TOWARDS THE IMPLEMENTATION OF A PROBLEM-ORIENTED POLICING APPROACH TO REDUCING ALCOHOL-RELATED HARM ASSOCIATED WITH LICENSED PREMISES: CHALLENGES AND OPPORTUNITIES

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Signed: ___________________________ Andrew Hacker

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SYNOPSIS

Both worldwide, and within high income countries such as Australia, alcohol misuse ranks among the 10 leading risk factors for premature mortality, and among the three leading risk factors for morbidity. Estimates for middle-income and high-income countries suggest that alcohol misuse costs such countries between 1.3% and 3.3% of gross domestic product, with much of this cost being indirect, such as productivity losses.

Alcohol-related death and harm are suggested to be mediated by mechanisms of toxicity, dependency and intoxication. Intoxication in particular is associated with acute, injurious harm with substantial evidence suggesting that, for whole populations, intoxication causally contributes to such harm.

Evidence from several high-income countries suggests that licensed premises are the setting most associated with drinking to intoxication. Licensed premises are also disproportionately associated with alcohol-related injuries, and several Australian studies suggest that such injuries are particularly associated with premises licensed as hotels (bars) and night-clubs.

In light of the associations between licensed premises, intoxication, and alcohol-related injuries several harm-reduction strategies have been developed. Such strategies broadly involve restricting the availability of alcohol (e.g. reducing trading hours, reducing licensed premises density, increasing the minimum legal drinking age) and/or modifying the licensed premises environment (e.g. altering the physical environment, managing aggression, implementing responsible beverage service programs, implementing multi-component interventions). Evaluations of such strategies have highlighted enhanced policing as a key element contributing to their effectiveness.

However, while enhancing the policing of licensed premises has been suggested to be a promising harm-reduction strategy, the effectiveness of such enhancement per se is yet to
be demonstrated. Also, current routine policing of licensed premises has been suggested to be less than optimal, with evidence suggesting that such policing does not adequately focus on those supplying alcohol (relative to focusing on individual consumers) and is not conducted consistently between local jurisdictions.

In light of limitations in the current policing of licensed premises, and the suggested promise of enhancing such policing, one approach that has been suggested as a best practice approach is that of problem-oriented policing. While recognising the need for police to respond to crimes that have occurred, problem-oriented policing emphasises developing preventive interventions and stresses that such development occur in an empirical fashion. The approach is iterative, and it’s operationalization is most commonly described by the acronym SARA; *scanning* to detect recurring patterns of events, *analysing* data to determine what underlying ‘problems’ are driving such patterns and what responses might most effectively address them, *responding* based on such analysis, and *assessing* the effectiveness of responses in reducing crime.

The application of problem-oriented policing to the policing of licensed premises faces several challenges. First, changes in practice associated with its adoption have been suggested to require investment in explicit strategies to support organisational change. However, evidence regarding the effectiveness of such strategies in supporting the adoption of problem-oriented policing is limited. Second, it has been suggested that police have limited capacity to undertake in-depth analyses regarding alcohol-related harm, limiting the likelihood of successfully adopting an approach that emphasises empirical analysis. Third, while problem-oriented policing emphasises multi-strategic and proactive interventions, evidence is limited as to the range of strategies police undertake with licensed premises, with research to-date having focused solely on strategies involving formal law enforcement. Fourth, while there is growing evidence regarding the
effectiveness of problem-oriented policing in general, such evidence is limited with regard to reducing harm associated with licensed premises in particular.

In light of suggestions that adopting a problem-oriented approach to policing licensed premises may reduce alcohol-related harm, and challenges to its adoption as outlined above, the studies presented in this thesis aimed to:

1. assess current practices regarding the policing of licensed premises by those primarily responsible for such policing in New South Wales, Australia.
2. evaluate the effectiveness of an organisational change intervention in enhancing police recording of alcohol-related information.
3. determine the types of policing strategies applied to licensed premises associated with alcohol-related harms, and the relationship between levels of alcohol-related harm associated with individual premises and the application of various policing strategies.
4. assess the feasibility, acceptability and potential effectiveness of a problem-oriented policing approach to reducing alcohol-related harms associated with licensed premises.

While, overall, this thesis attempts to add to the evidence base regarding the implementation of a problem-oriented policing approach to reducing alcohol-related harm associated with licensed premises, it should be noted that chapters 2 to 5 have been written as discrete studies in the style of a journal manuscript.

Given that a preliminary step in planning how to best adopt new practices is to assess alignment between intended practice changes and existing practices, the qualitative, interview-based study described in Chapter 2 examines four aspects of current policing of licensed premises in New South Wales, Australia: consistency in the policing of licensed premises between local jurisdictions; police approaches to identifying alcohol-related harms associated with licensed premises; strategies police apply to reduce alcohol-related
harm associated with licensed premises; and factors police consider when selecting strategies to reduce alcohol-related harms associated with licensed premises.

The study found, first, that police reported limited consistency between local jurisdictions in the policing of licensed premises. However, they expressed support for improving such consistency, provided that this was not at the expense of professional discretion. Second, police reported identifying harms associated with licensed premises through using multiple information sources. This approach was, in part, due to limitations regarding alcohol-related information available from police information systems. Police also reported limited analysis of gathered information. Third, response strategies police reported using to reduce alcohol-related harm generally aligned with evidence regarding effectiveness. However, police reported a limited range of responses, and did not report use of several response strategies for which there is evidence of effectiveness. Fourth, police reported that they consider several local factors when selecting responses. However, they did not report consideration of research evidence or crime prevention theory when developing responses.

The results of the study suggest several areas of alignment between current practice and problem-oriented policing: police support for greater consistency, routine detection of harm patterns, use of responses that are consistent with evidence of effectiveness, and tailoring response after considering local factors. However, the results also suggest that adopting problem-oriented policing would require enhancing the capacity of police: to undertake problem-oriented analyses, including consideration of theories of crime prevention and research evidence regarding a broader range of strategies with demonstrated effectiveness.

Chapter 3 highlights, first, that many police information systems lack capacity to record data that could describe patterns of alcohol-related harm in a way that would meaningfully support the adoption of a problem-oriented approach to the policing of

licensed premises. Second, the chapter synthesises two frameworks that have been proposed to facilitate changes in service delivery practice, diffusion of innovations theory and organisational development theory, and describes five broad strategies to increase the likelihood of successfully adopting changes in practice. Third the chapter highlights the limited available evidence regarding the effectiveness of organisational change strategies in supporting the adoption of problem-oriented policing or in enhancing information-technology systems within police services.

Using a three-stage, multiple-baseline, stepped wedge study design, the study described in Chapter 3 evaluated the use of the five broad organisational change strategies to support the implementation of enhanced alcohol-related information recording. This information essentially allows associations to be made between police-attended incidents involving intoxicated individuals and the locations where such individuals last consumed alcohol, including specific licensed premises. The study found that, for an exemplar incident category (assaults), the implementation of the five organisational change strategies was associated with enhanced police recording of alcohol-related information that was immediate, sustained (up to 45 months) and replicated on three occasions. The levels of alcohol-related information recording adopted into routine police practice were comparable to those reported in shorter-term research studies, and the results suggest that the organisational change strategies can successfully make available alcohol-related crime information that could support a problem-oriented policing approach to licensed premises and alcohol-related harm.

Chapter 4 highlights that problem-oriented policing suggests that police be multi-strategic in their responses to reduce alcohol-related harm, and describes a range of police responses on a continuum from those that attempt to achieve voluntary compliance through to formal law enforcement where such compliance has not been forthcoming. The chapter reviews evidence regarding policing strategies undertaken with licensed premises
highlighting that, despite the range of responses police might employ, such evidence has focused exclusively on formal law enforcement activities.

To address this gap in knowledge, a retrospective descriptive study examined policing practices undertaken with a sample of 'high-risk' licensed premises associated with alcohol-related harm. Identification of these licensed premises was based on the enhanced alcohol-related information introduced as part of the study described in Chapter 3. The study presented in Chapter 4 found that police were generally multi-strategic in responding to high-risk licensed premises, with the number and range of strategies employed increasing in association with the quantum of harm associated with licensed premises (as measured by numbers of intoxicated people involved in police-attended incidents to have last consumed alcohol at such licensed premises). However, the relative prevalence of various strategies, particularly a relatively lower use of preventive, educational strategies and relatively high use of strategies to increase perceived police presence, suggests that there is opportunity to ensure police adopt a broader range of strategies for which there is evidence of effectiveness.

Chapter 5 reviews three bodies of evidence suggesting that problem-oriented policing may potentially reduce alcohol-related harm associated with licensed premises: evidence that problem-oriented policing can effectively reduce crime generally, evidence that generally enhancing the policing of licensed premises can contribute to reducing alcohol-related harm, and limited evidence directly assessing the effectiveness of adopting a problem-oriented approach to reducing alcohol-related harm associated with licensed premises.

In light of such limited direct evidence, Chapter 5 describes a pilot randomised controlled trial of the feasibility, acceptability and potential effectiveness of an intervention to facilitate adoption of a problem-oriented approach to the policing of licensed premises. The intervention employed similar organisational change strategies as employed in Chapter 3. However, consistent with the pilot nature of the study, their deployment was
limited to operating primarily through a centralised police business unit, the function of which was to provide support to local jurisdictions throughout the state in regard to addressing alcohol-related harm. The study found evidence for feasibility with regard to local police attending training and their capacity to identify: problematic licensed premises, associated underlying problems, and a range of responses. Feasibility was less evident with regard to police capacity to implement responses. Problem-oriented policing, and the training and resources provided were found to be acceptable to participating police. Relative to the control group, no significant change was observed in the number of intoxicated people associated with hotspot licensed premises in the intervention group. The chapter considers several factors that may have contributed to this lack of effect.

Chapter 6 summarises the findings of the previous chapters, considers their implications and makes suggestions for further research and policing practice in four areas: enhancing alcohol-related information systems; enhancing police analysis of underlying problems; enhancing police responding to alcohol-related harm; and the need for organisational change strategies to support implementation of a problem-oriented approach to the policing of licensed premises.

In terms of enhancing information systems, the studies presented in this thesis suggest that the deployment of organisational change strategies can enhance the availability of alcohol-related information, which can then be used to identify problematic licensed premises as a last place of alcohol-consumption for intoxicated patrons. The availability of such information provides opportunities to more efficiently conduct surveillance of harms associated with licensed premises, and deploy limited resources to reduce such harms. The chapter suggests that future research might examine similarly enhancing the availability of alcohol-related information within other services, for example hospital emergency departments, and potential opportunities for harm reduction that might arise from the sharing of such information between services that need to respond to alcohol-
related harm. Future research might also examine extending such information recording
to gathering details regarding locations of alcohol consumption other than licensed
premises, and locations where alcohol was purchased. Such information recording may,
for example, assist to effectively target interventions toward alcohol-related harms in the
domestic setting, or in relation to underage drinking.

Chapter 6 highlights that, while the availability of enhance alcohol-related information is
important if a problem-oriented approach is to be adopted to the policing of licensed
premises, it does not, of itself, result in the adoption of such an approach, including police
adoption of problem-oriented analysis. Findings presented in this thesis suggest that there
is opportunity to enhance the analytical capacity of police with regard to addressing
alcohol-related harm, including increasing capacity to consider both available research
evidence and theories of crime prevention. Improving such capacity has the potential to
result in more effective responding, and hence greater reductions in alcohol-related harm
associated with licensed premises. The chapter describes several suggestions that have
been made as to how such capacity might be improved, and suggests that there may be
benefit in further research examining the effectiveness of alternative organisational
models for implementing such enhanced capacity.

In addition to suggesting that there is opportunity to enhance police consideration of
evidence and theory when developing responses, findings in this thesis suggest there is
also opportunity to enhance the consistency of police responding to licensed premises.
Chapter 6 discusses suggestions that have been made as to how such consistency might be
improved, and how the availability of enhanced alcohol-related information might
contribute to such suggestions, including facilitating the development of key performance
indicators of alcohol-related harm reduction, and being used as a tool for assessing the
effectiveness of police responses.
The contrasting findings presented particularly in Chapters 3 & 5 of this thesis with regard to the observed effectiveness of organisational change interventions suggest several opportunities for further research. From the perspective of diffusion of innovations theory, the contrasting findings may suggest several opportunities to reduce perceptions that problem-oriented policing is complex, and to increase its familiarity, with a view to enhancing the likelihood of adoption. From an organisational development perspective, the contrasting findings may suggest that adequate resourcing is required to ensure that organisational change support strategies are effective.
CHAPTER 1: ALCOHOL CONSUMPTION AND RELATED HARM ASSOCIATED WITH LICENSED PREMISES, AND THE POTENTIAL FOR PROBLEM-ORIENTED POLICING TO REDUCE SUCH HARM
This chapter provides an overview of alcohol consumption and related harm, particularly acute harm. The chapter reviews strategies for reducing such harm, particularly strategies to reduce harm associated with alcohol consumption at licensed premises. The chapter commences with a description of alcohol consumption patterns globally and in Australia. It discusses the mechanisms of alcohol-related harm, with a particular focus on intoxication. Associations between intoxication, acute harms, and licensed premises are then described. The chapter then describes strategies suggested to be effective in reducing alcohol-related harm associated with licensed premises, including those that restrict the availability of alcohol and those that modify the licensed drinking environment. The chapter highlights that policing may be a key element of effective strategies to reduce alcohol-related harm associated with licensed premises, and describes evidence regarding the policing of licensed premises. The chapter concludes with a description of an approach to the policing of licensed premises that has been recommended as best practice, problem-oriented policing, briefly reviewing evidence regarding its effectiveness and highlighting several challenges to applying this approach to reducing alcohol-related harm associated with licensed premises.
ALCOHOL CONSUMPTION AND RELATED HARM

ALCOHOL CONSUMPTION

Worldwide

Worldwide, approximately two billion adult people (+15 years) consume alcohol (less than 50%) (1). As can be seen from Table 1, alcohol consumption is more prevalent among men (55%) than women (34%). From low to high-income countries the proportion of the population who consume alcohol increases for both males and females. While high income countries have the greatest proportion of alcohol consumers, such countries have the least hazardous drinking pattern (1). Middle income countries from the European region have the highest average adult consumption, the second highest proportion of alcohol consumers, the highest consumption of alcohol per consumer, and the most hazardous drinking pattern (1).

Australia

Based on data from the Food and Agricultural Organization of the United Nations, in Australia, a high income country, for the year 2000 the recorded per capita alcohol consumption was estimated at 9.19L per adult (2). Australia’s per capita alcohol consumption estimate ranked it 34th of 185 WHO member states for which data were available (Figure 1).
Table 1. Economic development status and alcohol consumption parameters in 2002 (1).

<table>
<thead>
<tr>
<th>WHO Region Groupings (A)</th>
<th>Average GDP PPP (I$) (B)</th>
<th>Proportion of drinkers</th>
<th>Average total adult consumption (litres/year) (C)</th>
<th>Consumption per drinker (g/day of pure alcohol)</th>
<th>Average pattern of drinking (D)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low-income countries with total ban on alcohol use in the Eastern Mediterranean Region &amp; South-East Asia Region.</td>
<td>$2,441</td>
<td>19</td>
<td>2</td>
<td>1.7</td>
<td>33</td>
</tr>
<tr>
<td>Low-income countries in the African Region &amp; Region of the Americas.</td>
<td>$2,249</td>
<td>47</td>
<td>32</td>
<td>7.1</td>
<td>41</td>
</tr>
<tr>
<td>Middle-income countries in the Region of the Americas, Eastern Mediterranean Region, South-East Asia Region &amp; Western Pacific Region.</td>
<td>$5,257</td>
<td>67</td>
<td>36</td>
<td>5.7</td>
<td>25</td>
</tr>
<tr>
<td>Middle-income countries in the European Region.</td>
<td>$6,862</td>
<td>77</td>
<td>59</td>
<td>11.7</td>
<td>37</td>
</tr>
<tr>
<td>High income countries in the Region of the Americas, European Region &amp; Western Pacific Region.</td>
<td>$28,405</td>
<td>81</td>
<td>65</td>
<td>10.7</td>
<td>32</td>
</tr>
<tr>
<td>World</td>
<td>N/A</td>
<td>55</td>
<td>34</td>
<td>6.2</td>
<td>30</td>
</tr>
</tbody>
</table>

Based on population weighted averages of 182 countries.
A. The regional subgroups used were defined by WHO on the basis of high, medium or low levels of adult and infant mortality.
B. Gross domestic product (GDP), a measure of the size of a country’s economy; purchasing power parity (PPP) per capita, the country’s per capita purchasing power for an equivalent basket of goods, expressed in international dollars (I$).
C. Consumption in litres of pure alcohol per resident aged 15 years and older per year (average of available data for 2001 to 2003). Total includes estimates of consumption from both official sources such as national governments sales figures, tax revenue or production data ('recorded alcohol'), and unofficial sources such as surveys specifically for tracking consumption of unrecorded alcohol.
D. Indicator of the hazard per litre of alcohol consumed (1 = least detrimental; 4 = most detrimental), composed of several indicators of heavy drinking occasions plus the frequency of drinking with meals (reverse scored) and in public places.
Figure 1. Total recorded alcohol per capita consumption (15+ years) in 2000, by country rank for 185 WHO member countries (2).

Based on data from the Australian Bureau of Statistics, over the last 50 years in Australia, per capita alcohol consumption has fluctuated (Figure 2), rising from an average of 9.3 litres of pure alcohol per person in the early 1960's to a peak of 13.1 litres of pure alcohol per person in 1974-75 (3). Apparent consumption then remained steady over the next 5-10 years before declining to 9.8 litres of pure alcohol per person in 1995-96. Since this time, consumption has increased to 10.4 litres of pure alcohol per person in 2008-09.
MORTALITY, MORBIDITY AND COSTS ASSOCIATED WITH ALCOHOL MISUSE

Alcohol misuse contributes significantly to the burden of disease across the world, measured in terms of both mortality and morbidity, as well as financial cost (4).

**Worldwide**

In 2004, 2.3 million deaths worldwide (3.8%) were attributable to alcohol use, ranking it as the eighth highest risk factor for premature mortality (5). For high income countries in 2004, alcohol use accounted for 100,000 deaths (1.6%), ranking it as the ninth highest mortality risk factor for such countries (Table 2).
Table 2. Ranking of the 10 leading risk factors for causes of death in 2004, Worldwide, and for High Income Countries (5).

<table>
<thead>
<tr>
<th>Rank</th>
<th>Risk Factor</th>
<th>World Deaths (millions)</th>
<th>% of total</th>
<th>Risk Factor</th>
<th>High Income Countries Deaths (millions)</th>
<th>% of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>High blood pressure</td>
<td>7.5</td>
<td>12.8</td>
<td>1 Tobacco use</td>
<td>1.5</td>
<td>17.9</td>
</tr>
<tr>
<td>2</td>
<td>Tobacco use</td>
<td>5.1</td>
<td>8.7</td>
<td>2 High blood pressure</td>
<td>1.4</td>
<td>16.8</td>
</tr>
<tr>
<td>3</td>
<td>High blood glucose</td>
<td>3.4</td>
<td>5.8</td>
<td>3 Overweight and obesity</td>
<td>0.7</td>
<td>8.4</td>
</tr>
<tr>
<td>4</td>
<td>Physical inactivity</td>
<td>3.2</td>
<td>5.5</td>
<td>4 Physical inactivity</td>
<td>0.6</td>
<td>7.7</td>
</tr>
<tr>
<td>5</td>
<td>Overweight and obesity</td>
<td>2.8</td>
<td>4.8</td>
<td>5 High blood glucose</td>
<td>0.6</td>
<td>7.0</td>
</tr>
<tr>
<td>6</td>
<td>High cholesterol</td>
<td>2.6</td>
<td>4.5</td>
<td>6 High cholesterol</td>
<td>0.5</td>
<td>5.8</td>
</tr>
<tr>
<td>7</td>
<td>Unsafe sex</td>
<td>2.4</td>
<td>4.0</td>
<td>7 Low fruit and vegetable intake</td>
<td>0.2</td>
<td>2.5</td>
</tr>
<tr>
<td>8</td>
<td>Alcohol use</td>
<td>2.3</td>
<td>3.8</td>
<td>8 Urban outdoor air pollution</td>
<td>0.2</td>
<td>2.5</td>
</tr>
<tr>
<td>9</td>
<td>Childhood underweight</td>
<td>2.2</td>
<td>3.8</td>
<td>9 Alcohol use</td>
<td>0.1</td>
<td>1.6</td>
</tr>
<tr>
<td>10</td>
<td>Indoor smoke from solid fuels</td>
<td>2.0</td>
<td>3.3</td>
<td>10 Occupational risks</td>
<td>0.1</td>
<td>1.1</td>
</tr>
</tbody>
</table>

Table 3. Ranking of the 10 leading risk factors for causes of morbidity (DALYs) in 2004, Worldwide, and for High Income Countries (5).

<table>
<thead>
<tr>
<th>Rank</th>
<th>Risk Factor</th>
<th>World DALYs (millions)</th>
<th>% of total</th>
<th>Risk Factor</th>
<th>High Income Countries DALYs (millions)</th>
<th>% of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Childhood underweight</td>
<td>91</td>
<td>5.9</td>
<td>1 Tobacco use</td>
<td>13</td>
<td>10.7</td>
</tr>
<tr>
<td>2</td>
<td>Unsafe sex</td>
<td>70</td>
<td>4.6</td>
<td>2 Alcohol use</td>
<td>8</td>
<td>6.7</td>
</tr>
<tr>
<td>3</td>
<td>Alcohol use</td>
<td>69</td>
<td>4.5</td>
<td>3 Overweight and obesity</td>
<td>8</td>
<td>6.5</td>
</tr>
<tr>
<td>4</td>
<td>Unsafe water, sanitation, hygiene</td>
<td>64</td>
<td>4.2</td>
<td>4 High blood pressure</td>
<td>7</td>
<td>6.1</td>
</tr>
<tr>
<td>5</td>
<td>High blood pressure</td>
<td>57</td>
<td>3.7</td>
<td>5 High blood glucose</td>
<td>6</td>
<td>4.9</td>
</tr>
<tr>
<td>6</td>
<td>Tobacco use</td>
<td>57</td>
<td>3.7</td>
<td>6 Physical inactivity</td>
<td>5</td>
<td>4.1</td>
</tr>
<tr>
<td>7</td>
<td>Suboptimal breastfeeding</td>
<td>44</td>
<td>2.9</td>
<td>7 High cholesterol</td>
<td>4</td>
<td>3.4</td>
</tr>
<tr>
<td>8</td>
<td>High blood glucose</td>
<td>41</td>
<td>2.7</td>
<td>8 Illicit drugs</td>
<td>3</td>
<td>2.1</td>
</tr>
<tr>
<td>9</td>
<td>Indoor smoke from solid fuels</td>
<td>41</td>
<td>2.7</td>
<td>9 Occupational risks</td>
<td>2</td>
<td>1.5</td>
</tr>
<tr>
<td>10</td>
<td>Overweight and obesity</td>
<td>36</td>
<td>2.3</td>
<td>10 Low fruit and vegetable intake</td>
<td>2</td>
<td>1.3</td>
</tr>
</tbody>
</table>
**Australia**

In Australia between 1996 and 2005, 32,696 deaths were estimated to be attributable to risky or high risk drinking (6). Comparing alcohol-attributable and non-alcohol-attributable deaths between 1996 and 2005, there was approximately a 25% decline in alcohol-attributable deaths over the period, and an approximate 3% increase for non-alcohol-attributable deaths (6).

**Morbidity**

**Worldwide**

Compared to mortality, alcohol use ranks more highly as a contributor to morbidity across the world. In 2004, alcohol use accounted for the loss of 69 million disability adjusted years of life (DALYs) worldwide (4.5%), ranking it as the third largest cause of such loss, behind being underweight in childhood (5.9%) and unsafe sex (4.6%) (5). For high-income countries alcohol use ranked as the second leading cause of morbidity (8 million DALY's; 6.7%) behind tobacco use (10.7%) (Table 3).

**Australia**

In Australia, between 1996 and 2005 an estimated 813,072 hospitalisations were attributable to risky or high risk drinking (6). Such hospitalisations increased to a greater degree over this period (approximately 33%) compared to non-alcohol attributable hospitalisations (approximately a 22% increase) (6).

**Financial Costs**

**Worldwide**

A review of 29 studies of the costs of alcohol-related harm, across 18 countries and the European Union, found substantial variation in the methods for estimating costs (7). Based on similar estimating methods (i.e. gross costs accounting only for alcohol’s negative effects), the review compared the cost estimates for four high income countries (France, USA, Scotland, and Canada) and two middle income countries (South Korea and
Thailand). Across these six countries the total cost of alcohol use ranged between 1.3% and 3.3% of gross domestic product. Of this total cost, indirect costs due to productivity losses were consistently the greatest contributor, accounting for between 49% and 95% of the total cost estimate (7).

**Australia**

In Australia, the total (tangible and intangible) cost to society of alcohol abuse in 2004/05 was estimated at AUD$15.32 billion dollars (net costs, accounting for both possible negative and positive effects). This accounted for 27.3% of the combined cost of alcohol, tobacco and illicit drug abuse (8). The combined tangible costs, associated with paid labour, health care, road accidents, fires, crime, and resources used in abusive consumption were estimated to exceed $11 billion, accounting for 1.39% of gross domestic product. As indicated in Table 4, the combined tangible costs of alcohol use exceeded those of tobacco use and illicit drug use (8).

<table>
<thead>
<tr>
<th>Table 4. Components of drug abuse costs that are conventionally measured in national accounts data as a proportion of GDP, 2004/05 (8).</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Millions of Dollars</strong></td>
</tr>
<tr>
<td>-------------------------</td>
</tr>
<tr>
<td>Labour in the workforce</td>
</tr>
<tr>
<td>Net healthcare</td>
</tr>
<tr>
<td>Road accidents n.e.i.</td>
</tr>
<tr>
<td>Fires n.e.i.</td>
</tr>
<tr>
<td>Crime</td>
</tr>
<tr>
<td>Resources used in abusive consumption</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

n.e.i. - not elsewhere included
The "Alcohol and illicit drugs" columns refer to the impact of alcohol and illicit drugs, jointly consumed, in the causation of crime.

A more recent Australian study has estimated costs in addition to those above (9). These include $6.39 billion in intangible costs (estimated costs for fear, pain, suffering and lost
quality of life) for people other than the drinker but affected by their alcohol consumption and $672 million in government expenditure associated with substantiated cases of alcohol-related child abuse.

**MECHANISMS THAT MEDIATE ALCOHOL-RELATED HARM: TOXICITY, DEPENDENCY AND INTOXICATION**

Harm associated with alcohol consumption is considered to be a function of both the average volume of alcohol consumed and the pattern of alcohol consumption (1,4). Harm associated with these two factors is suggested to be mediated by three physiological mechanisms: toxicity; dependency; and intoxication (1,4) (Figure 3).

![Figure 3. Relationships between alcohol consumption, mediating mechanisms and short-term and long-term consequences (from Babor et al., 2010, used with permission) (4).](image)

**Toxicity**

The toxic effects of alcohol are implicated in over 60 disorders (1), such as liver disease (2), breast cancer (2), upper gastro-intestinal cancers (2), and immunodeficiency (1). Alcohol toxicity can have significant developmental consequences prior to birth (1), and
may alter neurodevelopment during childhood and adolescence (10). While low level of alcohol consumption have been reported to have a beneficial effect for heart disease (11) this finding has been questioned (1,12) and may be limited to males over 45, and females after menopause (1). Even in countries where heart disease is a significant health burden, alcohol's protective effects for this one disease have been suggested to be outweighed by the overall number of lost years of life attributable to alcohol use (1).

---

**Dependency**

Alcohol releases dopamine, a neurotransmitter involved in learning, motivation, and the reinforcement of behaviour (13). Alcohol is also hypothesised to stimulate endorphin release, leading to hedonic effects (1,13). Systems regulating the neurotransmitter serotonin have also been implicated in reducing the acute effects of alcohol in some individuals, and a low response to the acute effects of alcohol has been associated with increased risk of excessive alcohol consumption (13). Sustained alcohol exposure leads to molecular changes in the brain (neuroadaptation) (1), including the down-regulation of dopamine receptors (13). Neuroadaptation provides a basis for tolerance as it inhibits the usual acute effects of alcohol (1). On cessation of alcohol exposure, adapted neurological mechanisms overcompensate in an excitatory fashion, providing the basis for withdrawal symptoms such as hyper-excitability, anxiety, and even seizures (1).

---

**Intoxication**

Alcoholic intoxication is primarily due to its effects on the central nervous system (1), particularly its enhancement of the effect of gama-Aminobutyric acid (GABA), the primary neurotransmitter responsible for inhibiting neural activity (2). This effect in turn retards cognition, reduces capacity to anticipate future consequences, solve problems or manage conflict, and also increases impulsivity (2,14,15). Intoxication also decreases motor coordination and reaction time, and can result in ataxia and sedation.
Intoxication also appears to alter emotional regulation: reducing both fear and capacity for empathy (2,14,15).

**INTOXICATION, ACUTE HARM AND LICENSED PREMISES**

**THE ASSOCIATION BETWEEN INTOXICATION AND ACUTE HARM**

Intoxication is primarily associated with the occurrence of acute rather than chronic harm, particularly injuries and their associated costs (see Figure 3)(1,4,16,17). Intoxication has been consistently associated with increased risk for a range of both intentional injuries (e.g. self-harm, suicide, inter-personal violence) and unintentional injuries (e.g. motor vehicle accidents, falls, fires, sporting and recreational injuries) (2,17–23).

---

**Mortality Due to Alcohol-related Injury**

**Worldwide**

In 2004, combined intentional and unintentional injuries accounted for the largest proportion of alcohol-attributable deaths worldwide (37.8%)(Table 5) (7). For both men and women unintentional injuries were the single greatest cause of alcohol-attributable deaths (27.3% and 24.8% respectively), with intentional injury accounting for a further 11.4% of such deaths among men, and 9.0% of such deaths among women. Consistent with all other categories of alcohol-attributable mortality, men suffered greater mortality associated with injury compared to women.
| Diseases for which alcohol has a detrimental effect | Men* | % Women* | % | Total | %^
|-----------------------------------------------|------|----------|---|-------|---
| Unintentional injuries                        | 556  | 27.3     | 110 | 24.8 | 666 | 26.8 |
| Cardiovascular diseases                       | 466  | 22.8     | 80  | 18.0 | 545 | 22.0 |
| Cancer                                       | 377  | 18.5     | 111 | 25.0 | 487 | 19.6 |
| Cirrhosis of the liver                        | 297  | 14.6     | 76  | 17.1 | 373 | 15.0 |
| Intentional injuries                          | 232  | 11.4     | 40  | 9.0  | 272 | 11.0 |
| Neuropsychiatric disorders                    | 109  | 5.4      | 25  | 5.7  | 135 | 5.4  |
| Maternal and perinatal disorders (low birth weight) | 2    | 0.1      | 1   | 0.3  | 3   | 0.1  |
| Diabetes mellitus                             | 0    | 0.0      | 0   | 0.1  | 0   | 0.0  |
| Total detrimental effects attributable to alcohol | 2,039 | 100.0   | 443 | 100.0 | 2,482 | 100.0 |

| Diseases for which alcohol has a beneficial effect | Men* | % Women* | % | Total | %^
|---------------------------------------------------|------|----------|---|-------|---
| Cardiovascular diseases                            | -88  | 91.7     | -128 | 96.8 | -215 | 94.7 |
| Diabetes mellitus                                  | -8   | 8.3      | -4  | 3.2  | -12  | 5.3  |
| Total beneficial effects attributable to alcohol   | -96  | 100.0    | -132 | 100.0 | -227 | 100.0 |

| All alcohol-attributable net deaths                | 1,944 | 311      | 2255 |
| All deaths                                        | 31,063 | 27,674 | 58738 |
| Percentage of all net deaths attributable to alcohol | 6.3% | 1.1%     | 3.8% |

*Numbers are rounded to the nearest thousand. Zero indicates fewer than 500 alcohol-attributable deaths in the disease category. Percentages refer to all deaths either caused or prevented by alcohol. ^Percentages relating to Total numbers are based on the figures presented by Rehm et al., 2009 (7).

Global alcohol attributable fractions for mortality associated with a range of unintentional and intentional injuries have been estimated, aggregated by age and gender (Table 6) (17). Estimates were based on attributable fractions from Australia as the best researched country (17,22,23), adjusted to other regions based on average volume of drinking and patterns of drinking relative to Australia. For all injury categories, the attributable fractions for males were greater than or equal to those for females. For unintentional injuries the largest attributable fraction for males was for...
### Table 6. Global alcohol-attributable fractions for unintentional and intentional injury mortality by age, sex and injury category (17).

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>Gender</th>
<th>Female</th>
<th>Male</th>
<th>Female</th>
<th>Male</th>
<th>Female</th>
<th>Male</th>
<th>Female</th>
<th>Male</th>
<th>Female</th>
<th>Male</th>
<th>Female</th>
<th>Male</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>0–4</td>
<td>5–14</td>
<td>15–29</td>
<td>30–44</td>
<td>45–59</td>
<td>60–69</td>
<td>70– and older</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td>Female</td>
<td>Male</td>
<td>Female</td>
<td>Male</td>
<td>Female</td>
<td>Male</td>
<td>Female</td>
<td>Male</td>
<td>Female</td>
<td>Male</td>
<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td>Motor vehicle accidents</td>
<td>Unintentional injuries</td>
<td>0.07</td>
<td>0.11</td>
<td>0.07</td>
<td>0.11</td>
<td>0.09</td>
<td>0.32</td>
<td>0.14</td>
<td>0.36</td>
<td>0.12</td>
<td>0.19</td>
<td>0.09</td>
<td>0.17</td>
</tr>
<tr>
<td>Poisonings</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.16</td>
<td>0.26</td>
<td>0.11</td>
<td>0.15</td>
<td>0.12</td>
<td>0.16</td>
<td>0.13</td>
<td>0.17</td>
<td>0.07</td>
</tr>
<tr>
<td>Falls</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.10</td>
<td>0.20</td>
<td>0.10</td>
<td>0.21</td>
<td>0.11</td>
<td>0.21</td>
<td>0.08</td>
<td>0.18</td>
<td>0.04</td>
</tr>
<tr>
<td>Fires</td>
<td>Causal relation to alcohol but not sufficient data to estimate alcohol-attributable fractions</td>
<td>Drownings</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.18</td>
<td>0.24</td>
<td>0.23</td>
<td>0.29</td>
<td>0.24</td>
<td>0.29</td>
<td>0.20</td>
</tr>
<tr>
<td>Other unintentional injuries</td>
<td>0.03</td>
<td>0.11</td>
<td>0.03</td>
<td>0.11</td>
<td>0.16</td>
<td>0.26</td>
<td>0.17</td>
<td>0.27</td>
<td>0.15</td>
<td>0.23</td>
<td>0.16</td>
<td>0.24</td>
<td>0.18</td>
</tr>
<tr>
<td>Intentional Injuries</td>
<td></td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.07</td>
<td>0.14</td>
<td>0.07</td>
<td>0.15</td>
<td>0.06</td>
<td>0.11</td>
<td>0.07</td>
<td>0.12</td>
</tr>
<tr>
<td>Self-inflicted injuries</td>
<td>0.09</td>
<td>0.09</td>
<td>0.09</td>
<td>0.09</td>
<td>0.19</td>
<td>0.25</td>
<td>0.20</td>
<td>0.25</td>
<td>0.21</td>
<td>0.26</td>
<td>0.23</td>
<td>0.27</td>
<td>0.25</td>
</tr>
<tr>
<td>Homicide</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.14</td>
<td>0.19</td>
<td>0.15</td>
<td>0.19</td>
<td>0.16</td>
<td>0.20</td>
<td>0.17</td>
<td>0.21</td>
<td>0.10</td>
</tr>
</tbody>
</table>
motor vehicle accidents among 30-44 year olds (0.36), while the largest attributable fraction for females was for drowning among 45-59 year olds (0.24). For intentional injuries, for both males and females, the largest attributable fractions were in relation to homicides among those aged over 70 years (0.28 and 0.25 respectively). For females over 15, alcohol was also estimated to account for 5-7% of deaths associated with self-inflicted injuries. For males over 15 years of age, 6-15% of such deaths were attributed to alcohol use. Similarly, alcohol was estimated to account for between 10-17% of deaths due to other intentional injuries for females over 15 years of age, and 11-21% of such deaths for males over 15 years.

Table 7. Top 5 causes of alcohol-attributable death and hospitalisation (%), males and females in Australia (6).

<table>
<thead>
<tr>
<th></th>
<th>Deaths (2005 calendar year)</th>
<th>Hospitalisations (2004/04 financial year)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rank</td>
<td>%</td>
</tr>
<tr>
<td>Males</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Alc. liver cirrhosis</td>
<td>25</td>
</tr>
<tr>
<td>2</td>
<td>Non-pedestrian Road Injury</td>
<td>12</td>
</tr>
<tr>
<td>3</td>
<td>Suicide</td>
<td>7</td>
</tr>
<tr>
<td>4</td>
<td>Haemorrhagic stroke</td>
<td>6</td>
</tr>
<tr>
<td>5</td>
<td>Colon cancer</td>
<td>6</td>
</tr>
<tr>
<td>Females</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Alc. liver cirrhosis</td>
<td>22</td>
</tr>
<tr>
<td>2</td>
<td>Haemorrhagic stroke</td>
<td>9</td>
</tr>
<tr>
<td>3</td>
<td>Female breast cancer</td>
<td>7</td>
</tr>
<tr>
<td>4</td>
<td>Colon cancer</td>
<td>7</td>
</tr>
<tr>
<td>5</td>
<td>Non-pedestrian Road Injury</td>
<td>5</td>
</tr>
</tbody>
</table>

For Australia, in 2005, non-pedestrian road injury and suicide ranked as the second and third leading causes of alcohol-attributable death for males, together accounting for around 19% of such deaths (Table 7) (6). For females, non-pedestrian road injury ranked as the fifth leading cause of alcohol-attributable death in Australia in 2005, accounting for 5% of such deaths (6).
Morbidity Due to Alcohol-related Injury

**Worldwide**

In 2004, alcohol-attributable injuries (intentional and unintentional combined) accounted for 26.3 million DALYs worldwide (35.9% of all alcohol caused morbidity) (Table 8) (7). For both men and women unintentional injuries accounted for just over 25% of DALYs. Alcohol attributable intentional injuries accounted for a further 10.7% of DALYs among men, and 9.0% of DALYs among women. Consistent with all other disease categories, men suffered a substantially greater disease burden associated with injury than did women.

**Australia**

For Australia, in the 2005 financial year, falls, assaults and non-pedestrian road injury ranked as the second, third and fifth leading causes respectively of alcohol-attributable hospitalisations for males (Table 7), together accounting for around 34% of alcohol-related hospitalisations (6). For females during the 2005 financial year, falls, assaults and suicide ranked as the second, fourth and fifth leading causes respectively of alcohol-attributable hospitalisations, together accounting for around 33% of alcohol-related hospitalisations (6).
Table 8. Alcohol-attributable burden of disease (in 1000’s of disability-adjusted life-years) by sex and cause in 2004 (7).

<table>
<thead>
<tr>
<th>Diseases for which alcohol has a detrimental effect</th>
<th>Men*</th>
<th>%</th>
<th>Women*</th>
<th>%</th>
<th>Total</th>
<th>Total %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neuropsychiatric disorders</td>
<td>23,265</td>
<td>37.6</td>
<td>3,417</td>
<td>30.1</td>
<td>26,682</td>
<td>36.4</td>
</tr>
<tr>
<td>Unintentional injuries</td>
<td>15,694</td>
<td>25.4</td>
<td>2,910</td>
<td>25.6</td>
<td>18,604</td>
<td>25.4</td>
</tr>
<tr>
<td>Intentional injuries</td>
<td>6,639</td>
<td>10.7</td>
<td>1,021</td>
<td>9.0</td>
<td>7,660</td>
<td>10.5</td>
</tr>
<tr>
<td>Cirrhosis of the liver</td>
<td>5,502</td>
<td>8.9</td>
<td>1,443</td>
<td>12.7</td>
<td>6,945</td>
<td>9.5</td>
</tr>
<tr>
<td>Cardiovascular diseases</td>
<td>5,985</td>
<td>9.7</td>
<td>939</td>
<td>8.3</td>
<td>6,924</td>
<td>9.5</td>
</tr>
<tr>
<td>Cancer</td>
<td>4,732</td>
<td>7.6</td>
<td>1,536</td>
<td>13.5</td>
<td>6,268</td>
<td>8.6</td>
</tr>
<tr>
<td>Maternal and perinatal disorders (low birthweight)</td>
<td>64</td>
<td>0.1</td>
<td>55</td>
<td>0.5</td>
<td>119</td>
<td>0.2</td>
</tr>
<tr>
<td>Diabetes mellitus</td>
<td>0</td>
<td>0.0</td>
<td>28</td>
<td>0.3</td>
<td>28</td>
<td>0.0</td>
</tr>
<tr>
<td>Total detrimental effects attributable to alcohol</td>
<td>61,881</td>
<td>100.0</td>
<td>13,349</td>
<td>100.0</td>
<td>75,231</td>
<td>100.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Diseases for which alcohol has a beneficial effect</th>
<th>Men*</th>
<th>%</th>
<th>Women*</th>
<th>%</th>
<th>Total</th>
<th>Total %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiovascular diseases</td>
<td>-837</td>
<td>77.8</td>
<td>-1,145</td>
<td>91.9</td>
<td>-1,981</td>
<td>85.4</td>
</tr>
<tr>
<td>Diabetes mellitus</td>
<td>-238</td>
<td>22.2</td>
<td>-101</td>
<td>8.1</td>
<td>-340</td>
<td>14.6</td>
</tr>
<tr>
<td>Total beneficial effects attributable to alcohol</td>
<td>-1,075</td>
<td>100.0</td>
<td>-1,246</td>
<td>100.0</td>
<td>-2,321</td>
<td>100.0</td>
</tr>
</tbody>
</table>

| All alcohol-attributable net DALYs                   | 60,806| 10,104| 70,910 |
| All DALYs                                           | 79,956| 730,631| 1,530,168|
| Percentage of all net DALYs attributable to alcohol  | 7.6% | 1.4% | 4.6% |

*Numbers are rounded to the nearest thousand. Zero indicates fewer than 500 alcohol-attributable disability-adjusted life-years in the disease category. Percentages refer to all disability-adjusted life-years either caused or prevented by alcohol. ^ Percentages relating to Total numbers are based on the figures presented by Rehm et al. 2009 (7).

