OPPORTUNITIES FOR REDUCING ALCOHOL-RELATED CRIME IN NON-METROPOLITAN AREAS OF AUSTRALIA

Shelley Rowe
BSc (Hons)

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The University of Newcastle
for candidacy for the
Degree of Doctor of Philosophy

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This work contains no material which has been accepted for the award of any other degree or diploma in any university or other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text. I give consent for this copy of my thesis, when deposited in the University Library, being made available for loan and photocopying subject to the provisions of the Copyright Act 1968.

I hereby certify that the work embodied in this thesis is the result of original research, the greater part of which was completed subsequent to admission to candidature for the degree.

SIGNED: __________________________________________

Shelley Rowe
University of Newcastle
November 2011
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# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>List of Figures</th>
<th>ix</th>
</tr>
</thead>
<tbody>
<tr>
<td>List of Tables</td>
<td>x</td>
</tr>
<tr>
<td>List of Appendices</td>
<td>xiii</td>
</tr>
<tr>
<td>Synopsis</td>
<td>xiv</td>
</tr>
</tbody>
</table>

## CHAPTER 1: THE BURDEN OF ALCOHOL CONSUMPTION AND ALCOHOL-RELATED CRIME: A PRÉCIS OF THE PREVALENCE AND COST OF ALCOHOL-ATTRIBUTED HARM IN CANADA, ENGLAND, NEW ZEALAND AND AUSTRALIA

### Introduction

### Section One – Alcohol: Effects and Consumption

- Benefits and harms associated with alcohol consumption
  - Benefits associated with alcohol consumption
  - Harms associated with alcohol consumption
- Mechanisms of benefits and harms associated with alcohol consumption
- Burden of illness and injury related to alcohol consumption
  - Mortality associated with alcohol assumption
  - Morbidity associated with alcohol consumption
  - Cost of alcohol consumption
- Alcohol consumption: volumes and patterns of consumption
  - Volume of alcohol consumption
- Alcohol consumption that increase the risk of alcohol-attributed harms in the long-term
  - Alcohol consumption that increase the risk of alcohol-attributed harms in the short-term
- Summary: the effects of alcohol consumption

### Section Two – The Burden of Harm Attributed to Alcohol-Related Crime

- Mortality associated with alcohol-related violence and motor vehicle crashes
- Morbidity associated with alcohol-related violence and motor vehicle crashes
- Cost of alcohol-related crime
- Summary – burden of harm attributed to alcohol-related crime

### Section Three – Conclusion

### References
# CHAPTER 2: INVOLVEMENT OF ALCOHOL IN INCIDENTS OF VIOLENCE AND DISORDER IN NON-METROPOLITAN NEW SOUTH WALES, AUSTRALIA

## INTRODUCTION

---

## METHOD

- Design, setting and sample
- Data collection procedure
- Measures
  - Geographic area
  - Police-recorded incidents of violence and disorder
  - Police-recorded prior alcohol consumption
  - Police-recorded intoxication
  - Police-recorded age and gender
- Data exclusion
- Analyses

## RESULTS

- Sample
- Annual population rate of involvement in incidents that followed the consumption of alcohol
  - Violence
  - Disorder
- Proportion of people involved in incidents who were recorded as having consumed alcohol prior to the incident
  - Violence
  - Disorder
- Proportion of people involved in incidents who had consumed alcohol prior to the incident, who were recorded as being intoxicated
  - Violence
  - Disorder

## DISCUSSION

---

## REFERENCES

---

# CHAPTER 3: CHARACTERISTICS OF ALCOHOL-RELATED VIOLENCE AND DISORDER IN NON-METROPOLITAN NEW SOUTH WALES, AUSTRALIA

## INTRODUCTION

---

## METHODS

- Design, setting and sample
- Data collection procedure
- Measures
  - Geographic area

---
TABLE OF CONTENTS

Police-recorded incidents of violence and disorder ........................................... 104
Police-recorded prior alcohol consumption and intoxication .......................... 105
Day of week ........................................................................................................ 105
Time of day .......................................................................................................... 105
Last place of alcohol consumption ................................................................. 105
Data exclusion ...................................................................................................... 106
Analyses ................................................................................................................ 106
Day of week .......................................................................................................... 106
Time of day .......................................................................................................... 107
Last place of alcohol consumption ................................................................. 108

RESULTS .............................................................................................................. 108
Sample .................................................................................................................. 108
Day of week .......................................................................................................... 109
Violence ................................................................................................................ 109
Disorder ............................................................................................................... 111
Time of day .......................................................................................................... 112
Violence ................................................................................................................ 112
Disorder ............................................................................................................... 113
Last place of alcohol consumption ................................................................. 115
Violence ................................................................................................................ 115
Disorder ............................................................................................................... 116

DISCUSSION ....................................................................................................... 119

REFERENCES ....................................................................................................... 126

CHAPTER 4: LICENSED PREMISES AND THEIR CONTRIBUTION TO POLICE-RECORDED CRIME IN NON-METROPOLITAN NEW SOUTH WALES: FURTHER OPPORTUNITIES FOR HARM REDUCTION

INTRODUCTION .................................................................................................. 134

METHODS .......................................................................................................... 137
Design and setting ............................................................................................... 137
Sample .................................................................................................................. 137
Licensed premises ............................................................................................... 137
Police-recorded crime ....................................................................................... 137
Data collection procedure ............................................................................... 138
Measures .............................................................................................................. 138
Type of offences ................................................................................................. 138
Type of licensed premises ............................................................................... 139
Intoxication of persons involved in police-recorded incidents ...................... 140
Data exclusion .................................................................................................... 141
Analyses .............................................................................................................. 141
Association between type of premises and intoxicated persons recorded as involved in violence, disorder and motor vehicle crashes ........................................................................................................... 141
TABLE OF CONTENTS

Association between individual premises and intoxicated persons recorded as involved in violence, disorder and motor vehicle crashes 142

RESULTS 143
Sample 143
Association between type of premises and intoxicated persons recorded as involved in violence, disorder and motor vehicle crashes 144
Association between individual premises and intoxicated persons recorded as involved in violence, disorder and motor vehicle crashes 147

DISCUSSION 149

REFERENCES 154

CHAPTER 5: EVALUATION OF AN EDUCATIONAL POLICING STRATEGY IN REDUCING ALCOHOL-RELATED CRIME ASSOCIATED WITH LICENSED PREMISES

INTRODUCTION 160

METHODS 168
Design and setting 168
Sample 170
Licensed premises 170
People involved in police-recorded incidents of violence, disorder and motor vehicle crashes 170
Educational policing strategy 170
Data collection procedures 173
Measures 174
Police-recorded incidents of violence, disorder and motor vehicle crashes 174
Delivery of policing strategies 175
Data exclusion 175
Analyses 176
Delivery of policing strategies 176
Rates of persons involved in police-recorded incidents following the consumption of alcohol on licensed premises 176

RESULTS 177
Sample 177
Licensed premises 177
Police-recorded incidents of violence, disorder and motor vehicle crashes 178
Delivery of policing strategies 179
Rates of persons involved in police-recorded incidents following the consumption of alcohol on licensed premises 181
Patrons who consumed alcohol prior to the police-recorded incident 181
Intoxicated patrons who consumed alcohol prior to the police-recorded incident 181
CHAPTER 6: SUMMARY OF FINDINGS AND FUTURE DIRECTIONS FOR PRACTICE AND RESEARCH

INTRODUCTION ................................................................. 198
SUMMARY OF RESEARCH FINDINGS .................................. 199
The burden of harm attributed to alcohol misuse .................. 199
The burden of harm attributed to alcohol-related crime .......... 200
Involvement of alcohol in police-recorded incidents of violence and disorder in non-metropolitan New South Wales, Australia .......... 200
Characteristics of alcohol-related violence and disorder in non-metropolitan New South Wales, Australia ......................... 201
Licensed premises and their contribution to police-recorded crime in non-metropolitan New South Wales: further opportunities for harm-reduction ........................................ 204
Evaluation of an educational policing strategy in reducing alcohol-related crime associated with licensed premises in non-metropolitan New South Wales ........................................ 206

IMPLICATIONS FOR ALCOHOL RESEARCH, POLICY AND PRACTICE .......... 208
Reducing the demand for alcohol in non-metropolitan Australia .................................................. 209
Alcohol treatment and brief alcohol interventions .................. 209
Reducing the supply of alcohol in non-metropolitan Australia .................................................. 211
Minimum legal age for the purchase of alcohol ....................... 211
Number, density and clustering of licensed premises .......... 213
Reducing the trading hours of licensed premises ....................... 214
Decreasing the affordability of alcohol .................................. 216
Decreasing the quantity and strength of alcohol able to be purchased .............................................. 217
The declaration of dry and alcohol-restricted areas .................. 218
Regulating the licensed drinking environment ......................... 220

CONCLUSION ................................................................. 224
REFERENCES ................................................................. 226
LIST OF FIGURES

CHAPTER 2: INVOLVEMENT OF ALCOHOL IN INCIDENTS OF VIOLENCE AND DISORDER IN NON-METROPOLITAN NEW SOUTH WALES, AUSTRALIA

FIGURE 2.1 New South Wales, Australia, geographic areas under investigation shaded by remoteness classification (areas not shaded were outside the study area) 73

CHAPTER 3: CHARACTERISTICS OF ALCOHOL-RELATED VIOLENCE AND DISORDER IN NON-METROPOLITAN NEW SOUTH WALES, AUSTRALIA

FIGURE 3.1 New South Wales, Australia, geographic areas under investigation shaded by remoteness classification (areas not shaded were outside the study area) 104

FIGURE 3.2 Proportion of people involved in violence incidents each day who consumed alcohol prior, and who were intoxicated, by geographic area 110

FIGURE 3.3 Proportion of people involved in disorder incidents each day who consumed alcohol prior, and who were intoxicated, by geographic area 112

FIGURE 3.4 Proportion of people involved in violence incidents in each time period who consumed alcohol prior, and who were intoxicated, by geographic area 113

FIGURE 3.5 Proportion of people involved in disorder incidents in each time period who consumed alcohol prior, and who were intoxicated, by geographic area 115

CHAPTER 5: EVALUATION OF AN EDUCATION POLICING STRATEGY IN REDUCING ALCOHOL-RELATED CRIME ASSOCIATED WITH LICENSED PREMISES

FIGURE 5.1 Map of New South Wales with the study area shaded 169
LIST OF TABLES

CHAPTER 1: THE BURDEN OF ALCOHOL CONSUMPTION AND ALCOHOL-RELATED CRIME: A PRÉCIS OF THE PREVALENCE AND COST OF ALCOHOL-ATTRIBUTED HARM IN CANADA, ENGLAND, NEW ZEALAND AND AUSTRALIA

TABLE 1.1: Prevalence of alcohol consumption in the adult population in Australia (and New South Wales), Canada, England and New Zealand _______________ 4

TABLE 1.2: Alcohol attributed deaths globally and by WHO region in 2004 __________ 9

TABLE 1.3: Annual number of caused and prevented deaths from chronic and acute harms attributed to alcohol consumption, by major disease/injury classification ______ 13

TABLE 1.4: Annual number of caused and prevented deaths from chronic and acute harms attributed to alcohol consumption, by major disease/injury classification in Australia and New South Wales ______ 16

TABLE 1.5: Annual number of caused and prevented hospitalisations from chronic and acute harms attributed to alcohol consumption, by major disease/injury classification in Canada and England __________________________ 19

TABLE 1.6: Annual number of caused and prevented hospitalisations from chronic and acute harms attributed to alcohol consumption, by major disease/injury classification in Australia and New South Wales __________________________ 22

TABLE 1.7: Estimated cost (millions) of alcohol consumption, by country, year of study and type of cost __________________________ 24

TABLE 1.8: Annual litres of pure alcohol consumption per capita (adult) by country ______ 28

TABLE 1.9: Prevalence of alcohol consumption that increases the risk of harms in the long-term, by country, year of study and gender __________________________ 30

TABLE 1.10: Prevalence of alcohol consumption that increases the risk of harms in the short-term, by country, year of study and gender __________________________ 34

TABLE 1.11: Proportion of persons arrested or charged with offences (most serious offence) who had consumed alcohol prior to the commission of the offence, by country __________________________ 39

TABLE 1.12: Annual number of deaths from alcohol-related violence and motor vehicle crashes by country, year of study and gender __________________________ 42

TABLE 1.13: Annual number of hospitalisations from alcohol-related violence and motor vehicle crashes by country, year of study and gender __________________________ 47

TABLE 1.14: International research estimating the cost (millions) of alcohol-related crime, by country, study and year of study __________________________ 51
CHAPTER 2: INVOLVEMENT OF ALCOHOL IN INCIDENTS OF VIOLENCE AND DISORDER IN NON-METROPOLITAN NEW SOUTH WALES, AUSTRALIA

TABLE 2.1: Description and population of each geographic area 73

TABLE 2.2: Number and proportion of people involved in violence and disorder incidents that followed the consumption of alcohol, and annual population rates of alcohol involvement (July 2003 to June 2005), by geographic area 82

