcohol-related harm and the night-time economy in Newcastle and Hamilton. Most of these effects can realistically be identified as having positive benefits for the community such as reduced intoxication, reduced assaults reported to police, a continued downward trend of injuries at the ED during high alcohol hours and less drain on police resources. It has also clearly affected the drinking culture in Newcastle. However, there were also notable consequences for businesses in the area, a few ultimately closing their doors. While this is not a desirable outcome, it was noted that a similar number of businesses closed in Geelong without any intervention restricting trading hours. In the end, this study has demonstrated that if such measures are introduced across the board and patrons and businesses are given adequate notice, many will welcome the measure and negative consequences for business can be reduced if not eliminated. The findings also suggested that lockouts were a less convincing strategy for reducing alcohol-related harm and that there had been a significant number of pitfalls identified for patrons and businesses alike, although there is a clear benefit for police operationally in allowing streets to clear for a period during the night. Although not discussed in-depth here, there is also evidence from the findings presented that the drinks restrictions put in place as a part of the s. 104 also played a role in moderating drinking behaviour and sending a message to patrons about certain types of drinking being unacceptable. Finally, the CATI survey has demonstrated the overwhelming public support for such measures, even from people who already go out in the NTE. It also showed that the perceived political backlash is likely to be less than often proposed by the media.

4.2.2. Geelong interventions

As outlined in this report's introduction (see Table 2) Geelong has implemented a substantial number of interventions based on a collaborative approach through the local safety committee and liquor accord. The interventions discussed in this section are those that are voluntary, whereas interventions such as police activity and licensing changes will be discussed in the following section. For varying reasons a number of interventions, although continuing, will not be discussed in greater depth beyond the data already presented. Firstly, this report will not specifically discuss the liquor accord, although it will be discussed in subsequent scientific papers, primarily because it has been in place for a long time and the level of activity is highly variable depending on factors such as personalities involved and public pressure. As the only relevant source of data collected in this study was the subjective opinions of KIs, any conclusions drawn could not be

considered a major finding. Secondly, the NightRider bus will not be discussed beyond the data presented in the body of the report. This makes no judgement about the effectiveness of the project, but such initiatives are very dependent on context and cannot be considered a major finding. The CCTV plays a major role in the governance of the night-time economy. However, for this report, there is little objective data which can indicate the effectiveness or otherwise of CCTV. Finally, the Just Think campaign run by the *Geelong Advertiser* will not be discussed in greater depth here and has already been considered in other publications (Miller et al. 2011). The intervention was not a part of the mainstream suite of interventions run in Geelong and has been implemented piecemeal. The findings show an association with increased injuries and assaults in the year following its implementation—a minor finding, best discussed elsewhere.

Secure taxi ranks

Secure or 'safe' taxi ranks, where security personnel, employed either by venues or council, supervise the ranks, were established in both Geelong and Newcastle. Transport in and out of entertainment districts remains one of the great challenges facing all of the stakeholders. It has been shown that improving transport options in entertainment districts reduces alcohol-related harm (Hemel et al. 2004). For example, a community NTE initiative in Seattle, Washington, focused strongly on improving late-night transportation options, with nearly 90 percent of community respondents indicating that they believed that increasing the availability of transport in entertainment precincts would be likely to decrease drink-driving and other alcohol-related crimes (McGinn 2010). Late-night transit was the most commonly mentioned measure to improve the Seattle NTE (McGinn 2010).

This study found mixed results for the implementation of the safe taxi rank. Data from the Geelong ED and local police found that the rank had no significant effect. As with other measures, an important qualifier should be placed around the expectations levied on such programs that ultimately only act on the very end product of a drinking evening. Without acting on alcohol consumption, a measure such as taxi ranks is going to be fundamentally constricted in its ability to affect overall rates of alcohol-related harm.

Key informants identified a number of significant themes associated with the taxi rank, the major one being an overwhelming lack of taxis, eg 'I think they're great. Unfortunately it is really hard to get a taxi here. I've never experienced something like it' [NSW licensee]. However, KIs also reported that positives of the taxi rank included:

- taxis were more likely to service the area; and
- they created a safer working environment for the drivers.

KIs also suggested other elements that should be included or considered:

- different formulations of transport solutions for different geographical layouts;
- alternative models for providing taxis in some jurisdictions;
- whether appropriate legislation was in place to ensure adequate transport; and
- whether transport was available at the right times.

Safe taxi ranks, although not influencing the overall rates of assault or ED injury presentations, are a measure that local communities can implement to manage transport difficulties caused by lack of taxis under the current system.

Radio Networks

Radio networks between venues and other stakeholders are now being set up in many NEDs around the world, but there have been no intervention-specific evaluations to date. Radio networks within precincts involve each venue owning a headset which feeds back to a base station. Often, other actors in the NED (such as street cleaners and police) will also operate headsets. Geelong has one of the first documented networks (Armstrong-Rowe 2008; Miller et al. 2011). This radio program supports the idea of 'third party

policing', which seeks to make best use of existing resources in improving community safety. It is based on the idea that we do not necessarily need to create a new level of policing by employing private security when there are already trained people on the ground who can support existing resources. Given the number of late-night licensed venues in central Geelong, there is an excellent opportunity to use the 'eyes and ears' of the trained security personnel employed by venues to support the work of the police and the existing camera network (Armstrong-Rowe 2008). The network involves: venues operating after 1 am, street cleaners, fast-food venue operators, and police. Each stakeholder bought a hand-held radio, and a base station was set up in the local police station monitored by the safety camera officer, who watches over CCTV across the city. The program was officially launched in April 2007 and is continuing. It has been generally well received and continues to have good stakeholder buy-in.

The timing of the introduction of the NWRP radio network made it possible to assess the effect of the network on assaults and injury attendances at the ED. In both instances, it was found that there had been no significant effect on the number of either types of cases. Using these benchmarks, the NWRP appears ineffective, although KIs provide a number of insights into why such networks might be useful beyond the simple reduction of such gross indicators of harm. However, most importantly, as the NWRP does not address intoxication within venues, and does not operate once venues spill patrons onto the street, the effect of such an intervention will always be of limited, although relevant, benefit.

KIs reported benefits including:

- identifying early groups of people who have been causing difficulty in or around venues;
- improving police access to information on intoxicated people on the streets;
- helping the camera operator to better track issues of concern;
- enabling 'real time' information to be given to police and the camera operator;
- establishing genuine goodwill of venues to support safety measures for the community; and
- building a foundation to develop other creative strategies with venues and operators.

Finally, one KI identified an interesting benefit—better behaviour of patrons because they knew that if they were thrown out of one venue, they couldn't go to any more for the night. While attractive, this assertion failed to gain support in the patron interviews where so few patrons knew of the network. It was dropped as a question. Further, it is based on the premise that intoxicated people think logically about their behaviour, something not supported by previous research or simple logic.

Key informants also identified important barriers to effectiveness, including:

- venues or police not turning radios on;
- too much unnecessary lower-level communication; and
- a lack of clarity about when police will attend an incident.