Financial Costs Associated with Alcohol-related Injury

Worldwide, costs for alcohol-related injury have not been estimated. In Australia, alcohol-attributable road accidents were estimated to have cost $3.1 billion during the 2005 financial year, representing 0.27% of GDP (8). These accident costs were categorised as human costs, vehicle costs and general costs, with the total human cost estimated to be $1.8 billion (57.7%). Of the human cost, loss of quality of life due to injuries was directly estimated at $353.6 million. During the same financial year it was also estimated that alcohol-attributable crime cost $1.7 billion, representing 0.2% of GDP (8). The majority of this cost ($747.1 million) was due to tangible policing costs.
Alcohol-attributable violence was estimated to directly contribute a further tangible cost of $187.5 million, and a further $124.4 million was estimated in intangible costs due to loss of life as a result of alcohol-attributable violence. Further Australian morbidity costs that can be wholly added to those above (i.e. those that do not overlap with the above estimates) have been subsequently reported (9): $30.4 million annually associated with hospitalisations for alcohol-related road crashes, and $44.5 million for combined child abuse (0-14 years) and assaults (15+ years) (Table 9). These additional estimates did not include costs associated with emergency department care, follow-up medical care, long-term injury, or any intangible costs.

Table 9. Morbidity costs of road crash and intentional injury (assault/child abuse) cases associated with others’ drinking (based on Laslett et al., 2010 (9)).

<table>
<thead>
<tr>
<th></th>
<th>Road Crashes (Pedestrian and Non-Pedestrian)</th>
<th>Intentional Injury (Child Abuse: 0-14 years; Assault: 15+ years)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age Group</strong></td>
<td><strong>Morbidity Costs</strong></td>
<td><strong>Age Group</strong></td>
</tr>
<tr>
<td>0-14yrs</td>
<td>$2,646,760</td>
<td>0-14yrs</td>
</tr>
<tr>
<td>15-24yrs</td>
<td>$14,260,021</td>
<td>15-24yrs</td>
</tr>
<tr>
<td>25-34yrs</td>
<td>$6,165,305</td>
<td>25-34yrs</td>
</tr>
<tr>
<td>35-44yrs</td>
<td>$3,869,817</td>
<td>35-44yrs</td>
</tr>
<tr>
<td>45-54yrs</td>
<td>$3,078,327</td>
<td>45-54yrs</td>
</tr>
<tr>
<td>55-64yrs</td>
<td>$2,017,895</td>
<td>55-64yrs</td>
</tr>
<tr>
<td>65+yrs</td>
<td>$989,758</td>
<td>65+yrs</td>
</tr>
<tr>
<td><strong>Road Crash Total</strong></td>
<td><strong>$30,381,129</strong></td>
<td><strong>Intentional Injury Total</strong></td>
</tr>
</tbody>
</table>

*For all age groups, morbidity costs are calculated from direct hospitalisation costs. In addition, for those 15 and over, morbidity costs include opportunity costs due to lost daily earnings while in hospital (for those under 15 opportunity costs, primarily associated with being unable to attend school, were not included due to difficulties in determining an appropriate cost for this loss).

Alcohol’s Causal Contribution to Injury

A substantial body of evidence including several meta-analyses suggests that, at a population level, alcohol misuse causally contributes to injury (16,23–27). For example, Bushman and Cooper (1990) concluded that alcohol causes aggressive behaviour (24), and Bushman’s (1997) meta-analysis concluded an effect size of 0.22 in the overall relationship between alcohol consumption and aggression (26). Ito et al. (1996) similarly concluded a causal role of alcohol in increasing aggression in their meta-analysis (25).
A more recent systematic review and meta-analysis was undertaken to examine dose-response relationships between acute alcohol consumption and both motor vehicle accident (MVA) injury and non-motor-vehicle accident injury (e.g. falls, intentional injury, or suicide) (28). Relative to nil alcohol consumption, the odds of an MVA injury following the consumption of 120g of pure alcohol in the three hours prior were estimated to be 52.0 (95% CI: 34.50–78.28). Similarly, the odds of a non-MVA injury were estimated to be 24.2 (95% CI: 16.2–36.2) after the consumption of 140g of pure alcohol. Even at generally accepted moderate alcohol consumption levels (24 g, or 2 standard drinks), the odds ratio was 2.20 (2.03–2.09) for MVA injuries and 1.79 (1.59–2.00) for non-MVA injuries.

THE ASSOCIATION BETWEEN INTOXICATION AND LICENSED PREMISES

Alcohol may be consumed in a range of settings such as private homes, public spaces, sporting or cultural events or licensed premises (4). Quantitative data differentiating the prevalence of total alcohol consumption by setting is limited (4). However, evidence from some high income countries suggests that the largest proportion of total alcohol consumption may occur in private settings. For example, a Norwegian survey found that 65.5% of a sample of 1,484 people aged 18-34 years reported that they last drank alcohol either in their own home or a friend’s home (29). Similarly, a Canadian study of 7,702 ‘current drinkers’ (aged 15+) estimated that the greatest proportion of consumption occurred in private settings: at home in the evening (18.1%), at parties or weddings (15.9%), when having visitors (15.5%), or when visiting someone else (14.7%) (30). A New Zealand study reported that for 1,078 residential university students who reported having consumed alcohol over the previous seven days (66.7% of the total sample), private locations were the most prevalent locations for consumption (university residential hall: 52.6%; flat/house: 17.6%) (31).

While the above evidence suggests that the largest proportion of total alcohol consumption occurs in private settings (4,29–31) evidence from several countries,
including the USA (32,33), Canada (30), Norway (29), New Zealand (31) and Australia (34,35) suggests that the setting most associated with a pattern of drinking to intoxication is licensed premises.

For example, a study in the USA examined the last location of alcohol consumption prior to arrest for 5,154 subjects (79% male) with a first-time Driving While Intoxicated (DWI) conviction in New Mexico (33). Bars or lounges were the most prevalent last location of alcohol consumption (45%). In comparison, private parties accounted for 29%, and private homes accounted for 13% of last locations of alcohol consumption prior to arrest for a first-time DWI offence.

In a second study in the USA of 4,964 university students' self-reported observations of occasions in the past 28 days where alcohol was consumed, 57.7% of students legally able to drink (>21 years) reported witnessing 'many intoxicated people' during their last occasion at a bar, compared to 24.6% reporting this observation during their last occasion at a private party (32). For underage drinkers this pattern was stronger: 86.0% reported witnessing 'many intoxicated people' during their last occasion at a bar compared to 48.0% reporting this for their last occasion at a private party.

A Canadian survey found that bars or taverns were the settings for which participants (n=7,702) reported the highest average number of drinks per drinking occasion (3.35 drinks, SE=0.04) (30). Regression analysis across five different alcohol consumption settings indicated that consumption in bars or taverns was the strongest positive predictor of the number of heavy drinking occasions in the last year.

Similarly, in a Norwegian study of 1,492 18-34 year olds, frequency of drinking at licensed premises (over the last 4 weeks) was positively associated with both the number of reported occasions of drinking to intoxication, and the reported amount of alcohol consumed over the previous 12 months (29). Consistent with the Canadian study above,
the study found that the strongest predictor of the frequency of intoxication (over the last 12 months) was the frequency of drinking in a licensed premises (over the last 4 weeks). Each one per cent increase in the frequency of drinking in a licensed premises was associated with a 0.39 per cent increase in the frequency of drinking to intoxication (Coefficient=0.39, SE 0.05, p>0.001).

A New Zealand survey of 1,614 residential university students found that alcohol consumption in licensed premises (i.e. pubs, bars or nightclubs) accounted for the greatest proportion of intoxicated drinking episodes for both men and women (64.4% and 57.1% respectively) (31). After controlling for various student characteristics and residential hall drinking norms, multivariate analysis indicated that licensed premises were the location with the greatest odds ratio for intoxication for males, relative to ‘other’ locations (combined restaurants, automobiles, private events, and outdoor settings) (OR: 1.92; 95% CI: 1.27-2.89). For females, this ratio was greatest for student flats/houses (OR: 3.48; 95% CI: 2.11-5.72), while the second-largest odds ratio was for licensed premises (OR: 3.09; 95% CI: 2.05-4.64).

An Australian study reported interviews with 236 patients attending an Emergency Department in the state of Queensland (34). Of interviewed patients, 69 had consumed alcohol in the 6 hours prior to presentation. Those who had consumed more than six (males) or four (females) standard drinks (n = 42) were significantly more likely to have been drinking at a licensed premises (64.9%) than in a private home (35.1%) ($\chi^2 = 11.1$, df = 4, p = 0.025).

A study of 817 patients presenting with injuries to an Emergency Department, in Sydney, New South Wales, Australia found that just over a third (278) had consumed alcohol in the six hours prior to their injury (35). Of these, 114 (41%) reported consuming more than six standard drinks and 183 (65.5%) reported that their alcohol consumption had occurred at a licensed premises.
THE ASSOCIATION BETWEEN LICENSED PREMISES AND ACUTE HARM

Consistent with evidence of an association between intoxication and injury, and between intoxication and licensed premises, evidence also indicates an association between injury and licensed premises. Such evidence indicates that licensed premises are disproportionately associated with both unintentional (33,36–39) and intentional (32,35,40–46) injury.

Licensed Premises and Unintentional Injury

Evidence regarding the association between alcohol consumption at licensed premises and unintentional injury has most frequently focused on drink-driving (4,28). In such studies, associations are most often made between places of alcohol consumption and proxy measures of increased drink-driving injury risk (rather than directly with injury), such as driving after alcohol consumption (36,37), driving after being intoxicated (37), or convictions (33) or arrests (38) for drink-driving.

As previously described above, a study of 5,154 first-time DWI offenders in New Mexico, USA (33) reported that bars or lounges were the most prevalent location for drinking prior to arrest for a DWI offence, accounting for roughly half of drinking locations (45%).

A longitudinal birth cohort study of 1,037 people in New Zealand (36) described, for the cohort at age 26 years, a total of 748 episodes within the last three months involving drink-driving or sober-driving, based on the driver’s reported alcohol consumption compared to national standard drink guidelines. Bars were both the most common location for episodes where a driver had the opportunity to consume alcohol prior to driving (285 episodes, 38%) and the location with the greatest proportion of drink-driving episodes following such an opportunity (15.4%).

A study in the USA examined 1,859 participants who reported having driven a motor vehicle after drinking alcohol (37). The study estimated the relative frequencies of alcohol
consumption at bars/restaurants or at friends/relatives homes, as well as whether participants had driven “within 4 hours after drinking” (driving after drinking) or “after having too much to drink to drive safely” (driving while intoxicated). Driving after drinking and driving while intoxicated were both found to be significantly associated with drinking at bars/restaurants (p<0.001 in both cases), while neither behaviour was associated with the frequency of drinking with friends/relatives.

A study in Perth, Western Australia examined 2,028 drink-driving arrests for which last place of alcohol consumption was recorded (38). Overall, those arrested following drinking at a licensed premises (n=1002) had a higher mean Blood Alcohol Level (127.2 mg/100 ml) than those arrested following drinking at an unlicensed location (n=1026, BAL = 124.7), however the difference was not statistically significant. In contrast to the literature described above, and despite the somewhat higher BAL among those who last drank at a licensed premises, a relatively smaller proportion of arrests following drinking at a licensed premises were consequent to a motor vehicle accident, rather than for failing a roadside breath test, compared to the proportion of such arrests among those who last drank at a non-licensed location (8.6%, n=86 vs 13.3%, n=136) (χ²= 11.35, df=1, p<0.001).

Another Australian study directly assessed associations between alcohol consumption and injury, examining the drinking patterns of 254 injured male drivers and motorcyclists attending an Emergency Department in Adelaide, South Australia (39). Drivers were stratified by blood alcohol content (BAC) at admission, and also asked whether, in the month prior to the accident, they had at least occasionally consumed alcohol in a hotel or bar, at another person’s home, or in a vehicle. Trend analyses indicated increases in BAC from zero to greater than 150mg/dl were associated with significant increases in the proportion of drivers reporting at least occasional drinking in a bar or hotel (χ² = 26.1, d.f.=1, p<0.001) and also in a motor vehicle (χ² = 25.6, d.f.=1, p<0.001) in the month prior to involvement in a motor vehicle accident, while no such association was found for those
reporting such drinking at another person's home. Regression analysis was also conducted to determine which variables best predicted injured male drivers presenting with a BAC of at least 80mg/dl compared to those presenting with a BAC of zero. At least occasional drinking in a hotel or bar in the previous month was the second strongest predictor (Adjusted OR: 3.9, 95% C.I.: 1.3-11.5) behind having at least one previous alcohol-related driving suspension (Adjusted OR: 7.5, 95% C.I.: 2.9-19.4). At least occasional drinking in a vehicle in the previous month was also a significant predictor (Adjusted OR: 2.9, 95% C.I.: 1.3-6.6), while drinking at another person's home was not.

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Licensed Premises and Intentional Injury
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Similarly to unintentional injury, reviews of the literature have concluded that intoxication at licensed premises plays a direct role in increasing the risk of violence and intentional injury in situations that already have the potential to produce conflict (4,16,47).

For example, a Canadian study reported on the context of the most recent aggressive incident within the previous 12 months among a sample of 157 people aged 18-60 (40). Of seven different contexts for such incidents, licensed premises were the most common (30% of incidents), followed by 21% of such incidents occurring in public places (eg street, supermarket, park), and 16% occurring at private social gatherings. Licensed premises were also the context for which the greatest proportion of respondents reported that they had consumed alcohol and/or they believed their main opponent had consumed alcohol in the six hours prior to the aggressive incident (97.8%). The next most prevalent context in this regard was private social gatherings (56.5%).

A further study in Toronto, Canada examined the association between observed aggression and intoxication in 18 licensed premises (41). After controlling for the observed general intoxication level of crowds at the licensed premises, there was a significant positive association between the intoxication level of patrons involved in
aggressive incidents, and the severity of aggression (p<0.001). Linear modelling indicated that a patron's intoxication level strongly predicted their severity of aggression during aggressive incidents (p<0.001).

A third Canadian study conducted over 1,334 nights across 118 large capacity licensed premises in Toronto, recorded 1,025 incidents of aggression involving 2,556 patrons for whom intoxication data were also available (42). After controlling for a range of bar and study-level variables (e.g. proportion of bar capacity filled, or minutes of observation undertaken) greater observed crowd intoxication during visits to bars was associated with both higher frequency of aggressive incidents (p<0.001) and a greater number of people involved in such incidents (p<0.001). A higher mean level of intoxication for those involved in incidents was associated with more severe aggression (e.g. punching vs pushing) (p<0.001).

In a study in the USA of 4,964 students, 5.4% those legally able to drink (over 21 years) reported witnessing a physical fight when last at a bar, compared to 1.7% reporting witnessing a physical fight when last at a private party (32). For those aged 18-20, 21.5% reported witnessing a physical fight when last at a bar, compared to physical fights being witnessed by 3.8% of 18-20 year olds when last at a private party.

Another study in the USA reported the 1-year prevalence of being either the target or initiator of violence among two random samples of 18-30 year olds; a community sample (n=967) and a college student sample (n=433) (44). Bars were the second most common location for being the target of violence for males in both samples (18.1% and 8.5% respectively), behind spectating at sporting events (18.6% and 11.2% respectively). For females, bars were the most prevalent location for being a target of violence in both samples (14.9% and 9.0%). In terms of initiating violence, bars were the most prevalent location for males in the community sample (14.5%) and the second most prevalent location for males in the college sample (7.2%), again second to spectating at a sporting
event (10.8%). For females in the community sample, bars were the second most prevalent location for initiating violence (5.3%), following spectating at a sporting event (7.4%). Females in the college sample equally reported bars, sporting events, or their own home as the most prevalent locations for initiating violence (5.2% for all locations).

The same study also examined the severity of violence, asking respondents about the location of the most severe episode of violence they had observed, been the target of, or initiated in the previous year (44). Across both community and college samples licensed premises were the most common location for observing the most severe episode of violence in the previous year (44.9%-49.2%). For males, bars were the most common location for both being the target (community sample: 28.6%; college sample: 32.8%) and being the initiator (34.4% and 27.2% respectively) of the most severe episode of violence. For females, their own home was the most common location for both being the target and being the initiator of the most severe episode of violence in the previous year (34.1% to 50.0%).

Evidence from Australia similarly suggests that drinking alcohol at licensed premises is strongly associated with the occurrence of intentional injuries. A study of 593 patients (377 males) presenting to an emergency department in Queensland, Australia over 12 months (43) reported that drinking at licensed premises was significantly associated with increased odds of sustaining an intentional versus an unintentional injury (OR = 2.79, CI = 1.4-5.6) and being injured through being hit by/against something, versus other injury types (OR = 2.59, 95% CI = 1.4-4.9).

A second Australian study conducted in an emergency department in the state of New South Wales (35) reported on 191 injuries due to assault recorded during two four-week periods. The second largest proportion of injuries occurred in or around a licensed premises (24.6%, n=47), with the largest proportion having occurred in a street area.
(32.5%, n=62). In contrast, 5.2% of such injuries (n=10) occurred in a house. For 25.7% of injuries due to assault (n=49) the location was unknown.

From a policing perspective, a descriptive study of ‘street incidents’ attended by police in metropolitan Sydney, Australia included a sample of 105 assaults (45). Seventy seven assaults (73%) were considered ‘alcohol-related’ (i.e. officers determined that either an offender or victim had consumed alcohol prior to the incident). Of these, 46 assaults (60%) took place within or in view of a licensed premises.

A second Australian study involving analysis of police data was conducted over a two year period across non-metropolitan areas of the state of New South Wales (46). For those consuming alcohol prior to being involved in a violent incident attended by police (n=22,002), the study described the alcohol consumption setting (licensed premises, private residence, or public place), stratifying settings by the degree of urbanisation of the surrounding region. The study found that 71% of the sample was intoxicated at the time of the incident, and that the more urbanised the region the greater the proportion of those involved in violent incidents who had last consumed alcohol at a licensed premises (range: 15.0% in very remote locations to 48.6% in regional cities; $\chi^2(12)=877.65, p<0.001$).

**Variation in the Association between Licensed Premises, Intoxication, and Injury**

While the evidence above indicates an association between licensed premises, drinking to intoxication and injury, a number of Australian studies have indicated that such associations vary between licensed premises, with relatively small numbers of licensed premises accounting for disproportionate occurrences of intoxication and associated harm. For example, an observational study of 36 licensed premises in Sydney, Australia, found that of 29 observed incidents of physical aggression, 75.9% occurred in only 8 premises (17.8% of premises) (48). Similarly, most observed instances of non-physical aggression (83.6%) were found to have occurred in only 25% of premises.
Another Australian study examined the number of assaults that occurred on licensed premises over a two year period in three New South Wales cities: Sydney, Newcastle, and Wollongong (49). The study found that in Sydney 12% of hotels accounted for almost 60% of all assaults on hotel premises, in Wollongong 6% of licensed premises accounted for 67% of all on-premise assaults, and in Newcastle 8% of licensed premises accounted for nearly 80% of all on-premises assaults.

A more recent Australian study reported on intoxicated people who last consumed alcohol at a licensed premises prior to involvement in incidents of violence, disorder, or motor vehicle crashes (50). Results were based on routinely recorded police data, across non-metropolitan New South Wales, over a two year period and involved 8,190 such people and 1,421 licensed premises. The study found that the ‘top 5%’ of licensed premises accounted for 44.0%, 63.7% and 47.3% of such people involved in violence, disorder, or motor vehicle crash incidents respectively, and that the ‘top 20%’ of licensed premises accounted for 78.3%, 93.8% and 97.4% of such people involved in such incidents respectively.

Several Australian studies have examined differences in alcohol-related harms associated with licensed premises according to the type of alcohol sales license held by premises. Such studies consistently suggest that premises licensed as hotels or nightclubs are disproportionately associated with alcohol-related harm. For example, a study in Perth, Western, Australia (51) reported differences among 369 licensed premises in their association (either by proximity or as the last place of alcohol consumption) with: assaults, alcohol-related traffic accidents, and non-accident drink-driving offences. After controlling for differences in the value of alcohol purchased by licensed premises for sale (a proxy measure of the actual volume of alcohol sold) those with nightclub, tavern, or hotel licenses contributed significantly more harm per $1 million of alcohol purchased than premises licensed as clubs or restaurants. This was regardless of whether assaults,
alcohol-related traffic accidents, or drink-driving offences were used as the indicator of harm (p<0.001 in each case).

The study described above (49) examining on-premises assault in the cities of Sydney, Newcastle and Wollongong over a two year period found that 223 premises licensed as hotels in Sydney represented 20.5% of Sydney licensed premises but accounted for 75.5% of on-premises assaults. Sydney nightclubs also accounted for over twice the proportion of on-premises assaults (5.7%) compared to the proportion of liquor licenses they represented (2.7%). In Newcastle, hotels and nightclubs combined accounted for 25.2% of liquor licenses but 88.5% of on-premises assaults. In Wollongong, hotels accounted for 10.7% of liquor licenses, but 60.6% of on-premises assaults, and nightclubs accounted for 5.8% of liquor licenses, but 30.8% of on-premises assaults.

A more recent Australian study (50) examined incident rates across four licensed premises types: bars; licensed social clubs; nightclubs; other. Incident rates for violence, disorder, and motor vehicle crashes differed across licensed premises types (p<0.001 in all cases) with nightclubs being associated with the highest rates of intoxicated people involved in all three types of incident. The relative risk of involvement in violence, disorder, or motor vehicle crash incidents for intoxicated people who last consumed alcohol at nightclubs was 2.4, 9.4 and 3.1 times greater respectively compared with such people who last consumed alcohol at bars. Similarly, relative risks for involvement in violence, disorder, or motor vehicle crashes for those who last consumed alcohol at bars was 2.3, 4.0 and 3.1 times greater respectively compared to such people who last consumed alcohol at licensed social clubs (no relative risk 95% confidence intervals bounded 1).
STRATEGIES FOR REDUCING HARM ASSOCIATED WITH LICENSED PREMISES

Given evidence suggesting licensed premises disproportionately contribute to acute alcohol-related harm, considerable research has been undertaken to identify strategies for reducing such harm associated with this setting. Generally, such strategies seek to alter the pattern of drinking and/or reduce the average volume of alcohol consumed so as to reduce intoxication, or they attempt to reduce the likelihood that intoxication will be associated with acute harm (see Figure 3 above). This research has been the subject of a number of reviews, the findings of which are described in this section. Two types of harm reduction strategies of particular relevance to licensed premises are: restricting the availability of alcohol, and modification of the licensed premises drinking environment.

RESTRICTING THE AVAILABILITY OF ALCOHOL

Strategies that attempt to restrict the availability of alcohol seek to reduce alcohol-related harms through reducing overall drinking in the population (4). Such strategies are based on Availability Theory (52,53), which proposes that: (a) as alcohol availability in the population increases, mean population alcohol consumption will also increase; (b) as mean alcohol consumption increases so too will the number of heavy drinkers; (c) heavy drinking is associated with adverse outcomes (d) therefore, as the number of heavy drinkers in a population increases, so too will the level of alcohol-related harm. Three strategies that restrict alcohol availability, for which there is evidence of effectiveness, are: reducing the days and hours for trading alcohol, reducing the geographical density of licensed premises, and increasing the minimum age at which alcohol may be legally consumed.

Reducing Days and Hours of Trade

Some evidence for the effectiveness of restricting hours of trade has come from studies showing that reductions in trading hours are associated with reduced alcohol
consumption and associated harms (54–56). However, most evidence for the effectiveness of this strategy comes from studies that have considered the converse effect of increasing hours or days of trade. This may, in part, be due to a trend in many countries in recent years to increase the hours and/or days of trade (4,15,54,57). Reviews of these studies suggest that increased trading hours are associated with increased alcohol consumption and associated (particularly acute) harm (4,54,55,58–60). Also, consistent with evidence suggesting licensed premises are disproportionately associated with a pattern of drinking to intoxication and related harm, some studies suggest that restricted trading hours may have a differentially greater impact on heavier drinkers (61,62).

A 2009 review of the effects of changes in days or hours of trade (54) included 14 peer-reviewed studies that reported baseline and control data, from Australia (63–72), the United Kingdom (73,74), and Northern America (75,76). Thirteen studies examined the effects of an increase in trading while one (69) examined the effects of reduced trading. Eleven studies (79%) reported at least one significant adverse outcome associated with increased trading hours or a benefit associated with reduced trading hours.

In 2010, the USA Task Force on Community Preventive Services reported two reviews examining the effects of altering: days (55) and hours (58) of alcohol trading on excessive alcohol consumption and related harms. Regarding changes in days of alcohol trading, 14 peer reviewed studies were examined from five high-income countries: the USA (77–81), Australia (63,66,67,82), Sweden (83–85), Scotland (86) and Norway (87). Eleven studies reported on the effects of increasing trading days, and three assessed the effects of banning alcohol sales on a weekend day (79,85,87). The evidence from these studies suggested that increased days of trade were associated with increased excessive alcohol consumption and related harm and reduced days of trade were generally associated with reduced excessive alcohol consumption and related harm, particularly harm due to motor vehicle accidents (55,59). Regarding changes to hours of trade, the Task Force reviewed
10 peer-reviewed studies that examined increases of two or more hours in trading in on-premises settings (no studies examined reductions in trading hours) (58). Studies were from three high-income countries: Australia (64,65,67,88–90), the United Kingdom (91–93) and Iceland (94). The evidence from these studies suggested that increased trading hours were associated with increased alcohol-related harm; particularly increased motor vehicle accidents, emergency room admissions and alcohol-related assaults (58,59).

A recent natural experiment in Australia evaluated the effect of judicially imposed restrictions on the trading hours of 14 licensed premises in the Central Business District (CBD) of the city of Newcastle, New South Wales (56). Hours were initially restricted from 5am to 3am with a 1am lockout, and later restricted to 3:30am with a 1:30 am lockout, following a legal challenge by the owners of the affected licensed premises. The non-randomised controlled study compared the quarterly rate of police-recorded assaults occurring from 10pm to 6am in the CBD before and after the introduction of restrictions, to the assault rate in a control area with a similar night-time economy but where no restrictions were introduced. In the CBD the quarterly assault rate fell from 99.0 to 67.7, while in the control area, this rate rose from 23.4 to 25.5. Controlling for both secular and seasonal trends the relative reduction in the assault rate in the CBD was 37%, or approximately 33 assault incidents per quarter (Incident Rate Ratio 0.63, 95% CI: 0.47-0.81).

Reducing Licensed Outlet Density

Evidence consistently suggests an association between higher densities of licensed premises and a greater occurrence of alcohol-related harm, particularly violence, in a given geographical area (4,52,60,95–97). For example, a systematic review by the USA Task Force on Community Preventive Services included five time-series studies that examined the effects of changes in the density of alcohol outlets on alcohol-related harm (96). Three were controlled studies with prospective data collection (98–100) while two
were single-group time series studies (101,102). Two studies, by the same author (98,101), examined impacts on motor-vehicle crashes and reported mixed findings. Three studies reported on relationships between outlet density and violent harm: suicide (100), violent crime (102) and hospitalisation for assault (99). All three studies reported significant positive associations between outlet densities and harm. The review concluded that increased outlet density is associated with increased acute alcohol-related harm, including crime and violence, and that regulating outlet density may be a useful strategy for reducing such harm (96).

Another systematic review of the effects of licensed outlet density included studies with a range of methods, including cross-sectional studies (97). The review considered 36 studies published between 2000 and 2008 that examined the effects of outlet density on alcohol-related ‘damage’ (broadly defined) (99,102–136). Consistent with other reviews (4,137), the review found that higher densities of licensed outlets were associated with higher levels of damage, suggesting that regulating the density of licensed alcohol outlets may reduce alcohol-related harm (97).

The observed relationships between outlet densities and harms such as violence are complex (52,60). For example, studies have observed that as outlet density increases, violence increases for some alcohol outlets but not for others (95,96). This variation among licensed premises is not adequately explained by Availability Theory (95). An alternative social ecology theory proposes that processes of both niche marketing and assortative drinking work together to explain this variation (95). That is, as alcohol outlet density increases, outlets differentiate themselves by narrowing the demographic strata to which they market products and services (niche marketing). This encourages drinkers to increasingly concentrate themselves in outlets where they find others more like themselves (assortative drinking). Some of those drinkers who will become more concentrated in certain alcohol outlets will already be at greater risk of alcohol-related
harm (e.g. patrons who are younger, male, aggressive and/or heavier drinkers). As such, the increased social stratification of outlets will result in the increased differential between those outlets that are, and are not, characterised by violence.

Evidence for an association between outlet density and general levels of alcohol consumption is less consistent (4,52). For example, some studies conducted in the USA have found positive relationships between outlet density and alcohol consumption (138-140) while other studies in the USA (126,141) and in New Zealand (142) have not found such a relationship. Such mixed findings may be consistent with evidence that licensed premises are not the setting where most alcohol is consumed.

However, consistent with evidence that licensed premises are the setting most associated with drinking to intoxication, there is substantial evidence that increased outlet density is associated with heavy episodic drinking, particularly by young adults and youths (117,134,143–145). For example, a study in Boston, USA (134) examined correlations between alcohol outlet density and: (a) heavy drinking (+5 drinks at an off-campus party within the last 30 days) and (b) frequent drinking (drank on 10+ occasions in the past 30 days). The study surveyed 3,421 college students, and identified 966 alcohol outlets within a 2 mile radius of 8 university sites. Outlet density was correlated with both heavy drinking \( r = 0.82, p = 0.01 \) and frequent drinking \( r = 0.73, p = 0.04 \). For the subgroup of students who reported having commenced binge drinking in college \( n \) not reported) correlations remained significant for both heavy drinking \( r = 0.75, p = 0.03 \) and frequent drinking \( r = 0.84, p = 0.01 \).

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**Regulating the Legal Drinking Age**

A third strategy that directly affects the availability of alcohol is to regulate those to whom alcohol may be provided (4). The most common restriction on those able to access alcohol is the use of a minimum legal drinking age. There is strong evidence, particularly from the
USA, that increasing the minimum drinking age reduces alcohol-related harm, particularly in regard to measures such as the frequency of drinking, and drink-driving (1,4,60). A review of 241 published studies on legal drinking age between 1960 and 2000 (146) suggested that increasing the legal drinking age to 21 years is the most effective strategy for reducing drinking problems for high-school and college students. However, the benefits of increasing the legal drinking age are suggested to be dependent on adequate policing (1,147,148).

MODIFYING THE LICENSED PREMISES DRINKING ENVIRONMENT

A second approach to reducing the risk of harm in the licensed premises setting involves modifying characteristics of the licensed premises drinking environment (4). Such strategies are consistent with the variable contribution of individual licensed premises to alcohol-related harm, since this variation suggests that alcohol-related harm is not solely a function of the availability of alcohol. Modifications to the licensed drinking environment may include: altering the physical environment, enhancing how licensed premises staff manage aggressive behaviour, responsible beverage service (RBS) interventions and multi-component interventions (4). Greater empirical evidence is available to draw conclusions regarding the effectiveness of RBS interventions and multi-component interventions (4). For these two interventions, a consistent theme is the degree to which the introduction of legislation and enhanced policing is important in increasing the likelihood of effectiveness (4).

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Altering the Physical Environment
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To date, there have been no rigorously designed studies that have specifically evaluated the effectiveness of altering the physical environment of licensed premises (4). Such alterations have formed part of multi-component interventions where evaluation has indicated reduced alcohol-related harm (41,149–152), and reviews of descriptive studies
have suggested that a range of physical features within licensed premises, such as high levels of crowding, noise and temperature, low levels of lighting and ventilation, and poor maintenance, are associated with greater alcohol-related aggression (153,154). If such features of licensed premises are associated with increased frustration, then such findings are also consistent with a meta-analysis of 49 experimental studies that concluded that the aggressiveness of intoxicated people is relatively greater in environments characterised by frustration (25). However, the effectiveness of altering the physical environment may be limited relative to addressing other aspects of licensed premises. For example, an observational study in Toronto, Canada involving 118 large capacity licensed premises (155) found that, after controlling for several factors including the internal physical environment, increased patron intoxication was the only significant predictor of the frequency of aggression (0.339, p<0.01). A WHO review of strategies to reduce alcohol-related harm (4) has concluded that, while descriptive evidence consistently links the physical environment of licensed premises to aggression, there is as yet only a weak evidence base to suggest that altering the physical environment of licensed premises will reduce alcohol-related harm.

Managing Aggressive Behaviour

A second modification to the licensed drinking environment is to enhance how the staff of licensed premises manage aggressive behaviour (4). Similarly to altering the physical environment, such programs have been subject to limited direct empirical evaluation, despite having been implemented in many countries (4), and as part of effective multi-component interventions (150,151,156,157). One randomised controlled trial in Toronto, Canada, however, has specifically examined improved staff management of patron behaviour, comparing 18 large capacity licensed premises that received an intervention with 12 control licensed premises (41). The intervention involved 3-hours of training in non-aggressive patron management as well as assessments of ways to reduce risks in the
premises’ environment. Average numbers of incidents of severe physical aggression in experimental bars reduced from 0.067 to 0.048 incidents/observation period, while they rose in control bars (0.021 to 0.073) (t=3.37, df=28, p=0.003). This finding is consistent with experimental evidence that the effects of alcohol in increasing the probability of aggression can be substantially mitigated if people are exposed to non-aggressive normative cues (158).

--- Responsible Beverage Service (RBS) Interventions ---

A number of reviews have indicated that RBS training may be efficacious where it is voluntarily and whole-heartedly supported by the management of licensed premises, but that it is otherwise unlikely to be effective on a community-wide basis (47,60,159,160). A limited body of literature suggests that RBS training may be more effective if mandated by legislation (161,162).

A Cochrane Collaboration review of the effectiveness of injury prevention interventions in the licensed premises setting included 15 studies that examined RBS training (159). Five studies were randomised controlled trials (41,163–166), eight were non-randomised controlled trials (167–174) and two were controlled before and after studies (161,175). Outcomes assessed included changes in knowledge, behaviour, and injury. Four studies assessed pre-post changes in the RBS knowledge of service staff (163,165,168,169), though in all cases this involved assessment of trained servers only, with no comparison to those serving at control sites. All four studies reported significant pre-post improvements in RBS knowledge. Fourteen of the reviewed studies examined the effects of training on the behaviour of servers and/or patrons. Eight (73%) of eleven studies that assessed server behaviour reported no significant changes in their behaviour (41,156,166–169,172,173) while three reported improvements in some aspects of server behaviour (163,170,171). One of six studies assessing patron behaviour reported significant improvements in the Blood Alcohol Concentration (BAC) of patrons at a single
experimental tavern (171) (the total study sample involved two taverns). A second study assessing patron behaviour reported a significantly greater decline in the percentage of tested patrons with BAC level greater than 0.08 in the experimental group (p < 0.029) (169). This finding was in the context of the study reporting no significant change in server behaviour. A third study reported reduced incidents of severe physical aggression by patrons, but no significant reductions in other forms of aggression (41). A fourth study reported outcomes suggestive of reduced patron alcohol consumption but reported no statistical analysis (175). The two remaining studies assessing patron behaviour reported no significant changes in such behaviour (164,165). Two studies reported changes in injury outcomes, with one reporting reductions in violence reported to police (156), and another reporting reductions in single vehicle night-time crashes (161). In both studies, RBS training was not the sole intervention, being either part of a broader multi-component intervention (156), or mandated by changes to state legislation (161). The review noted that voluntary compliance with interventions appeared to be a problem, and suggested that mandated interventions may be more likely to show an effect (159).

A recent systematic review of interventions for reducing alcohol-impaired driving by the USA Task Force on Community Preventive Services examined 11 studies published between 1987 and 2009 and has released a preliminary finding that there is insufficient evidence to draw conclusions regarding the effectiveness of RBS training (176). A previous systematic review by the same Task Force (160) included five studies from the USA (161,171,175), Canada (163) and Australia (169) that examined the effectiveness of RBS training for reducing alcohol-impaired driving. One study was a randomised controlled trial (163), three studies were before-and-after studies with concurrent comparison groups (169,171,175), and one was an interrupted time-series (161). All studies reported positive outcomes such as improved server intervention with patrons, reduced patron BAC levels, and reduced single-vehicle night-time crashes. However, with one exception (161), studies involved voluntary participation, limited numbers of licensed
premises (less than 10 intervention premises in all cases), and relatively comprehensive training compared to other RBS training programs (160,177). The review concluded that the evidence may reflect the efficacy of RBS training under near-optimal conditions, but did not demonstrate effectiveness on a community-wide scale (160).

A third (non-systematic) review has contrasted the findings of smaller-scale efficacy studies of RBS training with larger community-level effectiveness trials (47). The review concluded that voluntary RBS training could be efficacious where intensive training was supported by the managers of participating licensed premises (see (175), (171) and (163) as examples). However, the review highlighted that trials involving larger numbers of licensed premises have not demonstrated evidence for the effectiveness of voluntary training (169,178). For example in a controlled before and after study in Fremantle, Australia, over 130 staff were trained at seven larger licensed premises responsible for over 70% of assault and drink-driving offences in the area (169). These premises were matched with seven licensed premises in a nearby entertainment district. While RBS training was associated with improved staff knowledge and significant reductions in patrons leaving licensed premises with a BAC below 0.8 (p<0.05), there was no significant reduction in numbers of patrons with a BAC lower than 0.15 (although trends were in the expected direction), and no significant change in rates of refusal of service to pseudo-intoxicated patrons.

Evidence from two studies suggests that RBS training may be more effective when mandated by legislation. The first, a controlled before and after study, reported on the effect of state-wide mandated RBS training on reductions in the number of single vehicle night time crashes in Oregon, USA (161). Using road crash data over a 12 year period, rates of such crashes in Oregon were compared to rates across the remainder of the continental states in the USA. The study estimated that the introduction of mandated
training was associated with a 4% reduction in crashes after six months, 11% after 12 months, 18% after 24 months, and 23% after 36 months.

A second study compared the results of two cross-sectional surveys examining young adults’ experiences of RBS practices at licensed premises in New South Wales, Australia (162). The first survey (N=1090) was conducted in 2002, while the second (N=2,427) was conducted in 2006. Two changes relevant to RBS practices occurred in the years between the surveys. First, RBS training became mandated for all licensed premises staff across the state. Second, the NSW Police Alcohol Linking Project, which had been operating in regional areas, was rolled out across metropolitan Sydney. This project allowed police to: (a) link alcohol-related incidents to specific licensed premises as a reported last place of alcohol-consumption, (b) provide licensed premises managers routine reports regarding incidents linked to their premises and (c) adopt a targeted approach to advising licensed premises on how to improve RBS and reduce alcohol-related harm (149). The cross-sectional surveys involved respondents who reported last drinking at acute-risk levels at a licensed premises and displaying three or more signs of intoxication (2002: n=78; 2006, n=120). After controlling for potential confounders, there was a reduction in the proportion of such patrons at licensed premises, from 18.9% in 2002 to 14.6% in 2006 (p=0.05). Also among such patrons, there were increases in the proportion who reported: (a) being subject to at least one RBS intervention by licensed premises staff (2002: 11.5% vs 2006: 27.5%, p<0.01); (b) being advised on or having staff organise transport home (6.4% vs 9.2%, p=0.05); (c) having staff suggest they stop drinking (3.8% vs 15.0%, p=0.01) and; (d) being refused alcohol service (3.8% vs 11.7%, p=0.05). The study reported that in 2002, 65.4% of patrons who reported three or more signs of intoxication also reported that they continued to be served alcohol. In 2006 this proportion remained high at 54.2% (non-significant difference), suggesting that there was still considerable scope for further intervention.
Evidence suggests that multi-component interventions that modify several aspects of the licensed premises environment may be effective in reducing alcohol-related harm (4,60).

A systematic review (179) examined six evaluations of multi-component alcohol-related harm reduction programs, focusing on alcohol-impaired motor vehicle crashes as an outcome. Two of the included studies were group randomised trials (180,181), two were time series evaluations with concurrent comparisons (182,183), and two were before-and-after studies with concurrent comparisons (184,185). All studies were based in the USA, and took place between 1988 and 2001. The evaluated interventions all included enhanced policing of alcohol outlets and/or drivers. The primary outcome reviewed was the relative proportional reduction (intervention-vs-control) in alcohol-related motor vehicle crashes. For four of the reviewed studies, the multi-component intervention was associated with relative reductions in crashes, ranging from 10% to 45% (in some cases, 95% CI's bounded zero) (182–185). In the fifth study, there was the same relative reduction in crashes (1%) for both intervention and control sites (180). For the sixth study, the relative proportional reduction in crashes could not be calculated, as the study reported rates rather than numbers of crashes (181). For the two motor vehicle crash rates reported by this study, net decreases in crash rates were greater for intervention sites, though in both cases 95% confidence intervals bounded zero. The review concluded that, while none of the studies alone provided unequivocal evidence that a given multi-component intervention could reduce alcohol-related vehicle crashes, the body of evidence as a whole suggested that such multi-component interventions can be effective.

Evaluations of other multi-component interventions have considered outcomes other than motor vehicle crashes. Similarly to the studies reviewed above, in all cases one of the components of the intervention was enhanced policing. For example, the Swedish STAD (Stockholm Prevents Alcohol and Drug Problems) project, implemented over 10 years and
involving 550 licensed premises in the intervention area and 270 licensed premises in the control area, evaluated the effect of the intervention on refusals of service to intoxicated patrons, and violent crime (156,174,186–188). The multi-component intervention included: (a) two-days of training in responsible beverage service and conflict management for service staff, security staff and premises owners; (b) enhanced policing by licensing board personnel and police involving both proactive policing and greater police/licensing board collaboration and; (c) a written 3-year agreement signed by high-ranking representatives of the participating stakeholders. Over the course of the project refusals to serve intoxicated patrons increased in the intervention area from 5% in 1996, to 47% in 1999, to 70% in 2001 (174,188). Refusals also increased in the control area, though not to the same extent. There was also a 29% reduction in violent crime in the intervention area compared to a slight increase in the control area (156).