TABLE 2.3: Number and proportion of people involved in incidents of violence and disorder who consumed alcohol prior to the incident and who were intoxicated, by geographic area 84

CHAPTER 3: CHARACTERISTICS OF ALCOHOL-RELATED VIOLENCE AND DISORDER IN NON-METROPOLITAN NEW SOUTH WALES, AUSTRALIA

TABLE 3.1: Description and population of each geographic area and the study 103

TABLE 3.2: Last place of consumption of alcohol (and the proportion of such people who were intoxicated) prior to becoming involved in an incident of violence or disorder, by geographic area 118

CHAPTER 4: LICENSED PREMISES AND THEIR CONTRIBUTION TO POLICE-RECORDED CRIME IN NON-METROPOLITAN NEW SOUTH WALES: FURTHER OPPORTUNITIES FOR HARM REDUCTION

TABLE 4.1: Number, percent and annual rate per premises of intoxicated persons who consumed alcohol in licensed premises prior to involvement in an incident, by type of premises and offence type 146

TABLE 4.2: Intoxicated persons linked to premises prior to involvement in alcohol-related violence, disorder and motor vehicle crashes, by type of premises (1 July 2003 – 30 June 2005) 148

CHAPTER 5: EVALUATION OF AN EDUCATIONAL POLICING STRATEGY IN REDUCING ALCOHOL-RELATED CRIME ASSOCIATED WITH LICENSED PREMISES

TABLE 5.1: Summary of studies examining deterrence-based policing strategies in licensed premises 163

TABLE 5.2: Criteria and level of police response for each round of the policing strategy 172

TABLE 5.3: Number and percent of people involved in police-recorded incidents 179
TABLE 5.4: Number of licensed premises eligible for (and percent receiving) designated police response during the three rounds of the policing strategy ____________ 180

TABLE 5.5: Number and rate per premises of persons involved in incidents during the baseline and follow-up periods ________________________________ 182
LIST OF APPENDICES

CHAPTER 1: BURDEN OF ALCOHOL CONSUMPTION AND ALCOHOL-RELATED CRIME:
A PRÉCIS OF THE PREVALENCE AND COST OF ALCOHOL-ATTRIBUTED HARM IN
CANADA, ENGLAND, NEW ZEALAND AND AUSTRALIA

1.1 World Health Organisation member states by WHO Region A2

CHAPTER 2: INVOLVEMENT OF ALCOHOL IN INCIDENTS OF VIOLENCE AND DISORDER IN
NON-METROPOLITAN NEW SOUTH WALES, AUSTRALIA

2.1 Presentation for NSW Police Force mandatory officer training A3
2.2 Presentation for NSW Police Force for brief officer training A15
2.3 Learning package for NSW Police Force A19
2.4 Recording of alcohol-related crime feedback letter for NSW Police Force A60
2.5 NSW Police Force Standard Operating Procedures for the recording of
alcohol-related crime A64

CHAPTER 5: EVALUATION OF AN EDUCATIONAL POLICING STRATEGY IN REDUCING
ALCOHOL-RELATED CRIME ASSOCIATED WITH LICENSED PREMISES

5.1 Effectiveness of strategies to reduce levels of alcohol consumption and related harm A66
5.2 Aim, scope and ratings scale of reviews of strategies to reduce alcohol consumption
and related harm A71
5.3 NSW Police Force training manual for the delivery of licensed premises audits and
feedback meetings with licensees A75
5.4 NSW Police Force letter to premises meeting the criteria for Level 1 response A120
5.5 NSW Police Force letter to premises meeting the criteria for Level 2 response A121
5.6 NSW Police Force incident report to premises meeting the criteria for Level 2 or
Level 3 responses A122
5.7 NSW Police Force letter to premises meeting the criteria for Level 3 response A124
OPPORTUNITIES FOR REDUCING
ALCOHOL-RELATED CRIME IN
NON-METROPOLITAN AREAS
OF AUSTRALIA
Globally the consumption of beverage alcohol (alcohol) contributes to considerable mortality and morbidity. In developed nations such as Australia, alcohol use and misuse represents one of the leading contributors to death, disease and disability. Furthermore, the burden of alcohol consumption extends beyond the health of individuals, to impact on emotional and social well-being, and the economic prosperity of individuals, families, businesses, communities and governments.

Criminal incidents, specifically violence, anti-social behaviour and motor vehicle crashes, are strongly associated with excessive alcohol consumption. Inconsistency in the recording of alcohol-related crime data, however, has limited the understanding of the magnitude and characteristics of these forms of alcohol-attributed harm. Such limitations have impeded the ability to effectively address alcohol-related crime in the community.

In the context of these limitations and recent improvements in the collection of alcohol-related crime data in New South Wales (NSW), Australia, the aims of this thesis were to:

1. Examine the prevalence and characteristics of alcohol-related harm, and in particular, incidents of alcohol-related crime in non-metropolitan areas of NSW, Australia. To address this aim, descriptive analyses were undertaken of alcohol-related violence, disorder and motor vehicle crash incidents, and their variability in terms of geographic area, day, time, location of alcohol consumption and contribution of licensed premises.

2. Evaluate the effectiveness of an intelligence-led educational policing strategy in reducing crime associated with the consumption of alcohol on licensed
premises. To address this aim, an evaluation was conducted of an intervention delivered to licensed premises as a part of routine policing activity by the NSW Police Force. The intervention aimed to reduce the number of persons involved in police-recorded incidents following the consumption of alcohol on licensed premises. The intervention involved the provision to licensees of graduated educational feedback and resources designed to facilitate improvement in the service and management practices of licensed premises.

3. Identify opportunities for the development and implementation of policies, interventions and further research to reduce alcohol-attributed harm in non-metropolitan areas of Australia.

This thesis is comprised of six chapters that address the above aims. Outlined below is a summary of each of these chapters.

Chapter 1 provides a summary of the literature detailing the harm associated with alcohol use and misuse, globally and in select developed nations. Although epidemiological research suggests that alcohol-attributed deaths in Australia and New Zealand are decreasing, such research suggests that the prevalence of non-fatal harms attributed to alcohol consumption has increased in recent years. These increases may be due, at least in part, to an increase in the acute forms of alcohol-attributed harms such as violence and motor vehicle crashes. Across the developed nations selected for review, young people were most at risk of both acute alcohol-attributed harm and of drinking at levels that placed them at risk of harm in the short-term. Although males are most at risk of excessive alcohol consumption and related
In Chapter 2, variability in the prevalence of people who have consumed alcohol or who are intoxicated prior to involvement in police-recorded incidents of violence and disorder across non-metropolitan NSW, was investigated. The study utilised NSW Police Force recorded data derived from enhanced alcohol intelligence collection and recording procedures.

The study found that annually, 9.1 in 1,000 people in the study area population consumed alcohol prior to involvement in a police-recorded incident of violence, and 2.2 in 1,000 people consumed alcohol prior to involvement in a disorder incident. These population rates of alcohol involvement in violence and disorder offences increased with increasing remoteness. Among those people involved in violence incidents, 37% were recorded as having consumed alcohol prior to the incident, whilst 74% of people involved in disorder incidents were recorded as having done so.

Although this proportion of alcohol involvement increased with increasing remoteness for incidents of violence, a reverse association was found for disorder incidents. A high proportion of people who had consumed alcohol prior to involvement in either violence (71%) or disorder (87%) incidents were recorded as being intoxicated, with this proportion positively associated with remoteness.

To further inform the development of harm reduction interventions, additional examination of the characteristics of incidents of alcohol-related crime was undertaken as described in Chapter 3. Utilising the aforementioned enhanced NSW Police Force
recorded alcohol data, the variable involvement of people in incidents of violence and disorder following the consumption of alcohol, and following the consumption of alcohol to intoxication, was examined in terms of the day and time of incidents, drinking location, and by geographic area. Across the study area, Saturdays and late evenings were observed to be the peak days and times for police-recorded alcohol involvement in both violence and disorder incidents. The proportion of people involved in such incidents who were recorded as being intoxicated varied little, exceeding 60% across all days of the week and times of the day. Prior drinking in private residences was most commonly associated with violence incidents, while drinking in licensed premises was most commonly associated with disorder incidents. All such characteristics varied by geographic area. For example, the consumption of alcohol in a licensed premises prior to involvement in violence and disorder incidents was most common in regional city areas and decreased with increasing geographic remoteness. Alcohol consumption in a private residence prior to involvement in such incidents increased with increasing remoteness and was greatest in remote and very remote areas. Among people involved in such incidents, intoxication was a common feature, regardless of the remoteness of the geographic area, or location in which alcohol was last consumed.

Chapter 4 describes a study which investigated the association between particular licensed premises and patron involvement in police-recorded incidents of violence, disorder and motor vehicle crashes. The association was examined in terms of the prevalence of intoxicated persons who had last consumed alcohol in licensed premises prior to involvement in such incidents, by type of premises (licence type) and by individual premises. The study found that the risk of an intoxicated person involved in an incident of violence, disorder or a motor vehicle crash having last consumed alcohol
in a nightclub or hotel was at least twice as high as registered clubs and other licensed premises. Furthermore, approximately 20% of premises were found to be associated with 80% of persons involved in such incidents. This pattern of association was evident within each type of incident and each type of liquor licence. Six percent of premises were found to account for approximately 40% of intoxicated patrons involved in incidents of violence, disorder and motor vehicle crashes.

It has been previously suggested that an intelligence-led educational policing strategy targeted at high-risk licensed premises may represent an effective approach to reducing alcohol-related harms associated with licensed premises. Following positive findings from an efficacy trial of such a strategy conducted in a regional area of NSW, Chapter 5 describes a pre-post evaluation of its effectiveness when implemented routinely by police in 21 non-metropolitan police commands. The strategy involved police delivery of educational feedback and resources to licensees graduated according to the association between their licensed premises and persons involved in police-recorded incidents.

The study examined the impact of the strategy on the rate per licensed premises of patron involvement in police-recorded incidents of violence, disorder and motor vehicle crashes. This rate was calculated for a four month baseline period and an equivalent period one year later. For all premises combined, a reduction in the rate per premises of patrons being involved in incidents approached statistical significance (1.24 to 1.11, P=0.08). For those premises that received the most intensive police response, a reduction in the rate per premises of patron involvement in incidents was statistically significant (7.08 to 5.65, P=0.03). Further evaluation utilising a controlled design is
required to confirm the benefits and sustainability of the effect of the policing strategy on reducing alcohol-related incidents.

Chapter 6 provides a summary of the findings of the previous five chapters and examines evidence-based alcohol policy and intervention options for reducing alcohol-related crime in non-metropolitan areas. It is apparent that the considerable, yet variable, burden of alcohol-attributed harm in non-metropolitan areas calls for the delivery of evidence-based policies and interventions that are tailored to the particular characteristics of such harm in different geographic locations. The implementation of universal policies, such as alcohol taxation that is commensurate with the pure alcohol content of the beverage and minimum legal age of purchase of alcohol, are likely to impact across all geographic areas, while the implementation of localised strategies, such as restricting the trading hours of on- and/or off-licensed premises and the declaration of dry areas, are likely to address localised problems and to have the greatest impact at the local level. The thesis concludes that the alcohol-related crime intelligence described in this thesis has the potential to contribute to both a greater understanding of alcohol-related crime in non-metropolitan areas, and to the implementation of effective harm-reduction strategies in these areas.

Each chapter of this thesis is written as a discrete study in the style of an individual peer-reviewed journal manuscript. Accordingly, some repetition in the methodology and source data of some of the studies is evident between chapters. At the time of thesis submission a paper based on the study presented in Chapter 4 has been published in a peer-reviewed journal. A further paper is currently under editorial review.
THE BURDEN OF ALCOHOL CONSUMPTION AND ALCOHOL-RELATED CRIME:

A PRÉCIS OF THE PREVALENCE AND COSTS OF ALCOHOL-ATTRIBUTED HARM IN CANADA, ENGLAND, NEW ZEaland AND AUSTRALIA
INTRODUCTION
In recent decades public health research has provided considerable insight into the complex relationship between alcohol consumption and health.\(^1\) Such research is increasingly being used to guide public policy.\(^1\) In order to identify the need and opportunity for further research, this chapter provides an epidemiological summary of the burden of alcohol-attributed harms expressed in terms of mortality, morbidity and cost.\(^5\) The first section of the chapter describes, among a select group of developed nations (Canada, England, New Zealand and Australia), the benefits and harms of alcohol use, the prevalence of harms, the patterns of alcohol consumption that are associated with harm, and the prevalence of such patterns of consumption. Where data are available and definitions and recording procedures are consistent, trends in the prevalence of alcohol-attributed harms and alcohol consumption are described for each country by age, gender and time. The second section of this chapter similarly describes the burden of one form of alcohol-attributed acute harm: alcohol-related crime. A brief interpretation of the magnitude of, and trends in, alcohol-attributed harm occurs at the end of each section. The chapter concludes with a statement of the need and opportunity for further research in reducing alcohol-related crime, and outlines the aims of this thesis in addressing these needs and opportunities.