Finally, KIs had a number of suggestions about practices that should be adopted for optimal effect:

- paying careful attention to the expectations of police attendance at incidents;
- making radio network cooperation a mandatory part of any security plan;
- ensuring minimum technical standards are outlined and adhered to; and
- ensuring mandatory check in/sign off each evening.

Although radio networks across NEDs have many associated benefits, in this study they have not been found to affect overall rates of alcohol-related harm.

ID scanners

The use of ID scanners as a security measure at licensed venues is relatively new and untested. Scanner technology can vary from simply recording an image of a patron's ID, through to sophisticated systems that can analyse images for their properties to determine how they compare to legitimate forms of ID. They can

also compare the image on the ID to a photograph taken of the patron at the same time. The most commonly proposed model is where the scanner records the IDs of all patrons entering a venue and compiles the information in a database, which can then be linked to other venues and police using ID scanners. If a patron presents a fake ID, or is ejected from a venue for disruptive behaviour, his or her name will be flagged in the common database, preventing subsequent access to other venues using ID scanners (Palmer et al. 2010). Banning orders can be instigated through a number of regulatory frameworks, such as by mutual agreement between venue operators through a forum such as liquor accord, or can be more legislatively mandated by a magistrate. Such 'banning orders' are becoming very popular and have become strongly linked to the ID scanner technology. No sites yet have fully implemented the complete system across all venues, with similar levels of technology. As yet, no research documenting the effectiveness of this initiative has yet been conducted.

The current study found no significant effects on assaults or ED presentations associated with implementing ID scanners in Geelong. In fact, instances of injuries during high alcohol hours steadily increased in the timeframe studied. While it could reasonably be expected that ID scanners may deter some potential offenders inside licensed venues, it is unlikely, due to the spontaneous nature of alcohol-related interpersonal violence, that the frequency of altercations involving intoxicated patrons would be affected. Subsequent analyses of police assault records suggested a move from incidents inside venues to outside venues. However, due to restrictions on the level of detail of data available from Victoria Police, the specific locations of incidents could not be mapped, limiting the inferences that could be drawn. Patron interviews found that ID scanners were the most popular of all interventions being implemented in either Geelong or Newcastle. However, observations conducted in venues with the scanners showed highly variable practices with some not scanning females or VIPs. Other venues observed, while they owned a scanner, did not routinely screen any patrons. Finally, as noted with most voluntary measures implemented in Geelong, there were many venues that simply chose not to use ID scanners, severely limiting their effectiveness from a community perspective.

Key informants also noted that ID scanners, rather than stopping incidents, were likely to result them moving from inside regulated venues to the street. They also indicated that intoxicated individuals did not consider the consequences of their actions and most incidents inside venues would be unaffected by ID scanners in the short term. Despite this, many KIs also noted the value of being able to subsequently identify trouble-makers and systematically exclude them from venues. This has obvious benefits in terms of not relying on human memory. It is worth considering, however, that all technologies can be circumvented if the offender is motivated enough. In addition, police patrols can also identify banned patrons and remove them from the area.

Sanctions excluding patrons for bad behaviour ('banning notices' or drinking banning orders—DBOs) work under a number of different models and are intended to tackle alcohol-related criminal or disorderly behaviour and to protect others from such behaviour. DBOs can be licensee-instigated, police or liquor accord instigated or court imposed. Some precincts (such as Victoria) can have all three systems operating at once. DBOs are not normally seen as being suitable for criminal or disorderly behaviour that is not alcohol-related.

The DBOs are civil orders which can last from months to lifetime bans, depending on the jurisdiction. They have been available on application throughout England and Wales since 31 August 2009, but have operated less formally for many years. Since February 2008, Victoria Police have had powers to ban people from licensed premises and designated areas for up to 24 hours for a range of offences including drunkenness, physical assault and failure to leave licensed premises.

The banning notice/DBO intervention has the potential to remove some troublesome individuals from specific venues or areas. They are a technological and legislative extension of what has been common practice for many years (Graham & Chandler-Coutts, 2000). Such a system undoubtedly works in favour of those venues that have a system in place. The DBO is also most likely to assist law enforcement personnel in managing problematic individuals. However, it is unclear whether such systems will realistically prevent alcohol-related violence and harm, or simply shift them to other entertainment districts or onto domestic settings (Miller et al. 2011).

Key informants also identified that securely storing and protecting patron information was a serious issue in terms of privacy and confidentiality and should rank among the highest priorities of ID scanner implementation (Palmer et al. 2010). The narratives showed security was variable between venues and open to abuse under the current voluntary codes. Other issues identified included:

- appeal mechanisms needed to be codified and equitable;
- systems were unlikely to be effective unless all entrances and exits were monitored;
- systems could end up discriminating against certain individuals or groups in society;
- systems may move troublemakers to other settings;
- clear guidelines needed to be developed regarding how widely bans could apply geographically; and
- clear guidelines needed to be developed regarding who should be responsible for the overall management of the process.

Thus, while many widely believe in the effectiveness of this tool as a security measure, there is currently no empirical data underpinning this belief. Further research and consideration of ID scanner implementation is needed. Certainly, given the lack of evidence regarding effectiveness, strict guidelines need to be developed by state and national governments for data to be managed appropriately. Despite these qualifications, it is also clear that ID scanners are well-liked and accepted by all major stakeholders and can be useful in solving crime and may be very useful for some venues as a patron management tool.

Fines for antisocial behaviour

Although not a part of the original study, towards the end of the data collection period, local Geelong police officers undertook a new campaign (Nightlife 2) which focused on intense policing, and more importantly, using existing fine structures to aggressively hand out fines to individuals who were intoxicated, fighting or engaging in other forms of antisocial behaviour on the street. The increased use of these fines by police and a subsequent increase in the fines have been associated with a decrease in ED-related and police assault incidents. Although the intervention focuses on a small part of the sources of alcohol-related harm, it is likely that this intervention has had some effect. Further, there were no stakeholders who objected to the measure, compared to most other interventions, suggesting they may be easy and popular to implement.

Conclusion

The available secondary data on alcohol-related harm in Geelong over the past 10 years has shown its substantial cost in terms of social and health-related issues. A minimum of 10,000 people have been seriously affected in the past 10 years and this figure is likely to be a massive under-representation. It is also clear that most people experiencing this harm come from the 15–24 age group and that males are generally over-represented. It is also clear that most harm does not occur within the central business district and that it is likely that increased activity around entertainment districts can push alcohol-related harm into the suburbs. This is further exacerbated by the change to increasingly cheap liquor being available through supermarkets and discount bottle shops. Licensed venues, on the other hand, are required to ensure patron safety and sobriety, which necessarily increases drinks prices.

The data analysed in this report shows that alcohol-related harm in the Geelong region has increased over time, although a number of indicators suggest this trend may be slowing or even reversing. However, emergency department data, acting as ‘the bottom line’ continues to show substantial increases up until February 2010. It is also clear that none of the interventions implemented at the community level appear to have any significant effect on their own. However, it is possible that some of the reductions noted in police assault and ambulance attendance data might be occurring as a result of combined community and police interventions. This combination may hold promise for future interventions around alcohol consumption in general across the community.