A further example of a multi-component intervention was implemented in Surfers Paradise, Australia (150), and later replicated in three north Queensland locations (Cairns, Townsville and Mackay) (151). The interventions implemented were: (a) safety audits and risk assessments of the physical environment; (b) a premises code of practice; (c) training of security staff; (d) model 'house' policies and; (e) enhanced monitoring and policing of licensed premises by police and liquor licensing inspectors. Non-controlled pre-post evaluations indicated that in Surfers Paradise the rate of assault per 100 hours of observation reduced from 9.8 to 4.7 incidents, and that across the three replication sites this rate reduced from 12.2 to 3.0. However, further evaluation in Surfers Paradise suggested the effect was not sustained, with the rate of observed assault having risen to 8.3 two years following the intervention.

The Rhode Island Community Alcohol Abuse/Injury Prevention Project (USA) (189) similarly examined the effect of a multi-component intervention to reduce injuries related to alcohol sales. The intervention involved: (a) a 5-hour RBS training program; (b) house
policy development for both on- and off-premises alcohol sales; (c) enhanced policing of both liquor and Driving While Intoxicated (DWI) laws; (d) police training and; (e) mass media campaigns. The intervention was delivered in one community with two others serving as controls. In the intervention community emergency department presentations reduced by 9% for injuries, 10% for motor vehicle crashes, and 21% for assaults, compared to no reductions in control communities. There was also a 27% increase in arrest rates for assaults in the intervention community. However, similarly to the Surfers Paradise project, the effects were not sustained (190).

POLICING ALCOHOL-RELATED HARM ASSOCIATED WITH LICENSED PREMISES

The preceding discussion suggests that policing may be a key element of effective strategies for reducing alcohol-related harm associated with licensed premises (4,60). The benefits of increasing the legal drinking age, for example, are likely to be realised only with adequate policing (1,147,148), and RBS training appears more likely to have an effect where it is mandated by legislation, and where police have enhanced capacity to address problematic licensed premises (161,162). Similarly, multi-component initiatives that have shown evidence of effectiveness in Sweden (156,174,186–188), the USA (189,191) and Australia (150) all involved enhanced policing as a key component of the intervention. Given the suggested importance of policing to the success of these alcohol-related harm reduction strategies, the following sections briefly describe the theoretical basis for policing licensed premises, evidence regarding the effectiveness of enhancing such policing and evidence describing routine policing practices with regard to licensed premises.
DETERRENCE THEORY

The theoretical basis for the policing of licensed premises as a means of reducing alcohol-related harms is that of deterrence (192–194). Criminological deterrence theory, both general and specific, suggests that increasing the perceived likelihood of detection, and the cost and swiftness of sanction for breaching the law will decrease the likelihood of breaches occurring. Given this, the potential exists for the policing of licensed premises to contribute to a reduction in alcohol-related harm through achieving greater licensee compliance with regulations, operating conditions and licensing laws.

EFFECTIVENESS OF ENHANCED POLICING OF LICENSED PREMISES

While both deterrence theory and the evidence discussed above suggest that it may be important to include policing as part of alcohol-related harm reduction interventions, evaluations focused particularly on enhancing the policing of licensed premises have not as yet clearly demonstrated such enhancement to be effective. A review of approaches to preventing harms associated with drinking at licensed premises published in 2000 (195) considered four studies of interventions to enhance policing, either by adopting a proactive policing approach (196,197), or by increasing the enforcement of existing liquor laws (189,198). The review concluded that enhanced policing was a promising approach, but that research was required to better assess its effectiveness, and identify factors that help maintain any benefits of enhanced policing. A subsequent review in 2008 (15) assessed seven studies of enhanced policing of licensed premises (149,196–201), and similarly concluded that studies have not, so far, demonstrated that such enhanced policing is associated with large or sustained reductions in alcohol-related harm, and that further research is required to evaluate whether enhanced policing of licensed premises is effective.
The extent and nature of routine policing of licensed premises has been reported to be less than optimal in both international (196,198) and Australian jurisdictions (202,203).

First, evidence suggests that there has been a greater emphasis on targeting policing towards individual patrons, rather than licensed premises, despite international conclusions that regulating those supplying alcohol is more efficient than regulating alcohol consumers (1,4).

For example, a study in the USA (148) described the policing of the supply of alcohol to minors across 295 counties in four states (Kentucky, Michigan, Montana, and Oregon). The study was based on enforcement data from local police departments, state Alcohol Beverage Control agencies and the Federal Bureau of Investigation over a two year period (1988-1990). The study found that, per-year across all 295 counties, there was a median of 26 arrests of 16-20 year olds for liquor offences, one action against a person for supplying alcohol to a minor, and zero license suspensions or revocations for supplying alcohol to a minor.

A survey of the liquor law enforcement activity of 606 operational police officers in Queensland, Australia over a 12 month period (204), found that breaches against individuals had been enforced: by 169 officers (28%) for ‘minor consuming alcohol on licensed premises’, and by 417 officers (69%) for ‘found drunk or disorderly or creating a disturbance on licensed premises’. In contrast, only 87 officers (14%) reported having enforced breaches against a licensee for ‘supplying liquor to unduly intoxicated or disorderly person or minor’.

A further study in Australia reported a similar pattern of policing activity. In assessing liquor law enforcement in the state of New South Wales, the study reported that of 4,733 breaches of liquor laws during 2001, 2,013 breaches (42.5%) were against individual
patrons or minors (205). Fewer breaches (12%, n=546) were brought against licensees or bar staff as criminal offences relating to minors or intoxicated patrons, and 201 breaches (4%) were brought against licensees as civil complaints (some proportion of these complaints would have related to intoxicated patrons or minors but the various grounds for complaints was not reported). The remaining breaches related to issues such as gaming, premises management, failures to display required signage, and other general offences.

A second way in which the policing of licensed premises may not be optimal relates to the consistency of such policing. It has been suggested that the mixed results of previous studies of the policing of alcohol-related harm (see (196,197,199,200,206) as examples) may be due to limited consistency of implementation (4).

Such a suggestion is consistent with a review of the effectiveness of policing generally in the USA that has highlighted that the consistency of policing is limited in that country due to the diversity of policing services (207). In the USA, other alcohol-related harm reduction interventions that require policing have not been consistently implemented between jurisdictions, such as policing “zero tolerance” laws lowering permissible blood alcohol content (BAC) for young or inexperienced drivers (208,209), or the use of sobriety checkpoints (210,211).

In Australia, a review of the policing of licensed premises has suggested such policing may involve limited consistency, identifying a need for greater local police coordination in order to implement national alcohol-related harm reduction objectives (203). A 2008 qualitative study of the policing of alcohol-related violence in and around licensed premises comprised 86 interviews with officers directly involved in the policing of licensed premises from state and territory police services across Australia (212). Participants from multiple jurisdictions reported that policing practices were inconsistent between jurisdictions.
In summary, there is evidence to suggest that policing may be a key part of ensuring the effectiveness of alcohol-related harm reduction interventions (e.g. increasing the legal drinking age, RBS training, and multi-component initiatives). Deterrence theory also suggests that the policing of licensed premises may be effective. However, while studies of enhanced policing of licensed premises suggest that the approach may be promising, the effectiveness of enhanced policing is yet to be clearly demonstrated. Furthermore, routine policing of licensed premises appears to be less than optimal, with evidence suggesting that such policing may not be appropriately focused on addressing licensed premises (rather than patrons), and may not be delivered in a consistent manner.

PROBLEM-ORIENTED POLICING

In light of the suggestion that policing practices with regard to licensed premises, including such practices in Australia, may be less than optimal, and the suggestion that enhanced policing of licensed premises may be promising but has not yet been clearly demonstrated to be effective, it has been suggested that further policing approaches be considered in order to realise the potential harm-reduction benefits of policing licensed premises. One approach that has been suggested as best practice for the policing of licensed premises in the USA (213), UK (214), and Australia (203) is problem-oriented policing (215,216). Before discussing evidence regarding the effectiveness of problem-oriented policing, this section first provides a general description of this approach.

Problem-oriented policing may be broadly considered to be one of a range of policing paradigms that emphasise crime prevention (217–219) (others would include, for example, intelligence-led policing (57,202), hotspot policing (220), or community-oriented policing (221)). Problem-oriented policing was first proposed in 1979 by Herman Goldstein (215) who argued that while most people considered the primary objective of policing to be law enforcement, police have the much broader objective of minimising “the
residual problems of society” (p. 243) and law enforcement should be seen as only one of any number of means by which they might achieve this end (215).

The manner in which problem-oriented policing attempts to achieve this broad objective is characterised by a number of features. Chief among these is an emphasis on a theory-driven, evidence-based and systematic approach to developing policing interventions (215,216,218,219,222). Problem-oriented policing suggests that the ‘problems’ police must address should be routinely subject to in-depth, empirical study with a view to determining more effective and efficient methods for dealing with them (215,222). Likewise, the approach suggests that interventions should be subject to rigorous evaluations of their effectiveness, and the results disseminated so as to build a robust evidence base to inform policing (215,222).

A second feature is that problem-oriented policing emphasises interventions designed to prevent or mitigate future harm (216,218). It does not discount consideration of interventions that might be primarily seen as a response to previous harms (e.g. law enforcement and the use of the criminal justice system) provided they can be demonstrated to also effectively prevent future harm (216,218,219).

A third feature of problem-oriented policing is that, in seeking to prevent future harm, it suggests that police services consider collaboration with other public agencies, the private sector and/or the wider community (215,222). However, in some cases interventions delivered solely by police may be the most effective and efficient and it is the evidence for an intervention, collaborative or otherwise, that problem-oriented policing proposes as the basis for its selection (215,216,218,219,222).

------------------------ Operationalisation of Problem-oriented Policing ------------------------

Problem-oriented policing is suggested to be a dynamic and iterative process (219). While acknowledged as an oversimplification of the manner in which problem-oriented policing
occurs in reality (218,219), the operationalisation of problem-oriented policing is most commonly described by the acronym SARA: Scanning, Analysis, Response, Assessment (216,218,223,224).

**Scanning**

Scanning involves the identification of discrete events (typically but not necessarily incidents of crime) that: harm the community, recur, display elements in common (e.g. persons involved, locations), and are expected to be addressed by the police (219). This primarily involves a quantitative assessment of the patterns and characteristics of such events, such as rates of events across various dates, times and locations, and details of those involved (e.g. offenders or victims) and other relevant demographics (219).

**Analysis**

Problem-oriented policing does not consider the events and patterns of harm identified during scanning to be problems themselves. Rather, they are considered to be manifestations of underlying problems that require a response (218). Given this, the first goal of analysis, which is primarily an investigative process, is the development of hypotheses regarding the possible nature of these underlying problems and the collection and analysis of further data to support or refute these hypotheses (219). Problem-oriented policing suggests that hypothesis development should involve consideration of theories as to why crime occurs, and what might prevent crime (219). Such theories would include routine activity theory (225), situational crime prevention (226), deterrence theory (192–194) and crime prevention through environmental design (227).

Having developed and tested hypotheses regarding possible underlying problems, the second goal of analysis is to identify and develop viable responses to address these problems (219). To this end police need to consider any strategies that have previously been demonstrated to be effective in addressing the hypothesised problems, both locally and elsewhere. They also need to consider locally available resources that may influence
the viability of potential responses, both within the police service and within other local agencies (219).

Response

Responding involves the coordination and implementation of those interventions identified as likely to reduce harm, with such interventions being tailored to address underlying problems in the local context (219). This may involve explicit collaboration with agencies beyond the police service, as well as the wider community, particularly if these groups are responsible for aspects of the problem, or the means by which it might be addressed (219). In general terms, and based on theories of Situational Crime Prevention (226), problem-oriented policing suggests that police develop responses that prevent crime by: increasing required effort, increasing associated risks, reducing potential rewards, reducing provocations and/or removing excuses for crime (219).

Assessment

Assessment involves the evaluation of both the process of the response to determine whether it was delivered as intended, as well as the outcomes of the implemented response in terms of changes to patterns of harm (219). Ideally assessment involves evaluation of the response by comparison to control groups, consideration of geographical and/or temporal displacement of harm and diffusion of benefits, as well as dissemination of findings for use by others (219).

Effectiveness of Problem-Oriented Policing

Reviews of problem-oriented policing have suggested that it has the capacity to reduce crime (207,217,218). The first meta-analysis of problem-oriented policing interventions (228) included 10 studies that met the inclusion criteria. All included studies: followed the SARA model, included control groups and methods of allocation involving randomisation or a demonstration of intervention and control-group equivalence, reported at least one outcome with sufficient data to calculate an effect size, and dealt with problem areas or
people. Problems addressed in the studies were defined by: geographical location (229–234), types of people involved (235–237), or a type of behaviour (238). Outcome measures included: calls for police service (231–234), incidents of crime or victimisation (231,235,238), parolee recidivism (236,237), completion of probation conditions (237), changes in social and physical disorder (231), fear of crime (230,235), perceptions of crime (230), being asked to participate in crime (229), visibility of police (230), and confidence in police (238). As some studies reported multiple outcome measures, two effect sizes were estimated: one addressing the outcome identified in the original study as being of primary interest (Cohen’s d = 0.126, S.E.=0.47, p=0.008); and one addressing the largest reported outcome (Cohen’s d = 0.296, S.E.=0.142, p=0.037). The meta-analysis concluded that problem-oriented policing interventions can have a modest impact on crime and disorder (228).

A second non-systematic review of a range of policing strategies to reduce fear, disorder and crime (207) has considered the effectiveness of problem-oriented policing. Consistent with the meta-analysis above (228), the review noted that many studies used weak evaluation designs. The review considered seven quasi-experimental studies (224,239–244) and two randomised controlled trials (231,233) (all studies conducted in the USA) and concluded that there is a growing body of evidence that problem-oriented policing is an effective approach, which should be subject to further research (207).

While the evidence discussed above suggests that problem-oriented policing can be effective in reducing crime and disorder generally, to date, only one controlled study has evaluated the effectiveness of a problem-oriented policing intervention to reduce alcohol-related harm associated with licensed premises (245). The study took place in the city of Geelong, Victoria, Australia. Scanning and analysis identified underlying problems primarily associated with intoxication and ‘pub-hopping’ (i.e. patrons moving between establishments) in the entertainment district of the city. The response comprised a police-
led collaboration between police and licensed premises owners, and involved agreed minimum (re-)entry cover charges after 11 p.m., removal of cover charge exemptions for women, reduction of cheap drink promotions, uniform minimum drink pricing and enhanced policing of both licensed premises and patrons. Assessment of the intervention over 5 years compared the ratio of serious assaults per 100,000 population in the Greater Geelong area to the average of this rate across six other cities in the state of Victoria. The ratio fell from 1.52:1 pre intervention to 0.63:1 at the end of the 5-year evaluation.

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**Challenges to the Application of Problem-oriented Policing to the Policing of Licensed Premises**

While problem-oriented policing has been recommended as a best practice approach to the policing of licensed premises its implementation faces several challenges.

The introduction of problem-oriented policing generally has been suggested to involve substantial changes in service delivery practices to the degree that such change would require the explicit resourcing and use of organisational change strategies to support its introduction (246–248). Where such substantial investment in organisational change is required, an important preliminary step is to assess alignment between current practices and the intended change (249,250).

Another challenge is that there is a limited evidence base regarding the effectiveness of organisational change initiatives in supporting the adoption of problem-oriented policing. While a limited number of uncontrolled studies have assessed the effectiveness of organisational change initiatives in supporting the adoption of problem-oriented policing in other areas (251,252), none have specifically evaluated such initiatives to support the implementation of a problem-oriented approach to reducing alcohol-related harm associated with licensed premises.

The emphasis of problem-oriented policing on analysis (219,222) suggests that uptake may be limited where there is limited analytical capacity. Such capacity has been
suggested to be limited in regard to alcohol-related harm, in terms of both limited comprehensiveness of alcohol-related data recorded in police information systems (203, 253) and limited development of police skills to undertake in-depth analysis (218, 254, 255).

Another challenge to the implementation of a problem-oriented approach relates to the emphasis of problem-oriented policing on the adoption of a multi-strategic and proactive approach (203, 213, 216, 219), intended to prevent future harm (218, 222). To date, evidence regarding the strategies police undertake with licensed premises has been limited to studies of formal enforcement activity (148, 204, 205), and no previous studies have assessed the range of various strategies that police may undertake with licensed premises.

A final challenge involves the limited evidence base regarding the application of problem-oriented policing to the policing of licensed premises, as discussed above. While there is evidence that problem-oriented policing may be effective in general (207, 228) and that efforts to enhance policing in general may be a promising approach to reducing alcohol-related harms associated with licensed premises (15, 195) and also a key component of other harm reduction strategies (4, 60, 179), only one study to date has reported a controlled evaluation of a problem-oriented approach to the policing of licensed premises (245).
In recognition of international and Australian suggestions that problem-oriented policing may be a best practice approach to enhancing the policing of licensed premises, and the challenges to its introduction outlined above, the research reported in this thesis aimed to:

1. describe current practices regarding the policing of licensed premises by those primarily responsible for such policing in New South Wales, Australia.

2. evaluate the effectiveness of an organisational change intervention in enhancing police recording of alcohol-related information.

3. determine the types of policing strategies applied to licensed premises associated with alcohol-related harm, and the relationship between levels of alcohol-related harm associated with individual premises and the application of various policing strategies.

4. assess the feasibility, acceptability and potential effectiveness of a problem-oriented policing approach to reducing alcohol-related harm associated with licensed premises.
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CHAPTER 2: SELF-REPORTED PRACTICES OF OFFICERS RESPONSIBLE FOR THE POLICING OF LICENSED PREMISES
INTRODUCTION

Chapter 1 described the association between alcohol consumption and related harm, focusing on intoxication and acute harm, particularly injuries. The Chapter highlighted that licensed premises are associated with intoxication and injury and reviewed evidence that a small proportion of licensed premises disproportionately contribute to the occurrence of both outcomes. The chapter described evidence suggesting that, despite the policing of licensed premises being an important strategy for reducing harms associated with licensed premises, such policing is less than optimal (1–4). Chapter 1 concluded by describing an approach to policing that has been recommended, both internationally (5,6) and in Australia (7) as a means of enhancing the policing of licensed premises: problem-oriented policing.

The introduction of problem-oriented policing has been suggested to involve substantial changes in service delivery practices (8–10). As discussed in Chapter 1 an important preliminary step in planning how to alter service delivery practices is to assess alignment between current practice and the intended change (11,12). The literature suggests four key aspects of current policing practice that need to be considered prior to the implementation of a problem-oriented policing approach: (a) consistency in the policing of licensed premises; (b) approaches to identifying alcohol-related harm associated with licensed premises; (c) strategies applied to reduce such harm and; (d) factors considered when selecting policing strategies.

CONSISTENCY IN THE POLICING OF LICENSED PREMISES

Problem-oriented policing proposes that policing be conducted in a consistent, systematic and empirical manner (5,13). However, as discussed in Chapter 1, it has been suggested that the policing of licensed premises may not be conducted consistently, compromising its potential effectiveness (14). In Australia, a review of the policing of licensed premises
has suggested there may be scope to enhance consistency in this area of policing (7), and a qualitative study involving interviews with 86 officers from various Australian state and territory police services (4) indicated that policing practices in relation to licensed premises were inconsistent between local jurisdictions. To date, however, no study focused on those primarily responsible for the policing of licensed premises in the state of New South Wales, the context for this thesis, has reported on the extent to which such officers report that they adopt a consistent approach to such policing.

### APPROACHES TO IDENTIFYING ALCOHOL-RELATED HARM ASSOCIATED WITH LICENSED PREMISES

As described in Chapter 1, problem-oriented policing places a substantial emphasis on the analysis of data to detect patterns of crime, and identify likely underlying determinants of such patterns in order to inform police responses (13,15–17). However, it has been suggested that the capacity of police to undertake problem-oriented policing is limited by a lack of analytical skills (16–18). For example, a previous national evaluation of 447 problem-oriented projects in the USA concluded that problem-analysis was consistently the weakest phase of the problem-oriented process (17,19). A survey of 298 operation police in the state of New South Wales, Australia (20) reported that only around half (55%) reported they had the necessary skills to monitor the alcohol service practices of licensed premises.

In addition to limited analytical skills, limited availability of data has also been suggested to impede problem-oriented policing (13,16,17). With regard to alcohol-related harm data, a WHO guide to monitoring alcohol-related harm has suggested that many police information systems do not sufficiently record the involvement of alcohol in police-attended incidents (21). A similar conclusion has been made by a review of licensed premises policing practices in Australia, which highlighted that data recorded in police information systems is generally incomplete, requiring police to consult a number of
information sources to identify the extent and nature of alcohol-related harm (7). To date, however, no studies have reported the approaches taken by those primarily responsible for policing licensed premises to identify alcohol-related harm associated with licensed premises.

**STRATEGIES APPLIED TO REDUCE ALCOHOL-RELATED HARM ASSOCIATED WITH LICENSED PREMISES**

Problem-oriented policing involves police consideration of the range of strategies for which there is evidence of effectiveness in addressing identified problems (13). To assist police in developing effective strategies the Centre for Problem-oriented Policing (USA) has developed an evidence-based guide to policing alcohol-related harms associated with licensed premises (5). The guide suggests five broad requirements for an effective response to licensed premises: using multi-faceted interventions, enlisting community support, gaining cooperation from premises owners, informally monitoring premises activities, and consistently enforcing liquor laws as required. The guide also concluded that some strategies have limited effectiveness including deploying extra police patrols in and around licensed premises, disseminating responsible drinking messages to patrons, and supporting prohibitions of alcohol (5). However, for police primarily responsible for responding to harm associated with licensed premises, in Australia or elsewhere, the range of responses they consider effective, and the extent to which this aligns with evidence regarding effective strategies has not been previously reported.

**FACTORS POLICE CONSIDER WHEN SELECTING STRATEGIES TO REDUCE ALCOHOL-RELATED HARM ASSOCIATED WITH LICENSED PREMISES**

Problem-oriented policing proposes that, in response to identified problems, police officers should consider three factors when developing response strategies.

First, problem-oriented policing suggests that police should review available evidence regarding strategies that have been demonstrated to be effective and/or ineffective to
address identified problems (13,22). Ideally this would include considering evaluations that involved robust research designs and were published in the peer-reviewed literature, although for some policing problems such evidence may be limited (5,18).

Second, problem-oriented policing suggests that police consider relevant theoretical frameworks (13,22). This particularly includes frameworks that emphasise crime prevention, for example, theories regarding deterrence (23–25), situational crime prevention (26,27) or crime prevention through environmental design (28).

Third, problem-oriented policing suggests that police should consider local circumstances, and tailor response strategies accordingly (13,22). For responding to licensed premises, it has been suggested that such local considerations would include: the perspectives of stakeholders, the capacity of police and other agencies, the physical environment in and around licensed premises, the drinking culture, local premises management practices and local legislation (5).

To date, however, the range of factors police routinely consider when developing responses to problems has not been reported, either in general terms or in relation to licensed premises in particular.

As discussed above, an understanding of existing policing practices has been suggested to be an important preliminary step when planning a change in such practice, such as the introduction of a problem-oriented approach to the policing of licensed premises. In light of limited evidence regarding police practices in relation to licensed premises, a study was undertaken to describe current practices regarding the policing of licensed premises by those primarily responsible for such policing.
METHOD

STUDY DESIGN AND SETTING

A qualitative, interview-based study was undertaken in the state of New South Wales, Australia. Police services are provided across the state by 80 local police jurisdictions or Local Area Commands.

PARTICIPANTS

New South Wales Police provided contact details for seventy-two officers primarily responsible for directing the policing of licensed premises in Local Area Commands. Such officers had responsibilities including but not limited to: processing of all applications regarding liquor licenses; management of routine inspections and audits of licensed premises; directing all investigations related to licensed premises; education and consultation with the community and alcohol industry on licensing issues and; maintenance of intelligence systems relating to licensed premises. Such officers work in collaboration with a range of specialist staff, such as intelligence analysts, the local Crime Management Unit and officers with specialist crime-response coordination and community liaison roles (29).

All seventy-two officers were initially contacted by e-mail and asked to indicate an interest in participating in the study. Those that expressed an interest were then followed-up by telephone to arrange a time to be interviewed.

PROCEDURES

Data Collection

Interviews were conducted by the researcher on a face-to-face basis with individual officers in a private space, at or near their place of work and at a time convenient to them (Appendices 2.1 - 2.3). Interviews were tape recorded, and the researcher took notes.
Interviews were conducted until, in the opinion of the researcher, thematic saturation had occurred (30). Recordings of interviews were subsequently transcribed verbatim.

Interviews were semi-structured, utilising questions that addressed four issues identified as important to informing an attempt to adopt a problem-oriented approach to the policing of licensed premises:

1. Consistency in the policing of licensed premises;
2. Approaches to identifying alcohol-related harms associated with licensed premises;
3. Strategies police apply to reduce alcohol-related harms associated with licensed premises;
4. Factors police consider when selecting strategies to reduce alcohol-related harms associated with licensed premises.

The questions were developed based on existing New South Wales Police alcohol-related policy and procedures (29).

Each question was first posed in an open-ended fashion and, depending on the depth of the initial response, was followed by more probing questions. As interviews progressed, supplementary questions were added where officers raised additional information regarding the issues being examined, and subsequent interviewees were questioned in this regard where appropriate (earlier interviewees were not re-interviewed). The initial interview questions and tape-recording procedure were piloted with one local Licensing Officer, and found to be acceptable.

Analysis

For each of the four issues, a systematic, iterative and exhaustive analytical approach was undertaken to identify relevant themes expressed by interviewees (30). No themes were
Whenever a response suggested the creation of a new theme, or the modification of an existing theme, all transcripts were reanalysed with reference to that theme. This process of re-analysis continued until no new themes were identified, and no new modifications were made to existing themes.

The number of officers who made reference to each theme was calculated. NVIVO 7 software was used to assist with the analysis.

RESULTS

PARTICIPANTS

Of the 72 Licensing Officers approached, 25 expressed an interest in participating in the study (34.7%). Seventeen police were interviewed until thematic saturation was deemed to have occurred. Thirteen of the 17 interviewees were Licensing Officers. Four interviewees were police that held other key local roles in responding to alcohol-related harms (two Intelligence Officers, one Crime Coordinator and one Duty Officer). Five of the 17 officers were from jurisdictions in the state capital city (Sydney), 2 were from a major coastal urban centre outside of Sydney, while the remaining 10 were from regional and rural centres throughout the State.

CONSISTENCY IN THE POLICING OF LICENSED PREMISES

Overall, the interviewed police officers reported that there was limited consistency between commands in current approaches to the policing of licensed premises. Officers generally reported support for improving the consistency in the policing of licensed premises, provided that this did not compromise police use of discretion.
The responses of almost all officers implied some degree of negativity to a perceived absence of a consistent approach across the State to the policing of licensed premises. Five officers (29.4%) explicitly stated that the policing of licensed premises involved limited consistency between commands. For example, one officer reported, "If you go to two different licensing sections, everyone is doing it different." Comments from three of these officers suggested organisational factors contributed to this lack of consistency. Two officers pointed out that licensing officers appeared to be only accountable to the commander in their local jurisdiction: "If the boss [local commander] is happy, that is what you work towards." said one officer. Explaining further, another said,

"Some commanders put an emphasis on it [policing licensed premises] and some don’t. They don’t care. So...they've found that some LAC’s [Local Area Commands] are just not performing the way that they should be ... [since] there has been no one monitoring the situation."

Another officer noted that, unlike other areas of police work, such as prosecutions or traffic control, there were no regional coordinators to assist local licensing police to deliver a consistent approach.

There appeared to be general support for some degree of increased consistency between commands in the policing of licensed premises. Thirteen officers (76.5%) identified at least one aspect of licensed premises policing that would benefit from greater consistency. Most commonly, there were calls for improved training (4 officers; 23.5%), particularly for licensing officers, but also for general duties officers as well. "[Being a licensing officer] is such a specialist role", said one officer, "and it’s also a neglected role in that you don’t
receive a lot of training”. “There needs to be a group out there”, said another officer “that go around auditing ... licensing officers and say[ing] ‘Well this is what you should have in place here and this is how you should be doing this.’” For general duties officers, one officer felt that education regarding their “powers of entry” and “how to enter...reports properly” would be of assistance in improving the consistency of policing.

Three officers (17.6%) expressed their preferences for greater consistency at different levels in the police organisational structure. One officer suggested a need for greater accountability for licensing officers within each command, another advocated for greater regional coordination, and another for a state-wide coordination unit. Individual officers also expressed a preference for improved consistency with regard to a range of other issues including the gathering and presenting of statistics, and a preference for policing strategies to be based on research and evidence.

Three officers also noted that, despite demographic differences between commands, the law provided a basis for more consistency. As one officer put it, “The legislation is the same and that is what we are guided by.”

Local Discretion and Decision Making

While officers indicated general support for greater consistency in the policing of licensed premises, seven officers (41.2%) (including six who supported improved consistency), also indicated that this should not be at the expense of local police discretion. Five officers (29.4%) reported that it was important that any improved consistency accommodated police discretion between commands since, “every area has different problems”. Two officers (11.8%) made similar comments, but regarding discretion between licensed premises within a single command. As one officer put it when comparing two licensed premises in his command,
“Most of my clubs out in the west, are fighting to keep open – they’re community hotels. ... If I was to go and give some of these hotels a $550 fine, that could bankrupt some of these places! But by the same token ... how do I treat a registered [community] club differently to the commercial club? The commercial club makes money ... whereas the other one is struggling. But [both premises] still got to have the same laws – so it comes down to a lot of police discretion... Yeah, it’s got to be consistent, but it makes it harder [having premises with such different financial circumstances].”

One officer summed up this desire to preserve discretion while gaining consistency saying, “there still needs to be guidelines there, but you still need to have that discretion as long as you can justify what steps you have taken.”

**APPROACHES TO IDENTIFYING ALCOHOL-RELATED HARM ASSOCIATED WITH LICENSED PREMISES**

The interviewed police officers reported using a range of information sources to identify patterns of harm associated with licensed premises. There was variation in the reported extent and nature of analysis of information sources. In part, the use of multiple sources of information to detect patterns of harm related to reported limitations in police systems for formally recording information regarding licensed premises.

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**Use of Formally Recorded Information**
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Accessing formally recorded police information was the most commonly cited method for identifying harm associated with licensed premises (twelve officers, 70.6%). Most commonly, police cited accessing the New South Wales Police centralised incident database (‘COPS’) (nine officers; 52.9%). Three officers (17.6%) also reported that they examined records on police dispatch systems.
There was variation in the extent to which police examined this information to identify harms associated with licensed premises. Eight officers (47.1%) indicated that they viewed recorded information, but did not use any formal analysis tools. For example, one officer stated that he identified problem licensed premises, “through the COPS system; through constantly surveying it.” and another said, “Every Monday morning when I come to work, I review the COPS events for the weekend, particularly focusing on licensed premises”. In contrast, seven officers (41.2%) reported that they undertook some form of more formal analysis, typically with the aid of a spreadsheet. For example one officer reported:

“we download all the data every month and analyse the data and break it into locations...so it is quite easy to sort on premises type... From the licensed premises we do a count of different incidents. It might be assaults, liquor breaches, stealing matters. We sort the data into highest to lowest to identify which [licensed premises] has the most [incidents].”

Officers reported limited systems for retrieving information. As one intelligence officer explained:

“It was easier to look at the day to day stuff. Easier because you couldn’t actually pull out the information on a specific licensed premise without pulling out all the licensed premises’ information.”

Anecdotal Reports from Other Officers

Seven interviewees (41.2%) reported that speaking with other police officers, particularly general duties officers, formed part of how they identified harms associated with licensed premises. One officer reported, “we rely on feedback from general duties [police], and
another stated that, “it’s anecdotal [which premises are a problem], we will hear it from a lot of local police...”.

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Information from the General Public
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Five officers (29.4%) also cited the general public as a source of information for identifying premises associated with alcohol-related harm, for example, “We get a lot of feedback from the community”, or “[premises are identified] through residents ringing up and complaining”.

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Information from Other Government Agencies
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Three officers (17.6%) reported that other government agencies assisted in identifying premises associated with alcohol-related harm. For example, one officer reported on the assistance of the local council saying, “they will do noise control readings, they will do head counts of people walking in and out of the premises, impact on the local environment...their information can be very useful.”

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Information from Licensees
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Three officers (17.6%) also reported that licensees will report when another licensee is causing a problem. As one officer put it, “if one pub’s doing the wrong thing they’ll dob on them”.

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Use of Multiple Information Sources to Detect Patterns of Harm
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While police cited some sources of information more often than others, no one source was suggested to be more important than any other. Overall, interviewees suggested that local knowledge – however gathered – was what was most critical. One officer summed this up, saying:

“We just know...We would be called there a lot more... getting calls about brawls, fights, and bad behaviour. Lots of
...assaults. That's the way we know. Jobs that come over the police radio and the amount of time they get called to a particular licensed premises. You just know, in tuned [sic], you know what is going on. Word on the street.”

In using this local knowledge, five officers (29.4%) reported that it was a pattern of events rather than individual incidents that usually led to a premises being identified as requiring a response. As one officer put it:

“The primary events that I look at are ...to see whether there is a correlation between the premises and the activity. It may be [for example] street drinking. It may be linked to a licensed premises or in close reference, or if the information [indicates] that the liquor is being obtained from a premises nearby...”.

“You see a pattern.” another officer reported, “Everyone’s allowed a bad day, but if a bad day is every Friday and Saturday...”.

**STRATEGIES POLICE APPLY TO REDUCE ALCOHOL-RELATED HARM ASSOCIATED WITH LICENSED PREMISES**

The interviewed police reported that they used a range of responses to reduce alcohol-related harm associated with licensed premises. Chief among these was the development and maintenance of professional relationships with licensees with a view to maintaining voluntary compliance with liquor laws. Police reported mixed or qualified views regarding the effectiveness of a range of other strategies including: formal industry consultation, high visibility policing, covert observations of licensed premises, and legal proceedings.
Developing and Maintaining Professional Relationships with Licensees

Twelve officers (70.6%) reported that developing and maintaining professional relationships with licensees was a key strategy for effectively policing licensed premises. As one officer said “that’s the way we like to work with them. [It’s] about developing professional relationships.” While several officers implied that the primary benefit of developing professional relationships was to encourage voluntary compliance with liquor laws, four officers (23.5%) expressed this explicitly. One officer said:

“It is much easier for me as a licensing Sergeant.... to work with the licensee and get their cooperation, get their security working with me. Getting them to do what I want by talking to them and getting cooperation, rather than me walking outside of the police station ‘with a baseball bat in hand’... [For example] I consider [security guards] to be a great untapped resource. So if we get them under control, they’re doing half our work for us ... So it makes it easier for us.”

Police described three aspects to the nature of such professional relationships that were considered important to their success. First, police reported that a balance was needed between encouraging voluntary compliance (as reported by four officers; 23.5%) and setting clear expectations regarding acceptable premises operations (reported by six officers; 35.3%). One officer summed this up, saying:

“I think that you can have that rapport with them [licensees], where they don’t feel that they are going to have the ‘book’ thrown at them. But at the same time, them knowing that if they are going to do the wrong thing, [they shouldn't think] ‘I won’t breach you’, ‘cause I will.”
Second, eight officers (47.1%) reported that a key aspect to professional relationships with licensees involved educating or assisting licensees in running their premises. "Law enforcement is education." said one officer. Another reported:

"...we are there to be a source of information for them. To be there for any queries that they may have, give them some guidance. There is just so much involved in licensing; the pubs with their signage and things like that. We are there to help them and guide them."

Third, seven officers (41.2%) cited regular consultation and communication as a key factor in maintaining professional relationships. One officer summed this up saying,

"Well we have heaps of meetings all of the time...always going around day shifts and night shifts just talking to people and seeing what’s going on in the hotels. Giving them some feedback as to what we think should be happening."

Formal Industry Consultation

Six officers (35.3%) discussed the importance of formal Liquor Accords or other consultative committee meetings for policing licensed premises and maintaining professional relationships. Four officers (23.5%) held positive views of the effectiveness of such formal meetings. For example, one officer felt that the local Liquor Accord was “most definitely” successful in assisting to reduce alcohol-related harm and another felt that the local consultative committee was one of the “top three” policing strategies, since it allowed many licensees to “get good information...and feel that they play an active role.” Another officer reported that the local Liquor Accord was used to bring to the attention of licensees incidents associated with their premises; particularly assaults:
“[At Accord meetings] we put up a graph of the worst hotel / pub / club / nightclub...[we] list the top 40... and that in itself is quite damaging... and they [licensees] don’t like it, but we are quite happy to say, ‘Well it’s your pub causing the problem, so that’s how it is.’; and they can do something about it. And it works.”

However two officers were less enthusiastic regarding Liquor Accords or consultative committees. One felt that the local Liquor Accord was effective “to a certain degree” due to its role in educating licensees. Another officer was more negative stating:

“I’m not a big fan of Accords...a lot of them [licensees] are in [an Accord] just to say that they’re in the Accord; [just] in case they go to court...always looks good. [In] many Accords...there’s no extra [legal] power; it’s just a feel good thing.”

High Visibility Policing

Interviewees gave a generally positive, though sometimes qualified, response to the effectiveness of high visibility policing in ensuring compliance with liquor legislation. Seven officers (41.2%) reported that they felt high visibility policing either was or had the potential to be effective. For example:

“[The] most effective way [to ensure compliance] is to get out there and be pro-active in going through premises and letting them see that you are out there. High visibility in uniform and going through and letting them know we are there.”

However, several officers noted limitations to high visibility policing. While one officer reported feeling that regular patrolling of premises by uniformed police would result in an
“expectation... that at any time the police may walk through here [a premises]”, another officer reported feeling:

"that [high visibility policing] has the effect of keeping everyone under wraps while they [the police] are present on the premises, but as soon as they are gone, that’s the end of that."

Two officers noted that patrolling licensed premises in uniform does not allow for breaches to be detected, since, as one officer put it, “Soon as the uniform comes in the pub, everyone starts behaving themselves.” Two other officers also reported some reluctance on the part of general duties officers to walk through licensed premises unannounced. “I think it’s effective”, said one officer, “but it has to be out on foot as well, not just driving around in a car. Interact with people, if they are standing around; ...not just [driving] around in the wagons.”

Covertly Observing Licensed Premises

Four officers (23.5%) described covert observations inside a licensed premises as an effective part of premises policing, though again with qualifications. Due to the considerable observations that need to be made to establish that someone is intoxicated on a licensed premises, licensing police reported that working “in plain clothes” is necessary, so as to not change the behaviour of those being observed. However, licensing officers also reported that being in plain clothes can be insufficient, as they are often already known to the licensee and bar staff:

“If I sit in a hotel people know me so... to a certain degree it is a waste of time because the staff will change their behaviour...

If you have some unknown police in there, they’ll get a full picture of what is going on.”
However, as one licensing officer highlighted, more specialised training is often required so that an unknown police officer themselves knows what needs to be observed to establish poor service practices: "you are not going to get a lot of feedback anyway, as they [a new officer] haven’t got the knowledge to really look for what you are looking for." One officer reported that he overcomes this problem by working "with licensing police from other commands that come in and target our premises for us.”

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Legal Proceedings

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Four officers (23.5%) commented on the effectiveness of formal legal proceedings. One reported that he felt that pursuing punitive action was “a very useful tool”, largely because there was no point in police warning licensees if there was “no sanction against them”. Another officer reported that the formal process of being interviewed, and needing to attend court, “gives them [licensees] a bit of a jolt” because they, "start to realise that if they don’t comply...there are sanctions that can be taken against them and some of the sanctions are pretty serious." While a third officer felt that, “the court [was] too lenient” in its sentencing to make formal proceedings worthwhile, a fourth officer also highlighted that additional costs to the licensee can make formal actions more threatening. In one example he described a club that challenged a number of infringement notices he had issued:

“[The licensee] took me to court, and he said he beat me. Well, I said, ‘You cut it down from $4000 worth of fines to $2000, but then there are three trips to Sydney for you, the President, and the Secretary [and the] hire [of] your solicitor.’...They took all that on board [and] they have been wonderful since then.”
In another example, he described how it had cost a licensee “probably...the best part of $50,000 to $60,000”, as a result of appearing before an administration board, including having a member of the board recommend the installation of closed circuit television including, “14 cameras and 14 days retention [of video footage]...$38,000 to put that in!”

**FACTORS POLICE CONSIDER WHEN SELECTING STRATEGIES TO REDUCE ALCOHOL-RELATED HARM ASSOCIATED WITH LICENSED PREMISES**

Overall, the interviewed officers reported consideration of a number of local factors when selecting responses to licensed premises. Ten officers (58.8%) reported that, in general, they consider situations on a case-by-case basis before deciding an appropriate response. For example:

“Each situation is taken on its own merit...”

"It really does depend on what incident it is."

“Well depending on the complaint...”

“Obviously we use our discretion.”

“No, it would probably be...discretion.”

“No, there is not a standard approach as I think police have to...exercise discretion.”

Police appeared to consider a range of local factors when selecting a response strategy: the perceived characteristics of licensees, a desire to create or maintain professional relationships with licensees, court expectations, the level of harm associated with licensed premises and the costs of prosecution.
Perceived Characteristics of Licensees

Police appeared to consider several characteristics of licensees when determining which response to take. Chief among these was the perceived responsiveness of the licensee in improving the practices of their premises when police brought matters to their attention. Ten officers (58.8%) reported licensee responsiveness as important in determining police actions. As one officer put it,

"if the complaint continues we will do some proactive targeting of the place .... Then if there still doesn't seem to be anything resolving we will start at the bottom of the scale. We will start with ticketing, if it is a suitable offence, and we will work our way up, so if you get a ticket {infringement notice} [then] in a couple months' time we check it out and [if] they are still committing the same offence then we will certainly take the next step up and go to court."

Two officers (11.8%) also reported that they consider the experience of the licensee. For example,

"... if I find there is a new licensee ... I will go and visit them. ... I don’t believe in showing up and whipping them first time. I say, 'How are you going? This is me' ".