SECTION ONE
ALCOHOL: EFFECTS AND CONSUMPTION
With the exception of a small number of countries in which the population is principally Muslim, beverage alcohol (ethanol or ethyl alcohol) is legally available and widely consumed throughout the world.\(^1\) The proportion of the population that consumes
alcohol varies between countries, with a 2004 World Health Organisation (WHO) report indicating that, among measured nations, Luxembourg has the greatest proportion of people who consumed alcohol (97.5%) and Egypt had the lowest (0.5%). At least 79% of the adult population in Canada, England and New Zealand report consuming alcohol, with such prevalence increasing slightly (less than 5%) in Canada and New Zealand and decreasing slightly (less than 5%) in England in recent years (Table 1.1). Similarly, across Australia, and in the state of New South Wales (NSW), in 2007/08 high proportions of the adult population (83% and 80% respectively) reported consuming alcohol in the past 12 months, a prevalence that has remained relatively constant since 1998 (Table 1.1).

Given differences between countries with regard to the cultural and legal context of alcohol use, and the focus of this thesis on alcohol-attributed harms in Australia, the following description of such harms will be confined to developed nations with comparable economies and similarities in the legal availability of alcohol.

**BENEFITS AND HARMS ASSOCIATED WITH ALCOHOL CONSUMPTION**

The use of alcohol is associated with both benefits and costs to individuals, families and communities. A summary of such benefits and costs follows.
# TABLE 1.1: Prevalence of alcohol consumption in the adult population in Australia (and New South Wales), Canada, England and New Zealand

<table>
<thead>
<tr>
<th>Country</th>
<th>Author</th>
<th>Year</th>
<th>Male (%)</th>
<th>Female (%)</th>
<th>Total (%)</th>
<th>Change over time</th>
<th>Definition of alcohol consumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Australian Institute of Health and Welfare (^1)</td>
<td>2007</td>
<td>86.0</td>
<td>79.8</td>
<td>82.9</td>
<td>2.3% increase since 1998 (Male 1.4%; Female 3.1%) (^1)</td>
<td>Consumed alcohol in the past 12 months (population 14+ years of age)</td>
</tr>
<tr>
<td>New South Wales</td>
<td>Australian Institute of Health and Welfare (^1)</td>
<td>2007</td>
<td>83.8</td>
<td>76.2</td>
<td>79.8</td>
<td>1.5% increase since 1998 (Male 0.1%; Female 3.0%) (^1)</td>
<td>Consumed alcohol in the past 12 months (population 14+ years of age)</td>
</tr>
<tr>
<td>Canada</td>
<td>Demers &amp; Poulin (^7)</td>
<td>2004</td>
<td>82.0</td>
<td>76.8</td>
<td>79.3</td>
<td>1.6% increase since 1989 (^7)</td>
<td>Consumed alcohol in the past 12 months (population 15+ years of age)</td>
</tr>
<tr>
<td>England</td>
<td>The NHS Information Centre (^8)</td>
<td>2006</td>
<td>89.0</td>
<td>83.0</td>
<td>--</td>
<td>Decrease since 1998 (Male 4%; Female 3%) (^8)</td>
<td>Consumed alcohol in the past 12 months (population 16+ years of age)</td>
</tr>
<tr>
<td>New Zealand</td>
<td>Ministry of Health (^9)</td>
<td>2007/08</td>
<td>82.5</td>
<td>78.4</td>
<td>81.2</td>
<td>4.0% increase since 2004 (Male 5.9%; Female 4.3%) (^15)</td>
<td>Consumed alcohol in the past 12 months (population 12-65 years of age)</td>
</tr>
</tbody>
</table>
Benefits associated with alcohol consumption

The benefits of alcohol consumption to the health of individuals are limited to reducing the risk of a small number of highly-prevalent chronic illnesses, in particular ischaemic heart disease, ischaemic stroke, diabetes and gallstones (cholelithiasis).\textsuperscript{16,17} Such benefits are, however, moderated by the volume and pattern of alcohol consumption, with the likelihood of achieving a benefit from alcohol decreasing with increasing frequency and volume of consumption.\textsuperscript{16,17}

While some of the principal reasons that people report consuming alcohol include relaxation, stress reduction, mood enhancement and to aid social interaction,\textsuperscript{18,19} research has failed to find evidence of a direct relationship between alcohol consumption and these effects.\textsuperscript{16,20} It appears likely that these perceived benefits of alcohol consumption are, for the most part, moderated by the expectation of the psychological and psychosocial effects of alcohol and the social context in which alcohol is consumed.\textsuperscript{16,21}

In addition to its health benefits, alcohol consumption makes further positive contributions to society as a component of certain religious and cultural events\textsuperscript{22} and as a source of economic wealth through taxation, employment, and its manufacture, distribution, marketing and retailing.\textsuperscript{1,20,23} The extent of this economic benefit varies between countries,\textsuperscript{20} with its contribution to government revenue varying from 1.1% of gross domestic product (GDP) in England in 2005,\textsuperscript{24} to an estimated 0.6% of GDP in Canada in 2004.\textsuperscript{12,25} In Australia, alcohol was estimated to contribute 0.5% of GDP in 2004/05.\textsuperscript{23,26}
Harms associated with alcohol consumption

Harms to the individual that have been attributed to alcohol consumption can be classified as being either acute or chronic in nature. Acute harms refer to those that have rapid onset, and tend to be trauma related or associated with the toxic effect of excessive alcohol consumption within a drinking episode. Chronic harms are defined as prolonged, often degenerative, disease states as well as personal and social, often cumulative, problems that affect family, employment, social functioning and financial wellbeing.

Acute and chronic harms attributed to alcohol consumption can result in death, illness and injury, relationship breakdown and, loss of employment and other functional abilities. Both types of harms are moderated by the volume and pattern of alcohol consumption, with harms increasing with increasing frequency and/or volume of consumption.

MECHANISMS OF BENEFITS AND HARMS ASSOCIATED WITH ALCOHOL CONSUMPTION

As a drug, alcohol affects almost all organs of the human body, with these effects arising from three primary mechanisms: addiction, toxicity and intoxication.

The addictive qualities of alcohol relate to the influence of the drug on the brain’s reward mechanisms, principally through the mesolimbic dopamine pathway, resulting in further consumption being motivated and reinforced. Modification of these mechanisms, referred to as neuro-adaptation, results from prolonged alcohol consumption. The impact of neuro-adaptation is reflected in a common chronic psychiatric condition: alcohol dependence syndrome. This condition is characterised by
tolerance to the immediate effects of alcohol, cravings and a diminished ability to control consumption.  

The toxic effects of alcohol may be described as carcinogenic (promoting the development of cancer), teratogenic (disturbing the development of an embryo or foetus potentially resulting in birth defects or malformations), hepatotoxic (a toxin that affects the liver) and poisonous (when advanced intoxication impacts on the brain’s ability to control vital functions such as respiration). The majority of the alcohol-attributed harms associated with the toxic qualities of alcohol are chronic harms, such as cirrhosis of the liver and chronic pancreatitis. The toxic qualities of alcohol are also associated with the small number of health benefits attributed to alcohol consumption, namely ischaemic heart disease and ischaemic stroke.

The intoxicating qualities of alcohol relate to the immediate and short-term effects of the drug on the central nervous system, which involve temporary emotional, cognitive and psychomotor impairment. Such impairment is most commonly associated with acute harms such as falls, motor vehicle crashes and violence. The intoxicating effects of alcohol are considered to be dose dependent, with symptoms increasing from mild euphoria, disinhibition and garrulousness, through to clumsiness, poor judgment, confusion, staggered gait and stupor. The processes by which alcohol exerts a depressant effect on the central nervous system are not entirely known, although it is understood that these involve a complex interplay between the level of alcohol consumption, time and neurotransmitter systems, such as dopamine, serotonin, GABA, glutamate and endogenous opioids. Individual factors such as the rate of consumption, whether alcohol was consumed with other drugs, whether food was
consumed with alcohol, the individual’s tolerance to alcohol, and the person’s gender and body size\textsuperscript{21} mediate the intoxicating effects of alcohol consumption.\textsuperscript{29}

**BURDEN OF ILLNESS AND INJURY RELATED TO ALCOHOL CONSUMPTION**

The harms associated with alcohol consumption are most commonly measured by indicators such as mortality, morbidity and economic costs.\textsuperscript{29} Despite alcohol-attributable harms being commonly experienced across developed nations, considerable variation in the extent and nature of harms exists both between and within countries.\textsuperscript{1}

**Mortality associated with alcohol consumption**

**International perspective**

Globally, alcohol consumption represents the ninth highest ranking risk factor for mortality.\textsuperscript{33} As shown in Table 1.2, alcohol was estimated to have contributed a total of 2.5 million deaths world-wide in 2004.\textsuperscript{34} The proportion of such deaths resulting from alcohol-attributed acute harms was 37.8%; an increase from 36.4% in 2002.\textsuperscript{29} Accounting for the health benefits of alcohol consumption, the net acute and chronic deaths attributed to alcohol consumption represented 3.8% of all deaths world-wide in 2004; an increase from 3.2% of all deaths world-wide in 2000.\textsuperscript{29,34}

Table 1.2 also shows the estimated alcohol-attributed acute and chronic deaths, as a percentage of all deaths, in WHO regions in 2004.\textsuperscript{34} These figures indicate considerable variation in alcohol-attributed mortality across WHO regions, with Islamic and developing nations generally recording proportionally lower alcohol-attributed deaths compared to developed nations where alcohol consumption is the seventh highest risk factor for mortality.\textsuperscript{6,33}
### TABLE 1.2: Alcohol attributed deaths globally and by WHO region in 2004

<table>
<thead>
<tr>
<th></th>
<th>Global deaths attributed to alcohol consumption (thousands)</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male Acute</td>
<td>Chronic</td>
<td>Female Acute</td>
<td>Chronic</td>
<td>Total Acute</td>
<td>Chronic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WORLD</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total number of deaths caused</td>
<td>788</td>
<td>1,251</td>
<td>150</td>
<td>293</td>
<td>938</td>
<td>1,543</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total number of deaths prevented</td>
<td>-96</td>
<td>-132</td>
<td>-161</td>
<td>-161</td>
<td>938</td>
<td>1,316</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net deaths</td>
<td>788</td>
<td>1,155</td>
<td>150</td>
<td>161</td>
<td>938</td>
<td>1,316</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net deaths as percent of all deaths %</td>
<td>2.5</td>
<td>3.7</td>
<td>0.5</td>
<td>0.6</td>
<td>1.6</td>
<td>2.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Net alcohol-attributable deaths as percent of all deaths by WHO region (%)*</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>WORLD</td>
<td>6.3</td>
<td>1.1</td>
<td>3.8</td>
</tr>
<tr>
<td>African region</td>
<td>3.7</td>
<td>1.0</td>
<td>2.4</td>
</tr>
<tr>
<td>Region of the Americas</td>
<td>9.0</td>
<td>1.8</td>
<td>5.6</td>
</tr>
<tr>
<td>Eastern Mediterranean region</td>
<td>0.8</td>
<td>0.1</td>
<td>0.5</td>
</tr>
<tr>
<td>European region</td>
<td>11.0</td>
<td>1.8</td>
<td>6.5</td>
</tr>
<tr>
<td>South-East Asia region</td>
<td>3.9</td>
<td>0.5</td>
<td>2.3</td>
</tr>
<tr>
<td>Western Pacific region</td>
<td>8.4</td>
<td>1.5</td>
<td>5.3</td>
</tr>
</tbody>
</table>

* Membership of each WHO Region in Appendix 1.1

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CHAPTER 1: *The burden of alcohol consumption and alcohol-related crime* 9
Table 1.3 provides a summary of the most recent estimates of the annual number of acute and chronic deaths attributed to alcohol consumption in Canada, England and New Zealand.\textsuperscript{14,17,36} Deaths have been classified according to WHO criteria.\textsuperscript{27} Notwithstanding differences in the methods used to estimate the harms and benefits of alcohol consumption, the data in Table 1.3 indicate that acute harms accounted for between 20.5\% and 51.2\% of alcohol-attributed deaths in Canada, England and New Zealand in their respective study years.\textsuperscript{14,17,36} In Canada, deaths from alcohol-attributed chronic and acute harms accounted for 3.6\% of all deaths in 2002, with acute harms accounting for 1.5\% of all deaths.\textsuperscript{14} An earlier estimate of alcohol-attributable deaths in Canada which utilised less refined attributable fractions, reported that alcohol was attributed to 3.4\% of deaths in 1992, with acute harms accounting for 1.7\% of all deaths.\textsuperscript{37} Similarly in England, alcohol-attributed deaths accounted for 3.1\% of all deaths in 2005, with alcohol-attributed acute harms accounting for 0.6\% of all deaths.\textsuperscript{17} An earlier study estimated that alcohol-attributed deaths accounted for 2.1\% of all deaths in England and Wales in 1996, with 0.6\% of all deaths attributed to acute harms.\textsuperscript{38} Alcohol-attributed deaths accounted for 3.9\% of all deaths in New Zealand in 2000, with alcohol-attributed acute harms accounting for 2.0\% of all deaths.\textsuperscript{36} Among all deaths in New Zealand in 1987, alcohol was estimated to account for 5.3\%, with alcohol-attributable acute harms accounting for 1.8\% of all deaths.\textsuperscript{39}

Estimates of alcohol-attributed deaths across these nations suggest that the risk to health and well-being from alcohol consumption may be increasing. For example, in the United Kingdom, the annual rate of alcohol-attributed deaths increased between 1994 and 2007 from 7.5 to 13.3 per 100,000 persons.\textsuperscript{40} Similarly, in Canada alcohol-attributed deaths increased between 1992 and 2002, with an estimate indicating this
increase may have been as high as 35.8%. Conversely, in New Zealand annual rates of alcohol-attributed deaths between 1990 and 1996 decreased from 6.6 to 4.8 per 100,000 persons for males, and increased from 1.6 to 1.9 per 100,000 persons for females.