Patron interviews and observations also show that intoxication levels remain high and that these trends are mostly stable. However, experience of violence is fairly low and the vast majority of patrons attending nightclubs in Geelong feel safe. While patrons preferred ID scanners as an intervention, it was also clear from observations that scanning was piecemeal and the voluntary nature of many of the other measures implemented meant that best practice service of alcohol and surety practices were often missing. The distinction between voluntary and mandatory conditions was clearly evident in the results of observation, but also in the narratives of key informants who highlighted the fact that voluntary measures ultimately only penalised good operators, whereas mandatory implementation of measures created a level playing field for all businesses.

Finally, the community survey found that most respondents agreed that alcohol was a problem in their entertainment precincts with approximately three quarters believing that alcohol consumed in licensed premises was a significant contributor to crime in the precinct. On average, respondents believed that almost two-thirds of crime in the entertainment precincts was alcohol-related and violence was the most consistently reported alcohol-related problem. More than half of the people who visited a precinct venue after 10 pm in the last year had personally witnessed or been involved in a non-physical or physical argument. Increased enforcement, more taxis and ID scanners were the most popular strategies overall, although support for the ID scanner was significantly lower for patrons (although still above 90%). Respondents who had visited a precinct venue after 10 pm in the last year were generally less supportive of strategies aimed at restricting the supply of alcohol. While more than half the patrons supported reduced trading hours, significantly more non-patrons were in support.

Therefore, although there has been great innovation in tackling alcohol-related harm in Geelong, change has been very slow and is difficult to link to the interventions put in place by the community. Although community members who go out after 10 pm generally report feeling safe, there remains a strong will in the community for further action.

4.2.3. Police and other regulatory activities

The police have ultimate responsibility for maintaining order in NEDs and have been central players in all of the interventions discussed in both Geelong and Newcastle. Many of the interventions in place in Geelong had been trialled in Newcastle (albeit to a lesser extent and possibly with less cooperation) and some interventions trialled in Newcastle have not yet been trialled in Geelong (such as employing off-duty police for extra shifts using funds provided by venue operators or 'user pays' policing). Police have been strong advocates for community-based solutions in each of the precincts, working with individual licensees and liquor accords to bring around change without resorting to legislative change as a first line of action. However, in Newcastle, the results from this approach were ultimately unsatisfactory for the community and legislative action was taken, resulting in the Newcastle s. 104 decision. This was followed two years later by the Hamilton conditions, which were almost identical to those of Newcastle and followed a period of voluntary compliance. The following narrative explains:

In 2004 the commander who was here at the time in Newcastle ... pulled all the licensees together and said basically, 'look enough is enough. You need to address these issues yourself otherwise if you don't deal with them we will have to go down the track of trying to force some conditions to be imposed'. So that was 2004 and there were a number of things that happened between 2004 and late 2006 in terms of trials of security patrols and NightRider buses, no shots policies, RSA marshals etcetera for the venues. But still at the end of 2006 we were at a point where we were number two or number one in the state for Friday and Saturday assaults so the reality was that there hadn't been an improvement, we didn't believe there had been. We had been to the industry and asked them to voluntarily accept a three o'clock closure and a one o'clock lockout and they refused to do that. The liquor accord wasn't functioning at all in terms of being able to implement any policies to reduce the crime so that point in late 2006, early 2007 we started on a process of heavy enforcement of the Liquor Act. We also had very heavy enforcement of the behaviour of patrons in the streets, so street offences—so we targeted

all those. What it showed us was that intoxication was still a major issue. We had a lot of breaches of the Liquor Act. We still couldn't get any consent to get this voluntary agreement through of three o'clock and one, so I think it was July 2007 we actually lodged a complaint. A 104 complaint on the initial four hotels and that from there we were out to the fifteen hotels and then became the decision in March 2008. So I guess the reality is what happened was we tried to do things by negotiation, voluntarily, but it didn't work. There was a lot of resistance particularly from the AHA in this area, very strong resistance from them and we reached a stalemate so the only thing we could do in order to address those community safety issues was to lodge the complaint so that's how it came to be. [NSW police officer]

Because the conditions implemented in Newcastle ultimately represent police action and have already been discussed, this section will discuss Victoria Police operations run during the study period. Thus analysis is using the same data as presented for other interventions and no data was available on operational matters. Similarly, a substantial amount of information on police activity (such as call-outs, fines given, drunk and disorderly offences, and specific offence locations) is not made available to independent sources, meaning we are unable to provide a complete picture of the impacts of police activity. This issue has been discussed in-depth elsewhere (see Miller et al. 2010a).

Since 2005, a number of local and statewide police operations have focused on licensing (see Table 34). This section will discuss the interventions as they applied to Geelong. Also included are two regulation changes relating to police practice; namely changing the fine structures and practices and the introducing of risk-based licensing.

Table 34 Local and statewide police operations focused on licensing in Geelong

Name of intervention	Date implemented	Description
Operation Nightlife 1	January 2007	Maximum police visibility during high-risk hours
Safe Streets Taskforce	December 2008	Increase police visibility
Operation Razon	April 2008	Undercover police at licensed venues
Operation Nightlife 2	June 2009	Improved radio contact between police and licensees
Final integration of ID scanners/NWRP police scanner system	November 2009	Victoria Police, CoGG, Nightlife Association
Fine strategy	July 2010	Primary focus on using fines, rather than arrests, to deal with antisocial behaviour
So You Know campaign	August 2010	Awareness posters also implemented
Risk-based licensing	January 2011	New licensing regime that differentiates between venue type, trading hours and size. Fees increase with breaches of licence

The findings for ED attendances from this report show that no noticeable effect on injury attendances was associated with implementing the local Nightlife 1 intervention or the statewide Safe Streets or Razon taskforces. Admittedly Razon focused on a different outcome. Their effectiveness is difficult to measure with the available data, except to note that assaults and ED attendances continued to rise. On the other hand, there does appear to have been a reduction in ED attendances during HAH associated with the Victoria Police Operation Nightlife 2 and the subsequent increase in fines for antisocial behaviour around intoxication, which included the So You Know awareness campaign.

Similarly, Victoria Police assault data and Ambulance Victoria data show no noticeable effects of the interventions until Operation Nightlife 2 and the subsequent increase in fines for antisocial behaviour around intoxication. A core element of the Nightlife 2 and subsequent interventions was the increased use of fines on the streets as an order management tool. As seen below in an early interview with local Geelong police:

Assaults across Geelong are up slightly, but in the actual city, around the clubs and that they are down, and inside the clubs they are down or very low, down to 20 a month which is quiet good, but we are still getting a few in the street, in the centre where we're trying to police at the moment by the pushing-and-shoving we're giving on-the-spot tickets and trying to get as many police out as possible. But you're always going to have some assaults. The majority of assaults now are in the home between mum and

date or just friends in the house—some of the parties get out of hand, and you get a lot more assaults in that area than you do in the city. [Vic police officer]

This tactic allows police to modify behaviour, but also to deal efficiently with minor infractions without taking up police resources. This increased focus was subsequently supported by an increase in fine levels and further impact on the behaviour of people on the street. Examples of police interaction with problematic patrons include an individual initially receiving a fine for intoxication, another for not moving on and another for not leaving the area. Such an individual could end up more than \$1,000 out of pocket with very little police resources expended. The longer-term effect of such a strategy should be further investigated. It represents a potentially important strategy for policing NEDs.