The same two officers (11.8%) also reported that they consider the attitude of the licensee. One said,

"... there are so many tickets we give; I have an extra ticket. I tell the licensees that it's called the ‘attitude ticket’. If you fail the attitude ticket, let me start writing [infringements]."
Two officers (11.8%) reported that they were prepared to consider the preferences of the licensee in terms of how issues were resolved. For example, one officer said,

“They don't have to involve me in their processes of fixing it [an identified problem], but that's an option to them. It just has to be fixed.”

A Desire to Create or Maintain Professional Relationships with Licensees

Given that the majority of officers stated that professional relationships with licensees were important to effective policing of premises, it was not surprising that seven officers (41.2%) reported that a desire to maintain professional relationships formed part of determining responses. For example, in describing how a Liquor Accord meeting was run, one officer stated,

“We offer them a breakfast-meeting that starts at 8.00am in the morning. Everyone can come in and those that are involved can sit down with us informally. The breakfast is ... so we can get to know our publicans and they can get to know us.”

Another officer described his approach to ensuring that a licensee was complying with technical regulations regarding poker machines and signage:

“I went to one pub in a little town ...[and] this is what it was like; on the first visit. ...I said, 'Mate, you had better count yourself lucky this is your first visit.' He said, 'Why?' I said] ‘Because it would cost you 15 grand worth of tickets on the spot; just through [technical breaches regarding] poker machines and signage.’ ...I said, 'So, I'm not going to breach
you, if you can fix it for me in four weeks.’ Well, he has been
the best ... ever since. So why not create that?”

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Court Expectations

Six officers (35.3%) reported that the courts had certain expectations that guided how
police determined their responses. Some officers described expectations in terms of
procedures for prosecuting bar staff and licensees for serving alcohol to an intoxicated
person:

“... best practice is to identify an intoxicated person. Then if
you see them being served while intoxicated you have...to take
the intoxicated person to the person who served them - give
them opportunity to comment on their sobriety. Same with
the licensee - you should be interviewing the server and the
licensee so the licensee gets to comment [as well]. ... Otherwise it will come down to a court matter and the
licensee will say he wasn’t in here [the premises]. So we have
to rule out that possibility.”

Other officers described the court’s expectations in terms of procedural fairness, and
bringing matters to the attention of licensees to resolve for themselves before initiating
criminal proceedings. As one officer explained,

“With the licensing court you have to show that you have
made some attempt to mediate. The licensing court wants to
see that the person has been blatantly disregarding the Act. So
if you go to court and say ‘I’ve cautioned him, I’ve given him an
Action Plan, I’ve given him five tickets, I’ve now charged him.’,
well the court is going to say 'Mr. Smith, come on, what more do you want the police to do? ’ ”

Levels of Harm Associated with Licensed Premises

Four officers (23.5%) emphasised that decisions regarding the allocation of resources – particularly the conduct of high visibility policing operations – was guided by the level of harm known to be associated with various premises. “It’s a prioritised approach”, one officer said. Police also mentioned the use of a “hotspots” approach, focusing on high risk licensed premises, and that high visibility policing was “targeted” to various locations in an “intelligence based” manner.

Costs of Prosecution

Two officers (11.8%) explicitly noted the cost of prosecution, in terms of both time and money, as a factor in determining their responses. “[Prosecution is a] waste of time, money and court time” said one officer, “if we can resolve [a problem] in another way let’s try that first.”

DISCUSSION

This qualitative study sought to describe the self-reported practices of police primarily responsible for the policing of licensed premises in New South Wales. The study found that such police reported limited consistency between local jurisdictions in the policing of licensed premises and supported enhancing such consistency, provided this did not prevent the use of local discretion. To identify harms associated with licensed premises, police reported that they used multiple information sources to detect patterns of harm. In part this was reported to be due to limitations in formal police information recording systems. Police also reported variation in the extent to which such information was analysed. Police reported the use of a range of strategies to reduce harm associated with licensed premises. Particularly, police emphasised maintaining professional relationships
with licensees with a view to such relationships facilitating voluntary compliance with liquor laws. They reported also using other strategies: formal industry consultation, high visibility policing, covert observations of licensed premises, and legal proceedings; but reported mixed or qualified views regarding the effectiveness of such strategies. Police reported a strong reliance on case-by-case decision making according to local contextual factors, including the characteristics and history of relationships with the licensees, court expectations, identified harms associated with licensed premises and costs involved in prosecution. Such findings suggest that police primarily responsible for the policing of licensed premises in New South Wales may be open to a problem-oriented approach to the policing of licensed premises, and suggest a number of areas where there is opportunity to enhance alignment between current practices and a problem-oriented approach to the policing of licensed premises.

Due to limited previous evidence, and differences in methodology between previous studies of police practices and the methods used in this study, direct comparison of the results of this study with previous findings cannot be made. Nonetheless, some comparisons can be made between the findings presented here and previous literature.

First, the finding that police reported limited consistency between local jurisdictions in the policing of licensed premises in New South Wales is generally consistent with evidence regarding policing generally (31) and of policing practices in regard to licensed premises in particular (4,7). In light of recommendations that police should consistently enforce liquor laws (5) and suggestions that limited consistency of policing to reduce alcohol-related harm may be associated with reduced effectiveness (14) such a finding highlights the need for more consistent approaches to the policing of licensed premises, such as might be achieved through the implementation of problem-oriented policing (5,13). The majority of police in this study reported support for improving the consistency of the policing of licensed premises. This finding suggests that those responsible for policing
licensed premises may be open to adopting frameworks that facilitate such consistency, such as problem-oriented policing (5,13), provided this is not at the cost of local professional discretion.

Second, the findings of this study suggesting that police use multiple information sources partly in response to limitations in police information recording systems is consistent with the findings of reviews that have concluded that such systems are often limited in regard to the recording of alcohol-related information (7,21). The finding of considerable variability in data analysis is consistent with previous suggestions that the analytical skills of some police may be limited (16–19). Although police reported that they examine information to identify patterns of harm, they did not report routinely undertaking further hypothesis-driven analyses to determine what may be causing identified patterns of harm, with a view to informing the selection of responses. Taken at face value, these findings suggest that the current manner in which police use information may be more closely aligned to problem-oriented policing’s concept of ‘scanning’, rather than that of ‘analysis’ (13,32) (See Chapter 1). This finding is consistent with a previous evaluation of 447 problem-oriented policing initiatives in the USA, which concluded that problem analysis was the least developed aspect of these efforts (16,17,19). As such, while those responsible for the policing of licensed premises who participated in this study may be open to adopting a problem-oriented policing approach, adopting such an approach may involve enhancing the capacity of police to undertake analysis both in terms of enhancing available information systems, and the analytical skills of police.

Third, in terms of strategies applied to the policing of licensed premises, this study found that officers reported the use of a range of strategies that are generally consistent with evidence regarding effectiveness. Consistent with evidence-based recommendations that police gain cooperation from licensed premises owners (5), police in this study emphasised maintaining professional relationships with licensees in order the achieve
voluntary compliance. Police reporting of the use of a range of strategies is also generally consistent with recommendations that police use multi-faceted interventions (5). The finding that police qualified their support for increasing police visibility in and around licensed premises is consistent with recommendations that increasing police patrols near licensed premises is of limited effectiveness (5). However, police reporting of limited consistency between jurisdictions, as discussed above, is in contrast to recommendations that police should consistently enforce liquor laws as required (5). The mixed views of police regarding formal industry consultation are consistent with evidence that purely voluntary industry arrangements are likely to be ineffective, but may be more effective where supported by formal enforcement (33,34). Mixed reporting regarding the effectiveness of legal proceedings is consistent with research among a sample of 298 New South Wales police, of whom only 56% agreed that liquor laws were effective in reducing alcohol-related crime, and 53% agreed that legislated penalties were insufficient to improve the responsible service of alcohol by licensed premises (20). Police in this study reported using covert policing strategies; however, no previous studies have specifically examined the effectiveness of such strategies. Where the use of covert observations has been reported, this has been with a view to informing further educative or law-enforcement responses (35).

While police use of various strategies is generally consistent with evidence regarding effectiveness, police did not indicate the use of a range of other strategies that have been demonstrated to be effective in reducing alcohol-related harm associated with licensed premises. These include supporting: reductions in the trading hours (36–38) and density (39,40) of licensed premises, increases in the minimum legal drinking age (41), and multi-component interventions in partnership with other stakeholders that seek to alter the licensed drinking environment (33,42,43).
Fourth, in terms of factors police consider in selecting policing response options, police reported consideration of several local factors, such as the characteristics of licensees, a desire to maintain professional relationships, court expectations, and levels of harm and cost. While consideration of such local issues is consistent with problem-oriented policing (5,13), there was no indication that police considered other local issues that may influence alcohol-related harm such as: the physical environment within licensed premises, local transport arrangements, and premises closing times (5,44,45). No mention was made by participants that they consider any crime prevention frameworks when selecting responses, such as situational crime prevention (26,27), crime prevention through environmental design (28) or theories of deterrence (23–25). Similarly, while one participant expressed a preference that policing strategies be based on evidence with a view to greater consistency, no officers reported routinely considering research evidence when developing policing strategies. In light of these findings, the introduction of problem-oriented policing may require strategies to enhance the range of factors police consider when developing responses to address alcohol-related harms associated with licensed premises.

The findings of this study should be interpreted in the context of its design characteristics. Only 25 of 72 officers originally contacted expressed an interest in participating. Reasons as to why the remaining officers did not express interest are unknown. The study involved the conduct of interviews until saturation of response themes was considered to have occurred. However, given that only 17 self-selected officers were interviewed, the practices reported by these participants may not be representative of other police responsible for the policing of licensed premises in New South Wales, or elsewhere. A larger study involving more participants from what is a relatively small population of such police may be of benefit.
Although the study provided insight into a range of practices among police responsible for the policing of licensed premises, the prevalence of such practices across all such police in the State is unknown. A quantitative survey of such police, informed by the findings of this study, would provide an indication of the extent to which the practices reported in this study are undertaken by all such police. This would provide a further indication of the extent of alignment between existing police practices and problem-oriented policing, and hence of the scale and nature of change required to enhance this alignment. Similarly, the extent to which the practices observed in this study also apply to those responsible for policing licensed premises in other jurisdictions is unknown. As such, further study may be warranted to establish the extent to which the findings of this study are generalisable.
REFERENCES


CHAPTER 3: EFFECTIVENESS OF AN ORGANISATIONAL CHANGE INTERVENTION IN ENHANCING POLICE RECORDING OF ALCOHOL-RELATED INFORMATION RELATING TO INCIDENTS OF ASSAULT
INTRODUCTION

THE IMPORTANCE OF INFORMATION TO PROBLEM-ORIENTED POLICING

Given problem-oriented policing’s emphasis on analysis to inform the selection of effective policing strategies (1–3), a fundamental pre-requisite of this approach to policing is the availability of information regarding the nature of identified problems (2,4,5). The importance of such information is reinforced by UK problem-oriented guidelines for addressing alcohol-related harm in the night-time economy (6), which emphasise the need for police to formally assess information regarding the following issues when planning responses: the extent and nature of alcohol-related crimes, the underlying causes of such crimes, the barriers to addressing the underlying causes, and stakeholders who can contribute to reducing such causes and barriers. Similarly, a UK evaluation of problem-oriented policing to address alcohol-related harm associated with licensed premises highlighted the importance of information to confirm the existence of problems and undertake in-depth analyses to determine the conditions giving rise to them (7). The evaluation suggested that greater timeliness and ease of access to relevant information may result in more appropriate police responses and a greater capacity to assess the effectiveness of responses.

AVAILABILITY OF INFORMATION TO SUPPORT THE PROBLEM-ORIENTED POLICING OF LICENSED PREMISES

As described in Chapter 2, participants in that study reported limitations in the capacity of police information systems to identify alcohol-related harm associated with licensed premises. This is consistent with reviews in the USA (2), UK (7,8), and Australia (9) that have concluded that many police information systems lack the capacity to describe patterns of alcohol-related crime in a way that meaningfully supports problem-oriented policing.
First, such reviews suggested that few police information systems clearly define what constitutes an ‘alcohol-related’ incident (9). For example, in a study of police incidents in New South Wales, Australia, incidents were identified as ‘alcohol-related’ based on the subjective judgement of police officers who were not provided with clear criteria for making such a judgement (10). The study acknowledged that the resulting inconsistencies in the identification of incidents as ‘alcohol-related’ limited the utility of such data for assessing the scale, nature and determinants of alcohol-related problems.

Second, despite evidence that intoxication is common in incidents attended by police (10–12) very few jurisdictions have been reported to record alcohol consumption or intoxication details for those involved in such incidents (13,14). In the absence of such information, the contribution of alcohol consumption and intoxication to the occurrence of police-attended incidents remains unclear.

Third, although evidence suggests that some locations of alcohol consumption contribute disproportionately to alcohol-related crimes (15–18), very few jurisdictions record the last place of alcohol consumption. This limits the capacity of police services to identify those locations that require prioritised intervention.

Fourth, where alcohol-related information is recorded, this most commonly occurs on an optional basis (10), with mandatory recording required only for a limited range of more serious offences such as fatal motor vehicle accidents or homicides (14), or for offences themselves defined by alcohol involvement, such as drink-driving (19,20).

In light of these limitations, it has been recommended that the capability of police to reduce alcohol-related problems associated with licensed premises could be enhanced by police: (a) developing an operationally useful definition of alcohol involvement in incidents, (b) routinely recording whether incidents follow prior alcohol consumption and
recording (c) the intoxication level and (d) the last place of alcohol consumption of individuals involved in incidents (7,9).

The collection of such information has been reported as part of an initiative undertaken in the Auckland region of New Zealand between 1991 and 2003 (‘Last Drink Surveys’) (21). Although the initiative involved the recording of information broadly in accordance with the recommendations listed above, such recording was not integrated into routine practice for New Zealand police services, with data collection primarily limited to traffic offences. Data analysis was undertaken by public health units or contracted non-government organisations prior to being provided back to police (22). As a consequence, information varied in consistency and completeness across police districts and was not systematically integrated into routine police-response decision making.

**ENHANCING POLICE ALCOHOL-RELATED CRIME INFORMATION SYSTEMS**

It has been previously suggested that the adoption of a problem-oriented approach to policing is likely to involve significant changes in how police organisations operate (23–25). A number of theoretical frameworks have been proposed to facilitate change in service delivery practices generally (26,27). Two such frameworks are ‘diffusion of innovations’ theory (28,29) and ‘organisational development’ theory (30,31). Such frameworks identify two key elements of successful change: the nature/design of the required change and the implementation of specific strategies to facilitate adoption.

Diffusion of innovations theory suggests that a range of attributes of an innovation can increase the probability of successful adoption (28,29). These include its relevance to the objectives and practices of the intended adopters, perceived simplicity, and perceived familiarity.
Organisational development theory suggests that for an organisation to adopt new practices, the following key elements are also required: support from organisational leadership for practice changes (23,32); systems and procedures that enable new practices to be implemented (23); staff confidence, knowledge and skill in new practices (23,33); the provision of regular feedback to staff regarding progress in the adoption of new practices (23,32,34) and additional support for the change process itself (24,35–37).

Such frameworks, and the reported experience of practice change in police organisations (23,25,38–41), suggest five broad strategies to increase the likelihood of successful, sustained adoption of a change in service delivery practice.

First, it has been suggested that in order to motivate and increase readiness for change, it is essential to provide a clear rationale of the need for, and benefits of the proposed change (23). Providing such a rationale may, from a diffusion of innovations perspective, highlight the relevance of an innovation (28,29) while, from an organisational development perspective, it may be intended to disrupt existing organisational norms so as to engender change (32). Evidence suggests that the leadership of an organisation, in particular, need to visibly, enthusiastically and authentically provide support throughout a change in practice (9,23,24,38,40). Such support is beneficial from both official leaders as well as organisational opinion leaders, regardless of their official position (9,24,29,42).

Second, the above frameworks suggest that to increase the likelihood of successful change it is essential to develop and implement new systems and processes that support and operationalise new practices (9,23–25,40,43). Organisational development theory suggests that individuals need to be supported to recognise why new practices are more adaptive (34). Diffusion of innovations theory suggests that new practices are more likely to be adopted if they are operationalised in ways to which the user can more readily relate (28,29). Without supporting and operationalising new practices in such a manner, it has been suggested that provision of a strong rationale for change and the support of
leadership are likely to have only a limited effect (23). Such operationalisation and support of new information recording practices may include new or altered information collection and recording tools, forms, information-technology platforms, policies and/or operating procedures.

Third, support for change is suggested to be influenced by the level of confidence staff have with new ways of working. Diffusion of innovations theory suggests that such confidence can be enhanced by ensuring that the new practices themselves are both as simple and as familiar as possible (28,29). Organisational development theory suggests that confidence can be achieved by ensuring staff have the prerequisite skills for new ways of working (23), either through recruiting staff with such skills or by providing training to up-skill the existing workforce (23,40,41). For enhancing police collection and use of alcohol-related information, such training would include ensuring that officers are confident in the steps involved in the recording of alcohol-related information both at the scene of incidents, and into electronic data systems (4,9,42,43).

Fourth, evidence suggests that organisational change may be resisted (23,32). Constant monitoring of the adoption of a change in practice and feedback of monitoring information is suggested to be a key strategy for ensuring that changes in practice are sustained (4,9,23,34,41,42).

Fifth, for organisational change to be successfully implemented it has been suggested that the change process itself needs to be resourced, rather than occurring within the resources allocated for routine service delivery (35,36). As most service delivery organisations, including police services, are expected to maintain service delivery whilst undertaking a change in practice, it has been suggested that additional human and other resources need to be provided to support the change process (24,37,41,42).
A limited number of studies, involving uncontrolled evaluation designs, have assessed the effectiveness of organisational change initiatives in supporting the implementation of problem-oriented policing (37, 44). In a study conducted in Port St Lucie, Florida, USA, an intervention that focused on enhancing the policing of construction site burglaries, and thefts from automobiles was implemented over seven years (37). Several strategies were implemented to facilitate changes in policing practice: a pre-implementation needs assessment was conducted; leadership support was gained, initially from a patrol sergeant who championed changes and subsequently from a new police chief; organisational policies and procedures were altered to increase police accountability for problem-solving; information systems were streamlined and standardised to facilitate more efficient data analysis; police were trained in problem-oriented methods; staff with experience and tertiary training in crime analysis were recruited; and change-agent (researcher) support was provided for the duration of the study. The pre-post evaluation reported that the number of construction site burglaries decreased from a peak of around 30 per month before the intervention to just over 10 per month. Reported thefts from automobiles deceased from a peak of over 80 per month, to less than 60 per month. Both decreases were in the context of a rising city population. In a second study conducted in Oakland, California, USA, a problem-oriented approach was introduced to reduce police use of violence in arrests (44). Practice change strategies included: leadership support from the chief of police, the creation of a violence prevention unit directly responsible to the chief of police, peer education of police in non-violent arrest methods and peer review of the actions of officers who displayed a pattern of arrest-related violence. A non-controlled evaluation reported that over a four year period: the number of complaints made by citizens against the police declined annually from 645 to 206 and the number of such complaints that were sustained similarly declined from 96 to 23. These outcomes
were obtained in the context of police leadership actively encouraging citizens to file complaints against police.

Two studies, conducted in Switzerland (41) and the UK (45) have reported on organisational change initiatives to support information-technology enhancements to police services. In Geneva, Switzerland (41) the upgrading of several existing information-technology applications, along with computerisation of existing manual functions, was undertaken across 21 police stations involving over 1200 police. Strategies to support the organisational change included: visible leadership from senior management and unit heads who directly explained the planned changes to their subordinates; training of police in use of the new information-technology applications; provision of 24-hour user support over a six-day transition period at each police station; and regular progress feedback to senior management. A non-controlled pre-post survey of police officers was conducted two years before implementation (n=169) and 15 days after implementation (n=99). Two years prior to implementation, 54% of respondents reported having fair to good mastery of the existing system (which had been in place for several years), compared to 35% reporting mastering of the new system 15-days post implementation. Two years prior to implementation 35% reported general satisfaction with the existing system, compared to 50% reporting general satisfaction with the new system 15-days post implementation.

In a second study conducted in the UK, a National Intelligence Model was introduced across all police services to enhance the application of information to decision making for all policing matters (45). The use of explicit organisational change strategies was not reported. A qualitative evaluation was conducted involving 31 semi-structured interviews with data analysts at three pilot police services where the model was implemented. Consistent with organisational development theory and diffusion of innovations theory, the findings suggested that the implementation of the model was more comprehensive where there was strong leadership support, more clear alignment between the model and
existing practices, more widespread understanding of the model, and greater sense of model ownership among impacted police officers (45).

In light of the small number of reported studies, and the limitations in the research designs of those outlined above, it is apparent that only limited evidence is available regarding organisational change interventions to support the adoption of either problem-oriented policing or enhanced information systems in police services. Given the reporting of participants in Chapter 2 regarding limited information systems, recommendations to enhance the capacity of police services to record alcohol-related information, and in the absence of any controlled studies of the effectiveness of an organisational change intervention in facilitating such a practice change, a study was undertaken to determine the immediate and sustained effectiveness of such an intervention in enhancing police recording of alcohol-related information.

**METHODS**

**STUDY DESIGN**

A three-stage multiple-baseline stepped-wedge study was undertaken (46,47). The stepped-wedge study design was selected as it provides a number of pragmatic and scientific advantages that are relevant to the conduct of complex interventions in a service delivery environment (48,49). First, the design is more cost effective in determining the effectiveness of interventions than a conventional cluster randomised controlled trial. Second, the design allows all study participants to receive the anticipated benefits of the intervention, while its sequential implementation allows for the monitoring of extraneous variables on the outcome of interest (49). Third, the design addresses the practical difficulty of recruiting a sufficient number of police service commands, and provides for increased evaluation efficiency by using each group as its own control (48,49). Fourth, the design serves to demonstrate the feasibility of implementing the intervention in an
operational environment, a key determinant of the likelihood that the intervention will be sustained as routine practice (48).

**SETTING AND SAMPLE**

The intervention was applied across the entire police service in New South Wales, Australia (approximately 15,000 staff) as a component of an initiative known as the Alcohol Linking Program (50). Stage 1 of the intervention involved all operational police in 21 non-metropolitan police commands covering urban, rural and remote areas of the state. Stage 2 involved all operational police in a further 13 non-metropolitan commands, and Stage 3 involved all operational police in the remaining 46 metropolitan commands (Sydney) (Appendix 3.1). Based on the stepped wedge design, for each stage of the study, data regarding the characteristics of police-attended incidents were obtained for varying lengths of time; 45 months for Stage 1, 30 months for Stage 2, and 16 months for Stage 3.

Police recording of information on the alcohol-related characteristics of attended incidents was assessed with respect to one incident type: assaults. Assaults were selected as evidence suggests that alcohol consumption is commonly associated with the occurrence of such violent incidents (51,52). In addition, incidents of assault are more likely to be reported to, rather than detected by police, making recorded assault rates less likely to be influenced by changes in police service delivery (53).

**DATA COLLECTION PROCEDURES**

Assault incident data were extracted from the New South Wales Police centralised incident database, in which details of all police attended incidents are mandatorily recorded.
Pre-intervention Alcohol-related-information Characteristics of Assault Incidents

Prior to the study, the central police incident database did not support the standardised recording of the recommended alcohol-related information for people involved in incidents, including assaults. This included no capacity for the systematic recording of: a person’s consumption of alcohol prior to involvement in an incident; their level of intoxication; their last place of alcohol consumption; nor the name and address of any licensed premises that had been their last place of alcohol consumption. The incident database did allow police to flag whether an incident was ‘alcohol-related’. However, such flagging was discretionary, with no formal guidance as to what constituted an ‘alcohol-related’ incident. In addition, flagging was at the level of a whole incident, not at the level of an individual involved in an incident. Police could record alcohol-related details in a free-text, narrative fashion, however, these details were neither readily retrievable nor amenable to timely, systematic analysis.

INTERVENTION

Based on theory and evidence regarding both the diffusion of innovations and organisational development (23,28,29,32,34), the intervention involved two elements intended to facilitate recording of the new information: (a) the content and design of the new information items and recording procedures and (b) the implementation of organisational development strategies.

The New Alcohol-related Information Items

Based on previously described recommendations (7,9) police were required to routinely collect four additional information items regarding the alcohol consumption characteristics of each person involved in an incident: alcohol consumption status; intoxication status; last place of alcohol consumption; and, if the last place of alcohol consumption was a licensed premises, the name and address of the premises (Figure 1).
Several characteristics of the new information items were considered to increase the likelihood that the information would be routinely and consistently collected. The information items were selected so as to be relevant to police alcohol-related crime reduction objectives, and to address existing limitations in information collection. The number of new information items was intentionally minimised. At the scene of incidents, formally approved procedures directed police to collect information regardless of how a person was involved in an incident (e.g. offender or victim). Information was to be collected based on either direct police observation, or a person's self-report. No information was to be collected for those who had left the scene of an incident or were unable/unwilling to provide information. Assessment of intoxication status was based on behavioural indicators previously reported to be valid and reliable (54). The new information items reflected information already familiar to, and collected by police, though not recorded in a consistent or systematic manner.
In each of the three implementation stages, five organisational development strategies were implemented to embed police recording of the required information into routine policing practice:

**Gaining Leadership Support**

Support for the initiative was developed through the ongoing delivery of presentations to various levels of leadership within New South Wales Police (e.g. Assistant Commissioners, Regional Commanders, and local Crime Managers). The presentations addressed the rationale for, potential benefits of, and progress of the initiative. Formal support for the
initiative was gained from the NSW Police Commissioner and the Executive Sponsor/Spokesperson for Alcohol-related Crime (Assistant Commissioner). Senior police were encouraged to promote the initiative directly to both subordinate officers and external stakeholders. Formal approvals from police leadership were obtained to integrate the initiative into existing policies and practices with regard to information management, training, and performance monitoring. In addition, approval was received for the recording of the new information items to be made mandatory, as was attendance at related training.

**Enhancing Information Recording Procedures and Systems**

To enhance both the reliability and ease of information recording, standard operating procedures were implemented specifying how the information was to be collected at the scene of incidents (as described above), and subsequently electronically recorded.

To further facilitate the reliable and consistent recording of collected information, the centralised New South Wales Police incident database, into which all police were required to enter information regarding each attended incident, was modified to allow recording of the four new information items. The database was modified such that police could not complete incident reports without completing the new alcohol-related information items. The database was also modified so that if any person involved in an incident was recorded as having consumed alcohol prior to the incident (item 1), the whole incident was automatically flagged as being ‘alcohol-related’. To increase the benefits of the recorded information to police, the database was further modified by the development of automated data extraction processes and reporting functions.

**Training of Police in Information Collection and Recording**

Initially, all police were provided with opportunities to attend training in the collection and recording of the new information items. Subsequently, training was mandated by the New South Wales Police Commissioner, as part of alcohol-related crime training for all
police across the state. Training was integrated into existing settings for education such as recruit training, ongoing professional development, and shift changeovers. As well as addressing information recording procedures, training highlighted the rationale and potential crime-reduction benefits of recording the new alcohol-related information. Training sessions were supported by comprehensive learning resources including presentations, manuals, promotional materials, web-based resources, and an email helpline (see Appendices 3.2 and 3.3).

Performance Monitoring

Verification of the accuracy of the recorded information was integrated with existing police procedures for the verification of electronically recorded incident information. Monthly feedback reports of both the quantity and quality of the recorded information were provided to regional and local area commanders. Such reports compared information recording levels against agreed benchmarks, and also provided comparisons of information recording performance between commands and over time (Appendix 3.4).

Change Implementation Support

To maximise the likelihood that the recording of the new alcohol-related information items became a sustained part of routine police practice, and to ensure that the delivery of existing police services was not adversely compromised during the implementation phase, support was provided by additional full time, research-team staff located in regional police facilities for periods of 20 months (Stage 1 and 2) and 12 months (Stage 3). Support staff: acted as advocates for the required changes; provided presentations to leadership; monitored and provided problem solving support to police in the collection, recording, verification and retrieval of the new information items; facilitated formal training and conducted ad hoc training where necessary; facilitated the preparation and dissemination of feedback reports; and provided follow-up support in line with performance feedback.
Pilot Testing of the Intervention

Given the complexity of the above intervention, pilot testing was initially conducted. First, as the intervention involved changing police practices regarding the collection and application of information, an assessment of the feasibility and acceptability of police collecting and recording the required information was undertaken in one police Local Area Command, using a project-specific form over a 6-month period. The results indicated the feasibility of data collection by police, and its subsequent collation and analysis such that an association could be drawn between a person involved in an incident and their prior consumption of alcohol at a specific licensed premises. Participating police also reported that the content and process of data collection were acceptable.

Second, the potential efficacy of the collected information in supporting police response was assessed in a randomised controlled trial, involving 400 licensed premises in the Hunter Valley and Central Coast regions of New South Wales (50). The trial was supported by local police leadership. Study-specific protocols for collecting and analysing the information were developed. Police were trained to apply the recorded information to the policing of licensed premises, including its use to support delivery of an educational feedback intervention to those licensed premises associated with alcohol-related incidents. Evaluation of the pilot study found that the information could be collected with sufficient consistency and accuracy to support the delivery of the educational intervention. Over a 3-month follow-up period this intervention resulted in a 15% greater reduction (p<0.08) in the number of people involved in alcohol-related incidents associated with licenses premises receiving the intervention, compared to those premises that did not (50).

MEASURES

Four outcome measures were used to determine the extent to which the new information was recorded by police:
1) Recording of alcohol consumption prior to involvement in an assault was measured as the proportion of people involved in an assault for whom Item 1 (see Figure 1) was recorded as either ‘Yes’ or ‘No’.

2) Recording of the level of intoxication of people who had consumed alcohol prior to an assault was measured as the proportion of people for whom Item 1 was recorded as ‘Yes’, and Item 2 was recorded as either ‘Not’, ‘Slightly’, ‘Moderately’, ‘Well’ or ‘Seriously’ intoxicated.

3) Recording of the last place of alcohol consumption of people involved in an assault was measured as the proportion of people for whom Item 1 was recorded as ‘Yes’, and Item 3 was recorded as either ‘Licensed premises’, ‘Home/private residence’, ‘Non-licensed restaurant/café’, ‘Public place’ or ‘Special licensed event/function’.

4) Recording of the name and address of a licensed premises where people involved in an assault had last consumed alcohol at a licensed premises was measured as the proportion of people for whom Item 3 was recorded as ‘Licensed premises’, and the name and address of a specific premises had been recorded for Item 4.

**ANALYSIS**

As the existing central police incident database and procedures did not provide for the recording of the four new information items prior to the intervention, no comparable pre-intervention data were available. As a consequence, baseline levels of the four measures of police recording of new information were assumed to be zero.

For each intervention stage, each of the four measures was calculated for two time periods. To assess the immediate effect of the intervention, each proportion was calculated for the first month following the introduction of the intervention. To assess the sustainability of the intervention effect, the mean proportion and standard deviation for each measure were calculated for the period commencing one month after the
introduction of the intervention in each stage to the end of the follow up period (16 months after the introduction of the intervention in the third stage).

**RESULTS**

**PARTICIPANTS**

Over the 45 months of Stage 1, 123,420 people were recorded as being involved in an assault. For Stages 2 and 3, the corresponding numbers were 70,983 (30 months) and 85,879 (16 months) respectively.

**ALCOHOL CONSUMPTION PRIOR TO INVOLVEMENT IN AN ASSAULT**

For each stage, in the month following the introduction of the intervention, the proportion of people involved in an assault whose prior alcohol consumption status was recorded, ranged from 79% to 85% (Figure 2). For each stage, from the month after the introduction of the intervention to the completion of the follow up period, the mean proportion of such people for whom this information was recorded was 89.1% (S.D. 2.2%), 88.7% (S.D. 3.4%) and 90.7% (S.D. 1.8%) respectively.
Figure 2. Proportion of people involved in assaults for whom prior alcohol consumption information was recorded.

LEVEL OF INTOXICATION

Over the 45 months of the first stage, 42,501 people involved in an assault (34.4% of the total) were recorded as having consumed alcohol prior to the incident. The corresponding numbers for Stage 2 were 23,037 (32.5%) and for Stage 3, 22,263 (25.9%).

For each stage, in the month following the introduction of the intervention, the proportion of people who had consumed alcohol prior to being involved in an assault whose level of intoxication was recorded was 100%. For each stage, from one month after the introduction of the intervention to the completion of the follow up, the mean proportion of such people whose level of intoxication was recorded was virtually 100% with all means greater than 99.9% and all S.D.’s less than 0.1% (as all proportions were virtually 100%, no figure has been provided).
The recorded information showed that, across the three stages, between 68.8% and 71.0% of people who had consumed alcohol prior to being involved in an assault were moderately, well or seriously intoxicated.

**LAST PLACE OF ALCOHOL CONSUMPTION**

For each stage, for the month following the introduction of the intervention, the proportion of people that had consumed alcohol prior to involvement in an assault for whom a last place of alcohol consumption was recorded ranged from 83.9% to 85.3% (Figure 3). From the month after the introduction of the intervention to the completion of the follow up period, the mean proportion of such people for whom last place of alcohol consumption information was recorded was 89.0% (S.D. 2.1%), 88.7% (S.D. 2.5%) and 85.4% (S.D. 1.7%) for stages 1, 2 and 3 respectively.

The recorded information showed that, across the three stages, between 34.4% and 47.3% of people involved in an assault and who were moderately well or seriously intoxicated had last consumed alcohol on a licensed premises. Between 31.0% and 47.9% of such people had last consumed alcohol in a private home and between 3.2% and 5.0% had last consumed alcohol in a public place.
Figure 3. Proportion of people involved in assaults who had consumed alcohol prior, for whom information had been recorded about their last place of consumption.

NAME AND ADDRESS OF A LICENSED PREMISES

Over the 45 months of the first stage, 14,646 people involved in an assault were recorded as having last consumed alcohol on licensed premises. The number of such people was 8,597 for Stage 2, and 10,281 for Stage 3.

For each stage, in the month following the introduction of the intervention, the proportion of people involved in an assault who were recorded as last consuming alcohol on licensed premises and for whom the name and address of a specific licensed premises were recorded ranged between 93.1% and 98.0% (Figure 4). From one month after the introduction of the intervention until the completion of the follow up period, the mean proportion of such people for whom such information was recorded was 97.5% (S.D. 1.9%), 97.9% (S.D. 1.6%) and 98.9% (S.D. 0.7%) for stages 1, 2 and 3 respectively.
DISCUSSION

The results demonstrate the effectiveness of an organisational change intervention in enhancing the routine recording of alcohol-related information by police. That such an enhancement was: similarly evident across all four information items; repeated in each of the three stages; implemented across an entire police jurisdiction; and maintained for up to 45 months strengthens this conclusion. The finding demonstrates the feasibility of establishing an alcohol-related information platform within a police service upon which a problem-oriented approach to the policing of alcohol-related crime can be based. The findings demonstrate not only the ability to establish such a platform, but also the need for such a platform. The pattern of alcohol-related crime revealed by the recorded data indicated that between one third and one half of intoxicated people involved in a police-attended assault last consumed alcohol on a licensed premises prior to the incident. The
results therefore confirm the need for an enhancement of the policing of such premises, and demonstrate an information-based platform to support such enhanced policing.

This is the first reported controlled study of the effectiveness of an organisational change intervention in enhancing the informational capability of police regarding alcohol involvement in police-attended incidents. Despite a lack of directly comparable studies, the results are consistent with the direction of other studies that have suggested that planned organisational change interventions can support the enhancement of the informational capability of police services (41,45).

The results are also consistent with the findings of a limited number of studies that have reported the prevalence of police recording of alcohol-related information. For example, a previous study examining police-attended assaults in an inner city area in Sydney, Australia over a 4 week period (11) reported that 95% of incident reports included information regarding the alcohol-related status of people involved. Such information was recorded by police on incident survey forms developed for the study. Similarly, the alcohol-related status of people involved in police-attended incidents was recorded for 81.1% of survey data in a study assessing the prevalence of alcohol involvement in police-attended incidents over a two-week period, across five police regions in south east Queensland (55). In a third study conducted over 6 months in Perth, Western Australia, details of drink-driver’s last place of alcohol consumption prior to involvement in a police-attended incident were recorded in 93.6% of cases (19). However, the findings of all these studies were based on information collected specifically for research purposes, rather than on information routinely recorded by police. The present study not only demonstrates the ability of police to collect and record enhanced alcohol-related information, but demonstrates the feasibility of their doing so in a consistent and sustained manner as a part of routine practice.
One previous study, conducted over four-months in Tasmania, Australia reported that, as part of routine practice, police recorded details regarding the last place of alcohol consumption for 100% of a sample of 716 people charged with a drink-driving offence (20). A licensed premises was indicated as the type of last place of alcohol consumption for 50% of offences (n=354), with a specific licensed premises being recorded for 43% of offences and an unspecified licensed venue (e.g. ‘a hotel’) being recorded for 7% of offences. The results presented above indicate that similar levels of information recording in relation to last places of alcohol consumption and specific licensed premises locations (where appropriate) can be achieved with regard to incidents of assault; a type of incident that, unlike drink-driving, is not itself defined by alcohol involvement.

The sustained recording of alcohol-related information on a jurisdiction-wide basis, as observed in this study, suggests a number of potential benefits for the policing of alcohol-related crime. The primary benefit involves greater police insight into the sources, extent and nature of the involvement of alcohol in incidents of crime. Based on such information, there is potential for police to adopt a best practice approach to responding to alcohol-related crime, such as problem-oriented policing. The need for such an approach is illustrated by the finding that, despite legislation prohibiting the staff of licensed premises from serving alcohol to intoxicated patrons, between 34.4% and 47.3% of intoxicated people involved in an assault had last consumed alcohol at a licensed premises. Such data suggest that enhanced policing of licensed premises could contribute to reducing alcohol-related assaults by up to approximately one half. Similarly, the finding that the consumption of alcohol in private homes precedes approximately one third to one half of alcohol-related assaults suggests a need for additional harm reduction strategies focused on this setting.

Police are not the only possible beneficiaries of the enhanced alcohol-related information made available by the intervention. A range of public agencies currently rely on proxy
measures of alcohol-related harm (e.g. night time crashes or assaults, or aetiological fractions) in order to plan, implement and evaluate harm-reduction policies and interventions (13,14). The potential exists for the information recorded in this study to be combined with such proxy measures (13), thereby providing a more robust basis upon which other agencies and researchers can monitor and identify trends, characteristics and determinants of alcohol-related crime (12,17,56,57), and develop, monitor and evaluate alcohol-related harm reduction interventions (58,59).

The results of this study should be considered in the context of a number of its design characteristics. First, it is possible that the recorded information underestimates the involvement of alcohol in police-attended incidents. Police were directed only to record the prior alcohol consumption status of persons where this could be determined through direct observation or questioning. For those cases in which police could not directly determine this status, some proportion may have involved alcohol consumption or intoxication prior to the incident. It is also possible, despite attempts to minimise the impact of the new information items on existing workloads, that some police recorded 'No' or 'Not known' to the first information item to avoid recording data for the remaining items.

Second, information regarding the last place of alcohol consumption, and the names and addresses of licensed premises, were based on the self-report of people identified as having consumed alcohol prior to their involvement in an incident. The accuracy of this information could be compromised by the effects of alcohol on the individuals concerned. The extent of any such inaccuracy is unknown. The collection of information with such limitations is, however, a routine part of police practice, recognising that its utility is restricted to an intelligence function, providing a basis for the collection of more reliable and valid information upon which further action may be taken.
Third, while the stepped wedge research design has been considered appropriate for the analysis of complex, large-scale public health interventions (46,47), its application was necessarily modified due to the service-wide implementation focus of this study. As a consequence, the order of areas receiving the intervention could not be randomly allocated.

Fourth, a baseline prevalence of zero was assumed for each of the four measures. Although this assumption is appropriate given that the information items were new, it was possible for police to flag incidents as ‘alcohol-related’ before the intervention was introduced. Briscoe and Donnelly (2001) reported that the prevalence of assault incidents flagged as ‘alcohol-related’ by New South Wales police was 23.1% (10). Direct comparison between this study and that of Briscoe and Donnelly (2001) is not appropriate due to sample-frame and definitional differences. However, the observation in this study that between 25.9% and 34.4% of people involved in assaults had consumed alcohol prior to the incident suggests that police may now be more aware of the involvement of alcohol in such incidents.

Fifth, the multi-strategic nature of the intervention does not allow determination of the relative contribution of each aspect of the intervention to the overall outcome. While previous attempts to implement problem-oriented policing have recommended a multi-strategic intervention to achieve changes in police practice (4,24,43,60), it is possible that similar results could be obtained with different, fewer or less intensive intervention strategies. Further research is required to identify the most cost effective use of strategies to achieving the desired outcomes.

Sixth, the intervention was implemented in a single police jurisdiction in Australia, thereby potentially limiting its generalisability. However, as each element of the intervention was generic in nature and could be tailored and scaled to accommodate variations between jurisdictions in terms of information systems, data collection
processes and legislative context, it may have the potential to be implemented more broadly. This potential has been demonstrated by the successful implementation by New Zealand Police of an alcohol-related information system using similar intervention strategies (61). The implementation by South Australia Police of a similar alcohol-related information system, although not involving the same organisational change intervention, supports the broader feasibility of police services implementing such systems (62).

Seventh, this study assessed the impact of the intervention on the recording of data for one indicator category of attended incidents: assaults. Further research is required to clearly determine the effectiveness of the intervention on the recording of equivalent information for other incident categories.

Given the immediate and marked increases in the recording of information following intervention delivery, the sustainability of these increases over time, and the replication of these outcomes across all three stages, it appears reasonable to conclude that, in the absence of other known interventions or events occurring at the time of the study, the observed level of information recording can be attributed to the intervention.