Table 1.3 also displays estimates of the number of deaths attributed to alcohol consumption, classified according to major illness and injury categories. Consistencies between countries can be noted, with two categories, transport crashes and suicide/self-inflicted injuries, accounting for the greatest number of deaths due to alcohol-attributed acute harms in Canada, England and New Zealand. Similarly, malignant neoplasms and digestive diseases were the two highest chronic causes of alcohol-attributed mortality in Canada and England, with malignant neoplasms and cardiovascular disease being the two highest contributors to alcohol-attributed deaths resulting from chronic harms in New Zealand. While earlier research suggested that such illness and injury categories were the principal causes of alcohol-attributed deaths, more recent studies have estimated a greater proportion of deaths from alcohol and non-alcohol poisoning in both Canada and England, and suicide and self-inflicted injuries and digestive diseases in England. These recent studies have also estimated a lesser proportion of deaths from falls in Canada and England, transport crashes and suicide and self-inflicted injuries in Canada, and malignant neoplasms in England. An older study from New Zealand (1987) estimated that cancers and strokes were the two conditions accounting for the greatest number of deaths from alcohol-attributed chronic harms and that road injuries and suicide accounted for the greatest number of deaths from alcohol-attributed acute harms.
As indicated in Tables 1.2 and 1.3, the burden of alcohol-attributed mortality is not evenly distributed within populations. World-wide, males constituted 82.1% of the total acute and chronic deaths attributed to alcohol in 2004.\textsuperscript{34} In their respective study years, males constituted between 66.5% and 71.0% of all alcohol-attributed deaths in England, New Zealand and Canada (Table 1.3).\textsuperscript{14,17,36} However, this gender disparity appears to be diminishing. In Canada, the proportion of alcohol-attributed deaths that were female increased from 26.8% in 1992\textsuperscript{37} to 29.2% in 2002,\textsuperscript{14} and in New Zealand rates of alcohol-attributed deaths among females increased from 24.2% to 39.6% of the rate for males between 1990 and 1996.\textsuperscript{41}

Age also represents a risk factor for alcohol-attributed mortality, although the nature of this association varies according to the cause of death. In Canada in 2002, the majority (74.4%) of deaths resulting from alcohol-attributed acute harms occurred among persons under 60 years of age, while the majority (69.7%) of deaths resulting from alcohol-attributed chronic harms occurred among persons aged 60 years and above.\textsuperscript{14} Persons aged below 45 years constituted 54.1% of deaths attributed to acute harms and those aged 55 years and over constituted 68.2% of the deaths attributed to chronic harms associated with alcohol use in England in 2005.\textsuperscript{17} In New Zealand in 2000, persons under 45 years of age constituted 72.6% of deaths from alcohol-attributed acute harms, while 89.1% of deaths from alcohol-attributed chronic harms occurred among persons aged 45 years and over.\textsuperscript{36}
TABLE 1.3: Annual number of caused and prevented deaths from chronic and acute harms attributed to alcohol consumption, by major disease/injury classification\(^{27}\)

<table>
<thead>
<tr>
<th>Country</th>
<th>Author</th>
<th>Canada</th>
<th>England(^*)</th>
<th>New Zealand</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Author</td>
<td>Male</td>
<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td>Country</td>
<td>Author</td>
<td>2002</td>
<td>2005</td>
<td>2000</td>
</tr>
<tr>
<td>Gender</td>
<td>Male</td>
<td>Female</td>
<td>Male</td>
<td>Female</td>
</tr>
</tbody>
</table>

### Acute harms attributed to alcohol consumption

<table>
<thead>
<tr>
<th></th>
<th>Canada</th>
<th>England(^*)</th>
<th>New Zealand</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poisoning</td>
<td>172</td>
<td>100</td>
<td>13</td>
</tr>
<tr>
<td>Transport crash-road/air/water</td>
<td>746</td>
<td>615</td>
<td>112</td>
</tr>
<tr>
<td>Drowning</td>
<td>84</td>
<td>41</td>
<td>14</td>
</tr>
<tr>
<td>Falls</td>
<td>165</td>
<td>214</td>
<td>23</td>
</tr>
<tr>
<td>Suicide/self-inflicted injuries</td>
<td>493</td>
<td>1,276</td>
<td>58</td>
</tr>
<tr>
<td>Homicide</td>
<td>116</td>
<td>20</td>
<td>12</td>
</tr>
<tr>
<td>Other injuries</td>
<td>550</td>
<td>48</td>
<td>200</td>
</tr>
<tr>
<td>Other acute medical</td>
<td>45</td>
<td>41</td>
<td></td>
</tr>
</tbody>
</table>

**Total deaths caused**
- Canada: 2,326
- England\(^*\): 2,359
- New Zealand: 432

**Deaths prevented**
- Canada: 0
- England\(^*\): 0
- New Zealand: 0

**NET (CAUSED-PREVENTED) DEATHS**
- Canada: 2,326
- England\(^*\): 2,359
- New Zealand: 432

### Chronic harms attributed to alcohol consumption

<table>
<thead>
<tr>
<th></th>
<th>Canada</th>
<th>England(^*)</th>
<th>New Zealand</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malignant neoplasms</td>
<td>1,172</td>
<td>1,969</td>
<td>1,194</td>
</tr>
<tr>
<td>Neuro-psychiatric conditions</td>
<td>651</td>
<td>715</td>
<td>344</td>
</tr>
<tr>
<td>Cardiovascular diseases</td>
<td>649</td>
<td>1,572</td>
<td>1,017</td>
</tr>
<tr>
<td>Digestive diseases</td>
<td>942</td>
<td>3,413</td>
<td>1,680</td>
</tr>
<tr>
<td>Other chronic conditions</td>
<td>11</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

**Total deaths caused**
- Canada: 3,425
- England\(^*\): 7,671
- New Zealand: 4,236

**Deaths prevented**
- Ischaemic heart disease/stroke | 2,060 | 1,494 | 2,023 | 1,665 | 506 | 435 |
- Diabetes | 191 | 96 | 29 | 26 | 13 | 19 |
- Cholelithiasis | 7 | 6 | 32 | 38 | 3 | 3 |

**Total deaths prevented**
- Ischaemic heart disease/stroke: 2,258
- Diabetes: 1,596
- Cholelithiasis: 1,729

**NET (CAUSED-PREVENTED) DEATHS**
- Ischaemic heart disease/stroke: -7
- Diabetes: 5,587
- Cholelithiasis: 2,507

\(^{*}\)Persons 16 years and over.
Australian perspective
As with other developed nations, each year, alcohol consumption contributes to a substantial number of deaths across Australia and in NSW, the most populous state and focus of forthcoming chapters (Table 1.4). A recent report estimated that in 2004/05, 3,494 deaths in Australia were attributed to alcohol consumption, representing 2.6% of all recorded deaths. In NSW in 2004, 1,416 deaths were attributed to alcohol consumption, accounting for approximately 3.0% of all deaths in the state. From 1992 to 2001, deaths attributed to acute harms accounted for 50.7% of all deaths attributed to alcohol use in Australia. In NSW during this period 45.9% of all alcohol-attributed deaths were attributed to acute harms.

Alcohol-attributed deaths declined in Australia, and in NSW, in the two decades to 2004. By 2004 the age-adjusted rate of alcohol-attributed mortality in NSW had declined by 36.1% from 1985, and by 9.5% from 2000. The National Alcohol Indicators Project, utilising slightly different classifications, estimated that between 1990 and 2001 deaths from alcohol-attributed acute and chronic harms displayed comparable reductions. Despite this similarity, deaths from alcohol-attributed acute harms declined rapidly from 1990 to 1993 followed by a slower decline between 1993 and 2001, while deaths from alcohol-attributed chronic harms declined steadily over this time.

Reflecting a similar pattern to that in other developed nations, the individual illness and injury categories accounting for the greatest number of deaths from alcohol-attributed acute harms in Australia and NSW were transport crashes, suicide/self-inflicted injuries and acute medical conditions. Similarly, liver cirrhosis and malignant neoplasms were the illness categories that contributed the greatest number of deaths from alcohol-
attributed chronic harms across Australia and in NSW. An earlier study, although utilising since revised attributable fractions, also estimated these conditions to account for the greatest number of deaths from alcohol-attributed acute and chronic harms. As was reported across other developed nations, recent estimates of alcohol-attributed deaths in Australia suggest a proportionally greater number of deaths from alcohol and non-alcohol poisoning, liver cirrhosis and malignant neoplasms compared to earlier estimates.

Consistent with the international literature, the burden of alcohol-attributed mortality varies between sub-populations in Australia. Australian males experience the greatest burden of alcohol-attributed deaths, accounting for 75.2% of such deaths in Australia and 76.6% of deaths in NSW (Table 1.4). However, this trend is changing, with the recent decline in alcohol-attributed deaths in the Australian population predominantly attributed to a decline among males. Similarly, in NSW between 1985 and 2004, the rate of alcohol-attributed deaths decreased by 39.5% among males compared to a 28.9% decrease among females.

In Australia, the variable association between age and alcohol-attributed mortality displays a similar pattern to that reported in other countries. In the decade to 2001, the 15 to 29 years age-group recorded the highest number of deaths resulting from acute harms, while the 45 to 60 years age-group recorded the highest number of deaths resulting from chronic harms.
TABLE 1.4: Annual number of caused and prevented deaths from chronic and acute harms attributed to alcohol consumption, by major disease/injury classification\(^2\) in Australia and New South Wales

<table>
<thead>
<tr>
<th>Country/state</th>
<th>Australia</th>
<th>New South Wales</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Author</td>
<td>Chikritzhs et al(^23)</td>
<td>Chikritzhs et al(^2^8)</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Gender</th>
<th>Male</th>
<th>Female</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute harms attributed to alcohol consumption</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deaths caused</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poisoning</td>
<td>63</td>
<td>34</td>
<td>15</td>
<td>9</td>
</tr>
<tr>
<td>Transport crash-road/air/water</td>
<td>456</td>
<td>93</td>
<td>131</td>
<td>27</td>
</tr>
<tr>
<td>Drowning</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Falls</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suicide/self-inflicted injuries</td>
<td>202</td>
<td>47</td>
<td>66</td>
<td>16</td>
</tr>
<tr>
<td>Homicide</td>
<td>89</td>
<td>48</td>
<td>34</td>
<td>16</td>
</tr>
<tr>
<td>Other injuries</td>
<td>142</td>
<td>45</td>
<td>54</td>
<td>16</td>
</tr>
<tr>
<td>Other acute medical</td>
<td>216</td>
<td>145</td>
<td>81</td>
<td>31</td>
</tr>
<tr>
<td><strong>Total deaths caused</strong></td>
<td><strong>1,168</strong></td>
<td><strong>412</strong></td>
<td><strong>381</strong></td>
<td><strong>115</strong></td>
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<tr>
<td>Deaths prevented</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total deaths prevented</strong></td>
<td><strong>0</strong></td>
<td><strong>0</strong></td>
<td><strong>0</strong></td>
<td><strong>0</strong></td>
</tr>
<tr>
<td><strong>NET (CAUSED-PREVENTED) DEATHS</strong></td>
<td><strong>1,168</strong></td>
<td><strong>412</strong></td>
<td><strong>381</strong></td>
<td><strong>115</strong></td>
</tr>
</tbody>
</table>

| Chronic harms attributed to alcohol consumption |
| Deaths caused |
| Malignant neoplasms | 190 | 97 | 68 | 37 |
| Neuro-psychiatric conditions | 205 | 51 | 77 | 20 |
| Cardiovascular diseases | 72 | 0 | 34 | 0 |
| Digestive diseases# | 527 | 156 | 192 | 57 |
| Other chronic conditions | 181 | 55 | 70 | 22 |
| **Total deaths caused** | **1,175** | **359** | **441** | **136** |
| Deaths prevented   |
| Ischaemic heart disease/stroke | 221 | 135 | 91 | 70 |
| Diabetes           |     |     |     |     |
| Cholelithiasis     | 1 | 1 | 0 | 0 |
| **Total deaths prevented** | **222** | **136** | **91** | **70** |
| **NET (CAUSED-PREVENTED) DEATHS** | **953** | **223** | **350** | **66** |

* Numbers averaged across time period to produce annual number of deaths, # Limited to alcoholic liver cirrhosis
Morbidity associated with alcohol consumption

International perspective

Research has also established that alcohol consumption contributes to considerable non-fatal injury and illness. The estimated number of hospitalisations from alcohol-attributed acute and chronic harms in the select group of developed nations for which such data was available (specifically, Canada and England) are shown in Table 1.5. In Canada in 2002, there were an estimated 195,971 non-fatal alcohol-attributed hospitalisations which accounted for 1.6 million hospital bed days, representing 7.4% of all hospital bed days in 2002; a 166.5% increase since 1992. In England, in the 12 months to March 2006, just fewer than half a million hospitalisations were attributed to alcohol consumption. Acute harm hospitalisations accounted for 21.7% and 15.4% of all alcohol-attributed hospitalisations in Canada in 2002 and in England in 2005, respectively.