Yet, even this strategy relies on police being on the streets and having the resources to deploy. Both observational and patron interview data suggests that Geelong has substantially less police resources available than Newcastle, which has also been discussed in relation to the restricted trading hours in Newcastle freeing up resources for police to provide more walk-throughs and street policing. As reported earlier, patron interviews showed that often very few people had noticed police when out on an evening. Similarly, observers seldom reported police attendance in nightclubs and street interviewers seldom saw police on the streets of Geelong, with the exception of specific blitzes such as Operation Unite.

A common theme from community and industry personnel was the request for more police on the street. However, the Newcastle experience suggests such a strategy might be ineffective in the longer run.

The policing ... putting a lot of police on the street to target offences doesn't address the core issue, the underlying issue. So what we did we had a huge spike in street offences, tickets issues, court attendance notices, went through the roof. We probably could have done that every week or every month. But in terms of throwing, and this was an argument which I was very strong on was don't tell me you need another fifty police on the streets because you are not addressing the core issue here. It's coming in and saying here's the problem come down here and we'll try and deal with it, but it doesn't work that way. So that is why we had this dual role of street offences and licensed premises to target the intoxication side of things. So just throwing extra police at the problem generally doesn't fix the problem. It will come back. [NSW police officer]

Prevention versus solution of crime

Another important element not shown by the current data, but worthy of consideration, is the increased detection and solution of crime in Geelong as a result of greatly increased surveillance and communication networks. Within Geelong, there have been numerous examples of crimes now being solved through the use of a combination of these technologies. Some crimes that may never have been resolved were solved within 24 hours using CCTV to track offender behaviour, and ID scanner technology to eventually identify the person from records obtained when they entered a venue. Further, many crimes which would never have been recorded or attended by police, are now being reported by radio network collaborators, observed by the CCTV operator and attended by police, sometimes (though not always or necessarily often) within minutes of the offence occurring and while camera operators can identify the offender to police. This improved detection and solution of crime are positives within their own right, but need to be monitored and documented within police recording systems to adequately recognise the benefit of these measures to the local community.

It is also worth questioning whether such improved detection and solution of crime, results in the prevention of further crime. There is little evidence to suggest so at the moment, although it is undeniable that if more offenders are taken out of the system, there would be less offences, although it is unlikely that low level offenders as identified in these crimes will be realistically or promptly removed from society. Despite this, the increased detection of crime and monitoring of behaviour, along with the changes in police behaviour in Geelong through using fines represent real opportunities to construct interventions that raise awareness within target populations. This is provided that they are comprehensively targeted and constructed, and rigorously evaluated. As demonstrated with all previous community interventions in Geelong, assuming an intervention is effective, is effective because it seems like a good idea, but it is unlikely to be the case (Miller et al. 2011).

Conclusion

Despite an overall upward trend over the past five years, there are signs that the most recent operations focused on fining individuals for low-level offences are showing substantial promise, especially when linked with the existing interventions. Longer-term data is needed to demonstrate effectiveness beyond a long spell of bad weather. While fining strategies suggest real promise, they continue to rely on police resources being deployed in a significant fashion on the streets and a major issue facing police in Geelong comes down to the most efficient use of scarce policing resources. Police in Geelong must constantly deal with a chronic lack of resources and major incidents often draw resources to suburbs away from the city centre. Further, recent work has highlighted the impact of parties and domestic incidents on police resources every Saturday night (Palmer & Miller 2011). Despite this, police in Geelong have consistently demonstrated a proactive approach in dealing with these systemic constraints and have been at the forefront of developing innovative ways to work with the community to more efficiently police the night-time economy. They have also been well-supported by many local licensees, city officials and other stakeholders. New Victorian licensing reforms also show potential for making an impact on alcohol-related harm associated with licensed venues, although capping fine levies acts as a disincentive to venues to improve their service practices once they have reached four infringements. However, the data presented here shows that much of the harm occurring in Geelong and Newcastle is occurring outside venues, on the streets or in the suburbs. These changes in the dynamics of alcohol-related harm, force attention back towards measures that can address whole-of-population consumption (Babor et al. 2010; Graham & Homel 2008a; Miller et al. 2011).

4.3. Major issues and barriers identified to reducing alcohol-related harm

The results of this project highlight a number of major barriers to reducing alcohol-related harm that extend beyond simple issues of police numbers and strategies, and speak to other regulatory and social factors at play. All of the issues described here have been previously hinted at in previous research, but this project has demonstrated their importance within Australia and the wide range of data collected for this study assists in pointing to possible measure, which may help communities to reduce harm.

4.3.1. Pre-drinking and side drinking

'Pre-drinking' (or 'pre-gaming', 'pre-loading', 'front-loading') involves planned heavy drinking, usually at someone's home, before going to a social event, typically a bar or nightclub. Although it sometimes occurs in preparation for events where alcohol is not available, especially by underage drinkers, pre-drinking is particularly relevant to policies influencing licensed premises (Wells et al. 2009). Side drinking (or 'side-loading') refers to consuming pre-purchased alcohol while in licensed venues (Hughes 2007). This practice is often seen in the use of hip flasks containing spirits, which can be drunk straight or added to mixers.

Drinking before going out is not a new phenomenon, but it appears to have become an increasingly common, intense and ritualised activity among young adults in countries around the world (Borsari et al. 2007; Forsyth 2006; Hammersley & Ditton 2005; Pedersen & LaBrie 2007; Wells et al. 2009). Wells et al. point out that pre-drinking is depicted, celebrated and even glorified in numerous internet bulletins and blogs, YouTube videos and Facebook entries of young adults (Wells et al. 2009). But pre-loading and side-loading have been associated with increased risk of intoxication, violence and unwanted sexual encounters (Borsari et al. 2007; Hammersley & Ditton 2005; Hughes 2007; Wells et al. 2009). Pre-loading is also something different from simply drinking earlier in the night. Previous studies have found that pre-loading and drinking games appear to be distinct activities (Borsari et al. 2007) and that they produce greater harm than simply drinking the same amount of alcohol in venues earlier in the evening.

The current study also found that pre-loading was the norm. While side-loading was not measured explicitly, both observers 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.

Further, many key informants highlighted the devastating economic effects this practice was having on venue operators who could often buy packaged liquor cheaper from retailers (such as Dan Murphy and Coles supermarkets) than from their wholesalers. This means that venue operators and the community are ultimately subsidising the profits of packaged liquor retailers by paying for security, policing and the vast array of other measures, much of which are being caused by alcohol sold through these retailers. In effect, they are contributing to the harm without contributing to the solutions. Venue operators in particular are then left to compete on price of alcohol while still meeting all of the overheads.