The realisation of the potential harm reduction benefits of such enhanced alcohol-related information is entirely dependent on the extent and manner in which the data are subsequently applied to developing and delivering police responses. The implementation of a problem-oriented policing approach involving the application of data to assist evidence-based response development has led to demonstrable reductions in harm in other areas of policing (63), including homicide (64) and drug dealing (65). While police currently use a range of strategies to support liquor licensing regulations (66), evidence suggests that such strategies are commonly applied in a non-systematic and reactionary fashion (9,67). Therefore, to realise the potential harm reduction benefits of enhanced alcohol-related information, further intervention within police services may be required.
# REFERENCES


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CHAPTER 4: TYPES OF POLICING STRATEGIES APPLIED TO LICENSED PREMISES ASSOCIATED WITH ALCOHOL-RELATED HARM
INTRODUCTION

As described in Chapter 1, problem-oriented policing calls on police to be multi-strategic in their approach to reducing alcohol-related harms associated with licensed premises (1–3). The strategies police might use have been suggested to form a continuum, ranging from educational initiatives to facilitate voluntary compliance through to formal legal proceedings where compliance has not been forthcoming (4–6).

First, educational strategies that police might initially consider to promote voluntary compliance may include informing licensees and serving staff of their legal responsibilities, and providing training in practical methods for identifying intoxicated patrons, slowing alcohol consumption and refusing alcohol service (1,7–9). Such educational strategies may also include training in broader harm reduction approaches such as crowd control, appropriate entertainment, non-drinking driver programs, modifying the physical environment, and acceptable dress & behaviour codes (1,10). Informing licensees of associations between their premises and the involvement of patrons in police-attended incidents has also been used to encourage voluntary compliance with liquor regulations (11,12).

Second, where levels of harm indicate that voluntarily compliance with legalisation is not forthcoming, additional deterrent strategies may be appropriate. Such strategies seek to facilitate compliance by: increasing perceptions that non-compliance will be detected, increasing the cost and effort of non-compliance, and/or decreasing the rewards for non-compliance (13–16). For example, high visibility policing operations may increase perceptions that detection of non-compliance will be more likely (17,18). Similarly, highlighting to licensees that breaches may result in license suspensions or opposition to applications for commercial improvements may serve to increase the perceived costs of non-compliance (19,20).
Third, beyond deterrence, where breaches of legislation are suspected, police may gather additional evidence to determine the need for, and support the potential implementation of formal enforcement responses. Such strategies may involve police observing premises overtly or covertly, interviewing licensees, other staff, patrons, or those living or working nearby, or seizing electronic or hard-copy records (21). While all evidence-gathering strategies may contribute to subsequent formal enforcement strategies, the more overt of these strategies may also have a deterrent effect regardless of their progression toward formal enforcement proceedings (1).

Fourth, where previous policing responses have not led to compliance or where the circumstances or extent of non-compliance require a formal response, police may pursue formal enforcement actions against a licensee (1). Such enforcement strategies may involve the issuing of formal warnings or infringement notices (22,23) or summoning licensees or serving staff to appear before tribunals or courts to face civil matters or criminal charges (21).

As well as assessing the nature of problems, problem-oriented policing proposes that analysis should also consider the range of responses being undertaken (24,25). Despite such recommendations, and the range of potential policing responses described above, there is limited evidence regarding the types of policing strategies applied to licensed premises, with available evidence having focused on formal enforcement actions such as court proceedings and the issuing of fines (26–28).

The findings of such studies suggest that the prevalence of formal enforcement is particularly low with regard to those supplying alcohol to already intoxicated patrons. In Australia, Briscoe & Donnelly (2003) reported that of 4,733 breaches of liquor laws in New South Wales in 2001, only 110 (2.3%) were for permitting intoxication at a licensed premises and only 33 (0.7%) were for supplying alcohol to an intoxicated person at a licensed premises (26). In contrast, 1332 breaches (28.1%) were against patrons for
failing to leave a licensed premises when requested. Findlay et al. 2002, have reported similar patterns in Queensland, Australia regarding the supply of alcohol to minors (27). Among a sample of 270 rural police officers, 18% reported having enforced a relevant breach against a vendor or licensee in the previous 12 months, while 62% had enforced a breach against an individual. The pattern was similar for 336 urban officers in the same study: 14% of breaches against a vendor or licensee; 52% against an individual. In the USA, Wagenaar & Wolfson (1995) described the pattern of enforcement regarding the supply of alcohol to minors across 295 counties in four states over a three year period (28). They found that the median rates of enforcement per year were: 26 arrests of 16-20 year olds for liquor offences; one action against a person for supplying alcohol to a minor; and zero license suspensions or revocations for supplying alcohol to a minor. No studies have reported the prevalence of other policing strategies with licensed premises, either singly or in multi-strategic terms.

In summary, while problem-oriented policing supports a multi-strategic, preventive approach to policing licensed premises (1–3), to date there is limited reported evidence regarding the various strategies that are used to police licensed premises. This study was conducted to determine the types of policing strategies applied to licensed premises associated with alcohol-related harm, and the relationship between levels of alcohol-related harm associated with individual premises and the application of various policing strategies.

**METHOD**

**STUDY DESIGN AND SETTING**

A retrospective, descriptive study of policing practices was undertaken in the state of New South Wales (NSW), Australia.
SAMPLE

Police Commands

Consistent with the reported higher prevalence of alcohol-related harm in non-urban areas (29–31), the study was conducted in all 34 non-metropolitan police commands in the state (total 80 commands) (Appendix 4.1). The area covered by the 34 commands accounted for 41.7% of the population of the state (32).

High-risk Premises

Evidence consistently indicates that relatively few licensed premises account for a disproportionately large number of incidents of alcohol-related harm (33–38). Consistent with this evidence, and based on the information system described in Chapter 3, police in the study area routinely collect alcohol-related information to identify those premises that are at greater risk of being associated with such harm (11,37). Collected information includes: whether a person involved in an incident consumed alcohol prior to the incident occurring, the intoxication level of those involved in incidents (‘not’, ‘slightly’, ‘moderately’, ‘well’ or ‘seriously’ intoxicated), and the last location of alcohol consumption prior to an incident, including the name and address of any relevant licensed premises.

Using this information, ‘high-risk’ premises were defined as the three licensed premises in each of the 34 commands most frequently recorded over the previous six months as the last place of alcohol consumption for 'moderately', 'well' or 'seriously' intoxicated people (hereafter referred to as ‘intoxicated people’) involved in police-attended incidents (102 high-risk premises in total). In identifying such premises, all intoxicated people were counted regardless of the type of incident in which they were involved (e.g. assault, domestic violence, drink-driving), or the nature of their involvement (e.g. alleged offender, victim, driver).
DATA COLLECTION PROCEDURES

Policing Strategies Applied to High-risk Premises

Based on a retrospective review of police records, a self-report audit was conducted that assessed the types of policing strategies that had been undertaken with respect to each high-risk licensed premises over the previous six months. To collect the audit data for each command, senior officers (Crime Managers) were asked to complete a pen-and-paper form (Appendices 4.2 and 4.3) and subsequently participate in a computer-assisted telephone interview that mirrored the form. To reduce potential reporting biases, the three high-risk premises for each command were listed on the audit forms in alphabetical (rather than rank) order.

The audit assessed sixteen policing strategies derived from a review of policing literature (4,25,36,39,40), a review of NSW Police policy and procedures for alcohol-related crime (21), and interviews with key police officers (see Chapter 2). The policing strategies addressed four types of policing practice: Education, Deterrence, Evidence Gathering, and Formal Enforcement (Table 1). For each high-risk premises, participants were asked whether each strategy had been used at least once during the six-month study period (‘Yes’, ‘No’ or ‘Don’t know’). The audit also recorded the total number of full time equivalent Licensing Officers and intelligence analysis staff (both sworn and civilian) in each command.

Numbers of Intoxicated People Involved in Incidents Who Last Consumed Alcohol at High-Risk Licensed Premises

The routinely collected alcohol-related information used to identify high-risk premises was used to determine the number of intoxicated people who had last consumed alcohol at each such premises prior to their involvement in an incident over the six month study period.
Table 1. Policing Strategies.

**Educational Strategies:**

1. **Sending Letters.** Sending a standard letter reminding licensees that police routinely collect alcohol-related incident data and of their responsibilities under New South Wales liquor laws.

2. **Sending Reports.** Sending a report detailing occasions when a licensee's premises had been recorded as the last place of alcohol consumption for people involved in a police-attended incident.

3. **Audits and Feedback.** Auditing premises to identify alcohol-related harm risk factors and providing licensees with written feedback.

**Deterrence Strategies:**

4. **Tasking Patrol Cars.** Tasking patrol cars to cruise by or park near premises.

5. **Walkthroughs.** Tasking uniformed police to walk through premises.

6. **Tasking RBT Units.** Tasking Random Breath Testing (RBT) units with reference to premises.

7. "Blitz" **High Visibility Policing.** Including premises in larger, blitz-style, high visibility policing operations.

**Evidence Gathering Strategies:**

8. **External Observations.** Conducting observations or surveillance outside premises.

9. **Internal Observations.** Conducting observations or surveillance inside premises.

10. **Seizing CCTV.** Seizing Closed Circuit Television footage.

11. **Interviewing Licensees.** Speaking with or interviewing the licensee.

12. **Interviewing other staff.** Speaking with or interviewing other staff.

13. **Interviewing Patrons.** Speaking with or interviewing patrons.

**Formal Enforcement Strategies:**

14. **Written Warnings.** Issuing written warnings to licensees or staff in relation to intoxicated patrons.

15. **Fines.** Issuing fines to licensees or staff in relation to intoxicated patrons.

16. **Legal Proceedings.** Commencing legal proceedings against licensed premises in relation to their alcohol service practices.
MEASURES AND ANALYSIS

Types of Policing Strategies Applied to High-risk Licensed Premises

The types of policing strategies applied to each high-risk premises was determined in four ways.

Number of Premises Receiving Policing Strategies

The number of high-risk premises that were subject to each of the sixteen strategies during the study period was calculated. In addition, for each of the four types of strategy (Education, Deterrence, Evidence Gathering, and Formal Enforcement) the number of high-risk premises to have been subject to at least one strategy of that type was calculated.

Number of Strategies Applied to Individual High-risk Premises

For each high-risk premises, a 'policing strategy score' was calculated by summing the number of policing strategies that had been applied to the premises (score range: 0-16). The mode, range, mean and standard deviation for this score were calculated. In addition, for each high-risk premises, a 'multi-strategic policing score' was calculated by summing the number of different types of strategy (Education, Deterrence, Evidence Gathering, and Formal Enforcement) that had been applied to the premises. A premises was allocated a 'multi-strategic policing strategy score' of 1 if strategies of only one type had been applied to it, up to a score of 4 if all four types of strategies had been applied.

Association Between Alcohol-related Harm and the Number of Policing Strategies Applied to High-risk Premises

For each high-risk licensed premises, the total number of intoxicated people recorded by police to have last consumed alcohol at the premises prior to their being involved in an incident was calculated as an 'alcohol-related harm score'. Separate multiple linear regression analyses (41) were conducted to examine the association between the alcohol-related harm score and (a) the policing strategy score and (b) the multi-strategic policing strategy score. The alcohol-related harm score was the
independent variable in both analyses. The number of full time equivalent Licensing Officers and intelligence analysis staff in each command was controlled for in each model to account for the possibility that the number of such staff may be associated with the use of policing strategies. The models also tested for any interaction between numbers of such staff and alcohol-related harm scores.

**RESULTS**

**SAMPLE**

**Police Commands**

All 34 commands provided alcohol-related information to determine total numbers of intoxicated people associated with high-risk premises and all 34 completed the audit process. In 33 commands the audit was completed by a Crime Manager and in one case by a Licensing Officer.

**High-risk Licensed Premises and Numbers of Intoxicated People Involved in Incidents**

Data for 101 high-risk licensed premises were analysed. One high-risk premises was excluded due to licensee changes during the study period. The 101 high-risk premises represented 6.4% of the 1578 premises that were recorded at least once during the six-month study period as being the last place of alcohol consumption for an intoxicated person involved in a police-attended incident. Over the same period, these 101 premises accounted for 35.9% of the 10,642 intoxicated people that were recorded as having last consumed alcohol at a licensed premises before being involved in a police-attended incident (Table 2). Month by month, this proportion varied by 4.0%, ranging from 33.8% to 37.8%.
Table 2. Number of people recorded as involved in police-attended incidents across the 34 Commands, and number of associated licensed premises.

<table>
<thead>
<tr>
<th>People recorded as involved in a police-attended incident...</th>
<th>People</th>
<th>Licensed Premises</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N (people)</td>
<td>% of row above</td>
</tr>
<tr>
<td>People recorded as involved in a police-attended incident...</td>
<td>344,645</td>
<td>N/A</td>
</tr>
<tr>
<td>...and who had consumed alcohol prior...</td>
<td>50,261</td>
<td>14.58%</td>
</tr>
<tr>
<td>...and who were intoxicated...</td>
<td>33,491</td>
<td>66.64%</td>
</tr>
<tr>
<td>...and who last consumed at any identified licensed premises...</td>
<td>10,642</td>
<td>31.78%</td>
</tr>
<tr>
<td>...and who last consumed at a high-risk licensed premises.</td>
<td>3,822</td>
<td>35.91%</td>
</tr>
</tbody>
</table>

Per premises, the number of intoxicated patrons involved in incidents ranged between 7 and 117 (mean = 37.8, S.D. = 20.7). When high-risk premises were grouped together within each command, the number of such people ranged between 22 and 252 (mean = 112.4, S.D. = 49.7), accounting for between 22.3% and 53.2% of all people involved in incidents within each command to have last consumed alcohol at any licensed premises.

**NUMBER OF PREMISES RECEIVING POLICING STRATEGIES**

Figure 1 shows the number of high-risk premises that were subject to each policing strategy during the study period. The most frequently applied strategies were walkthroughs (97% of premises), tasking of patrol cars (92%), interviewing or speaking with the licensee (88%), and "blitz" high visibility policing operations (72%). The least frequently applied strategies were: conducting audits and providing written feedback (25% of premises), commencing legal proceedings (22%); issuing written warnings (21%) and issuing fines (19%).
The number and proportion of high-risk premises that were subject (at least once) to different types of strategies varied between strategy types. Sixty-one high-risk premises (60%) were subject to at least one educational strategy. All 101 high-risk premises were subject to at least one deterrent strategy, 97 (96%) were subject to at least one evidence gathering strategy and 41 (41%) were subject to at least one formal enforcement strategy.

![Diagram showing the number of high-risk premises subject to different police strategies.](image)

**Figure 1.** Number of high-risk premises that were subject to police strategies at least once during the study period.

**NUMBER OF STRATEGIES APPLIED TO HIGH-RISK PREMISES**

Across high-risk licensed premises, the modal policing strategy score was 11 (range: 1-15), and the mean was 8.7 strategies (S.D. = 3.4).

Thirty-five of the 101 high-risk premises (35%) had a multi-strategic policing strategy score of 4, indicating that they were subject to at least one strategy of each type. Thirty-
one premises (31%) had a multi-strategic score of 3, 32 premises (32%) had a score of 2, and three premises (3%) had a score of 1.

**ASSOCIATION BETWEEN ALCOHOL-RELATED HARM AND NUMBER OF POLICING STRATEGIES APPLIED TO PREMISES**

The results of the multiple linear regression analyses suggested that both the alcohol-related harm score and the number of full time equivalent licensing and intelligence staff were significant positive predictors of the policing strategy score (Overall F-score = 16.53, p<0.001, $R^2 = 0.252$) (Table 3). The interaction of these variables was not significant, suggesting that alcohol-related harm scores and number of full time equivalent officers were independently predictive of policing scores. As Table 3 indicates, assuming that the number of full time equivalent staff remained constant, on average police undertook one more strategy for approximately every additional 19 intoxicated people associated with a high-risk premises (1 / the parameter estimate of 0.05289).

**Table 3. Parameter Estimates for policing score regression model.**

<table>
<thead>
<tr>
<th>Variable</th>
<th>DF</th>
<th>Parameter Estimate</th>
<th>Standard Error</th>
<th>t Value</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>1</td>
<td>4.35079</td>
<td>0.83373</td>
<td>5.22</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Alcohol-related Harm</td>
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<td>0.05289</td>
<td>0.01556</td>
<td>3.40</td>
<td>0.0010</td>
</tr>
<tr>
<td>FTE Officers</td>
<td>1</td>
<td>0.60912</td>
<td>0.19549</td>
<td>3.12</td>
<td>0.0024</td>
</tr>
</tbody>
</table>

**Multi-strategic Policing Strategy Score**

Both the alcohol-related harm score and the number of full time equivalent licensing and intelligence staff were significant positive predictors of the multi-strategic policing score (Overall F-score = 10.57, p<0.001, $R^2 = 0.1774$) (Table 4). The interaction of these variables was not significant, suggesting that alcohol-related harm scores and number of full time equivalent officers were independently predictive of multi-strategic scores. As
Table 4 indicates, assuming the number of full time equivalent officers remained constant, on average police employed strategies from one more strategy-type for approximately every additional 81 intoxicated people recorded as being associated with a high-risk premises ($1 / 0.01241$).

Table 4. Parameter Estimates for multi-strategic policing score regression model.

<table>
<thead>
<tr>
<th>Variable</th>
<th>DF</th>
<th>Parameter Estimate</th>
<th>Standard Error</th>
<th>t Value</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
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<td>1.97815</td>
<td>0.23374</td>
<td>8.46</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Alcohol-related Harm</td>
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<td>0.01241</td>
<td>0.00436</td>
<td>2.84</td>
<td>0.0054</td>
</tr>
<tr>
<td>FTE Officers</td>
<td>1</td>
<td>0.12916</td>
<td>0.05481</td>
<td>2.36</td>
<td>0.0204</td>
</tr>
</tbody>
</table>

**DISCUSSION**

Consistent with the emphasis of problem-oriented policing on multi-strategic approaches (1–3) the results of this study suggest that police apply a range of strategies to address alcohol-related harm associated with licensed premises, with most licensed premises (65%) being subject to at least three of four types of strategy. The findings further suggest that as the number of intoxicated people associated with high-risk premises increases, so too does the number of individual strategies and types of strategy that police employ.

While the results broadly align with best practice, problem-oriented recommendations for a multi-strategic approach, the observed pattern of policing responses is not entirely consistent with a problem-oriented approach. First, since problem-oriented policing emphasises the use of strategies intended to prevent harm and achieve voluntary cooperation (24,25), it might be expected that educational strategies would be applied most frequently. However, the most prevalent strategies reported in this study were deterrent strategies (100% of premises) and evidence gathering strategies (96%), with educational strategies being applied to a lower proportion of premises (60%). Second, given that evidence-based guidelines for a problem-oriented approach to the policing of
licensed premises recognise that increasing police visibility in and around licensed premises is of limited effectiveness (1), the high prevalence of those deterrent strategies involving increased visibility (‘walkthroughs’, tasking patrol cars, and ‘blitz’ high visibility operations) may be inconsistent with the emphasis of problem-oriented policing on the use of strategies with empirically demonstrated effectiveness (3,24,42).

The relatively low prevalence of educational strategies may have been a function of the high-risk nature of the licensed premises that were the focus of this study. These premises consistently accounted for over a third of all intoxicated patrons involved in incidents, with this proportion only varying by 4% over the six months of the study. This finding suggests persistent non-compliance with responsible alcohol service laws by these premises. Given that educational strategies are intended to support voluntary compliance, it is possible that police may have deemed such strategies to be less appropriate in the context of the pattern of harm associated with high-risk licensed premises. Alternatively, police may have instituted educational strategies, or other strategies intended to achieve voluntary compliance, prior to the study period. In such circumstances police may have deemed it less appropriate to implement further educational strategies at the time of the study. Future research may benefit from considering previous patterns of association with alcohol-related harm and the previous policing responses applied to address such patterns. The findings suggest there may be opportunity for the development of decision support systems that enable police to consider both the patterns of harm, and previous policing efforts when selecting appropriate policing strategies.

The relatively low prevalence of educational strategies may also reflect traditional views of policing that emphasise law enforcement as a key policing goal (25,43,44). Similarly, the high prevalence of strategies that involve increased police visibility may reflect traditional views of policing that emphasise the achievement of harm reduction outcomes through general patrolling, readiness to respond and increased police numbers (42,45). To date,
research has failed to find evidence that these traditional approaches reduce crime (3,45). Rather, it has been suggested that they have hindered the uptake of problem-oriented policing (25,42,46,47). If the observed prevalences of educational and deterrent strategies are a function of such views, then exposure of police to a broader range of policing and criminological paradigms, such as problem-oriented policing (24,42), crime prevention through environmental design (48,49), or situational crime prevention (16,50), may encourage greater use of strategies with demonstrated effectiveness.

Relative to the other strategies examined in this study, formal enforcement strategies were applied least often, with 41 per cent of high-risk premises subject to at least one formal enforcement strategy. However, compared to previous reports, the observed level of formal enforcement appears high. For example, Findlay et al. (2002) found that only 18% of a sample of rural police officers, and 14% of urban officers in Queensland, Australia reported having breached a vendor or licensee for supplying liquor either to an intoxicated person or a minor in the previous 12 months (27). Similarly, Briscoe and Donnelly reported that of 4,733 breaches of liquor laws in New South Wales, Australia in 2001, only 2.3% were for permitting intoxication at a licensed premises and only 0.7% were for supplying alcohol to an intoxicated person at a premises (26).

The relatively higher proportion of formal enforcement observed in this study may be due to the focus on high-risk licensed premises. In comparison, Findlay et al. (2002) asked officers regarding enforcement against any licensed premises, and the proportions reported by Briscoe and Donnelly (2003) include not only breaches by licensed premises, but also by patrons. Alternatively, the apparently higher rate of formal enforcement reported in this study may be due to differences in the definition of enforcement. This study adopted a relatively broad definition of enforcement covering warnings, fines and any relevant legal proceedings whereas both Findlay et al. (2002) and Briscoe and
Donnelley (2003) reported proportions based on narrowly defined offences under specific sections of legislation.

Previous studies examining enforcement against licensed premises (26–28) have suggested that formal enforcement levels are inappropriately low. Such interpretations, however, have not been based on a direct comparison between enforcement levels and patterns of alcohol-related harm associated with licensed premises. If the purpose of policing licensed premises is to reduce alcohol-related harm, then the key issue is not what proportion of police have enforced against licensed premises (27), nor what proportion of breaches are against licensed premises (26), but what proportion of licensed premises that are associated with alcohol-related harm have been subject to policing. This chapter demonstrates the potential of utilising routinely collected police data to undertake such an assessment.

Consistent with previous studies (33–35,38) this study found that a minority of licensed premises accounted for disproportionately high levels of harm. The 101 high-risk licensed premises, cited as the last place of alcohol consumption for over one third of all intoxicated patrons involved in a police-attended incident, accounted for only 6.4% of all such premises in the study area. In this study high-risk licensed premises were defined on a ‘per command’ basis as this reflected routine policing practice. However, there was substantial variation between commands in the contribution that the identified high-risk premises made to the total number of intoxicated patrons (22% to 53%). This variation suggests that defining high-risk premises on a per command basis may not be the most efficient approach to reducing alcohol-related harm across the state. Rather, it may be more useful to identify the highest-risk premises on a state-wide basis (e.g. the ‘top 100 high-risk premises’). This is not to suggest that policing of high-risk premises should not be undertaken by local officers or that policing strategies should not be tailored to local conditions. Rather, identifying high-risk licensed premises on a state-wide basis may be a
more efficient approach to directing limited policing resources and specialised personnel toward those areas of greatest need. Such an approach has been recently adopted in the state of New South Wales where the top 109 licensed premises, defined by number of on-premises assaults, were publicly listed (51).

Several methodological issues should be considered when interpreting the results of this study. First, measures of police strategies were based on self-report. While police were directed to base their reporting on a review of official records, no steps were taken to verify reported information. As a consequence, it is possible that the reported prevalence of strategies may include inaccuracies. Future research utilising more robust measures of policing strategies, such as independent auditing of police records, would address this limitation.

Second, last-place-of-alcohol-consumption information for persons involved in incidents of alcohol-related harm was also subject to the limitations of self-report. However, such information is routinely employed by police as preliminary intelligence upon which further evidence may be gathered to confirm or dismiss suggested associations. For research purposes, more robust methods of identifying high-risk premises may involve combining such self-reported last-place-of-alcohol-consumption information with other measures also known to be associated with alcohol-related harm, such as on-premises assaults (52), or night time single motor vehicle accidents (53), provided such measures could also be linked with specific licensed premises.

Finally, the measure of policing strategies used in this study was simply an assessment of whether an activity had occurred at least once during a six-month period. For strategies applied infrequently (e.g. legal proceedings) this may be an adequate measure. However, for more frequently applied strategies (e.g. walkthroughs), this measure provides only a limited picture of the extent of police activity as such activities may occur on numerous occasions over a six-month period. Future research addressing when and how often
activities are conducted would allow a more rigorous assessment of the prevalence of policing activity with licensed premises.
REFERENCES


CHAPTER 5: A STUDY OF THE FEASIBILITY, ACCEPTABILITY AND POTENTIAL EFFECTIVENESS OF A PROBLEM-ORIENTED APPROACH TO THE POLICING OF LICENSED PREMISES: A PILOT RANDOMISED CONTROLLED TRIAL
INTRODUCTION

As described in Chapter 1, problem-oriented policing (1,2) is suggested to have the potential to reduce alcohol-related harm associated with licensed premises (3–7). The introduction to this chapter summarises three areas of evidence that support this suggestion; evidence for (a) the effectiveness problem-oriented policing in reducing crime generally (b) the effectiveness of strategies to reduce alcohol-related harm when combined with policing and (c) the effectiveness of problem-oriented policing of licensed premises in reducing alcohol-related harm.

EFFECTIVENESS OF PROBLEM-ORIENTED POLICING IN REDUCING CRIME

As described in Chapter 1, a review of policing strategies in the USA (8) considered nine studies of problem-oriented policing interventions: seven quasi-experimental studies (9–15) and two randomised controlled trials (16,17). The review concluded that such studies form part of a growing body of evidence suggesting the effectiveness of problem-oriented policing and that the approach should be subject to further empirical investigation (8).

The first meta-analytic study of problem-oriented policing interventions, also discussed in Chapter 1, considered 10 controlled trials (18). These trials:

- followed the SARA model (the model did not need to be explicitly stated, provided the steps involved were followed).
- included both an intervention and control group, and methods of allocation that involved either randomisation, or a demonstration of equivalence between groups.
- reported at least one crime/disorder outcome with sufficient data to calculate an effect size.
- dealt with problem areas or problem people.
Six of the studies defined problems in terms of various geographical areas: public housing estates (19), a specific park (20), or geographical hotspots for violent crime (16), drug crime and related disorder (14,17), or calls for police service (21). Three studies defined problems in terms of the people involved; students who were victims of violent crime on the way to school (22), or re-arrested probationers (23,24). One study addressed the problem of anti-social behaviour generally, regardless of specific location or person involvement (25). The measures of effectiveness used in these studies included: calls for police service (14,16,17,21), incidents of crime or victimisation (16,22,25), parolee recidivism (23,24), completion of probation conditions (24), changes in social and physical disorder (16), fear of crime (20,22), perceptions of crime (20), being asked to participate in crime (19), visibility of police (20), and confidence in police (25).

As several studies reported multiple outcomes the meta-analysis calculated outcome effect sizes in two ways (18). First, an effect size was calculated for the outcome identified by the original authors as the primary focus of the intervention (in some cases this was the mean of several identified outcomes). Second, to assess the maximal impact of problem-oriented policing, an effect size was calculated for the single largest outcome reported in each study, regardless of whether this was originally identified as the primary outcome of interest (for studies with only one outcome, the same data were included in both meta-analyses). Effect sizes were calculated such that positive values reflected reductions in crime and disorder. For the first meta-analysis (primary outcome) the overall effect size was 0.126 (S.E.=0.47, p=0.008). For the second (largest outcome) the overall effect size was 0.296 (S.E.=0.142, p=0.037). The study concluded that problem-oriented policing interventions can have a modest impact on crime and disorder (18).

Of the six studies included in the meta-analysis that defined problems in terms of geographical crime 'hotspots', five demonstrated that a problem-oriented policing
intervention was effective in reducing incidents of crime and/or calls for police service (14,16,17,20,21). Four of these studies were randomised, controlled trials (14,16,17,21). In light of evidence that licensed premises generally (26–39), and specific licensed premises in particular (40–43), are more likely to be associated with alcohol-related harm than other settings, such premises may be similarly considered hotspot locations for alcohol-related harm. A problem-oriented policing approach focusing on such licensed premises may therefore have potential to reduce alcohol-related harm.

Three studies included in the meta-analysis demonstrate the variety of problem-oriented policing approaches that can be applied to hotspot locations. Two of these were conducted in the same city (Jersey City, New Jersey, USA) (16,17), and two addressed the same crime issue (drug related-crime) (17,44). The positive outcomes of all three studies suggest that a range of problem-oriented approaches applied to licensed premises identified as ‘hotspot’ locations for alcohol-related harms might be similarly effective.

The first study (17) involved a randomised controlled trial of an intervention designed to reduce drug-related crime in Jersey City, New Jersey, USA. The study measured the effect of a 15 month intervention that involved: individual officers being assigned responsibility for analysing the characteristics of specific drug-related locations, tailored and coordinated police ‘crackdowns’ (typically lasting a few hours and involving other government services where appropriate), continued monitoring of locations, and heightened police presence as required for up to one week following ‘crackdowns’. Numbers of police service calls from 28 drug-crime hotspot locations were compared to the number of such calls from 28 matched control hotspot locations that received usual policing. Analysis of outcome data by call-category identified significant differences between intervention and control locations in mean numbers of calls relating to: “disorder” (Iv: increase of 9.14 calls/location vs. Ctrl: increase of 25.39 calls/location, p = 0.007), “suspicious persons” (-0.11 vs. 5.96, p = 0.001) and “public morals” (-2.14 vs. 0.89,
p = 0.032). Differences in mean numbers of “assistance” calls approached significance (2.68 vs. 7.71, p = 0.052), whilst changes in the number of “narcotics” calls were supportive of the effectiveness of the intervention (-5.18 vs. 0.18) but no statistical analysis was reported due to skewed outcome data. No significant differences were observed in numbers of calls regarding “violence”, “property” or “nuisance” matters.

In the second study (16) a problem-oriented intervention directed at reducing violent crime at hotspots in Jersey City, New Jersey, USA was evaluated using a randomised controlled trial. The intervention involved: partnership between a university crime prevention research centre and a specialist police violent crimes unit (VCU), standardised hotspot analysis by VCU officers incorporating official data and community views, tailored response development based on analysis and situational crime prevention theory (45,46), responses that primarily involved aggressive maintenance of social order and improving the physical environment (based on analysis that consistently identified these concerns at hotspots), and monitoring of analysis and responses by more senior police (sergeants). The trial compared the number of violent incidents and calls for police service at 12 violent crime hotspots with the number of such incidents and calls from 12 matched control hotspot locations receiving usual policing. The number of both incidents and calls for service increased overall but significantly more so in the control hotspot locations (change in violent incidents: Iv: 1% decrease, Ctrl: 42% increase, p <0.01; Change in calls for service: Iv: 21% increase, Ctrl: 42% increase, p <0.001).

In the third study (44), a block-randomised trial conducted in Oakland, California, USA assessed the effect of a 5.5 month intervention to address drug-crime locations, which involved: police analysis of problem locations, collaboration with community third parties (47) (place managers/owners) at these locations to prevent crime, coordination with civil authorities to inspect problem locations and enforce ordinance codes where necessary (e.g. housing, fire, safety), and police prosecution of civil laws against place owners where
necessary. The study evaluated the mean number of drug-related police service calls from 50 intervention locations with the number of such calls from 50 locations that received usual policing. Across intervention locations, the mean number of drug-related calls for service/month fell from 7.66 to 7.12 (7% decrease), while for control locations they increased from 11.62 to 17.94 (55% increase) (p<0.05).

**EFFECTIVENESS OF ENHANCED POLICING OF LICENSED PREMISES**

The literature reviews discussed in Chapter 1 (48–50) concluded that policing has been an important element of several strategies to reduce alcohol-related harms. There is strong evidence, particularly from the USA, that increasing the minimum drinking age reduces alcohol-related harms (48,51), but that the benefits of this strategy are dependent on adequate policing (51–53). A number of reviews have indicated that responsible beverage service (RBS) training alone is unlikely to be effective on a community-wide basis (54–56), but evidence from the USA (57) and Australia (58) suggests that such training may be more effective if it is mandated by legislation and if police have enhanced capacity to address problematic licensed premises. Multi-component initiatives that have been effective in Sweden (59), the USA (60,61), and Australia (62) all involved enhanced policing as a key component. Reviews that have particularly focused on efforts to enhance the policing of licensed premises have concluded that this may be a promising strategy that warrants further research (63,64).

**EFFECTIVENESS OF PROBLEM-ORIENTED POLICING OF LICENSED PREMISES IN REDUCING ALCOHOL-RELATED HARM**

Evidence regarding the effectiveness of problem-oriented policing of licensed premises in reducing alcohol-related harms is limited. Only one relevant controlled study could be located (65). The intervention, conducted in Geelong, Victoria, Australia was designed to reduce violent alcohol-related crime in the inner-city entertainment district. Analysis indicated that such crime was associated with large numbers of people frequenting 14
late-night licensed premises in the Geelong central business district. Analysis suggested several factors influenced the occurrence of such crime. First, premises were engaged in alcohol price discounting promotions, a factor independently shown to be associated with a greater likelihood of alcohol-related harm (48). Second, the occurrence of violence was associated with the movement of patrons between licensed premises in the entertainment district. Third, few limits or conditions were imposed by premises on patron entry/re-entry.

In response, a number of strategies were implemented. First, to limit patron movement between premises, entry charges were implemented at most licensed premises from 11pm (1am for venues with live entertainment). Charges were introduced for both initial entry and subsequent re-entry of licensed premises. Second, to reduce excessive alcohol consumption, for all premises: free drinks were banned, price-discounting was limited, and uniform minimum drink pricing was introduced. Third, although the introduction of these measures was voluntary, police promoted their adoption, reinforced the need for premises to comply with licensing requirements, and reminded licensees of the enforcement options that could be undertaken if necessary to reduce alcohol-related harms associated with licensed premises.

Evaluation over a 5 year period compared the annual serious assault rate per 100,000 population in the Greater Geelong area to the average of this rate across six other control cities in the state of Victoria, as a ratio. For the year prior to the intervention this ratio was 1.52:1. For the year the intervention was introduced this ratio fell to 1.0:1, falling to 0.79:1 for the subsequent two years, and then to 0.63:1 during the fifth year of the evaluation (65).
A considerable number of non-peer reviewed reports of non-controlled studies undertaken by police in the United Kingdom (66–73), Canada (74,75) and the United States (76,77) further suggest that problem-oriented policing may reduce alcohol-related harms associated with licensed premises. As an example, police in Green Bay, Wisconsin, USA implemented and reported on the effectiveness of a problem-oriented intervention for reducing alcohol-related crime in an inner city business district involving over 15 taverns (77). Scanning and analysis indicated harms were associated with: approximately 20 habitually intoxicated vagrants who regularly victimised patrons; a physical environment that facilitated covert criminal activity; long standing lax regulation regarding the granting of liquor licenses; local policies that hindered enforcement against owners of premises; and suboptimal use of circuit courts that, unlike municipal courts, could order offenders to receive alcohol-related treatment. Responses included: distribution of a ‘no-serve’ list to local licensed premises identifying regular offenders; inter-agency efforts to improve the physical environment; greater use of circuit courts to try offenders; facilitating community pressure on local licensing regulators; supporting alterations to local policies to facilitate enforcement against owners of premises; and media promotion of policing efforts. The non-controlled, pre-post evaluation showed that between 1993 and 1999 there was a 65% reduction in total police calls and a 91% reduction in rescue squad service calls to the business district. Between 1993 and 1998 there was also an 86% reduction in disorderly conduct offences and a 70% reduction in ‘disturbance-unwanted person’ calls. Five taverns associated with high levels of criminal activity closed down during the study. Between 1995 and 1999 there was investment of $8.4 million in the area, 33 new businesses opened and 410 local jobs were created.

1 For further examples, see: www.popcenter.org/library/awards/goldstein/ or http://www.popcenter.org/library/awards/tilley/
In a second study, police on the Isle of Man, British Islands, adopted a problem-oriented approach to addressing increasing alcohol-related crime around the main promenade of the capital city (66). Scanning and analysis revealed two underlying problems. First, limited transport was available to disperse crowds. This was associated with: early cessation of bus services; prolonged removal of taxis from service when patrons travelled 'out of town' or when incidents involving taxis required police interviews; refusal of some taxi operators to work at peak times due to anti-social behaviour; and poor location of taxi ranks. Second, there was a discrepancy between crime data indicating that most offenders were patrons of licensed premises and public perception that groups of youths (not frequenting licensed premises) were substantially responsible for crime. Public misperception was reinforced by police action to disperse these groups, implying youth involvement in crime. Police responses involved: advocating for more taxi licenses and later running bus services; improving safety of taxi-driver safety by banning 'problem individuals' from using taxis; coordinating interagency re-development of taxi ranks and monitoring of ranks by security staff of licensed premises; increasing police availability at peak times by deferring administrative processes until the following day; and collaborating to support youth-oriented events and gathering youth feedback. A five-year, non-controlled evaluation charted combined public order, assault and criminal damage offences for the financial years 2000-01 to 2004-05. In 2000-01 there were approximately 1100 incidents across these categories, increasing to approximately 1350 in 2002-03. In the year the intervention was implemented (2003-04) the number decreased to less than 900, a reduction of 33.4% compared to the previous financial year. This number remained below 900 for 2004-05.

These examples suggest that problem-oriented policing interventions have potential to reduce alcohol-related harms. However, due to study design limitations, including the lack of a comparison group, it is not possible to conclude that the reported changes in outcomes were attributable to the implemented interventions.
THE PRESENT STUDY

The results of the qualitative study described in Chapter 2, and other studies, suggest that police with responsibility for policing licensed premises may (a) have less than optimal capacity to undertake problem analysis (1,3,78–82) (b) have a limited awareness of alternative policing response options (7,82) and (c) when developing responses, give limited consideration to evidence regarding the effectiveness of various policing strategies and to theoretical frameworks (7,45,46,83). Consistent with previous studies (84–87), the results of the study described in Chapter 4 suggest that current policing of licensed premises is not entirely consistent with a problem-oriented approach.

As demonstrated in Chapter 3, the implementation of strategies to address these limitations may require significant changes in existing policing practices, and additional infrastructure and staff skills. Investment in resources to support the change process is also likely to be required (1,88,89).

Given the likely breadth of organisational change associated with the adoption of practices such as problem-orientated policing, and the resources required to support such a change, a staged approach is recommended (90). For example guidelines for developing and evaluating complex health care interventions (91) and international standards in the field of quality improvement, such as ISO 9000 (92,93), recommend initial pilot testing of new interventions before they are disseminated more broadly. Such testing of a proposed intervention is an established step in determining its feasibility, acceptability and potential effectiveness (94–96). A recent review of interventions to reduce intoxication and disorder in and around licensed premises (97) concluded that the preliminary stages of intervention development, including piloting testing, are of particular importance when significant changes in service delivery practices are required.
In light of limited evidence regarding adopting a problem-oriented approach to the policing of licensed premises and in order to inform the development and implementation of a larger trial, a pilot randomised controlled trial was undertaken to assess the feasibility, acceptability and potential effectiveness of a problem-oriented policing approach to reducing alcohol-related harm associated with licensed premises.

**METHOD**

**SETTING & DESIGN**

A pilot study of a matched-pairs randomised controlled trial of a problem-oriented approach to the policing of licensed premises was undertaken in the state of New South Wales (NSW), Australia.

The study was conducted in partnership with NSW Police, through the NSW Police Drug and Alcohol Coordination Unit (DACU), and particularly with the NSW Police Alcohol Team (2 full-time-equivalent staff), a team within the DACU that had been newly created and held a state-wide strategic and support role for the conduct of all alcohol-related policing (hereafter referred to as the ‘Alcohol Team’). The team did not have an operational role in the policing of licensed premises at the local level, this responsibility residing with Local Area Commands (hereafter referred to as ‘commands’).

NSW Police comprised 80 commands. Thirty-four of these commands were invited to participate in the study. The 34 commands accounted for 41.7% of the total population of the State (98) and were located in non-metropolitan areas, serving regional city, rural and remote populations (Appendix 5.1). The 34 commands were selected because they had access to detailed alcohol-related data as a result of the changes to the NSW Police centralised incident database described in Chapter 3. This data described, for all people involved in a police-attended incident: whether they had consumed alcohol prior to the
incident; if so, their level of intoxication (‘not’, ‘slightly’, ‘moderately’, ‘well’ or ‘seriously’ intoxicated); and the location where alcohol was last consumed, including, if it was a licensed premises, the name and address of the premises.

Randomisation

Prior to randomisation, commands were matched into pairs as follows. For each command, alcohol-related information was extracted from the centralised police database for people involved in a police-attended incident who had last consumed alcohol at a licensed premises. Such people were included if they were ‘moderately’, ‘well’ or ‘seriously’ intoxicated (hereafter referred to as ‘intoxicated’) and regardless of the type of incident in which they were involved (e.g. assault, drink-driving), the nature of their involvement (e.g. offender or victim), and whether or not they had been arrested. Data were extracted for a six-month period (July-Dec, 2005). The total number of intoxicated people involved in a police-attended incident associated with the ‘top-three’ licensed premises in each command was calculated. The 34 commands were then ranked based on these totals. Consecutively ranked commands were matched, with one command from each pair being randomly assigned to an intervention group, and the other to a control group.

INTERVENTION PROCEDURES

Problem-oriented Policing Intervention

Given the strategic leadership role of the Alcohol Team in policing alcohol-related issues across the State, the intervention involved working with this team to promote to local commands the adoption of a problem-oriented approach to the policing of licensed premises. In partnership with this team, the problem-oriented approach was developed based on the Problem-oriented Guide for Police: Assaults in and Around Bars (7) and
incorporated principles from theories of crime prevention through environmental design (83), and situational crime prevention (45,46).