The particular diseases and injuries attributed to alcohol consumption that result in hospitalisation display some consistencies across nations. In Canada in 2002, falls, transport crashes and other injuries accounted for the greatest number of hospitalisations from alcohol-attributed acute harms, while cardiovascular diseases and neuro-psychiatric conditions accounted for the greatest number of hospitalisations from alcohol-attributed chronic harms. In England in 2005, falls, alcohol and non-alcohol poisoning and self-inflicted injuries accounted for the greatest number of acute harm hospitalisations and cardiovascular diseases and neuro-psychiatric conditions contributed the greatest number of chronic harm hospitalisations. While differences in estimating and reporting of alcohol-attributed morbidity render comparisons difficult, an earlier study estimating alcohol-attributed hospitalisations in Canada in 1992 also reported falls and transport crashes as the most prevalent acute harm conditions.
resulting in hospitalisation. The earlier study reported neuro-psychiatric conditions and digestive diseases as the most common chronic harm conditions contributing to alcohol-attributed hospitalisations.

As with alcohol-attributed mortality, males are disproportionately represented in measures of alcohol-attributed morbidity, accounting for 66.2% of all alcohol-attributed hospitalisations in Canada and 61.3% of all such hospitalisations in England in the respective study years. In these countries males had approximately twice the estimated population rate of such hospitalisations. In Canada this gender disparity appears stable, with males accounting for an estimated 65.6% of alcohol-attributed hospitalisations in 1992.

In Canada in 2002, and in England in the year to March 2006, persons aged under 55 years accounted for approximately two thirds of all hospitalisations resulting from acute harms attributed to alcohol consumption. During this period, persons aged 55 years and over were estimated to have comprised more than half of the hospitalisations for chronic harms attributed to alcohol consumption.
### TABLE 1.5: Annual number of caused and prevented hospitalisations from chronic and acute harms attributed to alcohol consumption, by major disease/injury classification27 in Canada and England

<table>
<thead>
<tr>
<th>Country</th>
<th>Author</th>
<th>Year of study</th>
<th>Gender</th>
<th>Male</th>
<th>Female</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Canada</td>
<td>2002</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>England*</td>
<td>2005</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Acute harms attributed to alcohol consumption**

**Hospitalisations caused**

- **Poisoning**: 730, 531, 6,710, 9,032
- **Transport crash-road/air/water**: 3,297, 1,055, 3,607, 691
- **Drowning**: 21, 15, 23, 16
- **Falls**: 3,941, 2,622, 14,441, 9,799
- **Suicide/self-inflicted injuries**: 801, 883, 6,217, 9,064
- **Assault**: 1,263, 342, 7,025, 1,361
- **Other injuries**: 23,433, 16,884, 1,809, 549
- **Other acute medical**: 215, 2, 209

<table>
<thead>
<tr>
<th>Total hospitalisations caused</th>
<th>33,486</th>
<th>22,332</th>
<th>40,047</th>
<th>30,721</th>
</tr>
</thead>
</table>

**Hospitalisations prevented**

<table>
<thead>
<tr>
<th>Total hospitalisations prevented</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
</tr>
</thead>
</table>

**NET (CAUSED-PREVENTED) HOSPITALISATIONS** | 33,486 | 22,332 | 40,047 | 30,721 |

**Chronic harms attributed to alcohol consumption**

**Hospitalisations caused**

- **Malignant neoplasms**: 3,687, 2,879, 5,652, 4,324
- **Neuro-psychiatric conditions**: 49,324, 22,935, 85,055, 44,280
- **Cardiovascular diseases**: 66,664, 30,684, 134,934, 81,145
- **Digestive diseases**: 14,208, 5,813, 15,431, 8,365
- **Other chronic conditions**: 2,749, 2,310, 878, 9,017

<table>
<thead>
<tr>
<th>Total hospitalisations caused</th>
<th>136,632</th>
<th>64,621</th>
<th>241,950</th>
<th>147,131</th>
</tr>
</thead>
</table>

**Hospitalisations prevented**

- **Ischaemic heart disease/stroke**: 30,441, 13,086, 7,087, 4,282
- **Diabetes**: 7,875, 3,455, 4,290, 2,311
- **Cholelithiasis**: 3,098, 3,145, 5,553, 11,007

<table>
<thead>
<tr>
<th>Total hospitalisations prevented</th>
<th>41,414</th>
<th>19,686</th>
<th>16,930</th>
<th>17,600</th>
</tr>
</thead>
</table>

**NET (CAUSED-PREVENTED) HOSPITALISATIONS** | 95,218 | 44,935 | 225,020 | 129,531 |

**RATE OF NET HOSPITALISATIONS (PER 10,000)** | 61.2 | 28.4 | 113.9 | 61.8 |

*Persons 16 years and over*
Australian perspective
Non-fatal alcohol-attributed harms also represent a considerable burden on the Australian community (Table 1.6). In the eight years to 2000/01, it was estimated that an annual average of 72,160 hospitalisations were attributed to alcohol consumption, 53.0% of which resulted from acute harms. In 2004/05, an estimated 1,031,660 hospital bed days in Australia were attributed to alcohol consumption. During this same period 40,042 hospitalisations in NSW were alcohol-attributed, representing 1.8% of all hospitalisations in the state. In contrast with the previously described decrease in alcohol-attributed mortality in Australia, the rate of alcohol-attributed hospitalisations has gradually increased since 1993/94. For example, in NSW, the rate of alcohol-attributed hospitalisations increased by 16.1% from 1993/94 to 2004/05. National research suggests that the increase in alcohol-attributed hospitalisations in the eight years to 2000/01 may be almost entirely attributed to an increase in hospitalisations resulting from acute harms.

As can be noted in Table 1.6, from 1993/94 to 2000/01 across Australia and in NSW, assaults (24.9% and 22.5%, respectively), transport crashes (15.4% and 14.5%, respectively) and other acute injuries (38.0% and 42.1%, respectively) accounted for the greatest number of hospitalisations resulting from alcohol-attributed acute harms. Among hospitalisations for alcohol-attributed chronic harms in the eight years to 2000/01, the most common conditions requiring hospitalisation across Australia and NSW were neuro-psychiatric conditions (63.6% and 66.0%, respectively), liver cirrhosis (9.8% and 8.8%, respectively) and other chronic conditions (19.7% and 19.3%, respectively).
Rates of alcohol-attributed hospitalisations in Australia, including those in NSW, are concentrated among certain sub-populations. Males are disproportionately represented, accounting for an estimated 68.2% of hospitalisations in Australia and 68.9% of hospitalisations in NSW between 1993/94 and 2000/01 (Table 1.6). Population rates of net hospitalisations were over 2.5 times greater among males than females nationally and in New South Wales. In more recent figures, 55.8% of alcohol-attributed hospital bed days in Australia in 2004/05, and 64.1% of the alcohol-attributed hospitalisations in NSW in 2004/05 were for male patients. As with the narrowing of the gender disparity in alcohol-attributed mortality, the rate of alcohol-attributed hospitalisations among females in NSW increased by 64.3% since 1989/90, compared to a 13.6% increase among males in NSW.

Similar to international estimates, the risk of hospitalisation associated with alcohol consumption in Australia varies by age and type of harm. From 1993/94 to 2000/01 in Australia, persons less than 45 years of age constituted 63.5% of those hospitalised for alcohol-attributed acute harms, while persons 45 years of age or older constituted 59.4% of hospitalisations for chronic harms. Since 1993/94 in Australia, rates of alcohol-attributed hospitalisations among those aged 30 years or older have gradually increased, while such hospitalisations among younger persons have remained stable.
# CHAPTER 1: The burden of alcohol consumption and alcohol-related crime

## TABLE 1.6: Annual number of caused and prevented hospitalisations from chronic and acute harms attributed to alcohol consumption, by major disease/injury classification

<table>
<thead>
<tr>
<th>Country/state</th>
<th>Australia</th>
<th>New South Wales</th>
</tr>
</thead>
<tbody>
<tr>
<td>Author</td>
<td>Chikritzhs et al[^28]</td>
<td>Chikritzhs et al[^28]</td>
</tr>
</tbody>
</table>

### Acute harms attributed to alcohol consumption

#### Hospitalisations caused

<table>
<thead>
<tr>
<th>Category</th>
<th>Male</th>
<th>Female</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poisoning</td>
<td>725</td>
<td>537</td>
<td>203</td>
<td>152</td>
</tr>
<tr>
<td>Transport crash-road/air/water</td>
<td>4,835</td>
<td>1,061</td>
<td>1,514</td>
<td>369</td>
</tr>
<tr>
<td>Drowning</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Falls</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suicide/self-inflicted injuries</td>
<td>1,055</td>
<td>1,491</td>
<td>350</td>
<td>443</td>
</tr>
<tr>
<td>Assault</td>
<td>6,829</td>
<td>2,686</td>
<td>2,210</td>
<td>720</td>
</tr>
<tr>
<td>Other injuries</td>
<td>9,829</td>
<td>4,693</td>
<td>3,659</td>
<td>1,812</td>
</tr>
<tr>
<td>Other acute medical</td>
<td>2,504</td>
<td>1,996</td>
<td>859</td>
<td>715</td>
</tr>
<tr>
<td><strong>Total hospitalisations caused</strong></td>
<td>25,777</td>
<td>12,464</td>
<td>8,795</td>
<td>4,211</td>
</tr>
</tbody>
</table>

#### Hospitalisations prevented

<table>
<thead>
<tr>
<th>Category</th>
<th>Male</th>
<th>Female</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total hospitalisations prevented</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Chronic harms attributed to alcohol consumption

#### Hospitalisations caused

<table>
<thead>
<tr>
<th>Category</th>
<th>Male</th>
<th>Female</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malignant neoplasms</td>
<td>881</td>
<td>683</td>
<td>276</td>
<td>217</td>
</tr>
<tr>
<td>Neuro-psychiatric conditions</td>
<td>14,917</td>
<td>6,652</td>
<td>6,096</td>
<td>2,497</td>
</tr>
<tr>
<td>Cardiovascular diseases</td>
<td>763</td>
<td>0</td>
<td>274</td>
<td>0</td>
</tr>
<tr>
<td>Digestive diseases#</td>
<td>2,531</td>
<td>793</td>
<td>892</td>
<td>260</td>
</tr>
<tr>
<td>Other chronic conditions</td>
<td>4,353</td>
<td>2,346</td>
<td>1,612</td>
<td>896</td>
</tr>
<tr>
<td><strong>Total hospitalisations caused</strong></td>
<td>23,445</td>
<td>10,474</td>
<td>9,150</td>
<td>3,870</td>
</tr>
</tbody>
</table>

#### Hospitalisations prevented

<table>
<thead>
<tr>
<th>Category</th>
<th>Male</th>
<th>Female</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ischaemic heart disease/stroke</td>
<td>1,979</td>
<td>944</td>
<td>725</td>
<td>400</td>
</tr>
<tr>
<td>Diabetes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cholelithiasia</td>
<td>623</td>
<td>1,338</td>
<td>223</td>
<td>454</td>
</tr>
<tr>
<td><strong>Total hospitalisations prevented</strong></td>
<td>2,602</td>
<td>2,282</td>
<td>948</td>
<td>854</td>
</tr>
</tbody>
</table>

### RATE OF NET HOSPITALISATIONS (PER 10,000)

<table>
<thead>
<tr>
<th>Country/state</th>
<th>Australia</th>
<th>New South Wales</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>22.5</td>
<td>8.6</td>
</tr>
</tbody>
</table>

[^27]: Numbers averaged across time period and population from 2001 census, # Limited to alcoholic liver cirrhosis
Cost of alcohol consumption

International perspective

Harms attributed to alcohol consumption extend beyond the illness and injury that are quantified within mortality and morbidity estimations. Such harms encompass a broad range of adverse consequences and costs associated with alcohol consumption such as work absenteeism, lost productivity, costs of crime, healthcare costs and emotional suffering.\textsuperscript{29} Although some of these harms are difficult to quantify,\textsuperscript{45} a recent review of international studies estimated the global economic burden of alcohol in 2002 to be between US$210 billion and US$665 billion.\textsuperscript{45} This estimate incorporated costs associated with health care, premature mortality, absenteeism, unemployment, criminal justice systems and criminal damage, and represented between 0.6% and 2.0% of world GDP.\textsuperscript{45} While it is acknowledged that the expression of these costs attributed to alcohol consumption as a percent of GDP is problematic as some components of these costs do not contribute to the economic output of a country,\textsuperscript{23,34} this information is included in this synopsis to reference previous research estimating the magnitude of costs attributed to alcohol consumption.