Further, intoxication from pre- and side-loading is extremely difficult for venues to police, despite it being in their interest. For many patrons, it is seen as a skill to be able to act soberly when in an entrance queue. Many load up on alcohol just before entering the venue so that the intoxication does not take effect until they are inside. And those who are side-loading may seldom come into contact with bar staff, or be ordering soft drink when they do, meaning that their levels of intoxication can be very difficult to monitor. Checking patrons for flasks or alcohol would be an unpopular move with patrons and would represent another burden for venue operators. Similarly, proposals to breathalyse patrons while entering venues would only represent another challenge to those already seeking to buck the system and could be easily circumvented by traditional practices of rapid consumption before entry or further encourage side-loading.

Previous research has also highlighted just how much price matters in terms of overall community consumption (Wagenaar et al. 2009a; 2009b) and specific harms associated with venues (O'Mara et al. 2009). In such a context, the added commercial pressure put on venues to compete on price can sometimes result in less ideal RSA practices. This was seen in the case of a Geelong venue which traded primarily on cheap drinks and was ultimately closed by the courts for producing its own vodka. However, at a less extreme end of the spectrum, venues are forced to try to improve profitability wherever possible in an environment where packaged outlets are not required to pay for any of the harm caused by the products they sell.

These findings highlight the issue as one of the major barriers to further reducing alcohol-related harm in the NTE. Without substantive measures being taken by regulators to address pre-loading and side-loading and levelling the competitive playing field between licensed venues and packaged liquor outlets, alcohol-related harm in the NTE will continue to cost communities a great deal, while being a substantial impediment to a vibrant night-time economy.

4.3.2. Transportation

Effective transport to move patrons out of the entertainment district quickly at the end of the night has long been identified as a major element of reducing alcohol-related harm (Graham & Homel 2008a, 2004). Both Geelong and Newcastle are primarily car-oriented communities, with limited public transport infrastructure and subsequent use. In such cultures, taxis become a vital part of the NTE. Levels of harm from street violence as well as traffic accidents involving intoxicated pedestrians and drink-driving all relate back to the adequate provision of safe transport options for patrons. In both Geelong and Newcastle, taxis were the preferred option for people to get home at the end of the night. However, they were also the least convenient, highlighting a substantial gulf between consumer need and service provision, which in this case impacts on community safety. Further, many key informants reported that while safe taxi ranks were now considered basic good practice, the reality was that there were far too few taxis in either city. On top of that, as recently documented in the Victorian inquiry into the taxi industry <<http://www.transport.vic.gov.au/about-us/legislation/legislation-establishing-the-taxi-services-commission>>, alternative options are often stifled by anti-competition practices. A number of key informants talked about efforts to create alternative options to complement taxi services, which were subsequently withdrawn due to industry suggestions that services would not be provided to their

venues. This issue manifests in different ways in different cities, but it remains clear that current taxi service provision falls short of that needed for night-time entertainment districts.

4.3.3. Police resourcing

As seen throughout this report, police, when properly resourced are a major stakeholder and key protector in night-time entertainment districts. Preventative strategies such as restricted trading hours, clearly free up police resources, but may be unpopular with governments trying to cater for many different interest groups and industry bodies, as well as patrons. Police are costly and require substantial training, but on the positive side, have appropriate powers and training to deal with incidents on the street. Governments are constantly under pressure to spend more money on police, while also being asked to increase regulation and charge less tax; a situation not clearly articulated often enough in this forum. The results of this study suggest that despite the best efforts of police, patrons believe they are mostly not policed, and key industry informants often called for increased police numbers. These are not the only factors that should be considered. Reasonable solutions are required to find either alternative forms of governance for the streets (ie private security or lower level regulatory officers such as England's Police Community Service Officers or Victoria's Protective Services Officers) or alternative ways of funding greater levels of police. Both have benefits and pitfalls and although a 'user pays' system is in place for the Newcastle NED, police KIs report difficulty in attracting officers to work extra overtime, as well as substantial complications around rostering to ensure that officers who work extra shifts do not end up over-tired for normal duties.

4.3.4. Voluntary versus mandatory licensing conditions

This report's findings highlight a major issue around the difficulties and benefits associated with voluntary systems of licensing reforms such as those seen in Geelong. Patron interviews showed patrons were more likely to report having been refused service when intoxicated in the past 12 months. The observational data showed that RSA practice was significantly more likely in Newcastle where practices were mandated across the board. In contrast, many venues observed in Geelong were not even signatories to the liquor accord and operated outside any volunteer harm-reduction schemes. Further, some of the venues that purported to be part of such schemes operated on ad hoc bases, according to their own definition of need, and were often influenced by financial considerations. The implementation and use of ID scanners in Geelong provides a perfect example.

While ID scanners were meant to have been operating in every late night venue in Geelong, this applied in reality only to liquor accord members. At least two of the venues operating past 1 am did not have ID scanners working at any time during the 18-month observation period. Other venues, not part of the accord, operating up to 1 am did not have ID scanners at all. Substantial issues arose about the quality of the system being used, but most concerning were the scanning practices of different venues. Interviews with ex-security staff highlighted that some venues would employ different practices depending on the number of people waiting to get in, despite scanning being a relatively quick process, normally taking no longer than 30–40 seconds. Often, only males would be scanned and VIPs would often be let through without being scanned. One venue scanned 'only if you want to be'. But, on the other hand, some venues showed excellent scanning practice, ensuring they had the latest technology and that every patron was scanned. The major lesson is that good operators are penalised and bad operators can get away with promises that don't have consequences.

KIs identified the following benefits of mandatory systems:

- created a level playing field for all venue operators;
- venue operators were clear about the rules;
- regulatory authorities were able to act immediately on infringements; and
- sent a clear message to patrons that the government and community were serious about responsible alcohol consumption.

To summarise, voluntary systems such as that seen in Geelong allow poor practice to remain while penalising good operators. However, mandatory systems allow operators a predictable operating environment, particularly if upcoming changes are well sign-posted and operators are given enough time to adapt business models.

4.3.5. Illicit drug use

Illicit drug use was often identified by industry personnel as being a major issue associated with alcohol-related harm in the NTE. Patron interviews showed that people who reported using illicit drugs were also more likely to report experiencing violence in the past 12 months, pointing to a potential issue. On the other hand, while there is undoubtedly some under-reporting, the interview responses suggest that other drug use remains a minority behaviour, with only seven percent of the interviewees reporting or demonstrating the effects of other drug use, rates which are reflective of national trends described in the 2010 National Drug Strategy Household Survey (NDSHS) (Australian Institute of Health and Welfare, 2011). Thus, while there is a group of illicit drug users who are around twice as likely as non-drug users to experience violence, they remain a very small minority. Measures to intervene with such a small group of people will be difficult to justify beyond current police practice.