With support from the Alcohol Team, commands assigned to the intervention group were asked to undertake the following five steps over a six month intervention period (March-August 2006):

1) Identify alcohol-related hotspot locations and associated problems. Police from commands in the intervention group were required to identify the three hotspot locations in the command that they considered most associated with alcohol-related harm (i.e. such locations may have been different to the ‘top three’ licensed premises identified as part of randomisation). As the intervention was focused on licensed premises, at least two hotspot locations were required to be specific licensed premises. However, to secure local cooperation and if deemed more appropriate by the command for addressing alcohol-related harm, the third ‘location’ could be one that was not a specific licensed premises (e.g. a public place associated with alcohol consumption, or multiple locations collectively targeted for underage drinking). Identification of hotspot locations was based on police analysis of available information, including both formally recorded data and anecdotal information, for the six-months preceding the intervention period (i.e. September 2005-February 2006).

For each hotspot location, police were required to analyse the characteristics of associated harm including types of incidents, characteristics of offenders, victims and/or harm to property, and the times and locations of incidents. Police were asked to consider the underlying problems that were associated with harm in or around each hotspot location, such as the role of intoxication, the physical environment in and around the location (e.g. lighting, crowds, transport options), the social environment (e.g. entertainment, purpose of the location), and the management characteristics of licensed premises (e.g. closing times, security practices).
2) **Review policing responses previously applied to hotspot locations.** With a view to informing the selection of responses during the intervention period, police were asked to review the policing strategies applied to the identified hotspot locations for the preceding six months. Reviews were completed based on a retrospective analysis of police records, and addressed a range of strategies such as education, increasing police visibility, evidence gathering, and formal enforcement, derived from the policing literature (82,99–102), a review of NSW Police policy and procedures for alcohol-related crime (103), and interviews with key police officers (see Chapter 2).

3) **Plan policing responses for each hotspot location.** Based on the analysis of problems associated with hotspot locations, and the review of policing strategies applied over the previous 6 months, police were required to develop an action plan tailored to each location for the coming six months. Action plans were prepared using a template that required police to describe for each location: i) the identified underlying problem(s); ii) strategies to be employed to address these problems; iii) implementation dates and responsible officers for strategies and; iv) a review date at which the effectiveness of the plan would be locally evaluated (maximum six months). Action plans were to be forwarded to the Alcohol Team for review and approval.

4) **Implement action plans.** Once completed and approved by the Alcohol Team, intervention commands were to implement each of their action plans within the six-month intervention period (March-August 2006).

5) **Evaluate impact of action plans & review.** At the completion of the 6-month intervention period, police were required to review the implementation and impact of their action plans. The review included re-analysis of the characteristics of harm and underlying problems at hotspot locations (as per Step 1) and evaluation of implemented strategies (as per step 2).
Led by the Alcohol Team, implementation of the intervention involved the use of five support strategies, based on behavioural and organisational change theory and evidence (104–107). The strategies were:

1) **Gaining leadership support.** Leadership support was obtained from the head of the NSW Police DACU (Superintendent). Approval for the study and intervention design, associated resources, and training workshops was provided by the Alcohol Team. Promotion of the intervention to commands was undertaken by the Alcohol Team over a period of 7 months (Feb 2006-August 2006) via face-to-face presentations (as part of training), and through e-mail and telephone contact.

2) **Enhancing problem-oriented policing resources.** An action plan template was provided to facilitate problem-oriented planning (Appendix 5.2), and an audit form was provided to guide assessment of previous policing strategies (Appendix 5.3). A range of resources was also provided describing various alcohol-related harm reduction strategies police might consider implementing, relating to: increasing the safety of patrons in licensed premises, increasing perceptions of police presence, preventing drink-driving, and preventing underage drinking (Appendix 5.4). All resources were provided electronically.

3) **Training of police in problem-oriented policing.** Key police in intervention commands (e.g. Licensing Officers, intelligence analysis staff, Crime Coordinators) took part in training workshops (Appendix 5.5). Workshops were undertaken from late February to early April 2006 (14/17 workshops took place during March). Workshops were one day in duration and were delivered at the local command. Training provided the rationale and principles behind problem-oriented policing, and demonstrated how to operationalise each step in the intervention. The training was jointly delivered by one member of the Alcohol Team and one member of the research team.
4) **Action plan implementation monitoring and feedback.** Police from each participating command were required to submit their action plans for each hotspot location to the Alcohol Team for review and feedback prior to formal approval by the Alcohol Team and subsequent implementation. Each command was to return action plans by late April 2006. Commands not submitting such plans were followed up by the Alcohol Team as required.

5) **Intervention implementation support.** Police were provided with a centralised intervention e-mail address and telephone number for ongoing support from the Alcohol Team as required. Support was provided by the same specialist officer within the Alcohol Team, and the same member of the research team, who delivered workshops. Together, these staff reviewed action plans submitted by intervention local commands and subsequently provided support as needed in response to enquiries.

**DATA COLLECTION PROCEDURES**

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**Feasibility**

Data for the number of commands and police officers participating in training, number of hotspot locations identified by commands and number of commands submitting action plans were obtained from study records. In addition, review of the action plans provided data regarding the quality of the plans in terms of their inclusion of required information (problem identification, planned strategies, implementation dates, responsible officers and review date).

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**Acceptability**

Following participation in training workshops, all attending officers were asked to anonymously complete a 6-item acceptability questionnaire (Table 2). Three items related to the acceptability of the problem-oriented policing intervention and three items related
to the acceptability of the training and resources provided. For all items, police could respond: ‘Strongly Agree’, ‘Agree’, ‘Neutral’, ‘Disagree’, or ‘Strongly Disagree’.

Potential Effectiveness

Alcohol-related data extracted from the centralised police database (as described above – see ‘Sample of Commands’) were used to measure the potential effectiveness of the intervention in reducing alcohol-related harm. Data were extracted for a baseline period six months prior to the intervention (Sept 2005-Feb 2006) and a six month follow-up period (Sept 2006-Feb 2007).

MEASURES AND ANALYSIS

Feasibility

Eight measures of the feasibility of the intervention were examined. The first three measures provided an indication of intervention reach, and the remaining five provided an indication of intervention quality:

1) Participation in training. The number of intervention commands that committed staff to training was calculated as a proportion of the 17 intervention commands. Numbers and proportions of various types of staff who attended were also calculated.

2) Identification of hotspot locations. The number of intervention commands that identified hotspot locations was calculated as a proportion of the 17 intervention commands. Similarly the number of identified hotspot locations was calculated as a proportion of a maximal 51 locations. The number of identified hotspot locations that were licensed premises was calculated.

3) Submission of action plans. Submission of action plans was assessed by calculating: the proportion of intervention local area commands (out of 17) that submitted action
plans for hotspot locations; and the proportion of locations (out of 51) for which individual action plans were submitted.

4) Problem Identification. Of the returned action plans, the proportion that identified at least one underlying problem to be addressed (e.g. overcrowding, intoxication) was calculated, and the types of identified problems described.

5) Planned Strategies. Across returned action plans the median and range of the number of planned response strategies was calculated. The total number of action plans to indicate particular types of strategies was also calculated.

6) Implementation dates. Of the returned action plans, the proportion that listed implementation dates for: 'all strategies'; '50% or more strategies'; 'less than 50% of strategies' and; 'no strategies', was calculated.

7) Responsible officers. Of the returned action plans, the proportion that identified specific officers responsible for each strategy was calculated.

8) Review dates. Of the returned action plans, the proportion that listed a review date or time frame was calculated.

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Acceptability

For each item of the acceptability questionnaire, the proportion of respondents who either ‘Strongly Agreed’ or Agreed’ with each statement was calculated.

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Potential Effectiveness

Changes in numbers of intoxicated people involved in a police-attended incident who had last consumed alcohol at hotspot licensed premises were used to measure effectiveness.
For the 17 control commands, hotspot licensed premises were defined as the ‘top three’ licensed premises in each command, identified by the method described above for matching commands prior to randomisation but based on data covering the six-month baseline period (51 licensed premises in total). For the 17 intervention commands hotspot licensed premises were those licensed premises identified by police as part of the problem-oriented policing intervention.

For intervention and control groups the mean total number of intoxicated people associated with hotspot licensed premises was calculated over the baseline and follow-up periods. Pre-post within-group changes in mean total numbers of such people were evaluated using t-tests. Between groups, differences in such changes were evaluated in two ways. First differences were compared between licensed premises in the control group and all identified licensed premises in the intervention group (t-test). Second, differences were also evaluated comparing licensed premises: in the control group, in the intervention group for which police had submitted a problem-oriented action plan, and in the intervention group for which police had not submitted a problem-oriented action plan (ANOVA).

**RESULTS**

**FEASIBILITY**

*Participation in training*

All 17 intervention group commands committed staff to attend training (100%). A total of 86 police staff from the 17 intervention commands participated in the training: 17 intelligence and analysis staff (19.8% of total participants in training), 15 Licensing Officers (17.4%), 11 Crime Managers (12.8%), 10 Crime Coordinators (11.6%), 9 Liaison Officers (10.5%), 8 Local Area Commanders (9.3%), 4 Crime Prevention Officers (4.7%), 3 Tactical Action Group officers (3.5%), and 9 other officers (10.5%).
Identification of hotspot locations

Following participation in training, one command in the intervention group declined to participate further, citing the lack of a dedicated Licensing Officer at the time. The remaining 16 commands (94%) identified 48 hotspot locations (94%) (3 per command). Of the identified hotspot locations, 42 were licensed premises.

Submission of action plans

Seven intervention commands (41%) submitted action plans for identified hotspot locations. The remaining nine participating commands (53%) did not provide reasons for non-submission of action plans.

Submitted action plans addressed 21 hotspot locations, 3 per command (41% of a maximum 51 hotspot locations across all 17 commands originally assigned to the intervention group). Eighteen of the 21 returned action plans addressed alcohol-related harm associated with a specific licensed premises. The three other action plans addressed: 'underage drinking' (2 plans) and 'an entertainment precinct' (1 plan). As all quality-based measures of feasibility could be applied to non-premises-specific action plans, all 21 plans were retained for quality analysis.

Problem identification

Sixteen of the 21 submitted action plans (76%) identified at least one underlying problem to be addressed. The remaining five action plans (24%) identified patterns of harm (e.g. incidents of crime or social disturbance) but did not identify any underlying problems that may be contributing to these patterns.

The most commonly identified underlying problem was intoxication (11 plans). Other identified problems included: limited transport at closing times (8 plans), secondary
supply of alcohol (3 plans), poor Responsible Beverage Service (2 plans), security staff (2 plans), and known drink-drivers (2 plans).

**Planned strategies**

All but one action plan (95%) included two or more response strategies. The median number of response strategies per plan was five (range: 1-10). Submitted action plans indicated a variety of strategies, as described in Table 1. The three most commonly included strategies were: consultation/education with licensees and/or staff (86% of action plans), increasing police visibility (76% of plans), and covert operations (62% of plans). All other strategies were included in 43% or less of action plans.

**Table 1. Planned response strategies.**

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Number of action plans indicating strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consultation/education with licensees/staff*</td>
<td>18</td>
</tr>
<tr>
<td>Increasing police visibility</td>
<td>16</td>
</tr>
<tr>
<td>Covert operations*</td>
<td>13</td>
</tr>
<tr>
<td>Auditing of locations to reduce harm</td>
<td>9</td>
</tr>
<tr>
<td>Engaging external agencies*</td>
<td>7</td>
</tr>
<tr>
<td>Supporting improved local transport*</td>
<td>6</td>
</tr>
<tr>
<td>Criminal justice processes with individuals</td>
<td>6</td>
</tr>
<tr>
<td>Formal consultative forums (e.g. Accords)</td>
<td>5</td>
</tr>
<tr>
<td>Altering the physical environment*</td>
<td>4</td>
</tr>
<tr>
<td>Patron/Underage Alcohol Education Programs</td>
<td>3</td>
</tr>
<tr>
<td>Criminal justice processes with licensed premises*</td>
<td>3</td>
</tr>
<tr>
<td>Arranging media coverage of planned strategies</td>
<td>3</td>
</tr>
<tr>
<td>Supporting staggered licensed premises closing times*</td>
<td>2</td>
</tr>
<tr>
<td>Checking security staff licenses*</td>
<td>2</td>
</tr>
</tbody>
</table>

* Strategies planned only for locations identified as specific licensed premises (18 locations). All other strategies were planned, on at least one occasion each, for both a specific licensed premises and a non-licensed premises location.
**Implementation Dates**

Two action plans (10%) listed implementation dates for all strategies. One plan (5%) listed dates for 50% or more strategies. Eight plans (38%) listed implementation dates for less than 50% of strategies and ten action plans (48%) provided no implementation dates for identified strategies.

**Responsible Officers**

All action plans identified officers responsible for response strategies. For nine action plans (43%), responsible officers were assigned on a ‘per response strategy’ basis. For the other 12 action plans (57%) ‘blanket’ responsibility for all strategies was assigned to: the licensing officer only (8 plans), general duties team leaders (3 plans), or the licensing officer along with a second officer (1 plan).

**Review Dates**

Fifteen action plans (71%) listed a review date or time frame.

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**ACCEPTABILITY**

Eighty-two officers (95.3% of those who attended training) returned post-training acceptability questionnaires. Responses are shown in Table 2. Almost all of the police who returned acceptability questionnaires either ‘agreed’ or ‘strongly agreed’ that the problem-oriented policing intervention was acceptable (98.8%). The majority also ‘agreed’ or ‘strongly agreed’ that the intervention was relevant (96.3%) and could be applied in their command (95.1%). The majority of police ‘agreed’ or ‘strongly agreed’ that the training they received provided new information (80.5%), as well as useful skills (85.4%) and tools (92.7%) for the policing of alcohol-related crime.
Table 2. Police responses ("agree" or "strongly agree") to an acceptability questionnaire following training in the problem-oriented policing intervention.

<table>
<thead>
<tr>
<th>Item</th>
<th>Strongly agree or agree</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>(of 82)</td>
</tr>
<tr>
<td><strong>Problem-oriented Policing Intervention</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. The intervention was acceptable.</td>
<td></td>
<td>81</td>
<td>98.8%</td>
</tr>
<tr>
<td>2. The intervention is relevant to how alcohol-related crime is policed in this command.</td>
<td></td>
<td>79</td>
<td>96.3%</td>
</tr>
<tr>
<td>3. The intervention can be applied in this command.</td>
<td></td>
<td>78</td>
<td>95.1%</td>
</tr>
<tr>
<td><strong>Training and Resources</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. The training session provided me with new information about the policing of alcohol-related crime.</td>
<td></td>
<td>66</td>
<td>80.5%</td>
</tr>
<tr>
<td>5. The skills I acquired in the training session will be useful in the policing of alcohol-related crime.</td>
<td></td>
<td>70</td>
<td>85.4%</td>
</tr>
<tr>
<td>6. The tools described in the training session will be useful in the policing of alcohol-related crime.</td>
<td></td>
<td>76</td>
<td>92.7%</td>
</tr>
</tbody>
</table>

**POTENTIAL EFFECTIVENESS**

Table 3 shows, for baseline and follow-up periods, changes in the mean total number of intoxicated people who were involved in a police attended incident and who reported that they last consumed alcohol at: the 51 hotspot licensed premises in control commands; all 42 hotspot licensed premises in intervention commands; the 18 hotspot licensed premises in intervention commands for which an action plan was submitted; and the 24 hotspot licensed premises in intervention commands for which an action plan was not submitted.
Table 3. Changes in mean total numbers of intoxicated people involved in a police-attended incident who last consumed alcohol at hotspot licensed premises between baseline and follow-up periods.

<table>
<thead>
<tr>
<th></th>
<th>Baseline Mean Total (S.D.)</th>
<th>Follow-up Mean Total (S.D.)</th>
<th>Pre-post change in mean total (S.D.)</th>
<th>Within groups pre-post change p value (t-test)</th>
<th>Difference between groups in pre-post change: test result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control Licensed Premises Hotspots (n=51)</td>
<td>32.0 (21.2)</td>
<td>32.2 (22.3)</td>
<td>0.24 (18.5)</td>
<td>0.929</td>
<td>#t = -0.85, df = 91, p = 0.400</td>
</tr>
<tr>
<td>All Intervention Licensed Premises Hotspots (n=42)</td>
<td>36.9 (20.4)</td>
<td>40.7 (25.2)</td>
<td>3.76 (21.8)</td>
<td>0.269</td>
<td>p = 0.400</td>
</tr>
<tr>
<td>Intervention Licensed Premises Hotspots with submitted action plans (n=18)</td>
<td>38.6 (26.1)</td>
<td>36.2 (25.6)</td>
<td>-2.3 (26.6)</td>
<td>0.716</td>
<td>^F = 1.86, df = 2, p = 0.162</td>
</tr>
<tr>
<td>Intervention Licensed Premises Hotspots without submitted action plans (n=24)</td>
<td>35.7 (15.2)</td>
<td>44.0 (24.9)</td>
<td>8.33 (16.3)</td>
<td>0.020</td>
<td>p = 0.162</td>
</tr>
</tbody>
</table>

# Paired t-test comparing control (n=51) and all intervention (n=42) hotspot licensed premises

^ ANOVA comparing control (n=51), intervention licensed premises with submitted action plans (n=18) and intervention licensed premises without submitted action plans (n=24)

There was no significant pre-post change in the mean total number of intoxicated people involved in police-attended incidents who were associated with licensed premises for either the 42 licensed premises in the intervention group or the 51 licensed premises in the control group. There was no significant difference between intervention and control groups in the mean change in the number of such people (t = -0.85, df = 91, p = 0.400).

Within the intervention group there was a significant pre-post increase in the mean total number of intoxicated people associated with hotspot licensed premises for which police had not submitted an action plan (n = 18) but no significant change for those premises for which an action plan had been submitted (n=24). Analysis of variance comparing licensed premises in the control group, with an action plan within the intervention group and
without an action plan within the intervention group indicated no significant difference in changes in mean total numbers of people associated with hotspot licensed premises (F = 1.86, df = 2, p = 0.162).

**DISCUSSION**

In order to inform the development and implementation of a larger trial, this pilot study assessed the feasibility, acceptability and potential effectiveness of a problem-oriented policing intervention in reducing alcohol-related harm associated with licensed premises. Several findings of the study suggest that implementation of a problem-oriented approach to the policing of licensed premises may be feasible. The findings also suggest that a problem-oriented approach is acceptable to those police primarily responsible for the policing of licensed premises. The pilot study did not find evidence of potential effectiveness as measured by changes in numbers of intoxicated people associated with hotspot licensed premises as a last place of alcohol consumption prior to being involved in a police attended incident. The findings, particularly with regard to the submission and quality of action plans, suggest a number of opportunities for improvements to the intervention design that may increase the likelihood of achieving harm reduction outcomes.

A high level of intervention feasibility was found with regard to participation in training (100%), and the identification of hotspot alcohol-related harm locations (94%). That the identification of hotspot locations was based on enhanced alcohol-related information in the centralised New South Wales Police database confirms the suggestion in Chapter 3 that a problem-oriented approach to the policing of licensed premises could be based on such information. Feasibility of the intervention was also suggested with regard to the identification of underlying problems, with 76% of action plans identifying at least one underlying problem. The findings also suggest other practical aspects of the intervention to be feasible: all action plans identified officers responsible for implementation and the
majority of plans (71%) also indicated a date for review. All but one of the submitted actions plans (95%) were multi-strategic (two or more strategies), with a median of five strategies. Submission of such multi-strategic action plans is consistent with evidence that a multi-strategic approach can effectively reduce alcohol-related harm (48,49), with the emphasis placed by problem-oriented policing on multi-strategic approaches (3,7,108), and also with the findings in Chapter 4 that police applied a range of strategies to the high-risk licensed premises identified in that study.

The high level of reported acceptability of both the problem-oriented policing intervention and the training and resources provided are consistent with the finding of Chapter 2 that those responsible for the policing of licensed premises reported being open to a more consistent approach, as could be provided through problem-oriented policing (7,108).

The acceptability findings are also generally consistent with those of a previously reported survey of operational police in New South Wales (109) with regard to the acceptability of an educational approach to policing of licensed premises. This study found that among a sample of 298 operational police: 92% agreed that providing educational feedback to licensees regarding incidents of harm associated with their premises was a useful policing strategy, 65% reported that police adoption of such an educational approach would decrease alcohol-related harm, 67% reported education to be more effective than enforcement in ensuring compliance with liquor laws, and 58% reported that it would be appropriate for police to undertake such a strategy. The findings of the present study that 99% of respondents found a problem-oriented policing intervention acceptable, and that over 95% reported the approach to be relevant and applicable to their command suggests that those police primarily responsible for the policing of licensed premises may be even more open to preventive approaches such as problem-oriented policing than were the general operational police officers that were the subject of the earlier study.
Such findings with regard to the feasibility and acceptability of the intervention suggest that within NSW Police, and particularly among those responsible for the policing of licensed premises, a rigorous trial of the effectiveness of a problem-oriented approach to the policing of licensed premises could be conducted to further determine the benefits of adopting such an approach as part of routine practice.

In terms of the potential effectiveness of the intervention to reduce alcohol-related harm, there were no significant pre-post changes in numbers of intoxicated people associated with hotspot licensed premises in either the intervention group as a whole, nor among the 18 licensed premises for which police submitted action plans. Nor were such (non-significant) pre-post changes significantly different from those observed in the control group. The extent to which these non-significant findings may be a function of inadequate sample size and hence statistical power is unknown. There was an observed significant pre-post increase in numbers of intoxicated people associated with licensed premises in the intervention group for which police had not submitted an action plan. The extent to which this was a function of such non-submission, or other factors, is unknown.

Despite substantial differences in methods, the findings of this study with regard to potential effectiveness are in contrast to the generally more positive findings reported by quasi-experimental (65) and non-controlled (66,77) studies of problem-oriented policing interventions with licensed premises, reviews suggesting that enhanced policing is a promising strategy (63,64) and an important element of the effectiveness of other strategies (48,49), and meta-analytical conclusions that problem-oriented policing can generally reduce crime and disorder (18). There are a number of possible explanations for these findings, each of which also suggests possible improvements to the intervention design.
For the effectiveness of the intervention to be maximised, the number of intervention commands developing, submitting and implementing action plans needed to be maximised. That only 41% of the intervention commands submitted actions plans suggests that the likelihood of the intervention effectively reducing alcohol-related harm was reduced. In short, the lack of demonstrated effectiveness may reflect inadequate implementation of the intervention, rather than the ineffectiveness of the problem-oriented policing intervention per se.

However, as the submission of an action plan, in itself, represents a change in local policing practice, this finding may be seen as positive, particularly given the range of local factors that may have inhibited translation of the provided training into changed practice (e.g. needing local commander approval/support, local resource availability, modification of local policing priorities). The finding that the majority of submitted action plans (86%) specified implementation dates for less than half of planned response strategies may also suggest police had limited capacity to adopt changes in practice and commit to the planning and delivery of a problem-oriented approach during the intervention time period. These findings suggest a need for further research into local barriers and enablers of change and the modification of future interventions so as to maximise readiness for change.

Apart from one command that withdrew from the study due to the lack of a dedicated Licensing Officer, no reasons were obtained from intervention-group commands for their non-submission of action plans following attendance at training. The positive findings regarding acceptability gave no suggestion that participants would not submit action plans. However, the finding in Chapter 2 of a tension between a preference for state-wide consistency in the policing of licensed premises (as could be delivered by a centralised Alcohol Team) and a perceived valuing of local discretion in tailoring policing responses may partly explain the non-submission of action plans. It is possible that some police
perceived the delivery of training by a centralised unit as an acceptable means of improving the consistency of policing, but may not have accepted the submission of action plans to a centralised unit as being necessary, appropriate, or likely to add further value to their planned local responses. This possibility suggests that further research may be required regarding the most appropriate mechanisms for coordinating and supporting problem-oriented policing initiatives and the interest and readiness of local police to engage with such coordination and support processes.

Given the suggested need to adequately resource changes in police practice (1,88,89), the results suggest several areas where future interventions may need to enhance the incorporation of organisational change support strategies.

First, previous literature from both the USA and the UK regarding police-led adoption of problem-oriented policing initiatives has consistently pointed to the importance of leadership in facilitating the uptake of such an approach (87,110–112). A key strategy to facilitate uptake of the intervention in this study was to secure the leadership of the Alcohol Team, thereby providing the intervention with leadership support from those with a state-wide responsibility for alcohol-related harm. In the circumstances of this study, a number of factors may have lessened the effectiveness of this strategy. The conduct of the study coincided with the establishment of the Alcohol Team. Consequently, the Team may not yet have developed sufficient service-wide credibility, authority or relationships with leaders in local commands to achieve the intended benefits of gaining the support of the Team. Further, no broader leadership support for the initiative was officially obtained beyond this Team. For example, in the study described in Chapter 3, leadership support was obtained at state, regional and local command levels, and the state Police Commissioner and an Assistant Commissioner were actively and visibly engaged in the approval of, and advocacy for the study. In contrast, the level of leadership support obtained in this study was restricted to the level of a Superintendent within a single
centralised, but non-operational unit. In light of this, any future trial of an intervention similar to that described here should consider obtaining support from various levels of leadership within the police organisation, particularly from leaders within local commands.

Second, given the need for police organisations to maintain service delivery while adopting a change in practice such as problem-oriented policing (87,112,113) the level of training and subsequent support provided to local commands to develop, submit and implement action plans may have been insufficient. This study involved two staff delivering training and subsequently providing e-mail and telephone support from a central location, for a period of six months, and in combination with other duties. In contrast, in the study described in Chapter 3, intervention support was provided in the form of embedded, full-time staff, dedicated solely to supporting implementation, and who regularly attended local commands for extended periods of time (up to 20 months). No evidence has previously been reported regarding the optimal level of resourcing required for the introduction of a problem-oriented policing approach. Future research into the adoption or effectiveness of a problem-oriented policing intervention to reduce alcohol-related harm may require additional consideration of the level of support required for successful implementation.

Third, recommendations for a long-term service-wide commitment to problem-oriented policing have highlighted the importance of integrating such an approach into existing systems for reward and accountability (87,88,112). In this study, a process of review and feedback of action plans was included to support intervention implementation. However, the development of action plans operated outside existing police performance management requirements, and hence may have lacked sufficient organisational mandate to achieve optimal police participation and compliance. This is in contrast to the study described in Chapter 3, where measures of performance in the recording of alcohol-
related information were incorporated into state-wide performance management systems. Given the smaller scale of this pilot study, the ability to incorporate the intervention elements into state-wide performance management systems was constrained. Future studies might consider the potential to incorporate the performance monitoring and feedback aspects of similar interventions into the existing performance management systems of police organisations.

Several other findings of this study also suggest further areas where improvements might be made to the design of interventions intended to introduce a problem-oriented approach to the policing of licensed premises. The finding that approximately one quarter of submitted action plans (24%) did not identify an underlying problem is consistent with the findings of other studies suggesting that problem analysis is often the least developed aspect of problem-oriented policing (78,84,85). This suggests there may be scope to modify future interventions to further develop the capacity of police to undertake analysis in order to identify the underlying problems that are likely causing or contributing to observed incident patterns. That 57% of action plans assigned ‘blanket’ responsibility for all strategies to only one or a small number of police suggests there may also be scope for future interventions to incorporate more collaborative responses, where this is suggested by problem analysis, both within police organisations, and in partnership with external agencies (1,88).

While the result of this study suggest that the problem-oriented policing intervention was acceptable, future studies of police acceptability of this approach could address a broader range of items than the limited number considered here. Given findings in Chapter 2 that the way in which police use available alcohol-related information may be more akin to scanning rather than analysis, and the conclusions of previous studies of problem-oriented policing that problem analysis is often the least developed aspect of the approach (78,84,85), there may be benefit in assessing the acceptability of problem analysis, and the
extent to which police consider that such analysis should occur within police services or be conducted in partnership with external agencies. In light of the finding of Chapter 2 that police value local discretion, there may also be benefit in assessing the extent to which problem-oriented policing is viewed as an approach which limits or facilitates such discretion.

A number of the design characteristics of the study need to be considered when interpreting its findings and their relevance to further research. First, the timeframes of the study may have limited its capacity to observe changes in alcohol-related harm. The study involved a relatively short intervention period of six months. This period may have been insufficient for changes in the policing of the licensed premises to have occurred. Similarly, the six-month follow up period may have been of inadequate duration to observe a reduction in harm. That the follow-up period commenced immediately following the intervention period may have been inappropriate if changes in the management of licensed premises, as a result of a policing response, required some time to be implemented, and to result in a reduction in harm. In future studies, both a longer intervention period and a longer follow up period may be appropriate, as used in other studies (87,110–112).

Second, this study assessed feasibility in terms of planned policing activity, but did not directly assess the extent to which such activity was in fact implemented. Including an assessment of actual implementation would not only clarify the extent to which a problem-oriented approach to the policing of licensed premises is feasible, but would also provide a more clear context in which to evaluate measures of effectiveness. A possible method for both increasing the likelihood of planned responses occurring, and for recording the extent of implementation, may involve monitoring and documentation by more senior police of both problem analysis and police response (16).
Third, while the intervention allowed commands to identify hotspot locations that were
not licensed premises, data regarding people who had last consumed alcohol at these
locations could not be used to assess its effectiveness. Such locations were classified
generically (e.g. ‘public place’ or ‘home/private residence’) and could not be associated
with a specific location that may have been the subject of a problem-oriented policing
response. Given the finding of Chapter 3 that the consumption of alcohol in private homes
preceded 31.0% to 47.9% of alcohol-related assaults future research might evaluate the
effectiveness of enhanced policing of alcohol-related harms associated with private
locations.

Fourth, the indications of high levels of acceptability in this study were derived from a
select sample of police, many of whom specialised in addressing alcohol-related harm
(Licensing Officers). These individuals were not randomly selected, and so may not be
representative of officers who are primarily responsible for addressing alcohol-related
harm across New South Wales, or more widely. Further assessment of the acceptability of
problem-oriented policing to officers in these roles may be of benefit. Further, this study
provides no insight into how acceptable a problem-oriented approach to reducing alcohol-
related harm may be to operational police tasked with the various actions that this
approach may require. Future research may be required to determine the acceptability of
problem-oriented policing to such officers. Furthermore, if those primarily responsible for
the policing of licensed premises are more open to problem-oriented policing than
operational officers, as suggested above, there may be benefit in further research
examining how police with this responsibility might maximise the engagement of other
police in problem-oriented policing interventions to reduce alcohol-related harm,
particularly as part of any efforts to implement a long-term, organisation-wide
commitment to this approach.
REFERENCES


CHAPTER 6: SUMMARY OF FINDINGS, IMPLICATIONS AND SUGGESTIONS FOR FURTHER RESEARCH
Chapter 1 described the association between the misuse of alcohol and mortality and morbidity, both worldwide (1) and in Australia (2). The Chapter highlighted intoxication as a mechanism that causally contributes to such alcohol-related harms, particularly acute harms (3–9). It highlighted licensed premises as a setting disproportionately associated with both drinking to intoxication (10–16) and the occurrence of acute harms (10,11,16–27). The Chapter described the effectiveness of a number of strategies for reducing such harms, including those that restrict the availability of alcohol (28–34), and those that modify the environment of licensed premises (35–39). Evaluations of a number of strategies, including increasing the legal drinking age (40,41), responsible beverage service (RBS) (42,43) and multi-component interventions (39,44,45), have suggested that policing is a key element of their effectiveness.

Despite the suggested contribution of policing to the effectiveness of harm reduction strategies, routine policing of licensed premises has been reported to be less than optimal, both internationally (46,47) and in Australia (48,49). For example, despite recommendations that regulating the supply of alcohol is more efficient than regulating consumers (50,51), the policing of licensed premises has been shown to involve a relatively greater emphasis on the policing of individual patrons compared to the policing of licensees and serving staff (41,52,53). Further, it has been suggested that the policing of licensed premises is inconsistent between police services (49,54,55). In light of these limitations, a number of studies have assessed interventions to enhance the policing of licensed premises (46,47,56–60). Reviews of these studies have concluded that such interventions have promise and warrant further research (61,62).
One suggested approach to enhancing the policing of licensed premises is problem-oriented policing (49,63,64). Problem-oriented policing requires that police not only respond to individual incidents of harm but also identify patterns of incidents, identify their underlying causal factors (problems), address those factors with evidence-based responses, and evaluate the effectiveness of responses (65–69).

The adoption of problem-oriented policing as a routine approach to the policing of licensed premises faces a number of challenges. These include: a need for investment in explicit organisational change interventions to support the adoption of the approach (70–72); limited evidence of the effectiveness of organisational change interventions in supporting the adoption of problem-oriented policing (73,74); a lack of research regarding existing policing practices in identifying and responding to problems associated with licensed premises; and a lack of alcohol-related information (49,75) that could be used to support the implementation of a problem-oriented approach to the policing of licensed premises (68,69).

In the context of these challenges, the research described in this thesis sought to:

1. describe current practices regarding the policing of licensed premises by those primarily responsible for such policing in New South Wales, Australia.
2. evaluate the effectiveness of an organisational change intervention in enhancing police recording of alcohol-related information.
3. determine the types of policing strategies applied to licensed premises associated with alcohol-related harm, and the relationship between levels of alcohol-related harm associated with individual premises and the application of various policing strategies.
4. assess the feasibility, acceptability and potential effectiveness of a problem-oriented policing approach to reducing alcohol-related harm associated with licensed premises.
The remainder of this Chapter summarises the key findings of four studies undertaken to address these aims, and concludes with a discussion of their implications regarding the policing of licensed premises and further research.

**SUMMARY OF RESEARCH FINDINGS**

**SELF-REPORTED PRACTICES OF OFFICERS RESPONSIBLE FOR THE POLICING OF LICENSED PREMISES**

An important preliminary step in planning change in the service delivery practices of an organisation is to assess the alignment between current practices and those practices proposed for introduction (76,77). The literature suggests four key aspects of current policing practice that need to be considered prior to the implementation of a problem-oriented policing approach. First, problem-oriented policing requires that police respond to identified problems in a consistent manner, based on a systematic and empirical approach (63,69). As discussed in Chapters 1 and 2 it has been suggested that police responses to alcohol-related harm may be inconsistent between individual officers and between local jurisdictions (49,54,55). Second, while problem-oriented policing emphasises explicit analysis to identify the determinants of harms (68,69,78,79), it has been suggested that police organisations may generally have limited analytical capacity with regard to alcohol-related harm (49,75,79–81). Third, problem-oriented policing requires that, when responding to identified problems, police consider a range of strategies for which there is evidence of effectiveness (63,69). However, the responses police consider effective and the extent to which this aligns with evidence of effectiveness has not been reported. Fourth, problem-oriented policing requires that when developing response strategies police consider, in addition to evidence regarding the effectiveness of various strategies (65,69), theories of crime prevention (82–87), and local circumstances.
However, no research has examined the factors police consider with respect to developing responses to alcohol-related harm associated with licensed premises.

To address this lack of evidence, a qualitative study was undertaken examining the reported practices of police primarily responsible for the policing of licensed premises in New South Wales, Australia (Chapter 2). The findings of this study were, first, that limited consistency existed between local jurisdictions in the policing of licensed premises, consistent with previous findings with regard to policing generally (54), and the policing of licensed premises in particular (55). The majority of interviewed police supported greater consistency, however, in line with previous studies (55), participants suggested that this should not be at the expense of local professional discretion. Second, consistent with suggestions that police information systems record limited alcohol-related information (49,75), participants reported using multiple information sources to identify patterns of alcohol-related harm, due in part to limitations in local information-recording systems. Police also reported limited formal analysis of what information is available to determine underlying problems, a finding consistent with previous evidence that problem analysis is the least developed aspect of a problem-oriented approach to policing (78–80).

Third, participants reported the use of a range of responses that generally aligned with available evidence for their effectiveness. For example, consistent with evidence of effectiveness, participants reported using multi-strategic responses (88,89) and, consistent with evidence of their limited effectiveness, police qualified the use of increased police visibility (46,57,63) and engagement in formal industry consultations (89,90).

Participants did not report the use of several other strategies for which there is evidence of effectiveness, including support for reduced trading hours (28–30) and density (32,33) of licensed premises, or participation in collaborative, multi-component interventions (38,39,89). Fourth, consistent with problem-oriented policing recommendations (63,69), participants reported that they routinely tailored their responses to local circumstances. However, they did not report consideration of theoretical crime prevention frameworks
(82–87) or of research evidence regarding the effectiveness of various interventions in the
development of responses (63,69).

The results of the study suggest that the current practices of those police officers primarily
responsible for the policing of licensed premises in New South Wales, Australia align with
several aspects of problem-oriented policing including: support for greater consistency of
policing, routine use of information to detect harm patterns, use of responses that are
generally consistent with available evidence regarding effectiveness, and consideration of
local factors when tailoring responses. However, the results also suggest that the adoption
of problem-oriented policing would require efforts to: enhance the capacity of police to
undertake problem-oriented analyses, enhance the range of effective strategies that police
consider when developing responses, and ensure the routine consideration of theories of
crime prevention and research evidence in developing responses.

EFFECTIVENESS OF AN ORGANISATIONAL CHANGE INTERVENTION IN
ENHANCING POLICE RECORDING OF ALCOHOL-RELATED INFORMATION
RELATING TO INCIDENTS OF ASSAULT

Given the emphasis on analysis by problem-orientated policing (69,78,79) a prerequisite
for its application is the availability of information upon which analysis can be based
(64,66,68,78,91). However, international (78,91,92) and Australian (49) reviews have
concluded that many police information systems do not record data regarding the
involvement of alcohol in incidents in a manner that could support problem-oriented
analysis. To address this deficit, these reviews have recommended that police information
systems be enhanced by: developing an operationally useful definition of the involvement
of alcohol in incidents; recording of whether incidents follow prior alcohol consumption;
and recording of the intoxication level and last place of alcohol consumption for
individuals involved in incidents (49,91).
It has been suggested that the adoption of a problem-oriented approach to policing, including the implementation of prerequisite information availability, requires the use of explicit organisational change interventions (70–72,93). However, only a limited number of uncontrolled studies have assessed the effectiveness of organisational change interventions with regard to either the implementation of problem-oriented policing (73,74), or enhancement of police information systems (93,94). No controlled studies have evaluated the effectiveness of such interventions for enhancing the availability of alcohol-related crime information.

To address this evidence gap, a controlled trial was undertaken to assess the effectiveness of an organisational change intervention in enhancing the availability of alcohol-related crime information relating to police-attended incidents of assault. This study, described in Chapter 3, demonstrated that implementation of the intervention was associated with enhanced recording of alcohol-related information that was: immediate, sustained (up to 45 months), and replicated on three occasions. Levels of recording of alcohol-related information were comparable to those reported in shorter-term studies (22,26,95), and for incidents defined by alcohol involvement (i.e. drink-driving, see Wood et al., 1995 (96)). The results suggest that an organisational change intervention could successfully make available to police relevant information to support a problem-oriented policing approach to alcohol-related harms associated with licensed premises.

**TYPES OF POLICING STRATEGIES APPLIED TO LICENSED PREMISES ASSOCIATED WITH ALCOHOL-RELATED HARM**

A problem-oriented approach to the policing of licensed premises recommends that police implement multi-strategic responses to identified problems (49,66,69) and consider a range of strategies, such as educational initiatives (58,59,63,97), deterrent strategies (82–84), evidence gathering (63,98), and formal law enforcement (47,63,98,99) when developing such responses. As few studies of the types of strategies that are applied to the
policing of licensed premises have been reported, the extent to which current policing practice aligns with such recommendations is unknown. Available evidence regarding the policing of licensed premises has focused on the prevalence of formal enforcement actions, such as court proceedings and the issuing of fines (41,52,53). No studies have described the relative use of different types of policing responses.

To address this lack of evidence a descriptive study of policing response strategies was undertaken. In the study described in Chapter 4, police responsible for the policing of licensed premises reported using multiple strategies to address alcohol-related harm associated with high-risk licensed premises, consistent with the recommendations of problem-oriented policing (49,66,69). However, the relative prevalence of various policing responses was not entirely consistent with problem-oriented policing. The relatively less frequent use of educational strategies (60% of high risk licensed premises) may not be consistent with the emphasis of problem-oriented policing on strategies intended to prevent future harm (65,66). In addition, given evidence that strategies that increase the visibility of police are of limited effectiveness, the high prevalence of such strategies (73% to 98% of licensed premises) is inconsistent with the focus of problem-oriented policing on the use of strategies that are supported by empirical evidence (65,67,69).

The relatively low prevalence of educational strategies and relatively high prevalence of strategies that increase police visibility aligns more with traditional approaches to policing involving incident response and punishment of individual non-compliance (54,66,67). These findings suggest there is potential for police to adopt a broader range of alcohol-related harm reduction strategies for which there is evidence of effectiveness.
Three lines of evidence support the suggestion that problem-oriented policing may have the potential to reduce alcohol-related harm associated with licensed premises (49,63,64). First, problem-oriented policing has been shown to be effective in reducing crime generally (100). This includes its effectiveness in reducing crime at ‘hotspot’ locations (101–104). As disproportionately high levels of alcohol-related harm have been found to be associated with specific licensed premises (105–108), problem-oriented policing may be effective in reducing harms associated with such ‘hotspot’ premises. Second, reviews of strategies to reduce alcohol-related harm have concluded that enhancing the policing of licensed premises is important to the success of such strategies and that further research is warranted in this regard (38,51,61,62,109). Third, evidence from a limited number of studies directly assessing the effectiveness of a problem-oriented approach to the policing of licensed premises suggests that the approach may be effective in reducing alcohol-related harm (89,110,111).

Given this evidence, a pilot randomised controlled trial of the feasibility, acceptability and potential effectiveness of an intervention to facilitate adoption of a problem-oriented approach to the policing of licensed premises was undertaken (Chapter 5). The trial found that the intervention was feasible with regard to: police participation in training, their capacity to identify both hotspot licensed premises and associated underlying problems, and their capacity to identify a range of responses. Feasibility was less evident with regard to their capacity to implement responses.

The study also found that problem-oriented policing was considered by participants to be acceptable, relevant, and able to be applied locally.
The pre-post change in the number of intoxicated people involved in assaults associated with hotspot licensed premises in the intervention group was not significantly different to the control group. Several factors may have contributed to this lack of effect, including limited capacity of local police to implement a problem-oriented response to identified licensed premises during the study period. This possibility is supported by the finding that, within the intervention group, there was no significant pre-post change in the number of intoxicated people involved in assaults associated with hotspot licensed premises for which police had submitted an action plan, but a significant pre-post increase in the number of such people associated with hotspot licensed premises for which an action plan had not been submitted.