Table 1.7 displays a summary of studies that have estimated the overall costs of alcohol consumption in four developed nations. These estimates include tangible costs associated with alcohol, defined as the value of resources that were not available for use or investment within the community as a result of alcohol consumption.\textsuperscript{23,46} With the exception of the Canadian estimates, such figures also include intangible costs, defined as the pain and suffering caused by the use and misuse of alcohol.\textsuperscript{23,46,47}
## TABLE 1.7: Estimated cost (millions) of alcohol consumption, by country, year of study and type of cost

<table>
<thead>
<tr>
<th>Country</th>
<th>Australia</th>
<th>Canada</th>
<th>England &amp; Wales</th>
<th>New Zealand</th>
</tr>
</thead>
<tbody>
<tr>
<td>Author</td>
<td>Collins &amp; Lapsley²³</td>
<td>Rehm et al¹⁴</td>
<td>Strategy Unit¹⁶</td>
<td>Slack et al¹⁷</td>
</tr>
<tr>
<td>Year of study</td>
<td>2004/05</td>
<td>2002</td>
<td>2000/01</td>
<td>2005/06</td>
</tr>
<tr>
<td>Currency</td>
<td>AUD($)</td>
<td>CAD($)</td>
<td>GBP(£)</td>
<td>NZD($)</td>
</tr>
<tr>
<td><strong>Tangible costs</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health care costs (net)</td>
<td>1,976.7</td>
<td>3,306.2</td>
<td>1,383.4 – 1,682.9</td>
<td>343.0</td>
</tr>
<tr>
<td>Labour/productivity/workforce (net)</td>
<td>3,538.0</td>
<td>7,204.9</td>
<td>5,194.0 – 6,421.4</td>
<td>1,763.6</td>
</tr>
<tr>
<td>Crime (including road crashes)</td>
<td>3,626.1</td>
<td>3,829.1</td>
<td>7,621.0</td>
<td>921.0</td>
</tr>
<tr>
<td>Fires</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resources used in abusive drinking</td>
<td>1,688.8</td>
<td></td>
<td></td>
<td>342.2</td>
</tr>
<tr>
<td>Prevention and research</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social welfare</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Intangible costs</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loss of life</td>
<td>4,135.0</td>
<td></td>
<td></td>
<td>1,569.5</td>
</tr>
<tr>
<td>Pain and suffering (road crashes)</td>
<td>353.6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pain and suffering (crime victims)</td>
<td></td>
<td></td>
<td></td>
<td>4,678.6</td>
</tr>
<tr>
<td><strong>TOTAL COST ESTIMATE</strong></td>
<td>15,318.2</td>
<td>14,554.0</td>
<td>18,517.0 – 20,043.9</td>
<td>4,939.3</td>
</tr>
<tr>
<td><strong>TOTAL TANGIBLE COST AS % OF GDP</strong></td>
<td>1.4%</td>
<td>1.3%</td>
<td>1.5%</td>
<td>2.1%</td>
</tr>
</tbody>
</table>
Due to differing methodologies between countries and across time-periods the estimated costs outlined in Table 1.7 are not directly comparable. Furthermore, as these estimates are aggregated across a number of cost areas, the separate costs associated with alcohol-attributed acute and chronic harms, and patterns of costs associated with gender and age are not reported in these studies. Nonetheless, the data indicate that lost workforce productivity and crime costs were the greatest sources of tangible alcohol-attributed costs in Canada in 2002 and in New Zealand in 2004/05, with such categories also accounting for the greatest alcohol-attributed costs in England and Wales in 2000/01. Such cost areas also accounted for the greatest alcohol-attributed costs in Canada in 1992 and in New Zealand in 1991. In Canada in 2002 these estimated tangible alcohol-attributed costs accounted for 1.3% of GDP and equated to CAD$463 per capita, while in 1992 these costs were estimated to account for 1.1% of GDP and equated to CAD$265 per capita. These tangible alcohol-attributed costs accounted for 1.5% of the United Kingdom’s GDP in 2001. In New Zealand in 2005/06, the tangible alcohol-attributed costs were estimated to account for 2.1% of GDP, with an earlier study estimating that such costs accounted for 5.7% of GDP in 1991.

Further research has extended these estimations of the costs attributed to alcohol consumption to include the avoidable costs of alcohol use and misuse. Avoidable costs relate to reductions in alcohol-attributed costs following the implementation of efficacious public health treatment and preventive interventions. In Canada in 2002, the avoidable costs of alcohol consumption were estimated to be approximately 7% of the total attributable cost, with these savings being attributed to increased alcohol taxation, an increase to the minimum legal age of alcohol consumption, austere drink
driving legislation, a licensed drinking environment intervention and brief clinical interventions. In New Zealand in 2004/05 such avoidable costs were estimated to be between 34% and 39% of total attributable costs, with these savings resulting from increased alcohol taxation, austere drink driving policies, restrictions on alcohol advertising and clinical interventions with individuals.

Australian perspective
The tangible costs associated with alcohol consumption in Australia in 2004/05 were estimated to be AUD$10,829.5 million, while the intangible costs were estimated to be AUD$4,488.7 million (Table 1.7). A comparison of relevant costs to GDP suggested that alcohol-attributed costs accounted for 2.0% of GDP in 1998/99 and 1.4% of GDP in 2004/05. As with the cost patterns reported in England and Wales, crime (including road crashes) and workforce productivity were the cost areas that accounted for the greatest tangible economic costs associated with alcohol consumption, with such cost areas also estimated to account for the greatest tangible economic cost burden attributed to alcohol consumption in 1998/99.

Of the estimated alcohol-attributed costs in 2004/05, Collins and Lapsley estimated that between 40% and 50% could be considered avoidable following the implementation of the following interventions: increased alcohol taxation; stronger drink driving policies; restrictions on alcohol advertising; and, clinical interventions with individuals.

ALCOHOL CONSUMPTION: VOLUMES AND PATTERNS OF CONSUMPTION
The magnitude and types of alcohol-attributed harms experienced by individuals and by communities are a function, in part, of the volume and pattern of alcohol
consumption. International research has commonly utilised three measures of alcohol consumption: total volume of alcohol consumed; the prevalence of alcohol consumption that poses a risk over the long-term; and the prevalence of alcohol consumption that poses a risk over the short-term.

Volume of alcohol consumption

International perspective

Table 1.8 displays a summary of the estimated total quantity of alcohol consumed by adults across Australia, Canada, England and New Zealand, measured as average per capita litres of pure alcohol (ethanol) consumed per annum. As shown in the table, each of the countries has recorded an increase in the average volume of alcohol consumed by adults in recent years.

Australian perspective

Recent Australian research reported that in 2007/08, on average, 10.0 litres of alcohol were consumed by persons aged 15 years and over (Table 1.8). As with trends reported in other developed countries, the average volume of alcohol consumed per annum in Australia appears to have increased slightly in recent years.

Alcohol consumption that increases the risk of alcohol-attributed harms in the long-term

Research has identified alcohol consumption thresholds at which the risk of experiencing long-term harms are suggested to increase significantly. As a consequence, such thresholds have been used in some countries to establish guidelines designed to minimise the risk of long-term harms occurring.
### TABLE 1.8: Annual litres of pure alcohol consumption per capita (adult) by country

<table>
<thead>
<tr>
<th>Country</th>
<th>Author</th>
<th>Year of study</th>
<th>Litres of alcohol</th>
<th>Change over time</th>
<th>Definition of alcohol consumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>ABS^56</td>
<td>2007/08</td>
<td>10.0</td>
<td>1.8% increase since 1996/97^57</td>
<td>Alcohol available for consumption per person 15+ years of age</td>
</tr>
<tr>
<td>Canada</td>
<td>Stockwell et al^54</td>
<td>2005/06</td>
<td>8.0</td>
<td>11.1% increase since 1996/97^54</td>
<td>Based on sales data of alcohol (per adult)</td>
</tr>
<tr>
<td>England</td>
<td>NHS^8</td>
<td>2005/06</td>
<td>11.4</td>
<td>21.3% increase since 1993/94^8</td>
<td>Alcohol released for home consumption per person 16+ years of age</td>
</tr>
<tr>
<td>New Zealand</td>
<td>Statistics New Zealand^55</td>
<td>2008</td>
<td>9.5</td>
<td>6.5% increase since 2003^55</td>
<td>Alcohol available for consumption per person 15+ years of age</td>
</tr>
</tbody>
</table>
International perspective

International guidelines vary in their definition of the level of alcohol consumption that constitutes a risk for experiencing harms in the long-term. However, most developed nations advise that consumption should not exceed 210 grams of pure alcohol per week for males and 140 grams of pure alcohol per week for females.\textsuperscript{58} Table 1.9 displays a summary of recent research reporting the prevalence of persons who exceeded such consumption guidelines across a number of countries. In 2004, nearly a quarter of Canadian adults who consume alcohol consumed it in quantities considered to be risky for long-term harms.\textsuperscript{7} In England in 2006, nearly a third of adult males and one fifth of adult females consumed alcohol to levels that placed them at such risk.\textsuperscript{8} In New Zealand in 2007, nearly a quarter of males and just over 10\% of females consumed alcohol to such levels.\textsuperscript{59} While trend data was not available for Canada or New Zealand, data from England suggest that, since a peak in 2000, the prevalence of alcohol consumption that increases the risk of harms in the long-term decreased by 17.9\% in males and 23.5\% in females.\textsuperscript{8}

More males than females report consuming alcohol at levels that increase the risk of harms in the long-term, with the proportion of males consuming alcohol at such levels being 1.6 to 2.3 times greater than females in Canada, England and New Zealand.\textsuperscript{7,8,59} Research in England has found that this gender disparity has remained stable since 1998.\textsuperscript{8}
TABLE 1.9: Prevalence of alcohol consumption that increases the risk of harms in the long-term, by country, year of study and gender

<table>
<thead>
<tr>
<th>Country</th>
<th>Author</th>
<th>Year</th>
<th>Male (%)</th>
<th>Female (%)</th>
<th>Total (%)</th>
<th>Definition standardised by amount of pure alcohol (grams) per week</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Australian Institute of Health and Welfare</td>
<td>2007</td>
<td>10.1</td>
<td>10.4</td>
<td>10.3</td>
<td>Male&gt;280g alcohol, Females &gt;140g alcohol*</td>
</tr>
<tr>
<td>New South Wales</td>
<td>Australian Institute of Health and Welfare</td>
<td>2007</td>
<td>10.0</td>
<td>10.1</td>
<td>10.0</td>
<td>Male&gt;280g alcohol, Females &gt;140g alcohol*</td>
</tr>
<tr>
<td>Canada</td>
<td>Demers &amp; Poullin</td>
<td>2004</td>
<td>30.2</td>
<td>15.1</td>
<td>22.6</td>
<td>Male&gt;190g alcohol, Females &gt;122g alcohol (among alcohol consumers only)</td>
</tr>
<tr>
<td>England</td>
<td>The NHS Information Centre</td>
<td>2006</td>
<td>31</td>
<td>20</td>
<td>--</td>
<td>Male&gt;168g alcohol, Females &gt;112g alcohol</td>
</tr>
<tr>
<td>New Zealand</td>
<td>Wilsnack et al</td>
<td>2007</td>
<td>24.1</td>
<td>10.5</td>
<td>--</td>
<td>Male and females &gt;162.4g alcohol (among alcohol consumers only)</td>
</tr>
</tbody>
</table>

*The National Health and Medical Research Council in Australia recently released revised guidelines for alcohol consumption that reduces health risks associated with alcohol consumption. Population figures have not been released to determine the prevalence of consumption that exceeds these revised guidelines.
In some countries age appears to be related to the likelihood of consuming alcohol to a level that increases the risk of harms in the long-term. In Canada in 2004, 20 to 24 year olds recorded the highest proportion (38%) of people consuming alcohol at such levels. In England in 2006, the 25 to 44 and 45 to 64 years age-groups recorded the equal highest prevalence (34%) of such alcohol consumption among males and the 16 to 24 years age-group recorded the highest prevalence (25%) of such consumption among females. The 18 to 34 years age-group recorded the highest prevalence of this level of alcohol consumption among adult males and females (36.2% and 13.0%, respectively) in New Zealand.

**Australian perspective**

Table 1.9 further displays data regarding the prevalence of alcohol consumption that increases the risk of long-term harms in the adult Australian and NSW populations in 2007. In Australia and NSW, the proportion of the adult population consuming alcohol at this level has remained relatively stable at around 10.0%, with an increase of 0.4% nationally and 0.5% in NSW between 2001 and 2007.