4.3.6. Local powers to deal with local issues

A very clear theme to emerge in this study was the importance of both setting minimum standards, such as trading hour limits and RSA/security practice guidelines, and giving local communities the power to act on specific issues affecting them. The ability of the Newcastle community, acting through the NSW Liquor Administration Board, to enforce stricter measures in the face of a state government unwilling or unable to implement evidence-based practice has provided an important example of how well such measures can work to reduce alcohol-related harm (Jones et al. 2009; Kypri et al. 2011). This contrasts with measures which are more popular with risk-averse governments and powerful industry lobby groups (eg education campaigns such as Just Think or Step back. Think) but generally demonstrated as ineffective (Babor et al. 2010). Further, this study has highlighted the impact of very cheap packaged liquor sales on the NTE. Probably the most important factor in reducing alcohol-related harm in the community is to focus on whole-of-community consumption, rather than just safety measures once people are too intoxicated to make good decisions. A part of this equation, which has consistently been shown to contribute to harm in Victoria and Australia, is the density of alcohol outlets (Chikritzhs & Liang 2010; Livingston 2008; Livingston et al. 2007). Given this study's findings on pre-drinking and the overwhelming role of price, there is a strong imperative for local communities to be able to decide if a liquor outlet should be allowed to open, particularly one which is likely to sell cheap liquor without paying for the consequences. Local councils could have planning power based on a clear framework of cumulative impact with —a bottom line that enough harm is already in the community, and adding outlets would increase this harm, particularly if they were discount liquor outlets (Chikritzhs & Liang 2010; Gruenewald & Remer 2006; Livingston 2008; Livingston et al. 2008, 2007).

4.3.7. Evidence for practice

The wide array of data used for this project demonstrates the usefulness of creating datasets to monitor social trends over time. However, it is also clear that the available data has substantial gaps. Much of the data collected is, at best, a proxy or indicator of the real levels of alcohol-related harm (Chikritzhs et al. 2003; Young et al. 2004). Further, much of it does not allow for the desired specificity to be able to accurately associate specific venues or liquor outlets with consequent harm. This reality should act to inform governments and their agencies to make the comparatively small changes to data collection which would improve the data collected and, subsequently, the evidence they can then use to develop informed and targeted responses to social and health problems (Langley et al. 2008). Excellent topic-specific examples

exist within the realm of alcohol-related harm — namely, the Australian Alcohol Linking Program (Wiggers et al. 2004) and the Welsh Tackling Alcohol-related Street Crime Project (TASC) (Maguire et al. 2003; Shepherd 2007; Sivarajasingam et al. 2009)

The Alcohol Linking Program, conducted over a nine-year period in NSW, systematically identifies the last place of drinking of any intoxicated offenders apprehended by police, allowing police to locate potential problem venues. The intervention involved police mailing a report to licensees that provided details of police-attended incidents that were reported to have followed consumption of alcohol on their premises. The report provided information regarding the type, time, date and place of each incident, and the alcohol and intoxication status of the person, as well as their age and gender. Those premises that were associated with such incidents were also the subject of a structured audit, conducted by police, of their responsible service of alcohol and management practices. The results of the audit were provided to licensees in a subsequent educative feedback visit (Wiggers 2007). Over three months, this course of action was associated with a 36 percent drop in alcohol-related criminal incidents, and assault-rates declined by 32 percent in the experimental community. New Zealand police have a similar Alco-Link Intelligence program where data on the location of the last drink and observed intoxication level are collected on police charge sheets and analysed centrally, with results given to each police district. A continuing high profile in Alco-link data, together with other evidence, may contribute to a premises losing its licence (Babor et al. 2010). Although this data was available for the Newcastle site, it was not useful in a comparison with the Geelong site where no such data is collected.

The TASC project was a multi-component effort. Apart from targeted policing of confirmed problematic venues, it also involved local council lobbying to influence alcohol policy and an extensive media focus on alcohol-violence, RSA training for hospitality staff and rehabilitation therapy for repeat offenders. The most important element of the intervention to emerge was the use of emergency department records to identify the sources of alcohol-related harm in the community (Butchart 2011; Florence et al. 2011; Sivarajasingam et al. 2009). Initially in Wales, and later in Scandinavia, studies matching data from emergency departments and police have shown that only a quarter to one third of violent incidents that result in treatment in an emergency department appear in police records (Sutherland et al. 2002). Florence et al. (2011) point out that even the most serious violence might not be known to the police. Indeed, 13 percent of shootings resulting in emergency department care in Atlanta, GA, were not included in city-wide police records (Kellermann et al. 2001). Therefore, using ED attendances as an additional, and possibly less biased, source of information about the sources of alcohol-related harm in the community has a substantive and convincing evidence base, more so when it is linked with police data (Florence et al. 2011).

The different data presented in this report also show the importance of data being available promptly. The ED data for Geelong and Newcastle, and ambulance data for Victoria, has shown trends up until very recently. However, police arrest data is some of the most important data collected within most western communities, but accessing it is often delayed by up to one year. Such delays reflect poorly on the organisations involved and certainly lag a long way behind best practice. An excellent example is the cutting edge data systems used by Los Angeles and New York police departments <http://www.lapdonline.org/crime_mapping_and_compstat>. These systems give the community real-time data on the crime occurring in their neighbourhood and demonstrate what is possible. They emphasise the need for better and more open data collection and reporting from Australian government agencies. New South Wales has made significant steps towards providing communities with relevant data through the NSW Bureau of Crime Statistics and Research's (BOCSAR) website, providing useful hotspot maps and crime statistics over time <<http://www.bocsar.nsw.gov.au>>.

Further, more detailed data must be made available for independent analysis and scrutiny. Better communication and protocols between independent researchers and government agencies have been developed in many settings around the world. Privacy is important, but it is not a reason to restrict access to relevant data. Much of the data which could have given detailed insight into alcohol-related harm was not accessible because of data-sharing restrictions due to privacy concerns. But the overall presentation of this data is clearly never going to identify an individual case. Government agencies from health and policing

backgrounds should engage in processes whereby professional researchers with the appropriate ethical approval and with adequate privacy checks in place are able to access data at finer levels, such as the address of street offences or the age of offenders.

Finally, the report has shown the value of being able to compare ED statistics across jurisdictions and notes the value of being able to describe trends accurately over time. The ability to compare data between agencies such as health providers, ambulance services and police, and across jurisdictions could be invaluable in improving policy responses and resource allocation to respond to alcohol-related harm in the community.

4.3.8. Summary

A number of major issues identified in this study can be modified to reduce alcohol-related harm. Measures to address pre-loading and side-loading are needed to further reduce alcohol-related harm and redress the imbalance currently affecting licensed venues. Alongside this, substantial review and reform of transportation systems, and taxis in particular, are indicated. Similarly, substantive thought should be given to alternate governance options for night-time economies, relieving some of the pressure on police. Alternatively, police resources should be bolstered by 'user pays' initiatives, which create greater capacity in, police forces. The findings also strongly support the development of mandatory accord systems to regulate and monitor NEDs. These would ideally be interwoven with greater powers for local authorities to determine their own regulatory systems, but also ones where they could be held accountable, and driven by an evidence-based framework of freely-available and consistently-collected data across Australia.

4.4. 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. Some of that is attractive to patrons. An immense number of variables are at play in determining whether one individual suffers harm whereas another does not. Most do not; and most feel safe while visiting night-time entertainment districts. On the other hand, most of the general public that have not been to a licensed venue in the past 12 months are misinformed by sensationalist media painting scenes of gratuitous violence and hedonism. However, alcohol-related harm is a complex problem that requires a multifaceted and long-term primary prevention approach. 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 of harm occurring in the NTE to be able to decide what levels they are comfortable with experiencing.