**IMPLICATIONS AND SUGGESTIONS FOR FURTHER RESEARCH AND POLICING PRACTICE**

The findings presented in this thesis have implications for enhancing practice and research in four areas: alcohol-related information systems; police analysis of underlying problems; police responses to alcohol-related harm; and the nature of organisational change strategies needed to support the implementation of a problem-oriented approach to the policing of licensed premises.

**ENHANCING ALCOHOL-RELATED INFORMATION SYSTEMS**

The findings of both Chapter 2 and previously reported studies (49,75,91,112) identified limitations regarding alcohol-related information that could be used to support a problem-oriented approach to the policing of licensed premises. Chapter 3 demonstrated an effective approach to addressing such limitations and enhancing the availability of alcohol-related information to police. The findings of Chapters 4 and 5 demonstrated that such information could be used both to identify problematic licensed premises and to evaluate the effectiveness of policing responses to reduce alcohol-related harms associated with them. The alcohol-related information made available to police, as described in Chapter 3,
offers three opportunities to more efficiently and effectively identify problematic licensed premises and target limited resources to reduce associated alcohol-related harms.

First, the information could be combined with proxy measures of alcohol-related harm to form more robust measures, and so increase confidence in assessing the harms associated with licensed premises, developing police responses, and/or evaluating responses (63, 113). Proxy measures involving incidents that have been demonstrated to be highly associated with prior alcohol consumption have been recommended for measuring alcohol-related harms (e.g. night-time assaults, night-time single motor vehicle accidents, or on-premises assaults) (75, 113, 114). Even where limited recording of information regarding the details of any prior alcohol consumption prevents drawing as association between an incident of harm and a specific licensed premises, such proxy measures may assist to evaluate the effectiveness of police responses. For example, provided time and location details of incidents are recorded, tracking changes in such measures could indicate whether responses to a specific licensed premises are associated with reductions in harm, or merely the displacement of harm to other times and/or locations (115, 116).

However, the primary disadvantage of using such measures is that they require assumptions regarding both the actuality and location of any prior alcohol consumption. Since the alcohol-related information described in this thesis involves recording details of the actuality and location of prior alcohol consumption on a per-incident basis, fewer assumptions are required. It must be recognised, however, that the information is self-reported by those who have consumed alcohol and hence carries risks of inaccuracy. Also, since the information is only recorded for incidents attended by police it may, like other officially recorded data, underreport levels of harm (113).

A second opportunity is provided by the recording of alcohol-related information across a broad range of incident types (e.g. assault, unintentional injury, drink-driving, self-harm, domestic violence, property damage). This provides a more complete picture of the nature
and frequency of alcohol-related harms associated with a particular licensed premises than could be provided if data were collected for only a particular incident type (113). More complete information may prompt greater analysis of the underlying problems driving such harms and the development of more tailored responses (63). (see (91) and (110) for examples of tailored responses to licensed premises, developed based on analyses of multiple information sources).

Third, the introduced alcohol-related information distinguishes the location of incidents from the location of licensed premises where alcohol was last consumed. As such, it provides an opportunity to map the geographical reach of the harms associated with a particular licensed premises by including incidents that are not proximate to the licensed premises. Last-place-of-consumption data for drink-driving incidents, for example, have been used to: locate licensed premises with possible sub-optimal alcohol service practices (96), profile the types of licensed premises associated with alcohol-related harm (117), and evaluate the impact of extended trading hours for licensed premises (118,119). In addition to drink-driving incidents, the introduced alcohol-related information involves a range of other incident types that may not occur in close proximity to a licensed premises, such as domestic violence or self-harm. This provides opportunities to tailor police responses where such information indicates associations between licensed premises and such incident types.

Both policing and other harm reduction initiatives focused on licensed premises may benefit from the introduction of enhanced alcohol-related information recording within agencies other than police. For example, it has been recommended that enhanced alcohol-related harm data items be introduced into the information-recording systems of hospital emergency departments, including electronic recording of: the time of admission, the time of injury, whether alcohol was consumed in the six hours prior to admission, and signs of intoxication (113). If enhanced recording of alcohol-related information in emergency
departments included the details of specific licensed premises as a last place of alcohol consumption, as was the case for the police information system described in Chapter 3, the data could be combined with equivalent police data to provide a more robust basis on which to conduct surveillance of licensed premises associated with alcohol-related harms, select appropriate response strategies (involving police and/or other agencies) and to evaluate the effectiveness of such responses (75,113).

The feasibility of routinely collecting enhanced alcohol-related information in an emergency department, and subsequently sharing these data between government agencies to support harm reduction efforts, has been previously demonstrated in the United Kingdom. For example, as part of a project implemented by the NHS-led Cardiff Violence Prevention Group (120), assault-injury data were routinely recorded electronically by reception staff at the Cardiff Accident and Emergency (A&E) Department. Data included, where applicable, the locations of specific licensed premises where assaults had occurred. The data were subsequently routinely de-identified and disseminated (monthly) to a range of agencies including police, local authorities, transport authorities, and licensing magistrates. The feasibility of implementing such routine data collection has also been demonstrated in an A&E department in Merseyside (121), and the feasibility of sharing such data with other agencies has been similarly demonstrated in Cambridge, England (122). A time series analysis of the harm-reduction effects of information sharing between health services, police, and local government partners in Cardiff showed that over 51 months the process was effective in achieving harm reductions (123). For example, rates of hospital admission for violence in Cardiff fell from seven to five per month per 100,000 population compared with a mean increase from five to eight per month across 14 comparison cities (adjusted incidence rate ratio 0.58, 95% CI: 0.49 to 0.69). Based on police data, the average rate of woundings increased from 54 to 82 per month per 100,000 population in Cardiff, but increased at a greater rate, from 54 to 114, in comparison cities (adjusted incidence rate ratio 0.68, 95% CI: 0.61 to 0.75).
In light of such evidence indicating the feasibility and effectiveness of enhanced recording and sharing of alcohol-related information, there may be scope to introduce similar practices in Australia. In New South Wales, sharing of alcohol-related information has been established through the Alcohol Related Crime Information Exchange (ARCIE), which facilitates information sharing between police and other government agencies responsible for regulating licensed premises, and for monitoring crime (124). The experience in the United Kingdom, discussed above, suggests that there may be further benefits if the recording and sharing of enhanced alcohol-related information were extended to include other agencies such as those responsible for responding to accidents and emergencies and for managing roads and traffic. Introduction of enhanced data collection and sharing practices may assist the adoption of a problem-oriented approach to the policing of licensed premises since such collaborative practices are consistent with problem-oriented policing (67,68).

Findings presented in this thesis also suggest two further enhancements that could be made to the alcohol-related information recorded by police services (or other agencies). The first involves recording enhanced location information for last-place-of-consumption. The alcohol-related information described in Chapter 3 only involved the recording of specific address details where the last location of alcohol consumption was a licensed premises. For other locations of alcohol consumption, information was recorded generically (e.g. 'public place' or 'home/private residence'). As described in Chapter 3, almost one third to one half of alcohol-related assaults were preceded by alcohol consumption in private homes, consistent with evidence that licensed premises are not the only locations associated with alcohol-related harm (11,17,23). In the study described in Chapter 5 police could choose to focus intervention efforts on locations other than licensed premises and, in some cases, did so (e.g. public places associated with underage drinking). However, as discussed in that chapter, such locations were excluded from an analysis of intervention effectiveness because the generic nature of data recording for
non-licensed premises locations prevented such locations being specifically associated with incidents of harm. This suggests there may be benefit in recording more specific location information for places of alcohol consumption that are not licensed premises. This would support both the targeting of such locations by police and evaluation of the effectiveness of responses. The feasibility of routinely collecting specific last-place-of-consumption information for non-licensed premises locations has been previously demonstrated in the UK Cardiff Violence Prevention Group project discussed above (120). In that project, detailed location information was collected for assault injuries that occurred both in licensed premises and at specific street locations. As discussed above, the sharing of this information between a range of agencies to support harm reduction efforts lead to significantly reduced rates of hospital admissions for violence and significantly smaller increases in rates of police-attended woundings in Cardiff, compared to 14 other UK cities (123).

The second enhancement involves the recording of location-specific information for place-of-purchase. Given that the consumption of alcohol in private homes would most often be preceded by the purchase of alcohol from elsewhere (particularly off-licenced premises), the finding reported in Chapter 3 that the consumption of alcohol in private homes preceded almost one third to one half of alcohol-related assaults suggests there may be benefit in recording details of where consumed alcohol was purchased. The need to record last-place-of-purchase information is also suggested by evidence from the UK (125–127), the USA (128–132) and New Zealand (133) that off-licensed premises are a common setting for the illegal purchase of alcohol by underage drinkers. Evaluations of community-action programs to reduce underage purchasing of alcohol from off-licensed premises in the USA (128) and New Zealand (133) have reported positive outcomes including increased in-store checking of age identification and reduced alcohol sales to minors. For example, in Auckland, New Zealand, a pre-post evaluation of a community action intervention (involving sales monitoring, media advocacy, direct contact with liquor
outlets, and engagement with law enforcement agencies) indicated a reduction of alcohol sales made without age identification from 60% to 46% (p<0.05) (133). Combined with demographic details identifying those under the legal age to purchase alcohol, the recording of last-place-of-purchase information for those involved in police-attended incidents may assist to more effectively target interventions toward off-licensed premises that illegally sell alcohol to those under age, and so potentially enhance harm reduction outcomes for young people. Based on the alcohol-related information items discussed in Chapter 3, Figure 1 presents a conceptual model of how the recording of alcohol-related information might be further extended to include last-place-of-consumption and last-place-of-purchase details that could be used to support enhanced targeting and evaluation of alcohol-related harm reduction interventions at locations that are not on-licensed premises.

ENHANCING POLICE ANALYSIS OF UNDERLYING PROBLEMS

As discussed in Chapter 1, a substantial challenge to the implementation of problem-oriented policing of licensed premises is the limited capacity of police to analyse alcohol-related harm problems, both in terms of limited availability of useful alcohol-related information (49,75) and limited skills in undertaking problem-oriented analyses (66,79,80). The alcohol-related information described in this thesis (particularly Chapter 3) provides police with data that can be analysed to detect both patterns of harm and those licensed premises associated with such patterns, as described in Chapters 4 and 5. However, the availability of alcohol-related information does not, of itself, increase the capacity of police to undertake in-depth problem-oriented analysis (68,69).

Improving the analytical capacity of police services has the potential to lead to more effective responses, and hence greater harm reduction (69,78). In reviewing problem-oriented policing, Goldstein (2003) suggested that its implementation requires that police services have access to staff with: advanced analytical skills, experience in analysing data
from multiple sources, familiarity with criminological theories and with published
evidence on the problems police address, and understanding of the operations of police
services (68). Several strategies might be used to foster these capacities within police
organisations.

Figure 1. Extended enhanced alcohol-related information items.
First, it has been suggested that the problem-oriented analytical function should be distinguished from other police functions, including other analytical roles such as crime analysis (68,134). Staff undertaking problem-oriented analyses need to be provided with adequate training, tools, and time to perform this function (68,135). To ensure that problem-oriented analysts maximise the time they spend conducting such analyses it has been recommended that they be provided with timely access to data and adequate technical and administrative support, and that they should be insulated from pressures to become involved in daily operational tasks or other non-analytical duties (68,135). It has also been suggested that problem-oriented analysis would be enhanced if analysts are able to collaborate and share experiences (68,135), and if the work of analysts was appropriately recognised, rewarded and remunerated (135). The utility of problem-oriented analysis may be enhanced where it is integrated into decision making processes (135), and where analysts have access to senior police leadership (68) and are free to be objective and challenge accepted beliefs (135).

A number of these recommendations and suggestions have been implemented as part of problem-oriented interventions that have shown promising outcomes. For example, as part of the implementation of problem-oriented policing over seven years within the Port St Lucie Police Department, Florida, USA (72,73), information systems were standardised to facilitate analysis, police were trained in problem-oriented methods, and staff with experience and tertiary training in analysis were recruited. Problem-oriented analysis was also integrated into organisational decision-making and accountability structures such that, as problems moved from being relatively simple and localised to more complex and community-wide, those accountable for addressing them moved from being line-level officers, through to sergeants, lieutenants and executive officers (73). Problem-oriented efforts focused on construction site burglaries and thefts from automobiles. A pre-post evaluation found that construction site burglaries decreased from around 30 per month before the intervention to just over 10 per month. Thefts from automobiles deceased from
a peak of over 80 per month, to less than 60 per month. Both findings were in the context of a rising city population (73).

In New South Wales, Australia, subsequent to the state-wide implementation of alcohol-related information recording (Chapter 3), the New South Wales Police established a new Alcohol and Licensing Enforcement Command (ALEC). The command involves 30 staff, and is focused on targeting hot-spot licensed premises and providing support to local commands through six regional coordinators (124). The establishment of ALEC provides a platform on which problem-oriented analytical capacity could be developed. As an initial step towards the realisation of this potential, there may be benefit in further pilot studies to assess the extent to which the development of problem-oriented analytical capacity would be acceptable and feasible within New South Wales Police, and could effectively contribute to the reduction of alcohol-related harm. Given the finding in Chapter 2 of an apparent tension between the expressed preference for state-wide consistency in the policing of licensed premises and the perceived value of local discretion in tailoring policing responses, such a study might aim to determine whether analytical capacity should be developed within local commands or in a more centralised manner. Such a pilot study could involve comparing and contrasting different ‘models’ for the development of analytical capacity. For example, in light of the finding of Chapter 5 that there is scope to enhance the submission of action plans to a centralised unit, four possible ‘models’ that could be evaluated might involve: local development of problem-oriented analytical capacity with centralised support; centralised development of analytical capacity based on liaison with local commands to gain relevant information; local development of problem-oriented analytical capacity without centralised support (to test whether such ‘support’ might hinder the tailoring and local implementation of responses); and ‘usual policing’. The conduct of such studies has been recommended in the developmental stages of an intervention, in order to establish preliminary evidence for feasibility and effectiveness (76).
While the above suggestions and examples have focused on ways in which the capacity of police to undertake problem-oriented analysis might be enhanced within a police organisation, other suggestions have considered how such capacity might be increased using mechanisms beyond a single police service. For example, it has been suggested that analytical capacity might be improved by creating regional consortia of analysts who are shared between different police services, or that police services might collaborate with academic institutions to gain access to appropriate analytical skills. In recognition of the frequent changes that occur in the management and priorities of policing services, it has been suggested that enhancing the capacity to undertake problem-oriented analysis might best occur in a dedicated centre that is independent of police organisations. Such a centre would: provide training in problem-oriented analysis; cover participant’s costs; prepare training materials; provide a forum for problem analysts to share experiences and insights; review and synthesise literature on policing problems, responses and gaps in knowledge; and encourage academic interest in research and teaching in problem-oriented policing. It has also been suggested that such a centre could collaborate with police agencies which, in return for access to trained and subsidised problem analysts, commit to providing support for a problem-oriented study of a substantial area of police business, including implementation of a problem-oriented response, and assessment of its effectiveness. The centre would also broadly disseminate the results of such studies, and support the institutionalisation of problem-oriented analysis within police organisations. The feasibility of such a dedicated centre delivering several of these suggestions, including the provision of training materials and dissemination of reviews of the existing literature on policing problems, effective responses, and the result of problem-oriented studies, is evident at www.popcenter.org.

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2 In New South Wales the Alcohol and Licensing Enforcement Command (ALEC) provides a similar function for local police commands within the single, state-wide police service.
the web-site of the US Centre for Problem-Oriented Policing. Material disseminated by this site has included reviews on effective policing responses to alcohol-related harms associated with licensed premises (63).

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**ENHANCING POLICE RESPONSES TO ALCOHOL-RELATED HARM**

Realisation of the potential harm-reduction benefits of enhanced alcohol-related information or enhanced capacity for problem-oriented analysis is dependent on the effectiveness of implemented responses. The findings presented in this thesis suggest there is scope to enhance policing responses to problems associated with licensed premises in two ways: enhancing police consideration of evidence and theory when developing responses, and enhancing the consistency of response within and across police commands.

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**Enhancing Police Consideration of Evidence and Theory**

As discussed in Chapter 1, problem-oriented analysis involves not only analysis of identified problems in order to develop hypotheses concerning their underlying causes, but also consideration of criminological theory and evidence regarding existing responses that can inform the development of potentially effective responses (69). Consistent with problem-oriented policing (65,69), the findings of both Chapter 2 and Chapter 4 suggested that police had adopted, in part, a multi-strategic approach to the policing of licensed premises. However, as described in Chapter 2, participants reported considering only a limited range of responses relative to the range of options for which there is evidence of effectiveness. Participants made no mention of strategies such as supporting: reduced trading hours (28–30) and density (32,33) of licensed premises, or collaborating in multi-component interventions (38,39,89). Police also made no mention of considering theoretical frameworks or evidence of the effectiveness of various interventions when considering response options. Furthermore, in Chapter 4, police reported a pattern of
responses that implied an emphasis on increasing the visibility of police, a strategy suggested to be of limited effectiveness both by themselves (Chapter 2) and by previous studies (46,57,63). Such findings indicate there may be opportunity to enhance police consideration of evidence and theoretical frameworks when selecting response options.

The study presented in Chapter 4 provided an example of one approach to analysing existing policing responses, with a view to identifying opportunities for enhancement. As described in that Chapter, the approach could be improved by collecting more detailed data regarding the frequency and timing of various responses, particularly responses that occur regularly (e.g. tasking uniformed officers or police vehicles to patrol licensed premises). As a further improvement, the validity of self-reported data describing implemented responses could be increased by independent auditing of police records.

Police consideration of evidence and theoretical frameworks when developing responses would be aided by rigorous evaluation of the effectiveness of implemented responses, as suggested by the last element of the SARA model of problem-oriented policing (‘assessment’) (69,78,134). Where assessment demonstrates that a response is effective, it may be added to those police consider deploying (134), whereas demonstration of limited effectiveness would provide either insight regarding opportunities to enhance effectiveness, or a basis for discontinuing its use (134).

The effectiveness of a policing response can be measured in various ways, such as elimination of a problem or reduction in its frequency or severity (134). Such multi-dimensional assessment allows greater insight into the nature of response effectiveness (134,136). The recording of alcohol-related information as described in this thesis provides a basis for multi-dimensional assessment of police responses. For example, since the enhanced information is collected on a per-incident basis, it facilitates assessment of whether responses affect the frequency of alcohol-related harms. Similarly, the availability of the data across multiple, but related, incident types facilitates assessment of whether
responses affect the severity of harms (e.g. drink-driving vs. traffic accidents involving injury vs. traffic accidents involving death, or common assault vs. grievous bodily harm vs. homicide). Assessments of this nature would provide greater clarity when considering alternative responses and their anticipated effects.

Enhancing the Consistency of Response Within and Across Police Commands.

The findings presented in this thesis suggest there is scope to enhance the consistency of police responses to licensed premises. A key finding of the qualitative study presented in Chapter 2 was a perceived inconsistency by participants in the policing of licensed premises between local jurisdictions. This finding is consistent with a previous qualitative study of Australian police (55), and with a review of the policing of licensed premises in Australia.

The review made four recommendations to enhance the consistency of policing of licensed premises (49) viz. that police services should:

1. develop coordinated approaches to addressing harms associated with licensed premises, guided by broader, national alcohol harm-reduction strategies;
2. develop key performance indicators for measuring reductions in alcohol-related harm, similarly guided by national alcohol harm-reduction strategies;
3. undertake more regular and robust evaluation of the effectiveness of police responses to alcohol-related harm, including common reporting protocols to facilitate information sharing among those responsible for planning police responses to alcohol-related harm;
4. ensure national standardisation of information recording regarding incidents associated with licensed premises to enhance capacity to determine the impacts of alcohol-related harm and to make comparative assessments of the effectiveness of police responses.
The alcohol-related information described in this thesis could contribute to the implementation of some of the recommendations above. It could, for example, provide a basis for developing key performance indicators regarding alcohol-related harm, such as whether policing responses are associated with reductions in incidents involving: the prior consumption of alcohol (information item 1), intoxication (item 2), and/or drinking at a licensed premises (items 3 & 4).

Implementation of a nationally standardised approach to gathering crime information has been attempted in the UK (93). Evaluation of the approach, known as the National Intelligence Model, highlighted barriers to implementation which included police perceptions of complexity and limited relevance. The process for developing the alcohol-related information items and associated recording procedures described in Chapter 3 included explicit consideration of how to minimise complexity and maximise relevance, as well as consideration of several other dimensions such as informational need, familiarity, and capacity for integration with existing processes and systems. These considerations were explicitly intended to increase the likelihood that enhanced information recoding would be adopted. Based on diffusion of innovations theory (137,138), similar considerations could contribute to the realisation of nationally standardised alcohol-related information recording, as recommended above (49).

THE NATURE OF ORGANISATIONAL CHANGE STRATEGIES NEEDED TO SUPPORT THE IMPLEMENTATION OF A PROBLEM-ORIENTED APPROACH TO THE POLICING OF LICENSED PREMISES

In two separate studies (Chapters 3 and 5) this thesis examined the effectiveness of interventions designed to change police practices with regard to licensed premises. The study in Chapter 3 demonstrated the effectiveness of a suite of explicit organisational change strategies in enhancing the capacity of a police service to routinely record
enhanced alcohol-related information (hereafter, to differentiate the studies, referred to as the 'AIR study'; Alcohol-related Information Recording study). In the study in Chapter 5, a similar organisational change approach was utilised in a pilot study of the acceptability, feasibility and potential effectiveness of a problem-oriented policing approach to reducing alcohol-related harms associated with licensed premises (hereafter referred to as the 'POP study'; Problem-oriented Policing study). The two studies involved contrasting findings. Whereas the intervention described in the AIR study was successful in achieving its aim of increasing the recording of alcohol-related information, the POP study was unsuccessful in achieving its ultimate aim of reducing local alcohol-related harms associated with licensed premises although it was successful in establishing the acceptability and feasibility, in part, of adopting a problem-oriented policing approach.

The contrasting findings of the two studies provide a basis for suggesting how the effectiveness of organisational change interventions designed to implement a problem-oriented approach to the policing of licensed premises might be enhanced. While both studies adopted similar organisational change interventions, the practice change objectives of the two studies differed in terms of their scale, complexity and impact on existing practices. The intervention described in the AIR study required individual operational police officers to adopt systematic enhancements to existing information collection and recording processes, based on the establishment of state-wide protocols. In contrast, the POP study required local commands to develop potentially novel policing responses that may have required modifications to previous or planned responses and/or alterations to local resource allocation.

Given the relative novelty and complexity of the requirements of the POP study, it may be argued that a more complex and nuanced organisational change intervention was needed relative to that used in the AIR study. For example, the organisational change interventions in both studies primarily operated through centrally administered, state-
wide mechanisms (the centralised information database in the AIR study, and the centralised Alcohol Unit in the POP study). Such a centralised focus may have been more appropriate for enhancing information recording in a common, state-wide information-technology system than for introducing a problem-oriented approach to the policing of licensed premises. In New South Wales, decision-making responsibility for policing responses to problematic licensed premises rests within local police commands. In this context, the intervention delivered by the POP study may have benefitted from a greater focus on local decision making, a suggestion supported by the finding reported in Chapter 2 that police officers in local commands valued maintaining local decision-making discretion.

The contrasting findings of the AIR study and POP study may also be explained, in part, with reference to diffusion of innovations theory. This theory suggests that changes in practice are more likely to be adopted if they are perceived to be, among other things, simple, familiar and/or relevant (137,138). It seems probable that the recording of a limited number of alcohol-related information items (four), as described in the AIR study, was perceived as simpler than a problem-oriented approach to policing of licensed premises that involved analyses incorporating data on both alcohol-related harms and previous policing responses, and the development of multi-strategic and potentially novel responses, as described in the POP study. Nevertheless, despite suggestions that police may perceive problem-oriented policing, particularly problem-oriented analysis, to be complex and time-consuming (70,139), police participating in the POP study reported the problem-oriented approach to be highly applicable (95%), relevant (96%) and acceptable (99%). This high level of support from individual participants suggests that further studies are required to determine strategies that would enable this support to be translated into the successful adoption of a problem-oriented approach to the policing of licensed premises.
Several such enabling strategies could be considered. For example, consistent with diffusion of innovations theory (137,138), the problem-oriented policing approach could be presented in a simplified model, of which the SARA acronym is a common example (66,140), or presented in a modular and incremental manner (see (69) as an example). Steps to enhance the familiarity of problem-oriented policing may include integrating the approach, as far as possible, with existing organisational structures and processes for decision making, accountability, and information processing (135). For example, one approach to this has been described in the Port St Lucie Police Department, Florida, USA (73).

The contrasting findings of the AIR study and the POP study may also be partially explained with reference to organisational development theory (141,142). The observed differences may have been influenced, for example, by differences in the implementation of the various organisational change elements. As previously described, leadership has been identified as a key success factor in the implementation of organisational change strategies (70,143). In the AIR study leadership support for the initiative was provided at state, regional and local levels. In contrast, leadership support for the initiative described in the POP study was limited to one state-level business unit with restricted (albeit alcohol-related) leadership responsibility. Further, in the AIR study, multiple training opportunities were integrated into existing police education curricula, structures and processes, whereas in the POP study, training was restricted to a single, voluntary workshop. In the AIR study, performance feedback regarding information-recording was integrated into existing performance management systems, while the performance feedback regarding submitted action plans in the POP study operated outside these systems. Finally, while the intervention support described in the AIR study involved embedded, full-time staff, dedicated solely to implementation support for an extended
period (up to 20 months), the support provided in the POP study involved two staff providing training and support for a period of six months, and in combination with other duties.

The more limited extent of organisational change elements utilised in the POP study may have been appropriate in the context of a pilot study evaluating an intervention yet to obtain formal organisational endorsement, in contrast to the AIR study. None the less, such limitations may have contributed to the differential outcomes observed between the two studies, suggesting that greater levels of organisational support may be required in any further research into the effectiveness of complex interventions designed to support the adoption of a problem-oriented approach to the policing of licensed premises. Evidence from both the United States (66) and United Kingdom (71,144,145) consistently suggests the need for extended investment in organisational change if problem-oriented policing is to be implemented effectively.
REFERENCES


119. Chikritzhs T, Stockwell T. The impact of later trading hours for hotels on levels of impaired driver road crashes and driver breath alcohol levels. Addiction. 2006 Sep;101(9):1254–64.


Dear Sir or Madam,

As you may be aware, the Alcohol Linking Program is currently being implemented across all of NSW Police. The program is a joint initiative of NSW Police and the Hunter Centre for Health Advancement (a unit of the Hunter Area Health Service).

This Program is designed to enhance the capacity of NSW Police to collect and use intelligence regarding alcohol-related incidents. The intelligence ‘links’ alcohol-related incidents to the last place where alcohol was consumed, including specific licensed premises.

To further enhance the capacity of NSW Police, the Alcohol Linking Program is seeking to develop improved methods and resources for taking effective action to encourage licensees and other staff to comply with NSW liquor legislation.

As part of developing these enhancements, the Program team is seeking to gain an understanding of what actions (both formal and informal) are currently taken by NSW Police in this regard, the effectiveness of such actions, and barriers to effectiveness. Also, the Program team is seeking to gain a similar insight into the extent to which such actions are currently documented.

The Program team would like to interview key members of the NSW Police. You have been identified as a potential interview participant.

The interview explores your own experiences regarding actions taken to encourage licensees and other staff to comply with NSW liquor legislation. It is expected that each interview will last about one (1) hour. Interviews would be conducted at or near your place or work.

Participation is voluntary. No one other than the Program team, need be aware of your decision regarding participation. Should you choose not to participate, this will have no bearing on your employment.

If you decide to participate, you will be asked to take part in one (1) interview. Should you agree to participate, you are free to withdraw from any interview at any stage.

If you decide to participate, please be aware that interviews will be recorded and transcribed. This will be done to inform the development of improved methods and resources for taking effective action to encourage licensees and other staff to comply with NSW liquor legislation. The information you provide will be coded and examined along with other information from other interviewees. Only summary, group information will be reported. No individually identifiable data will be reported or published.

If you decide to participate, you will receive a copy of the transcript so that you may edit or delete your own comments from your interview. You may also request an audio tape of your interview.

Finally, please be assured that comments made during the interview will be treated as strictly confidential and will not be discussed outside the interview, except with other members of the Program team, for the purposes of analysis.

If you would like to participate, you will be required to fill out a consent form.

Regards,

Andrew Hacker
Alcohol Linking Program
Project Officer
Hunter Centre for Health Advancement
(02) 4924 6299

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Exploring Current Police Actions with Licensees and Other Staff in Relation to NSW Liquor Legislation

Mr Andrew Hacker (Hunter Centre for Health Advancement)
Dr John Wiggers (Hunter Centre for Health Advancement)
Ms Melanie Kingsland (Hunter Centre for Health Advancement)

Qualitative Interview Consent Form

I agree to take part in the interview as described in the Participant Information Letter, a copy of which I have retained.

I understand that:

- participation in this interview is voluntary.
- no individually identifiable data will be reported or published.
- the interviews will be recorded and that I will receive a copy of the transcript solely for the purposes of editing or deleting my own comments during the interview.
- I may request an audio copy of the recording.
- my agreeing to participate in these interviews has no bearing on my current or future employment.
- I am free to withdraw from interview at any stage.

Signature: ___________________________ Date: ___/___/_____

Please Print Name: ________________________________

Please tick if appropriate:

☐ I would like an audio tape copy of the interviews in which I participated.
APPENDIX 2.3 QUALITATIVE INTERVIEW SCHEDULE

Interview to Assess Current NSW Police Activity and subsequent documentation with to Liquor Licensees and Other Staff, with Regard to NSW Liquor Legislation.

INTERVIEW SCHEDULE

This is an interview conducted by Andrew Hacker on the [insert day and date], with [insert interviewee's name] at [Name of LAC]. Thanks for agreeing to participate in this interview.

This interview explores issues related to policing licensed premises. It specifically focuses on issues of intoxication and explores what police do with licensees and premise staff, rather than patrons.

Background

[The extent of the Problem]...

How many licensed premises, not including restaurants & cafes, are there in this LAC?

Are there licensed premises in this LAC that are a problem, to the extent that they do not comply with responsible service / non-intoxication laws? Can you please describe them?

Who are the key people involved in activity with licensed premises at this LAC?

Current Activity

How do you identify problem premises? (quantitative / qualitative approaches; intelligence / 'word on the street' approaches).

How are actual potential breaches of NSW liquor legislation, by licensees or other staff, currently identified?
- what do you do?
- what sources of intelligence are used?
- how are they assessed?

What different types of action do you (your CMU, your LAC) currently take with licensees and other staff in relation to liquor legislation?
- [No action; Phone calls; informal warnings at their premise; formal warnings at their premise; bringing the licensee to the station for a talk; overt audits; covert audits; Linking feedback reports; High Visibility Policing; infringement notices; breeches etc...]

How do you / your CMU / your LAC decide which actions you will take with various licensees and/or staff?
- What triggers these actions?
- Who initiates these actions?
- Who undertakes these actions?
Current Effectiveness of Activity

What would you / your CMU / your LAC consider to be the most effective types of action (pick up to three)?
- when are they most effective?
- why are they most effective?

What would you / your CMU / your LAC consider the least effective types of action (pick up to three)?
- why are these the least effective?

Barriers to Effective Activity

What factors do you / your CMU / your LAC find commonly impede the effectiveness of actions taken with licensees?
- NSW Police: Resources, Culture, Systems, Training, Knowledge etc
- Licensees: Attitude, Culture etc
- Legal System: Requirements for case building etc
- Community: Attitudes, wider issues etc

Potential Aids to Allowing More Effective Activity?

What would help your actions with licensees and other staff, to be more effective in enforcing current legislation?
- staffing
  - tools / resources
  - COPS / SOPS / systems
  - later interviews asked specifically about CCTV, access to it, and its usefulness in court.

How well resourced are you / your CMU / your LAC to enforce legislation regarding intoxication at licensed premises, against licensees and other staff?
- staff
- resources
- systems

Consistent/Systematic Enforcement?

What potential do you think there is to develop more consistent/systematic approaches to policing licensed premises across the each LAC?

One idea that has been proposed is a systematic graduated action / enforcement strategy. This is a strategy where the severity of enforcement would be graded depending on either the severity of the initial breach, or the time over which breaching has continued. What do you think of this concept?

Current Documentation

In what ways do you / your CMU / your LAC currently document actions taken with licensees and other staff?
- how do you use COPS for documenting actions?
- for what actions is documentation mandatory?
Current Usefulness of Documentation

*In terms of helping you / your CMU / your LAC to build a case against licensees or staff?*
- what methods of documentation do you / your CMU / your LAC find the most useful?
  - Why?
- what methods of documentation do you / your CMU / your LAC find the least useful?
  - Why?

*What could be implemented in COPS to help you / your CMU / your LAC build a case against a licensee or other staff member?*

*In terms of helping you / your CMU / your LAC to plan future actions to be taken with licensees:*
- which method of documentation do you / your CMU / your LAC find the most useful?
  - Why?
- which method of documentation do you / your CMU / your LAC find the least useful?
  - Why?

*What could be implemented in COPS to help you / your CMU / your LAC plan future actions to be taken with licensees?*

Barriers to Useful Documentation

*What, if anything, currently makes creating documentation difficult?*
- Not knowing what needs to be documented
- Systems that make documentation difficult or time consuming (specify) (COPS)
  - etc

*What things reduce the effectiveness of documentation?*
- Difficulties in retrieving previous documentation
- Poor previous documentation
- Documentation having few legal consequences for licensee
  - etc

Potential Aids to Improving Documentation

*What would make documentation of your actions with licensees, more useful?*
- Knowing what needs to be documented, particularly for building cases against licensees.
  - Having simple, consistent systems for documenting new actions, and their outcomes.
    - Some have suggested a field for recording the licensee's number for events occurring on licensed premises. What do you think?
    - What about having consistent names for each venue?
  - Having simple, consistent systems for retrieving previously documented actions and their outcomes.

*Later interviews also asked about the usefulness of existing linking data in an LAB and/or Licensing Court context.*
APPENDIX 3.1 MAP OF TRIAL STAGES

- Stage 1: Western and Central NSW
- Stage 2: North and South Coastal NSW
- Stage 3: Metropolitan Sydney
APPENDIX 3.2 PRESENTATION SLIDES FOR MANADOTRY ALCOHOL-RELATED INFORMATION RECORDING

Alcohol Related Harm
- Alcohol abuse in Australia is responsible for 3,500 deaths and over 70,000 hospitalisations each year (1)
- Total annual health-related cost of alcohol abuse is estimated at $4.5 billion (2)
- Research indicates that up to 70% of all police attended incidents are alcohol-related (3) (4)

Alcohol Related Harm
- Almost half of all alcohol is sold through licensed premises such as hotels and registered clubs (5)
- Alcohol consumed on licensed premises contributes greatly to the the intoxication of offender and victims of crime (6) (4)

Pilot Study
Hunter Region & Northern Metropolitan Commands, 1996-1999
942 police within 8 LACs collected the following information for all incidents:
- Whether the Person(s) of Interest / victim had consumed alcohol.
  If so,
  - Their level of intoxication.
  - Where they had last consumed alcohol.

Pilot Study
For 200 intervention premises:
- ARI information was collated and incident reports sent to licensees/managers describing incidents linked to alcohol consumption on their premises.
- Police officers visited premises with "linked" ARIs and conducted an audit to assess licensee compliance with liquor laws and other recommended practices.
For 200 control premises:
- Normal policing
**Pilot Study**

**Results**

- 50% of the POIs/victims that had been drinking had consumed their last drink on a licensed premises
- PCAs and assaults accounted for 54% of incidents that were linked to the consumption of alcohol on licensed premises

**Results: reductions in ARIs**

<table>
<thead>
<tr>
<th></th>
<th>Pre-linking</th>
<th>Post-linking</th>
<th>Reduction in ARIs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>447</td>
<td>354</td>
<td>93 (21%)</td>
</tr>
<tr>
<td>Intervention</td>
<td>425</td>
<td>271</td>
<td>154 (36%)</td>
</tr>
<tr>
<td>Difference between</td>
<td></td>
<td></td>
<td>61</td>
</tr>
<tr>
<td>control + intervention</td>
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</tbody>
</table>

**Pilot Study**

**Results**

Reductions in the number of incidents associated with the intervention premises compared to the control premises:

- Malicious damage: 23 less ARIs
- Offensiveness: 12 less ARIs
- PCA: 10 less ARIs
- Domestic violence: 9 less ARIs
- Assault: 7 less ARIs
- Intoxicated persons: 7 less ARIs

**POLICE ACCEPTABILITY OF THE PROJECT**

- 75% of police felt that the project was not an intrusion into their work
- 75% of police felt that providing feedback to licensees was appropriate police work
- 60% of police felt that an education approach was more effective than enforcement in ensuring Liquor Act compliance
- 100% of police involved in visiting licensees felt that they developed a good relationship with them

**Pilot Study**

**LICENSEE ACCEPTABILITY**

- Almost 50% of licensees found the feedback report useful in improving their alcohol service practices
- 91% of licensees found the police visit acceptable
- Almost 50% of licensees found the visit useful in improving their alcohol service practices

**Trialing the Project in the Western, Southern Rivers and Hunter Regions**

![Map of Western, Southern Rivers and Hunter Regions]
**Introduction of Western & Southern Rivers Regions to the Linking trial**

- Western Region has rates of ARBs - 3 to 4½ times higher than the state average.
- Southern Rivers Region has rates of ARBs - 3 times higher than the state average.

*Graph showing beverage sales data.*

**Project Objectives**

- To reduce alcohol-related crime associated with alcohol consumption on licensed premises.
- To improve police intelligence on alcohol-related crime through COPS enhancements.
- To enable police to work more effectively with licensed premises to ensure responsible service practices.
- To improve police understanding of the role they play in reducing alcohol-related crime associated with licensed premises through educational (rather than enforcement) strategies.

**Trial design**

The trial will be run for approx 18 months commencing early 2002. This will involve:

- The entire regions receiving the COPS enhancements.
- 5 towns/cities per region acting as "intervention sites".
- The licensees of premises within these "intervention" sites receiving the incident reports and visits from police.

**Trial components**

**Support from The Police Service**
- Regional Commanders & Deputy Commissioner’s Office

**System support**
- COPS enhancements

**Training**
- Full time Regional Project Officer to support EDOs
- SMITS

**Prompts**
- Mouse mats, stickers on notebooks, posters

**Monitoring of new procedures and reporting back to LACs**

**Support from COPS**

- COPS enhancements

**Training**

- Will commence from early 2002
- Will be conducted in 2 phases:
  - Phase 1: COPS enhancements
  - Phase 2: Working with licensed premises

All police within Western, Southern Rivers & Hunter Regions will be trained in the COPS enhancements and the need for accurate and complete recording of AR information.

At a later stage in the trial, intelligence and licensing police that will be involved in generating the incident reports and visiting the licensed premises within the intervention towns will be trained.
**Linking Project Procedures**

**Phase 1: COPS ENHANCEMENTS**

There are **TWO STAGES** that all operational police are required to complete:

**Stage One** - Collect information at the scene of the incident

**Stage Two** - Enter information into COPS

---

**Stage 1: At the scene**

**STEP 1** Determine if the offender / victim / driver was drinking alcohol prior to the incident

All POIs/drivers/victims should be asked whether they have been drinking.

However, if it is inappropriate to ask this question, but obvious that alcohol has been consumed, then the police officer may use observed signs of alcohol intoxication to make this judgement rather than asking.

For step 1 record: "YES", "NO", "NOT KNOWN"

If NO, no more steps need to be completed at the scene.

---

**Signs of Alcohol Intoxication**

- Odour of alcohol
- Impaired activities (eg fumbling)
- Difficulty speaking or inappropriate volume
- Bloodshot eyes
- Decreased alertness / sleepiness
- Vomiting / traces of vomit on clothes
- Aggressiveness / violence / abusive language
- Smell of / traces of urine on clothes

---

**STEP 2** Assess level of intoxication of the offender / driver / victim

Record their level of intoxication as either:

- Not affected
- Slightly affected
- Moderately affected
- Seriously affected

---

**STEP 3** Ask the offender / victim / driver where they last consumed alcohol prior to the incident

Record the place as either:

- Licensed Premises
- Public Place
- Home (and other private residences)
- Other (eg: Boat)
- Unknown
- Refused / unable to answer

If a "licensed premises", make a note of the name and location of the premises.

---

**Stage 2: At the station**

Enter information obtained at the scene into COPS.
If a licensed premises has already been entered for the event (or in the location of an incident) then you will be asked if this was the place where alcohol was last consumed.

Create Licensed Premise of Interest.

Use the following location:

MERCURY HOTEL, NEWCASTLE, NSW, 2300

If more than one set of location details are listed then select the highlighted option from the list.

The remaining location detail will be automatically entered.

Roles & Responsibilities

Commanders
Endorsement and ongoing support for the Project, including commitment to ensuring mandatory completion of data for the Linking Project by ALL STAFF.

Duty Officers
Ensure that ALL police under their Command collect data for every incident attended.

Supervisors
Deliver project specific SMITS during shift Changeover. When verifying COPS entries, check police entry of Linking Project information. Ensure all police officers are collecting alcohol related information for ALL events.
Roles & Responsibilities

Intelligence Officers
Assist in data collation requirements for the Project. Those within targeted project sites will be involved in generating incident reports for delivery to licensees.

EDOs
Co-ordination of Linking Project training for ALL police within their LAC. Reinforce to staff the importance of collecting Linking Project information for every alcohol related incident.

Licensing Officers
Promote data collection. Assist EDO in training role. Those within targeted project sites will be involved in sending out incident reports to licensees and visiting & auditing premises.

All Operational Police
Attend incidents and record alcohol status for all persons involved in police attended events including (when necessary) the location details for the last place the POI /victim/driver consumed alcohol.

Regional Project Officers
Co-ordination and monitoring of project implementation in their region. Assist EDOs in training of police and assist licensing and intelligence officers with their project roles.