In contrast with figures reported in other countries, the proportions of adult females consuming alcohol at levels that increase the risk of harms in the long-term in Australia and NSW (10.5% and 10.1%, respectively) were comparable to those for adult males (10.2% and 10.0%, respectively). Since 2001, the overall prevalence of such alcohol consumption among Australian and NSW females has increased by 1.1% and 0.9% respectively. During this period, the proportion of males consuming alcohol at these levels has remained stable nationally and has increased by 0.2% in NSW.
Within the Australian population, as in other developed nations, age is a risk factor for the likelihood of consuming alcohol to levels that increase the risk of harms in the long-term. In Australia in 2007, for both males and females, the 20 to 29 years age-group recorded the highest prevalence (16.0%) of such consumption.\textsuperscript{61} The proportion of people in this age-group who consumed alcohol at levels that placed them at risk of harms in the long-term was 5.7% greater than that of the average of the adult population generally.\textsuperscript{61} An increase of 1.3% occurred in the prevalence of such alcohol consumption within this age-group between 2001 and 2007.\textsuperscript{61,62}

**Alcohol consumption that increases the risk of alcohol-attributed harms in the short-term**

Patterns of alcohol consumption that involve the consumption of large amounts of alcohol within a single drinking episode, and that commonly result in intoxication, are associated with an increased risk of harms that occur in the short-term.\textsuperscript{20,27} Thresholds of alcohol consumption within a drinking episode that are associated with the risk of harms in the short-term have been used in the development of consumption guidelines in a number of countries to reduce the risk of such harms.\textsuperscript{20,27}

**International perspective**

Recommended levels of alcohol consumption within a single drinking episode differ internationally, although many countries recommend the consumption of no more than 60 to 70 grams of alcohol for males and 40 to 50 grams of alcohol for females to minimise the risk of harms in the short-term.\textsuperscript{7,8,36,61} Table 1.10 displays a summary of recent research from selected developed nations regarding the prevalence of persons within the adult population that exceed such alcohol consumption guidelines. Although trend data for Canada was not available, research from England indicates that since 1998, and taking into account changes in measurement methodology, the prevalence
of consumption above recommended levels has decreased by 18.2% among males and has remained stable among females. In New Zealand, the prevalence of this pattern of alcohol consumption has decreased from 14.7% in 2004 to 12.6% in 2007/08.

Notwithstanding differing definitions and data collection procedures, variability within populations in the prevalence of alcohol consumption associated with the risk of harms in the short-term is evident across countries. In Canada, England and New Zealand, males were between 1.5 and 2.8 times more likely than females to consume alcohol at these levels at least weekly (Table 1.10). Despite this pattern, trend data since 1998 indicate that the prevalence of this drinking pattern among females in England has remained unchanged, while the prevalence among males has decreased by approximately 4%. In New Zealand between 2004 and 2007/08, the proportion of males consuming alcohol that placed them at risk of harms in the short-term at least weekly decreased by 2.8% while the prevalence of such alcohol consumption increased among females by 0.3%.
### TABLE 1.10: Prevalence of alcohol consumption that increases the risk of harms in the short-term, by country, year of study and gender

<table>
<thead>
<tr>
<th>Country</th>
<th>Author</th>
<th>Year</th>
<th>Male (%)</th>
<th>Female (%)</th>
<th>Total (%)</th>
<th>Definition standardised by amount of pure alcohol (grams) per drinking episode at least weekly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Australian Institute of Health and Welfare(^{10})</td>
<td>2007</td>
<td>9.3</td>
<td>6.2</td>
<td>7.8</td>
<td>Male 70g alcohol+, Females 50g alcohol+*</td>
</tr>
<tr>
<td>New South Wales</td>
<td>Australian Institute of Health and Welfare(^{10})</td>
<td>2007</td>
<td>8.9</td>
<td>5.9</td>
<td>7.4</td>
<td>Male 70g alcohol+, Females 50g alcohol+*</td>
</tr>
<tr>
<td>Canada</td>
<td>Demers &amp; Poulin(^{7})</td>
<td>2004</td>
<td>9.2</td>
<td>3.3</td>
<td>6.2</td>
<td>Male 68g alcohol+, Females 54g alcohol+ (among alcohol consumers only)</td>
</tr>
<tr>
<td>England</td>
<td>The NHS Information Centre(^{8})</td>
<td>2006</td>
<td>23</td>
<td>15</td>
<td>19</td>
<td>Male 64g alcohol+, Females 48g alcohol+ (in week prior to interview)</td>
</tr>
<tr>
<td>New Zealand</td>
<td>Ministry of Health(^{9})</td>
<td>2007/08</td>
<td>16.9</td>
<td>11.4</td>
<td>12.6</td>
<td>Male 60g+ alcohol+, Females 40g+ alcohol</td>
</tr>
</tbody>
</table>

\(^{1}\) The National Health and Medical Research Council in Australia recently released revised guidelines for alcohol consumption that reduces health risks associated with alcohol consumption.\(^{59}\)

Population figures have not been released to determine the prevalence of consumption that exceeds these revised guidelines.
Alcohol consumption that increases the risk of harms in the short-term also appears to be most prevalent among younger consumers of alcohol. In Canada in 2004, alcohol consumers aged 18 to 19 years had the highest prevalence of such alcohol consumption, with 16.1% consuming alcohol at these levels weekly and 51.8% doing so at least monthly. Such prevalence estimates were at least twice those of the overall adult population of alcohol consumers. In England in 2006, males in the 25 to 44 years age-group recorded the highest prevalence (31%) of alcohol consumption that increases the risk of harms in the short-term, while females in the 16 to 24 years age-group recorded the highest prevalence (26%) of such consumption among the female population. The 18 to 24 years age-group had the highest prevalence of this pattern of alcohol consumption in New Zealand in 2007, with 33.8% of males and 18.8% of females reporting such alcohol consumption.

Since 1998, the prevalence of this pattern of alcohol consumption has decreased by 4% among males aged 25 to 44 years in England, and the prevalence of such consumption among females in the 16 to 24 years age-group has decreased by 2%. The prevalence within other female age-groups in England has remained unchanged or increased slightly. In New Zealand it appears that the prevalence of alcohol consumption that increases the risk of harms in the short-term among persons aged 18 to 24 years has decreased, with an 8.6% decrease among males and a 6.4% decrease among females since 2004.

Australian perspective
Table 1.10 further displays figures detailing the prevalence of alcohol consumption that increases the risk of harms in the short-term within the Australian and NSW adult populations. Slightly more than one-third (34.6%) of the adult population in Australia
and 31.8% of the adult population in NSW reported consuming alcohol to this level at least once in 2007. Since 2001, the prevalence of such consumption at least weekly has increased by 0.9% nationally and by 1.1% in NSW.

The gender disparity in alcohol consumption that increases the risk of harms in the short-term in other countries is also evident in Australia. In 2007 the proportion of males across Australia, and in NSW, that consumed alcohol at levels that increased the risk of harms in the short-term at least weekly was 1.5 times greater than the proportion of females reporting such consumption. This gender disparity has been consistent since 2001, with the prevalence of such consumption among males and females across Australia and NSW increasing by approximately 1%.

Similar to findings in Canada, England and New Zealand, young Australian adults were more likely to consume alcohol at levels that increased the risk of harms in the short-term compared to older adults. In 2007, 14.7% of Australian adults aged 20 to 29 years reported this pattern of consumption at least weekly, and 59.4% of adults in this age-group did so at least once in the preceding 12 months. Within this age-group, since 2001, the consumption of alcohol to this level at least weekly has increased by 2.7%.

**SUMMARY: THE EFFECTS OF ALCOHOL CONSUMPTION**

The first section of this chapter has provided a synopsis of the net burden of alcohol-attributed harms, and of alcohol consumption patterns that contribute to such harms across a number of developed nations. Despite some reported decreases in the prevalence of such harms, including decreases in alcohol-attributed deaths across the
Australian population and among males in New Zealand, alcohol continues to exact a considerable burden in developed nations, with alcohol-attributed hospitalisations increasing in both Canada and Australia over the past decade. As a consequence, the overall costs attributed to alcohol misuse continue to represent a considerable burden on individuals, communities and the public and private sectors.

While risky alcohol consumption and resulting alcohol-attributed mortality and morbidity is greater among males than females, this gender disparity is decreasing. This trend appears to be a result of increasing risky alcohol consumption and resultant mortality and morbidity among females, relative to males. Similar, young persons are more likely to consume alcohol at levels that place them at risk of harms in both the short and long-term, and are routinely reported as a population at risk of alcohol-attributed mortality and morbidity.

Acute harms were estimated to account for the majority of alcohol-attributed deaths and hospitalisations in Australia and New Zealand. The prevalence of alcohol consumption associated with the risk of harms in the short-term has increased in Australia, with such an increase occurring among the young; a population already at most risk of such harms. As a consequence, reducing the prevalence of such consumption and its associated acute harms represents a priority area for further developments in policy and research.
SECTION TWO

THE BURDEN OF HARM ATTRIBUTED TO ALCOHOL-RELATED CRIME

As illustrated in the preceding section, criminal incidents (for example, assaults and motor vehicle crashes) are commonly occurring forms of alcohol-attributed acute harms that are associated with a significant burden on both individual and broader community well-being. The occurrence of such harms is likely to result from a complex interaction between the subjective, psychomotor and cognitive effects of alcohol intoxication on the central nervous system, psychological factors including the individual’s expectations regarding the effect of alcohol, and socio-cultural norms of acceptable behaviour following alcohol consumption.

The association between excessive alcohol consumption and the occurrence of a criminal incident is evident from data derived from police, prison, traffic authority and hospital records, and from the results of population surveys. Although each of these methodologies contain limitations, including inconsistent recording procedures, a lack of consistency in procedures over time, and non-representative sampling, the derived data suggest that alcohol consumption is commonly associated with a wide array of criminal offences. As shown in Table 1.11, the alcohol consumption characteristics of arrestees and inmates detained across a number of police patrols or prisons in Australia, Canada, England and New Zealand suggest an association between prior alcohol consumption and murder, manslaughter, assaults, robbery, threats, burglary, criminal damage, possession of stolen goods, disorder, traffic and drug offences (Table 1.11).
TABLE 1.11: Proportion of persons arrested or charged with offences (most serious offence) who had consumed alcohol prior to the commission of the offence, by country

<table>
<thead>
<tr>
<th>Country</th>
<th>Author</th>
<th>Data source</th>
<th>Definition of prior alcohol consumption</th>
<th>Year/period</th>
<th>Violent offences</th>
<th>Property offences</th>
<th>Disorder</th>
<th>Traffic</th>
<th>Drug Offences</th>
</tr>
</thead>
<tbody>
<tr>
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<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Australia</td>
<td>Adams et al.(^{68})</td>
<td>Arrestee survey</td>
<td>Use in 48 hours prior to offence</td>
<td>2007</td>
<td>49</td>
<td></td>
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<tr>
<td></td>
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<td></td>
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<td>47-50</td>
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<td>60</td>
<td>32</td>
<td>44-69</td>
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<td>75</td>
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<tr>
<td>Canada</td>
<td>Brochu et al.(^{69})</td>
<td>Inmate survey</td>
<td>Use of day of offence</td>
<td>1993-1995</td>
<td>49</td>
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<tr>
<td>England</td>
<td>Bennett(^{70})</td>
<td>Arrestee survey</td>
<td>Urinalysis of arrestees</td>
<td>1997-1999</td>
<td>49</td>
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<td>13-26</td>
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<td></td>
<td>29</td>
<td></td>
<td>25</td>
<td>57</td>
<td></td>
</tr>
<tr>
<td>New Zealand</td>
<td>Hales &amp; Mancer(^{71})</td>
<td>Arrestee survey</td>
<td>Use in 48 hours prior to offence</td>
<td>2006/07</td>
<td>49</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
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<td>47</td>
<td>13-26</td>
<td>100</td>
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<td></td>
<td>44</td>
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</tbody>
</table>
As previously described, the harms incurred by such offences extend beyond the individuals directly involved, and include costs of such crimes to businesses and governments.\textsuperscript{23,45} In addition, individuals who may have witnessed events or vicariously experience such offences through family and friends may suffer a heightened fear of crime,\textsuperscript{72,73} a consequence that may contribute to a reduction in social interaction\textsuperscript{74,75} and social cohesion within a community.\textsuperscript{76,77}

The greatest measurable burden of alcohol-related crime across select developed nations results from incidents of alcohol-related violence and drink driving related motor vehicle crashes. Combined, such incidents were estimated to account for between 10.7\% and 43.4\% of all alcohol-attributed deaths and hospitalisations from alcohol-attributed acute harms in England, New Zealand, Canada and Australia in their respective study years.\textsuperscript{14,17,28,36} Given this, the remainder of this review of the burden of alcohol-related crime will focus on these two particular offence categories.