This project is, to the best of knowledge, the largest of its kind to date. The analysis of health and crime ambulance data allows for a contextual understanding of the problems facing communities, and importantly, the effects of the measures put in place over this time. In all, more than 200,000 hospital records, 60,000 police arrest records and 4,000 ambulance attendance records, were analysed to describe the major indicator trends in Geelong and Newcastle. Almost 4,000 patron interviews give an unprecedented insight into their behaviours and attitudes. The collection of this data over an 18-month period allows for the first tracking of trends over time in this population. More than 300 observations of 30 venues (16 in Geelong and 14 in Newcastle) over a 14-month period gives an important objective description of the serving and security practices across the two cities and over time. Of note, is that during all of this data collection, not a single member of the research team experienced any hazardous situations. Further, as seen in section 4.5, a massive amount of information was gained from the insight and experience of almost 100 key informants from diverse backgrounds and perspectives, providing a wealth of information about many of the nuances involved in regulating and operating a business in the NTE. Finally, the Computer Assisted Telephone Interview (CATI) with 6,093 community members in a randomly-selected, representative sample of the population demonstrated the similarities between the two cities in terms of their attitudes towards alcohol and the NTE.

They also gave much broader contextual information on general experiences of alcohol-related harm and their attitudes towards current and proposed policy measures that have been shown effective at reducing alcohol-related harm. These five arms of the study, and the wealth of information gathered, have produced many findings, only some of which can be discussed in a report such as this. However, 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 there to ameliorate that harm.

The project compares two models of intervening with alcohol-related harm associated with late night licensed venues, taking advantage of a unique set of circumstances. Geelong is internationally known for its collaborative approach and as the home of the first documented liquor accord (Lang & Rumbold 1997; Rumbold et al. 1998). In the past 10 years, the city has implemented more than 25 different interventions in a mostly collaborative environment working out of the community safety partnership and the liquor accord (Miller et al. 2011). Newcastle presents a very different case. In the context of escalating alcohol-related harm, and a not-so-collaborative relationship between venue operators and the police, the police were required to seek considerable restrictions on trading hours, a lockout and other substantial restrictions such as those on drinks.

Geelong and Newcastle provide a further unique comparison because both are of similar size and demographic profile. They have a social history of moving from an industrial city to post-industrial setting and building on university expansion and tourist markets. Both are also within commuter distance of their capital cities (Melbourne and Sydney respectively).

4.4.1. Findings

The data analysed for this project describing injury-related attendances at the emergency department during high alcohol hours (HAH) represent the most objective and reliable way of comparing alcohol-related trends over time between two cities. Based on strict statistical trends, Newcastle has shown a continuing downward trend over the past 10 years compared to a general upward trend in Geelong. Newcastle started with a higher rate per head of population, although Geelong has shown greater fluctuation over time. Trends over the past year suggest a non-significant levelling off from previous alarming increases. Interventions implemented in both cities have not been widespread enough across all venues for alcohol consumption to affect overall rates of ED attendances during HAH, suggesting further intervention is needed at a broader population level.

During the study period, assaults in Newcastle decreased markedly in contrast to a continued upward trend in Geelong, again with a levelling off and decline in the final year. However, since July 2010, Geelong has also experienced a run of bad weather, which has notably impacted on people on the streets, and it remains unclear as to what effect that has had. Further, since the beginning of the study, three venues closed, two of which were identified as being highly problematic in terms of selling cheap drinks. As with alcohol-related injury, Newcastle started off with much higher rates of assaults than Geelong and declining trends bring the cities closer together in terms of the likelihood of experiencing violence during HAH. Key informant and patron interview data confirm these findings, suggesting that rates in Newcastle and Geelong have declined, but that the changes in Newcastle have been much more noticeable, and that patrons and key stakeholders now report similar—lower—levels of alcohol-related violence.

Intoxication levels in both cities remain high, indicating that 'intoxication' is not a passive outcome, and that most people who go out in the NTE view intoxication as one element of enjoyment. However, patron interviews showed that interviewee rates of intoxication declined over the study period, whereas intoxication rates in Geelong generally remained stable. Measures which address pre-loading and side-loading are needed to further reduce alcohol-related harm and redress the imbalance currently affecting licensed venues. Alongside this, substantial review and reform of transportation systems, and taxis in particular, are indicated. Similarly, substantive thought should be given to alternate governance options for night-time economies, relieving some of the pressure on police, or alternatively, police resources should be bolstered by 'user pays' initiatives which create greater capacity in police forces. The findings of the project also strongly support the

development of mandatory accord systems to regulate and monitor NEDs. These would ideally be interwoven with greater powers for local authorities to determine their own regulatory systems, but also ones where they would be held accountable.

Emergency department attendances, reflecting the most extreme levels of intoxication, appeared to have remained mostly stable with a small decline towards the end. The Newcastle intervention, which reduced access to alcohol, appears to have resulted in reduced levels of intoxication, whereas measures implemented in Geelong have predictably not affected intoxication levels. Key informant transcripts suggest that more recent trends in Geelong, long after the implementation of ID scanners etc, reflect increased licensing and policing pressure. This relates to intoxication and the use of fines to penalise intoxicated people on the streets of Geelong, albeit at the cost of greater resources than Newcastle's policy interventions.

4.4.2. Effectiveness of interventions

The large array of data collected for this study has demonstrated the very substantial effect of the s. 104 intervention on alcohol-related harm and the night-time economy in Newcastle and Hamilton. Most of these effects can realistically be identified as benefiting the community such as reduced intoxication, reduced assaults reported to police, a continued downward trend of alcohol-related injuries at the ED and less drain on police resources. The intervention has also clearly affected the drinking culture in Newcastle. However, there were also notable consequences for businesses in the area, a few ultimately closing their doors and others experiencing substantial difficulty. While this is not desirable, it was noted that a similar number of businesses closed in Geelong without any restricting trading hours. The findings also suggested that lockouts were a less convincing strategy for reducing alcohol-related harm, with a significant number of pitfalls identified for patrons and business alike.

The secondary data on alcohol-related harm in Geelong demonstrated that many people have been seriously affected in the past 10 years and this is likely to be a massive underrepresentation. It is also clear that most harm does not occur within the central business district and that it is likely that increased activity around entertainment districts can push alcohol-related harm into the suburbs. This is further exacerbated by the change to increasingly cheap liquor being available through supermarkets and discount bottle shops, where licensed venues on the other hand, are required to ensure patron safety and sobriety which necessarily increases drink prices. Alcohol-related harm in the Geelong region has increased over time, although this trend may be slowing. Emergency department data shows substantial increases up until February 2010, although some of the reductions noted in police assault and ambulance attendance data might be occurring as a result of combined community and police interventions. It is also clear that none of the interventions implemented at the community level appear to have any significant effect on their own.