Supervisor verification of events

What was their response to the first new COP’s question?

- ‘not known’: if no explanation in the narrative as to why this has been entered, the event will be returned to the officer as incomplete.
- ‘no’.

If the offender, driver or victim did consume alcohol, was a location entered to indicate where they had their last drink?

If ‘not known’ was entered, and there is no explanation in the narrative as to why this has been entered, the event will be returned to the officer as incomplete.

Case Study One

Scenario
On Monday 23 July 2001, Mark McPhie (DOB: 1/7/71) left the Shamrock Hotel in Tamworth at 7.30pm. He told police he had been drinking there after finishing work. He went up to the local Chinese Restaurant for something to eat but found it wasn’t open on Mondays. He became agitated and proceeded to kick the front door, which cracked. The owner phoned the police. Police approached Mark McPhie and issued a FCAN for malicious damage. He was judged to be seriously intoxicated at the time.

Case Study Q&A

1. What steps should the police officers have taken to ensure that the Linking Project procedures were followed for Mark McPhie?

Answer
Police need to determine whether Mark McPhie had been drinking prior to the incident. It is preferred that they do this by asking him whether he had been drinking. However, as he was obviously seriously affected it may be inappropriate for police to ask the question and so they may choose to use their own observations to complete this step. They should also have asked him:

“Where did you have your last drink?”

As well as determining the answers to these questions, police also need to assess Mark’s level of intoxication.
Case Study One - Q&A (cont.)

2. What should be entered into COPS at the following prompts?
   - Did this person consume alcohol prior to the incident?
     A  YES
     B  NO
   - What was his alcohol level?
     C  SERIOUSLY AFFECTED
   - Where had the POL last consumed alcohol prior to the incident?
     A  LICENSED PREMISES
        The Shamrock Hotel

Case Study Two

Scenario
On Saturday 21 July 2001, Doug Anderson (DOB: 31/5/51) was waiting at an ATM in the Wagga Wagga Strand Shopping Centre around 3:30 pm. He told police he had not had a drink all day. He was approached by two local youths, Trent Darcy (DOB: 15/2/80) and Warren Smith (DOB: 19/3/79) who both told police they had both been drinking and gambling at the Victoria Hotel. Trent was moderately intoxicated and Warren slightly intoxicated. The pair asked Doug for some money. Doug ignored them and Trent started to verbally abuse him. A scuffle broke out and Doug was struck a number of times by both POLs. Trent and Warren were later apprehended in the local video arcade. They were charged with common assault.

Case Study Two - Q&A

1. Of the 3 people involved in the incident, how many had consumed alcohol beforehand?
   - Who were they?
     - Two people involved in the incident had consumed alcohol beforehand:
       - Trent Darcy
       - Warren Smith
   - What should be entered into COPS for Doug Anderson in respect of the following:
     - Did this person consume alcohol prior to the incident?
       B  NO

3. Which licensed premises(s) will be linked to the incident?
   - The Victoria Hotel
   - For both Trent Darcy and Warren Smith, the Victoria Hotel was the place where they consumed their last drink of alcohol prior to the incident.

Case Study Three

Scenario
On Sunday 22 July 2001, at around 2:15 pm, Highway Patrol stopped a blue SV Commodore (MDR 536) on the Sturt Highway outside Wagga Wagga for a random breath test. The driver, Mary Lamb (DOB: 13/5/53), told police that she was driving back to work after having had lunch and some wine at the Riverina Football Club. Ms Lamb appeared to be slightly intoxicated and gave a reading of 0.07. This was later verified at the station and she was charged with PCA.
Case Study Three - Q&A (cont.)

2. What should be entered into COPS at the following prompts?
   Did this person consume alcohol prior to the incident?
   A  YES

   What was their alcohol level?
   A  SLIGHTLY AFFECTED

   Where had the POL last consumed alcohol prior to the incident?
   A  LICENSED PREMISES

   The Riverina Football Club should be entered as the name of the licensed premises.

Case Study Four

Scenario
On Sunday 22 July 2001, at around 12.30am, Police responded to a domestic dispute at 21 Graham St Griffith. Police found a Mrs. Joan Dobbs (DOB: 23/2/77) in a distressed state with bruises on her face and upper body. She claimed her husband John Dobbs (DOB 12/12/70) came home drunk and started to abuse and hit her. Mr. Dobbs denied striking his wife but admitted they had been arguing. Mr. Dobbs was heavily intoxicated and unable to tell the police where he had been drinking. Mrs. Dobbs said he had just been on a pub-crawl through Griffith which she knew had started at the Gemini Hotel as she had dropped him off. He was arrested (bail refused) and charged with assault causing ABH.

Case Study Four - Q&A

1. What should be entered into COPS at the following prompts for the POL?
   Did this person consume alcohol prior to the incident?
   A  YES

   Although unable to answer their questions, he was visibly heavily intoxicated when police arrived.

   What was their alcohol level?
   C  SERIOUSLY AFFECTED

   He was judged by police to be “heavily intoxicated”.

Case Study Five

Scenario
On Sunday 22 July 2001, at around 11.30pm, a police patrol of the Goulburn town centre encountered two severely intoxicated persons outside the Southside Tavern causing a nuisance to the female patrons who were attempting to leave the hotel at closing time. Luke Fiddler (DOB: 14/4/76) and Dick Jones (DOB: 28/8/73) were warned about their abusive language and behaviour. Both continued to abuse police and were given a FCAN for offensive behaviour. Luke and Dick told police they had been on a pub-crawl through Goulburn but had had their last drink at a private party at a friend’s house.

Case Study Five - Q&A

1. In this scenario, the Southside Tavern will be “linked” to the alcoholic consumption of how many POLs?
   C  NONE

   The POLs were outside the Southside Tavern disturbing a group of patrons who were trying to leave the premises. Therefore, the location of the incident will be the Southside Tavern but it should not be “linked” to the alcohol consumption of the POLs, as neither of them consumed their last drink here.

2. What should be entered into COPS at the following prompts for Dick Jones?

   Did this person consume alcohol prior to the incident?
   A  YES
Case Study Five - Q&A (cont.)

**What was their alcohol level?**

C SERIOUSLY AFFECTED

**Where had the POI last consumed alcohol prior to the incident?**

C HOME/ private residence

He consumed his last drink at a "friends house", therefore no licensed premises, including the South side taverns, will be "linked" to his alcohol consumption.

---

Case Study Six

**Scenario**

On Tuesday 24 July 2001, around 1pm, police attended a disturbance at the Black Swan Hotel. Police arrested Bob Blinney (DOB: 26/3/48). Hotel staff refused to serve Bob as he was moderately intoxicated. He admitted drinking cask wine with a group of friends down at the local park. He was charged with public mischief and conveyed to a BDOs refuge under the Intoxicated Persons Act.

While attending the scene, police noticed a juvenile, Marie Clifton (DOB: 26/3/55) drinking alcohol in the public area. She was given a caution under the YOA and escorted off the premises. The publican was issued a formal warning in relation to this matter.

---

Case Study Six - Q&A

1. The Black Swan hotel will be "linked" to the alcohol consumption of:

B MARIE CLIFTON

Marie Clifton was consuming alcohol at the Black Swan when the police arrived.

Bob Blinney was refused service by the Black Swan so didn’t consume his last drink at this premises.

2. What should be entered for POI Bob Blinney in the following CORPS fields:

- Did this person consume alcohol prior to the incident?
  - A YES
  - He admitted to police that he had been drinking.

---

Case Study Six - Q&A (cont.)

**What was their alcohol level?**

B MODERATELY AFFECTED

**Where had the POI last consumed alcohol prior to the incident?**

B PUBLIC PLACE

Bob Blinney admitted that he last consumed alcohol "down at the local park".

---

Case Study Seven

**Scenario**

On Saturday 21 July 2001 at 7.10pm, police received a call of an injured person outside 48 Baylis Street. At the scene, they found Roger White (DOB: 7/1/42) semi-conscious with a large lump and abrasions on his head. He said he collapsed after drinking at the Red Lion Tavern. He had to walk home because he had no money for a cab. As the police tried to help him up, he started to abuse them and was given a FCAN for offensive behaviour. He was severely intoxicated and was taken to Wagga Public Hospital for treatment of injuries.

---

Case Study Seven - Q&A

1. What steps should the police officers have taken to ensure that the linking project procedures were followed in relation to Roger White?

**Answer**

Police need to determine whether Roger White had been drinking prior to the incident.

It is preferred that both do this by questioning whether he had been drinking. However, this is obviously seriously affected may be inappropriate for police to ask this question and so they may choose to use their own observations to complete this step.

They should also have asked:

"Where did you have your last drink?"

As well as determining the answers to these questions, police also need to assess Roger’s level of intoxication.
Case Study Eight

Scenario
On Thursday 14 June 2001 at 6.45pm two pedestrians, Frank Morris (DOB: 8/8/76) and Jodi Fishburn (DOB: 7/8/76) were knocked down and injured at a pedestrian crossing by a car driven by Martin McMahon (DOB: 1/9/171).

From statements taken at the scene, it appears that, although not visibly intoxicated, Frank Morris had been drinking earlier at the Red Steer Hotel. Jock arrived at the Hotel straight from work, not having had a drink all day. They departed immediately to join friends at the Marburger Hotel. In their haste to meet their friends, they ran onto the pedestrian crossing without due attention to the traffic on the road.

Martin McMahon, the driver, told police he had been drinking at the Metro Hotel earlier. He was on the way to a party in Airth Park. He was breath tested as negative to alcohol.

Case Study Eight - Q&A
1. How many of the three PGs should be recorded as drinking prior to the incident?
   Two - Frank Morris and Martin McMahon

2. What was the level of intoxication of Frank Morris?
   Frank Morris was not visibly intoxicated. Therefore, his level of intoxication should be noted as 'not affected'.

3. Where had Frank Morris last consumed an alcoholic drink prior to the incident?
   Frank Morris had been drinking at the Red Steer Hotel.

Case Study Nine

Scenario
On Friday 16 November 2001 at 7.45pm police attend the scene of an assault occasioning ABH at the Coolamon Hotel.

Simon West (DOB: 17/5/61) who had been drinking at home had gone to the Coolamon Hotel to play some pool, deciding to stick to soft drink while there.

Greg Prince (19/0/60), who had been at work all day and not anything to drink, called in to the Coolamon Hotel to see who was there. Shortly after he arrived, and before he had time to buy a drink, he noticed that Simon West was at the pub. Greg Prince indicated to police later that Simon West had owed him $300 for over 12 months and was avoiding him. Greg approached Simon and a fight broke out. Both persons were hurt, with Simon West suffering a deep laceration to his right cheek.
Case Study Nine: Q&A (cont.)

3. Will the Coolamon Hotel be “linked” to the incident? (i.e., noted as the last place either of the POIs consumed alcohol) Why/why not?

No, neither of the POIs had consumed alcohol at the Coolamon Hotel prior to the incident.
Simon West had been drinking prior to the incident, but at home.
The incident had occurred after Greg Prince had a drink at the Coolamon Hotel.

Frequently Asked Questions

Q. What should I do if an POI or victim refuses to report the last place that they had consumed alcohol?

A. Do not guess or assume where the last place of consumption was. Enter “refused to answer” into COPS.

Q. What should I do if the POI or victim is too intoxicated to tell me where they last consumed alcohol?

A. Do not guess or assume where the last place of consumption was. Enter “unable to answer” into COPS.

Frequently Asked Questions

Q. Can I charge a licensee with a breach of the Liquor Act if I feel it necessary?

A. Yes. Police should continue with normal policing procedures in relation to enforcement of the Liquor Act.

Q. What should I do if it has been determined that the offender has not consumed alcohol, but the victim has?

A. Police should record Linking Project details for all persons involved in an incident, including victims.

References

The Alcohol Linking Program
Resource Kit

This kit contains resources to assist NSW Police in dealing with alcohol related crime—especially crime linked to licensed premises. Area of NSW where the Alcohol Linking Program has operated for more than two years have recorded an average of approximately 13 per cent fewer incidents linked to premises that have received a covert audit. For some licensed premises, as many as 60 per cent fewer incidents have been recorded following such an audit. This kit contains the following:

- **The Alcohol Linking Program Recommended Procedures Manual**

This manual contains information on procedures for the Alcohol Linking Program, including gathering and maintaining the quality of Linking Intelligence, and implementing Alcohol Linking Program interventions (Linking Letters, Licensed Premises Incident Reports and, Licensed Premises Covert Audits).

- **AIP Help file**

AIP (Alcohol Intelligence Program) is a software package developed specifically to analyse Alcohol Intelligence. It allows easy identification of ‘hot-spot’ premises, generating of Incident Feedback Reports, and monitoring the quality of Intelligence. This document describes all the functions of AIP.

- **Checking for Unauthorised Locations: Recommended Procedures**

For Linking Intelligence to be effective, it is essential that incidents are linked only to AUTHORISED LOCATIONS. These procedures describe steps for checking for unauthorised locations, and notifying those in the LAC about the use of AUTHORISED LOCATIONS.

- **The Responsible Hospitality Checklist & Resources**

This easy-to-complete checklist is designed to help officers to conduct covert audits of licensed premises. Once completed, a copy of the audit can be given to the licensee to assist in providing feedback on the audit. The resources provide practical ideas for assisting licensees improve their service practices.

- **Frequently Asked Questions**

This document answers the most frequently asked questions about the Alcohol Linking Program, and includes many practical solutions for correct recording of data, as well as some possible responses to questions asked by licensees, and answers to questions about covert audits and feedback visits.

- **Policing Issues and Practice Journal: Alcohol Related Crime**

This extensive document covers many areas relevant to alcohol related crime, including legislation, police powers, procedures once offences are detected, the licensing court and procedures for preparing a brief.

- **Liquor Accords: Local Solutions for Local Problems (Dept. of Gaming and Racing)**

The Department of Gaming and Racing’s Liquor Accords Fact Sheet contains useful information on developing and promoting local Liquor Accords.

- **Where to find electronic copies of the above resources**

Electronic copies of all the above resources, as well as electronic templates of Linking Letters can be accessed from the Alcohol Knowledge Map on the Police Intranet.
APPENDIX 3.4 ALCOHOL-RELATED INFORMATION
RECORDING FEEDBACK REPORT

DATE

Superintendent XXX
Commander
XXX Local Area Command
Address 1
Suburb NSW Postcode

Dear Commander XXX,

Thank you for your continued commitment to the Alcohol Linking Program. Since the Alcohol Linking questions were introduced to COPS in March 2002 there has been a significant improvement in the recording of alcohol-related intelligence.

As of November 2002, this alcohol-related crime intelligence will be used as a basis for crime reduction initiatives. This will involve Crime Management Units throughout the Southern, Northern and Western regions undertaking the following:

- Sending letters to all licensed premises informing them of the new intelligence gathering procedures;
- Sending reports of incidents "linked" to licensed premises to licensees/managers;
- Conducting covert audits of high risk premises, followed up by feedback visits to discuss practical strategies to improve any identified service or management issues.

As in previous months, the attached report provides data on the following indicators that we are using to measure how well police have adopted the alcohol-related "Linking questions" in COPS:

1. The proportion of POIs involved in assault, malicious damage, offensive conduct and offensive language incidents that were recorded by police as consuming alcohol prior to the incident. As estimated by police in your region and previous research this figure could be approximately 60-70%. For the XXX Local Area Command this figure was XX% for XX 2002 (see Figures 1 & 2).

2. The proportion of POIs people that were recorded as drinking alcohol prior to being involved in an incident for which 'Not known' was entered as the last place of consumption. There should not be any 'Not known' responses to this question. In the XXX Local Area Command XX% of the responses to this question were recorded as ‘Not Known’ in XX 2002 (see Table 1, Figures 3 & 4).

The report also provides you with data on the progress of other LACs who also commenced the collection of alcohol information in March 2002.

If correct alcohol details are entered into COPS then we will be able to provide licensing officers with thorough and useful alcohol-related intelligence. In order to achieve this:

1. All Police Officers need to be vigilant in obtaining alcohol details at the scene of ALL incidents;
2. All Police Officers need to correctly enter information into the new alcohol fields into COPS;
3. All Supervisors need to check and verify that the above is done.

I look forward to discussing this progress report with you. Thank you for your continued support for the Alcohol Linking Program.

Yours sincerely,

XXX XXX
Regional Program Coordinator - XX Region
Figure 1: Proportion of POIs involved in assault, malicious damage, offensive language and offensive conduct incidents in XXX Local Area Command that were recorded as having consumed alcohol prior to the incident.

WHAT DOES THIS MEAN?
As suggested by police in your region and past research, approximately 60-70% of all POIs involved in these types of incidents may have consumed alcohol prior to the incident.

As shown, the current level for the XXX Local area Command for XX was 36%.

Figure 2: Proportion of POIs involved in assault, malicious damage, offensive language and offensive conduct incidents that were recorded as having consumed alcohol prior to the incident for each Local Area Command for XX.

WHAT DOES THIS MEAN?
As suggested by police in your region and past research, approximately 60-70% of all POIs involved in these types of incidents may have consumed alcohol prior to the incident.
Table 1: Last place of alcohol consumption for POIs, victims and drivers who were recorded as drinking alcohol prior to being involved in incidents in XXX Local Area Command during XX

<table>
<thead>
<tr>
<th>Place of last alcohol consumption</th>
<th>As a % of those who were drinking prior to the incident</th>
</tr>
</thead>
<tbody>
<tr>
<td>Licensed premises</td>
<td>18%</td>
</tr>
<tr>
<td>Home</td>
<td>43%</td>
</tr>
<tr>
<td>Not Known</td>
<td>8%</td>
</tr>
<tr>
<td>Special Event (eg B&amp;S ball)</td>
<td>2%</td>
</tr>
<tr>
<td>Public Place</td>
<td>22%</td>
</tr>
<tr>
<td>Refused/Unable to Answer</td>
<td>5%</td>
</tr>
<tr>
<td>Other</td>
<td>2%</td>
</tr>
</tbody>
</table>

WHAT DOES THIS MEAN?

There should not be any "Not Known" responses to this question.

This suggests that some police officers did not ask the POI/victim/driver where they were drinking prior to the incident.

If the POI/victim/driver refuses or is unable to answer then "refused/unable to answer" should be recorded.

Figure 3: Proportion of POIs, victims and drivers who were recorded as drinking alcohol prior to being involved in incidents XXX Local Area Command during XX for which "Not Known" was entered as the place of last alcohol consumption

WHAT DOES THIS MEAN?

There should not be any "Not Known" responses to this question. XXX Local Area Command had X% "Not Known" responses for XX.

This suggests that some police officers did not ask the POI/victim/driver where they were drinking prior to the incident.

If the POI/victim/driver refuses or is unable to answer then "refused/unable to answer" should be recorded.
Figure 4: Proportion of POIs, victims and drivers who were drinking alcohol prior to being involved in incidents in each Local Area Command during XX for which "Not Known" was entered as the place of last alcohol consumption.

WHAT DOES THIS MEAN?

There should not be any "Not Known" responses to this question.

This suggests that some police officers did not ask the POI/victim/driver where they were drinking prior to the incident.

If the POI/victim/driver refuses or is unable to answer then "refused/unable to answer" should be recorded.
APPENDIX 4.1 MAP OF STUDY AREA

AUSTRALIA

NEW SOUTH WALES

34 non-metropolitan commands
APPENDIX 4.2 NSW POLICE COVER LETTER

To: Crime Managers, Northern, Southern and Western Region
CC: Commander, Northern Region
    Commander, Southern Region
    Commander, Western Region

From: Commander, Inner Metropolitan Region
Date: 1 July 2005
Subject: Licensed Premises Policing Support Service Audit.

To build on the success of the Alcohol Linking Program, a service is being developed to further assist Local Area Commands in the intelligence-led policing of licensed premises. In September, 2004 the first round of telephone interviews for this service was conducted, and proved to be extremely valuable in identifying current issues and areas where training and resourcing might be improved. The next round will take place in July, 2005.

The service involves a brief (30 minute) telephone interview with Crime Managers. To make the interview as effective as possible, your responses to the attached audit form need to be prepared prior to the interview.

The audit form covers activities that have occurred in the Local Area Command over a six-month period and you will need to involve others in the CMU, including the Licensing Officer, Intelligence Officer, and Education and Development Officer to complete the form.

The Alcohol Linking Program is a valuable tool in reducing crime within your Local Area Command. Participation in this interview process will demonstrate the benefits of this program and help identify where the LAC can improve. I would ask that you provide every courtesy to the personnel conducting the telephone interview. You will receive a call within the next few days, to arrange a suitable interview time.

If you have any questions while completing the attached audit form, please do not hesitate to contact the Alcohol Linking Program by memo, using #linking, or by calling Angela Dalton (Hunter New England Health Coordinator - Alcohol Linking Program) on (02) 4924-6339.

[Signature]
R. J. Waite APM
Assistant Commissioner
Corporate Sponsor for Alcohol Related Crime
APPENDIX 4.3 SELF REPORT AUDIT FORM

Licensed Premises Policing Support Service: Audit Form

**IMPORTANT INFORMATION:** READ BELOW BEFORE COMPLETING THIS FORM.
- All questions in this form refer to activities in the Command between the 1st January and the 30th June, 2005.
- Licensed premises means any hotel, registered club, night club, wine bar, or university (Licenses types: 100, 200, 460, 461, 620, 625, 740), but not restaurants, BYO’s or cafe’s etc.
- Alcohol Intelligence refers to systematically collected intelligence, describing alcohol’s involvement in incidents, including the last place of alcohol consumption.
- The audit covers a range of policing activities to encourage the responsible service of alcohol. Where the audit form refers to Linking Interventions this covers the following educational interventions: Linking Letters, Licensed Premises Incident Reports, and Covered Audits & Educational Feedback (see the Alcohol Linking Program Resource Kit for more details).

### Staff and Training

1. How many full-time-equivalent Licensing Officers work in this LAC? [Number]_____

2. How many full-time-equivalent intelligence Officers work in this LAC? (Both sworn and civilian)
   - FTE Intelligence Supervisors: [Number]_____
   - FTE Sworn Intelligence Officers: [Number]_____
   - FTE Civilian Analysts: [Number]_____
   - FTE Field Intelligence Officers: [Number]_____

3. How many police in this LAC have completed mandatory training in Alcohol Related Crime (Course No. UA4)3? [Number]_____

4. How many police in this LAC have completed the MMRC (Management of Alcohol Related Crime) course? [Number]_____

### Accords & Liquor Consultative Committees

5. Is there an Accord or Liquor Consultative Committee (LCC) operating in this Command? (please tick)
   - Accord (at least one) [ ]
   - LCC (at least one) [ ]
   - Both an Accord & LCC [ ]
   - Neither [ ] (go to Q8)

6. From January to June, 2005, did police attend any Accord/LCC meetings?
   - Yes [ ]
   - No [ ] (go to Q8)

7. Which police usually attend Accord/LCC meetings? (please tick all that apply)
   - Licensing Officer [ ]
   - Crime Manager [ ]
   - LAC Commander [ ]
   - Duty Officer [ ]
   - Other [ ] (please specify) →

### Timing of Linking Interventions

8. To prepare for the last round of Linking Interventions, over what period was Alcohol Intelligence analysed? (please tick a starting month and ending month)

<table>
<thead>
<tr>
<th>Start Month</th>
<th>End Month</th>
</tr>
</thead>
<tbody>
<tr>
<td>July 2004</td>
<td>July 2004</td>
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<td>August 2004</td>
<td>August 2004</td>
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<td>September 2004</td>
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<td>May 2005</td>
<td>May 2005</td>
</tr>
<tr>
<td>June 2005</td>
<td>June 2005</td>
</tr>
</tbody>
</table>

No Alcohol Intelligence analysed for this purpose [ ]

9. Over what period in the last six months did delivery of a round of Linking Interventions occur?

<table>
<thead>
<tr>
<th>Start Month</th>
<th>End Month</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 2005</td>
<td>January 2005</td>
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<tr>
<td>February 2005</td>
<td>February 2005</td>
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<td>March 2005</td>
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<td>April 2005</td>
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<td>May 2005</td>
<td>May 2005</td>
</tr>
<tr>
<td>June 2005</td>
<td>June 2005</td>
</tr>
</tbody>
</table>

No round of Linking Interventions occurred [ ]

No round of Linking Interventions occurred [ ]

265
<table>
<thead>
<tr>
<th>Licensed Premises</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>10</strong></td>
</tr>
<tr>
<td>How many premises of the following different license types are there in this Command? (License-type number in brackets):</td>
</tr>
<tr>
<td>Hotels (100)</td>
</tr>
<tr>
<td>Registered Clubs (200)</td>
</tr>
<tr>
<td>Nightclubs/Wine Bars/Universities (450, 460, 620, 625, 740)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Linking Letters</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>11</strong></td>
</tr>
<tr>
<td>From January to June, 2005, how many premises in this Command were sent at least one Linking Letter? (Number)</td>
</tr>
<tr>
<td>(60, to Q13)</td>
</tr>
<tr>
<td>Yes ☐ No ☐</td>
</tr>
<tr>
<td>Yes ☐ No ☐</td>
</tr>
<tr>
<td>Yes ☐ No ☐</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Alcohol Intelligence Program software (AIP)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>13</strong></td>
</tr>
<tr>
<td>Does this command have a working copy of AIP? (please tick)</td>
</tr>
<tr>
<td>Yes ☐ No ☐</td>
</tr>
<tr>
<td>Not working ☐</td>
</tr>
<tr>
<td>(Please briefly describe the problem, then go to Q15)</td>
</tr>
<tr>
<td>No copy of AIP ☐ (go to Q15)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Licensed Premises Incident Reports</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>15</strong></td>
</tr>
<tr>
<td>From January to June, 2005, how many licensed premises in this Command were sent at least one Licensed Premises Incident Report?</td>
</tr>
<tr>
<td>(9, to Q17)</td>
</tr>
<tr>
<td>Yes ☐ No ☐</td>
</tr>
<tr>
<td>Yes ☐ No ☐</td>
</tr>
<tr>
<td>Yes ☐ No ☐</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Audits &amp; Educational Written Feedback</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>17</strong></td>
</tr>
<tr>
<td>From January to June, 2005, how many premises received written feedback regarding their service practices, as a result of an audit?</td>
</tr>
<tr>
<td>(9, to Q20)</td>
</tr>
<tr>
<td>Yes ☐ No ☐</td>
</tr>
<tr>
<td>Yes ☐ No ☐</td>
</tr>
<tr>
<td>Yes ☐ No ☐</td>
</tr>
</tbody>
</table>

| 18 |
| What type of checklist, if any, was used when conducting audits? (please tick) |
| Alcohol Linking Program Responsible Hospitality Checklist ☐ |
| A checklist developed in this LAC ☐ |
| A checklist adopted from elsewhere ☐ (please specify) |
| No checklist was used for audits ☐ |

<p>| 19 |
| Was written feedback from an audit provided to any of the following premises from Jan. to June? (please tick) |
| Yes ☐ No ☐ |
| Yes ☐ No ☐ |
| Yes ☐ No ☐ |</p>
<table>
<thead>
<tr>
<th>High Visibility Policing</th>
<th>Evidence Gathering Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 From January to June, 2005, how many premises had patrol cars intentionally tasked to regularly cruise by, or park near them?</td>
<td>25 From January to June, 2005, how many premises had external observation or surveillance conducted to gather evidence regarding their service practices (either with or without video).</td>
</tr>
<tr>
<td>21 From January to June, 2005, how many premises had RBT units intentionally placed in relation to them?</td>
<td>26 From January to June, 2005, how many premises had internal observation or surveillance conducted with the intention of gathering evidence regarding their service practices (either with or without video).</td>
</tr>
<tr>
<td>22 From January to June, 2005, on how many premises has at least one walk through been conducted?</td>
<td>27 From January to June, 2005, how many premises had CCTV footage seized to gather evidence regarding their service practices? (please tick)</td>
</tr>
<tr>
<td>23 From January to June, 2005, how many premises were targeted as part of Vikings operations?</td>
<td>28 What, if any, evidence gathering strategies have been taken with the following premises from Jan. to June? (please tick all that apply):</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>What, if any, HVP has been conducted with the following premises from Jan. to June? (please tick all that apply):</th>
<th>Observation/Surveillance outside premises</th>
<th>Oba/Surv. inside premises</th>
<th>CCTV seizure</th>
<th>Interviews/speaking with licencee</th>
<th>Interviews/speaking with other staff</th>
<th>Speaking with intoxicated patrons</th>
<th>Other (please specify)</th>
<th>No evidence gathering</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tasking Patrol Cars</strong></td>
<td><strong>No</strong></td>
<td><strong>Yes</strong></td>
<td><strong>No</strong></td>
<td><strong>Yes</strong></td>
<td><strong>No</strong></td>
<td><strong>Yes</strong></td>
<td><strong>No</strong></td>
<td><strong>Yes</strong></td>
</tr>
<tr>
<td><strong>Tasking RBT Units</strong></td>
<td><strong>No</strong></td>
<td><strong>Yes</strong></td>
<td><strong>No</strong></td>
<td><strong>Yes</strong></td>
<td><strong>No</strong></td>
<td><strong>Yes</strong></td>
<td><strong>No</strong></td>
<td><strong>Yes</strong></td>
</tr>
<tr>
<td><strong>Walk throughs</strong></td>
<td><strong>No</strong></td>
<td><strong>Yes</strong></td>
<td><strong>No</strong></td>
<td><strong>Yes</strong></td>
<td><strong>No</strong></td>
<td><strong>Yes</strong></td>
<td><strong>No</strong></td>
<td><strong>Yes</strong></td>
</tr>
<tr>
<td><strong>Vikings</strong></td>
<td><strong>No</strong></td>
<td><strong>Yes</strong></td>
<td><strong>No</strong></td>
<td><strong>Yes</strong></td>
<td><strong>No</strong></td>
<td><strong>Yes</strong></td>
<td><strong>No</strong></td>
<td><strong>Yes</strong></td>
</tr>
<tr>
<td><strong>Other HVP (please specify)</strong></td>
<td><strong>No</strong></td>
<td><strong>Yes</strong></td>
<td><strong>No</strong></td>
<td><strong>Yes</strong></td>
<td><strong>No</strong></td>
<td><strong>Yes</strong></td>
<td><strong>No</strong></td>
<td><strong>Yes</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Evidence Gathering Strategies</th>
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</tr>
</tbody>
</table>
## Written Warnings and Fines

### Written Warnings

29. From January to June, 2005, how many premises had written warnings issued to licensee or other staff regarding intoxicated patrons (for either supplying or permitting)?

   Number: ____

30. From January to June, 2005, how many premises had written warnings issued to licensee or other staff for issues other than intoxication (eg minors, security, signage or overcrowding)?

   Number: ____

### Fines

31. From January to June, 2005, how many premises had on-the-spot fines issued to licensee or other staff regarding intoxicated patrons (for either supplying or permitting)?

   Number: ____

32. From January to June, 2005, how many premises had on-the-spot fines issued to licensee or other staff for issues other than intoxication (eg minors, security, signage or overcrowding)?

   Number: ____

33. From January to June, 2005, have any written warnings or fines been issued to licensee or other staff, at any of the following premises, in relation to intoxicated patrons? (please tick):

   - Warnings issued: [ ]
   - Fines issued: [ ]
   - No warnings or fines issued: [ ]

## Legal Proceedings

34. From January to June, 2005, how many premises had legal proceedings commence against them, in relation to their alcohol service practices (commenced mean that a brief is being prepared, even if no hearing has yet occurred at court or the LAB)?

   Number: ____

35. From January to June, 2005, have any legal proceedings commenced against the following premises, in relation to their service practices?

   - No: [ ]
   - Yes (please list the Act(s) and section(s) below - tick all that apply):
     - Liquor Act: Section 68 (Grounds for Complaint)
     - Liquor Act: Section 104 (Quiet & good order)
     - Liquor Act: Section 114 (Sale or supply to a minor)
     - Liquor Act: Section 116B (Offences by licensees in relation to minors)
     - Liquor Act: Section 125 (Conduct on licensed premises)
     - Registered Clubs Act: Section 17AA (Quiet & good order)
     - Registered Clubs Act: Section 44A (Conduct on club premises)
     - Registered Clubs Act: Section 52B (Minor attempt to enter club / obtain liquor)
     - Other Act(s) and/or section(s) (Please specify):

## Additional Questions

36. Are there any other strategies for policing licensed premises that this interview has not covered?

   Yes: [ ]
   - (please provide details)
   No: [ ]

37. Are there any key areas in the policing of licensed premises that you would say need greater support?

   Yes: [ ]
   - (please provide details)
   No: [ ]

Thankyou. The information you have provided will assist in providing support for the policing of licensed premises.
<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ARC AUDIT &amp; ACTION PLAN</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>TARGET PREMISES/AREA NAME:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>IDENTIFIED PROBLEM</td>
<td>STRATEGIES</td>
<td>ACTIONS</td>
<td>IMPLEMENTATION DATE</td>
<td>RESPONSIBLE OFFICER</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>REVIEW DATE:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX 5.3 ALCOHOL-RELATED CRIME AUDIT FORM

Alcohol Related Crime Audit and Action Process
Self analysis audit form
____________________ LAC

**IMPORTANT INFORMATION! - READ BELOW BEFORE COMPLETING THIS FORM.**
- You must identify a minimum of 3 locations. Of these identified locations a minimum of 2 MUST be licensed premises (a licensed premises means an on-licensed premises - eg hotel, registered club, nightclub, wine bar, university or restaurants (excludes but BYO’s or cafe’s and bottle shops) etc) the third location maybe another licensed premises but if the problem is serious enough can be a Alcohol Related Crime problem associated with another area or location.
- Please use the AUTHORISED LOCATION only in naming the Top3 licensed premises on this form.
- All questions in this form refer to activities in the Command between 1st September 2005 and 28th February, 2006.
- Please use BLOCK CAPITAL LETTERS to complete this form.

<table>
<thead>
<tr>
<th>Linking Letters</th>
<th>1</th>
<th>Was a Linking Letter sent to any of the following premises from September 2005 to February 2006? (please tick):</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Location 1</td>
<td>Yes ☐</td>
</tr>
<tr>
<td></td>
<td>Location 2</td>
<td>Yes ☐</td>
</tr>
<tr>
<td></td>
<td>Location 3</td>
<td>Yes ☐</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Licensed Premises Incident Reports</th>
<th>2</th>
<th>Was an Incident Report sent to any of the following premises from September 2005 to February 2006 (please tick):</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Location 1</td>
<td>Yes ☐</td>
</tr>
<tr>
<td></td>
<td>Location 2</td>
<td>Yes ☐</td>
</tr>
<tr>
<td></td>
<td>Location 3</td>
<td>Yes ☐</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Audits &amp; Educational Written Feedback</th>
<th>3</th>
<th>Was written feedback from an audit provided to any of the following premises from September 2005 to February 2006? (please tick):</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Location 1</td>
<td>Yes ☐</td>
</tr>
<tr>
<td></td>
<td>Location 2</td>
<td>Yes ☐</td>
</tr>
<tr>
<td></td>
<td>Location 3</td>
<td>Yes ☐</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Recording of Linking Interventions</th>
<th>4a</th>
<th>Does the LAC maintain a record of these Linking Interventions?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes ☐</td>
<td>No ☐</td>
</tr>
<tr>
<td>4b</td>
<td>If 'Yes', please describe these records:</td>
<td></td>
</tr>
</tbody>
</table>
### High Visibility Policing

5. What, if any, HVP has been conducted with the following premises from September 2005 to February 2006? (please tick all that apply):

<table>
<thead>
<tr>
<th>Location 1</th>
<th>Location 2</th>
<th>Location 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tasking Patrol Cars</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Tasking RBT Units</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Walk throughs</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Number of premises</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Vikings Funded operations</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>No HVP</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Other HVP (please specify)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Recording of High Visibility Policing

6. How are HVP activities currently recorded? (please tick all that apply):

<table>
<thead>
<tr>
<th>Using COPS</th>
<th>Using iTask</th>
<th>Using other systems (please specify)</th>
<th>Not recorded</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tasking Patrol Cars</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Tasking RBT Units</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Walk throughs</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Vikings Funded operations</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

### Evidence Gathering Strategies

7. What, if any, activities have been undertaken to gather evidence from September 2005 to February 2006? (please tick all that apply):

<table>
<thead>
<tr>
<th>Location 1</th>
<th>Location 2</th>
<th>Location 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observation/ Surveillance outside premises</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Covert</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Overt</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>How Many?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Observation/ Surveillance inside premises</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Covert</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Overt</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>How Many?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CCTV seizure</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Speaking/interviewing with licensee</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Speaking/interviewing with other staff</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
### Written Warnings and Fines

<table>
<thead>
<tr>
<th>Location 1</th>
<th>Location 2</th>
<th>Location 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written Warning(s) issued</td>
<td>=</td>
<td>=</td>
</tr>
<tr>
<td>How many at this premises? Number:</td>
<td>Number:</td>
<td>Number:</td>
</tr>
<tr>
<td>Fine(s) issued</td>
<td>=</td>
<td>=</td>
</tr>
<tr>
<td>How many at this premises? Number:</td>
<td>Number:</td>
<td>Number:</td>
</tr>
<tr>
<td>No written warnings or fines issued</td>
<td>=</td>
<td>=</td>
</tr>
<tr>
<td>Number:</td>
<td>Number:</td>
<td>Number:</td>
</tr>
</tbody>
</table>

### Legal Proceedings

<table>
<thead>
<tr>
<th>Premises 1</th>
<th>Premises 2</th>
<th>Premises 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>=</td>
<td>=</td>
</tr>
<tr>
<td>Yes (please list the Act(s) and section(s) below - tick all that apply)</td>
<td>=</td>
<td>=</td>
</tr>
<tr>
<td>Liquor Act: Section 104 (Quiet &amp; good order)</td>
<td>=</td>
<td>=</td>
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<td>=</td>
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<td>=</td>
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### Section 52B
(Minor attempt to enter club / obtain liquor)

<table>
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<tr>
<th>Other Act(s) and/or section(s) (Please specify)</th>
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<tbody>
<tr>
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</tbody>
</table>

Are records relating to licensed premises maintained on a database, case file, master event or other formal system?  
Yes ☐  No ☐  Please describe:  

### Other Strategies and Support

10  Are there any other strategies for policing licensed premises that this analysis has not covered?  
No ☐  Yes ☑  (please provide details)

13  Are there any key areas in the policing of licensed premises that you would say need greater support?  
No ☐  Yes ☑  (please provide details)

### Licensing Officers

<table>
<thead>
<tr>
<th>How many full-time-equivalent Licensing Officers work in this LAC</th>
<th>Number</th>
<th>Are the Licensing positions allocated on SAP?</th>
</tr>
</thead>
</table>
APPENDIX 5.4 STRATEGY RESOURCES PROVIDED TO POLICE FOR CONSIDERATION WHEN DEVELOPING ACTIOPANS

| STRATEGIES |

**YOUTH:**
- ARE YOU RESPONSIBLE.doc
- BLUELIGHT DISCOS.doc
- CELEBRATING SAFELY.doc
- HASSLE FREE.doc
- RECONNECT.doc
- SUPPLY MEANS SUPPLY.doc
- YOUR CHOICE.doc
- Fact sheet FAKE ID.doc

**DRINK DRIVING:**
- BALANCE RESPONSIBLE DRIVING & GOOD TIMES.doc
- DESIGNATED DRIVER.doc

**PATRON SAFETY:**
- SECURE TACT RANK CAMPAIGN.doc
- fact sheet\ARCAAP Fact sheet DRINKSPIKING.doc
- fact sheet\ARCAAP Fact sheet FAIL TO QUIT FACT SHEET.doc
- fact sheet\ARCAAP Fact sheet LOCKOUT.doc
- fact sheet\ARCAAP Fact sheet SAFER BY DESIGN.doc
- fact sheet\ARCAAP Fact Sheet SPIKED DRINKS PROJECT.doc
- fact sheet\ARCAAP Fact sheet SAFER TIMES.doc

**POLICE OPERATIONS:**
- ELORM.doc
- SECURITY ACCORD.doc
- Vikings Funded Operations.doc
- SAMPLE INFRINGEMENT BOOK.doc
APPENDIX 5.5 PRESENTATION SLIDES FOR TRAINING IN A PROBLEM-ORIENTED APPROACH TO ALCOHOL-RELATED CRIME

ARC Audit & Action Process

Project Overview
- History
  - CATI
  - Need for systematic process
- Alignment with Corporate Standards
- Corporate support
- Pilot LAC

Simple Process
- 6 months
- 5 Steps
- What are the benefits?
- What resources are required?
- CATI results

Step 1: Environmental Scan
- Assess local issues, using local intelligence
- Examine licensed premises and problem locations
  - Alcohol Linking Program
  - EDI
  - Local Knowledge
  - Liquor accounts
  - Community Drug & Alcohol Action Teams (CDATA)
  - External agencies

Step 2: Target Determination
- Identity areas of risk relating to Alcohol related crime
- Minimum of 3 Premises/areas
- A Minimum of 2 must be Licensed Premises.
- The third may be a Licensed Premises but maybe a problem associated with an area.

Step 3: Intervention Review & Assessment
- Complete self analysis audit form
- Critically analyse results of audit form
- Upon completion the form is forwarded to the ARC unit as part of the assessment of the project
Step 4: Mapping of Problems
Plan & Implement strategies
- Utilise intel gathered during environmental scan to determine problems associated with each target
- Utilising step 3 look at activities that have not been undertaken in relation to the targets
- Consider other strategies that may be appropriate to deal with specific problems

Step 4: Mapping of Problems
Plan & Implement strategies
- Complete ARC Audit & Action plan
  - One plan per target
  - Each plan will contain:
    - Identified problems
    - Strategies
    - Actions
    - Implementation date
    - Responsible officer
    - Review date

Step 5: Review and recommence process
- Ongoing monitoring of the implemented strategies
- 6 monthly review
- Recommence step 1

Reporting
- Audit form to be submitted to ARC Unit by Friday 14th April 2006
- Audit and Action plan to be submitted to ARC Unit by 29th April 2006
- ARC Unit will liaise with LAC regularly to monitor, support and evaluate the implementation of the project

Future Directions
- ARCAAP to be rolled out statewide within 9 months
- Ongoing capacity of unit to identify and assess ARC problems to be expanded