Despite an overall upward trend over the past five years, there are signs that the most recent police operations focused on fining individuals for low-level offences are showing promise. This is especially so when linked with the existing interventions, although longer-term data is needed to demonstrate effectiveness beyond a long spell of bad weather. While fining strategies suggest real promise, they continue to rely on significant police resources being deployed on the streets. A major issue facing police in Geelong is the most efficient use of scarce policing resources. Police in Geelong must constantly deal with a chronic lack of resources and major incidents often draw resources to suburbs away from the city centre. Patron interviews and observations also show that intoxication levels remain high and that these trends are mostly stable. However, experience of violence is fairly low and most patrons attending nightclubs in Geelong feel safe. While they preferred ID scanners as an intervention, it was also clear from observations that scanning was piecemeal and the voluntary nature of many of the measures implemented meant that best practice service of alcohol and security practices were often missing. The distinction between voluntary and mandatory conditions was clearly evident in the results of observation, but also in the narratives of key informants who highlighted the fact that voluntary measures ultimately only penalised good operators, whereas mandatory implementation of measures created a level playing field for all businesses. Finally, the community survey found that most respondents in both cities agreed that alcohol was a problem in their entertainment precincts with around

three quarters believing that alcohol consumed in licensed premises was a significant contributor to crime in the precinct. Increased enforcement, more taxis and ID scanners were the most popular strategies overall, although support for the ID scanner was significantly lower for patrons (although still above 90%). Therefore, although there has been great innovation in tackling alcohol-related harm in Geelong, change has been very slow and is difficult to link to the community interventions. Although community members who go out after 10 pm generally report feeling safe, there remains a strong will in the community for further action.

Measures to reduce alcohol-related harm must address pre-loading and side-loading to further reduce alcohol-related harm and redress the imbalance currently affecting licensed venues. Alongside this, substantial review and reform of transportation systems, and taxis in particular, are indicated. Considerable thought should be given to alternate governance options for night-time economies, relieving some of the pressure on police, or alternatively, police resources should be bolstered by 'user pays' initiatives, which create greater capacity in police forces. The findings also strongly support the development of mandatory accord systems to regulate and monitor NEDs. These would ideally be interwoven with greater powers for local authorities to determine their own regulatory systems, but also ones where they can be held accountable.

Overall, the wide range of data shows that the restriction of trading hours has had an immediate and long-term effect on alcohol-related harm and the culture of intoxication in Newcastle. The effects of other measures put in place as a part of the s. 104 orders are less clear, and lockouts in particular, appear to be associated with a substantial number of problems. In contrast, most of the voluntary interventions put in place in Geelong had no discernible impact in the first few years of being implemented and only recent strategies based on fines for street offences appear to be associated with declining trends. Despite these major issues and trends, both cities continue to have vibrant nightlives, with patrons who are overwhelmingly enjoying themselves and feel safe when doing so.

5. Directions for policy, practice and research

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. 2009a).

2. **Communities that are identified as having unacceptable levels of alcohol-related harm should consider imposing 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.**
 - a) 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.**
 - a) 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 licenses 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.
 - a) 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.

6. References

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Appendix A: ED keywords and ICD codes used

Fields included in search:

Attendance date and time

Gender

Age

Suburb (residence)

Postcode

ICD codes

Triage category

Arrival mode

Triage presenting problem

Triage comments

Diagnosis

Psych triage involved

eNotes

Departure status

Left department date and time

Date range: 1 July 1999 – 1 April 2011

Filter codes:

ICD-10 codes for alcohol-related cases

Alcoholic psychosis F10.3-F10.9

Alcohol dependence F10.2

Alcohol abuse F10.0, F10.1

Injury, poisoning and certain other consequences of external causes (S00-T98)

S00–S09	Injuries to the head
S10–S19	Injuries to the neck
S20–S29	Injuries to the thorax
S30–S39	Injuries to the abdomen, lower back, lumbar spine and pelvis
S40–S49	Injuries to the shoulder and upper arm

S50–S59	Injuries to the elbow and forearm
S60–S69	Injuries to the wrist and hand
S70–S79	Injuries to the hip and thigh
S80–S89	Injuries to the knee and lower leg
S90–S99	Injuries to the ankle and foot
T00–T07	Injuries involving multiple body regions
T08–T14	Injuries to unspecified part of trunk, limb or body region
T15–T19	Effects of foreign body entering through natural orifice
T20–T32	Burns and corrosions
	T20–T25 Burns and corrosions of external body surface, specified by site
	T26–T28 Burns and corrosions of multiple and unspecified body regions
	T29–T32 Burns and corrosions confined to eye and internal organs
T33–T35	Frostbite
T36–T50	Poisoning by drugs, medicaments and biological substances
T51–T65	Toxic effects of substances chiefly non-medicinal as to source
T66–T78	Other and unspecified effects of external causes
T79	Certain early complications of trauma
T80–T88	Complications of surgical and medical care, not elsewhere classified
T90–T98	Sequelae of injuries, of poisoning and of other consequences of external causes

External causes of morbidity and mortality (V01–Y98)

V01–X59	Accidents
V01–V99	Transport accidents
	V01–V09 Pedestrian injured in transport accident
	V10–V19 Pedal cyclist injured in transport accident
	V20–V29 Motorcycle rider injured in transport accident
	V30–V39 Occupant of three-wheeled motor vehicle injured in transport accident
	V40–V49 Car occupant injured in transport accident
	V50–V59 Occupant of pick-up truck or van injured in transport accident
	V60–V69 Occupant of heavy transport vehicle injured in transport accident
	V70–V79 Bus occupant injured in transport accident
	V80–V89 Other land transport accidents
	V90–V94 Water transport accidents
	V95–V97 Air and space transport accidents
	V98–V99 Other and unspecified transport accidents
W00–X59	Other external causes of accidental injury
	W00–W19 Falls
	W20–W49 Exposure to inanimate mechanical forces
	W50–W64 Exposure to animate mechanical forces
	W65–W74 Accidental drowning and submersion

External causes of morbidity and mortality (V01–Y98)		
	W75–W84	Other accidental threats to breathing
	W85–W99	Exposure to electric current, radiation and extreme ambient air temperature and pressure
	X00–X09	Exposure to smoke, fire and flames
	X10–X19	Contact with heat and hot substances
	X20–X29	Contact with venomous animals and plants
	X30–X39	Exposure to forces of nature
	X40–X49	Accidental poisoning by and exposure to noxious substances
	X50–X57	Overexertion, travel and privation
	X58–X59	Accidental exposure to other and unspecified factors
X60–X84	Intentional self-harm	
X85–Y09	Assault	
Y10–Y34	Event of undetermined intent	
Y35–Y36	Legal intervention and operations of war	
Y40–Y84	Complications of medical and surgical care	
	Y40–Y59	Drugs, medicaments and biological substances causing adverse effects in therapeutic use
	Y60–Y69	Misadventures to patients during surgical and medical care
	Y70–Y82	Medical devices associated with adverse incidents in diagnostic and therapeutic use
	Y83–Y84	Surgical and other medical procedures as the cause of abnormal reaction of the patient, or of later complication, without mention of misadventure at the time of the procedure
Y85–Y89	Sequelae of external causes of morbidity and mortality	
Y90–Y98	Supplementary factors related to causes of morbidity and mortality classified elsewhere	