\textbf{MORTALITY ASSOCIATED WITH ALCOHOL-RELATED VIOLENCE AND MOTOR VEHICLE CRASHES}

\textbf{International perspective}

Recent studies have reported that alcohol-related violence (homicide) and motor vehicle crashes account for approximately 1,075 deaths in Canada, 716 deaths in England and 160 deaths in New Zealand annually (Table 1.12).\textsuperscript{14,17,36} Although differences and enhancements in aetiological estimation procedures limit the ability to compare estimates of alcohol-related homicide over time or between countries,\textsuperscript{14} official records suggest that between 1995 and 2006 the overall number of deaths resulting from motor vehicle crashes involving a drink driver decreased by 30.0\% in Canada, with the proportion of all motor vehicle deaths attributed to alcohol decreasing
by 6.1% during this period.\textsuperscript{78} In contrast, in Great Britain between 1995 and 2006 the annual number of deaths from motor vehicle crashes involving people with illegal blood alcohol levels have displayed no appreciable variation.\textsuperscript{79} In New Zealand during this period the number of drivers killed in motor vehicle crashes with illegal blood alcohol levels decreased by 41.9%, with the proportion of all drivers killed in motor vehicle crashes who were over the limit having decreased by 5.6%.\textsuperscript{80}

In these countries the estimated number of deaths due to alcohol-related violence and drink driving among males was up to eight times greater than for females.\textsuperscript{14,17,36} Data on fatal alcohol-related motor vehicle crashes in Canada indicate that between 1998 and 2006 males continued to represent approximately 80% of the deaths from alcohol-related motor vehicle crashes.\textsuperscript{78,81-88}

Similarly, as with alcohol-attributed acute harms generally, the risk of death from alcohol-related violence or motor vehicle crash also varies with age, with younger alcohol consumers most at risk of such harm.\textsuperscript{14,17} In Canada in 2002, and in England in 2005, it was estimated that more than 65% of deaths resulting from alcohol-related violence and motor vehicle crashes occurred in persons less than 45 years of age.\textsuperscript{14,17} While in Canada between 1998 and 2006 the proportion of alcohol-related motor vehicle crash fatalities involving people aged 35 years or younger remained relatively stable,\textsuperscript{78,81-88} in Great Britain since 1991 the proportion of deceased drivers with illegal blood alcohol levels aged 16 to 19 years has increased by approximately 14%.\textsuperscript{77} In contrast, in New Zealand, between 2003 and 2007, the proportion of drivers killed in motor vehicle crashes with illegal blood alcohol levels who were aged less than 35 years has decreased by 3.5%.\textsuperscript{89,90}
### TABLE 1.12: Annual number of deaths from alcohol-related violence and motor vehicle crashes by country, year of study and gender

<table>
<thead>
<tr>
<th>Country</th>
<th>Author</th>
<th>Year/period</th>
<th>Violence Male</th>
<th>Violence Female</th>
<th>Motor vehicle crash Male</th>
<th>Motor vehicle crash Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Chikritzhs et al</td>
<td>1992-2001</td>
<td>89</td>
<td>48</td>
<td>456</td>
<td>93</td>
</tr>
<tr>
<td>New South Wales</td>
<td>Chikritzhs et al</td>
<td>1992-2001</td>
<td>34</td>
<td>16</td>
<td>131</td>
<td>27</td>
</tr>
<tr>
<td>Canada</td>
<td>Rehm et al</td>
<td>2002</td>
<td>116</td>
<td>50</td>
<td>746</td>
<td>163</td>
</tr>
<tr>
<td>England</td>
<td>Jones et al</td>
<td>2005</td>
<td>20</td>
<td>6</td>
<td>608</td>
<td>74</td>
</tr>
<tr>
<td>New Zealand</td>
<td>ALAC</td>
<td>2000</td>
<td>12</td>
<td>7</td>
<td>112</td>
<td>29</td>
</tr>
</tbody>
</table>

*Annual average calculated from time period (1992-2001)

**Australian perspective**

The estimated average annual numbers of deaths due to alcohol-related violence and motor vehicle crashes in Australia and in NSW are also shown in Table 1.12. Between 1992 and 2001 such offences accounted for an average of 686 deaths across Australia and 208 deaths in NSW annually. Examination of data from the Australian National Homicide Monitoring Program in the seven years to 2006/07 suggests that alcohol consumption preceded a significant proportion of such incidents for both victims (37%-56% male; 22%-37% female) and offenders (35%-56% male; 27%-57% female).

Since 1990 the national age-standardised rate of fatal alcohol-related motor vehicle crash among persons aged 15 years and older has decreased from approximately 0.5 per 10,000 persons to approximately 0.3 per 10,000 persons in 2001. Conversely, in
NSW the proportion of drivers in fatal motor vehicle crashes with illegal alcohol levels decreased from 14.4% in 2001 to 12.9% in 2005 followed by an increase to 17.5% in 2008.  

In the decade to 2001, across Australia and in NSW, males accounted for more than 65% of deaths from alcohol-related violence and more than 83% of alcohol-related motor vehicle crash fatalities (Table 1.12). Similarly, national statistics from 2006/07 indicate that 79.4% of victims of homicide with a recorded positive toxicology test for alcohol, and 81.7% of homicide offenders who consumed alcohol preceding the offence, were male. In NSW during 2008, males accounted for 89.2% of drivers with illegal blood alcohol levels involved in fatal motor vehicle crashes, with this proportion having varied between 85% and 92% since 2001 without any consistent trend.

Consistent with the international literature, alcohol-related violence and motor vehicle crashes are most prevalent among younger Australians. Between 1989 and 1999, the 25 to 34 years age-group accounted for 31.5% of all victims and 33.8% of all offenders involved in alcohol-related homicide. NSW statistics suggest that, in 2008, persons less than 40 years of age constituted 64.9% of drivers with illegal blood alcohol concentrations involved in fatal motor vehicle crashes, a figure that has remained relatively stable since 2001.
MORBIDITY ASSOCIATED WITH ALCOHOL-RELATED VIOLENCE AND MOTOR VEHICLE CRASHES

International perspective

The most recent estimated number of hospitalisations that resulted from alcohol-related violence (assault) and motor vehicle crashes for those select developed nations for which such data was available (specifically, Canada and England) are presented in Table 1.13. Alcohol-related violence and motor vehicle crashes accounted for approximately 5,951 hospitalisations in Canada in 2002 and 12,609 hospitalisations in England in 2005, representing 10.7% and 17.8% of the hospitalisations resulting from alcohol-attributed acute harms in these countries respectively (Table 1.13).14,17 Further, arrestee, inmate and emergency department surveys in Canada, England and New Zealand have reported that between 32% and 69% of assault offenders and between 69% and 84% of persons presenting with violence-related injuries consumed alcohol prior to involvement in the violent incident.69,71,107-110 Findings from population surveys in these countries suggest that the prevalence of alcohol-related violence may be decreasing, with the proportion of the population that reported being a victim of an alcohol-related assault decreasing from 7.2% to 3.2% in Canada between 1989 and 2004,111 and in Britain from a rate of 393 per 10,000 in 1995 to 297 per 10,000 in 1999.112

In 2006, 3,048 drivers in Canada were involved in alcohol-related motor vehicle crashes resulting in serious injury, 1,960 persons in Great Britain were seriously injured following alcohol-related motor vehicle crashes and 2,370 persons in New Zealand were injured following motor vehicle crashes involving alcohol or drug use.78-80 While such figures represent an overall decrease of between 25.8% and 34.7% since 1995,78-80 the prevalence of such harm has increased since 2003 in both Canada (by 1.4%)78
and New Zealand (by 1.8%). In Great Britain such prevalence of harm fell by 0.2% over the equivalent time.

As with mortality statistics, alcohol-related crime morbidity appears more prevalent among males than females, with males estimated to account for at least 75% of hospitalisations resulting from alcohol-related violence and motor vehicle crashes in Canada in 2002 and in England in 2005 (Table 1.13). Similarly, in population surveys in Canada in 2004 and in Britain in 2000, twice as many males as females reported being physically assaulted by a person affected by alcohol.

In official transport authority records of alcohol-related serious injury motor vehicle crashes in Canada and Great Britain in 2006, males represented at least 79% of the drivers; a proportion that has remained relatively stable since 1998. Similarly, males constituted more than 77% of persons found guilty of drink driving in New Zealand in 2007. A narrowing of the drink driving gender disparity appears evident, with the proportion of drink driving offenders who were male decreasing by 5.0% in Canada between 1986 and 2006, by 4.0% in England and Wales between 2000 and 2006, and by 2.3% in New Zealand between 1997 and 2002.

In terms of the distribution of morbidity associated with alcohol-related crime by age-group, in Canada in 2002 and in England in 2005, persons aged less than 45 years were estimated to account for at least 73% of hospitalisations resulting from alcohol-related violence and motor vehicle crashes. Similarly, the proportion of surveyed Canadian adults aged 18 to 24 years who reported being a victim of alcohol-related violence in the preceding 12 months (10.1%) was 3.2 times greater than in the overall
adult population. This figure represents a 7.4% reduction in the reported prevalence of such incidents within this age-group between 1989 and 2004. Among surveyed adults in Britain, the proportion of persons aged 16 to 25 years who admitted to committing an assault whilst under the influence of alcohol was at least 11% greater than the proportion in the overall adult population, with rates of alcohol-related violence victimisation among such persons up to five times higher than in the overall adult population.

While 59.6% of drivers in alcohol-related serious injury crashes in Canada in 2006 were 35 years of age or younger, a trend that has remained relatively consistent since 1998, the proportion of surveyed 18 to 24 year olds reporting to having been a passenger of a drunk driver increased by 9.4% between 1989 and 2004. In England and Wales in 2006, persons less than 40 years of age accounted for 74.3% of drivers with illegal blood alcohol levels involved in road crashes resulting in injury, a figure which has remained stable since 2001. Among alcohol-related traffic offenders in New Zealand in 2007, 65.3% were under 35 years of age, representing a 9.0% increase since 2003.
TABLE 1.13: Annual number of hospitalisations from alcohol-related violence and motor vehicle crashes by country, year of study and gender

<table>
<thead>
<tr>
<th>Country</th>
<th>Author</th>
<th>Year/period</th>
<th>Assault Male</th>
<th>Assault Female</th>
<th>Motor vehicle crash Male</th>
<th>Motor vehicle crash Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Chikritzhs et al²⁸</td>
<td>1993/94 – 2000/01</td>
<td>6,829</td>
<td>2,686</td>
<td>4,835</td>
<td>1,061</td>
</tr>
<tr>
<td>New South Wales</td>
<td>Chikritzhs et al²⁸</td>
<td>1993/94 – 2000/01</td>
<td>1,768</td>
<td>567</td>
<td>1,212</td>
<td>295</td>
</tr>
<tr>
<td>Canada</td>
<td>Rehm et al¹⁴</td>
<td>2002</td>
<td>1,263</td>
<td>342</td>
<td>3,297</td>
<td>1,055</td>
</tr>
<tr>
<td>England</td>
<td>Jones et al¹⁷</td>
<td>2005</td>
<td>7,025</td>
<td>1,361</td>
<td>3,550</td>
<td>673</td>
</tr>
</tbody>
</table>

*Annual average calculated from time period (1993/94 – 2000/01)

Australian perspective

The average number of hospitalisations resulting from alcohol-related violence (assaults) and motor vehicle crashes in Australia and in NSW from 1993/94 and 2000/01 are also shown in Table 1.13.²⁸ It was estimated that in 1996/97 the national population rate of involvement in alcohol-related assault was 17 in 10,000 persons, while 4.5 in 10,000 persons were estimated to have been involved in alcohol-related motor vehicle crashes resulting in death or injury.¹²⁸,¹²⁹ Between 1995/96 and 1998/99 such rates for assault increased by 5% to 10%, while rates of involvement in alcohol-related motor vehicle crashes decreased by over 20% between 1990 and 1996.¹²⁸,¹²⁹

NSW data displays similar trends to those reported nationally. In 1999/00 the annual population rate of involvement in police-recorded alcohol-related assault was estimated to be 22 in 10,000 persons,¹³⁰ with earlier research indicating that the rates of such
offending remained stable between 1995/96 and 1999/00. Furthermore, in NSW in 2008, the population rate of drivers with illegal blood alcohol levels involved in motor vehicle crashes was 2.6 per 10,000 persons, a decrease from 3.7 per 10,000 in 2001.

In Australia, as in other developed nations, the burden of non-fatal harms associated with alcohol-related crime is primarily borne by males. Alcohol-attributed aetiological fractions estimate that in the seven years to 2000/01 in Australia and NSW, males accounted for more than 70% of hospitalisations resulting from alcohol-related violence and motor vehicle crashes. In 2007, the self-reported prevalence of males physically abusing someone whilst under the influence of alcohol, or having been physically assaulted in an alcohol-related incident was at least twice that of females, a pattern that is relatively unchanged since 1998. In NSW, males accounted for 81.2% of drivers with illegal blood alcohol levels involved in motor vehicle crashes in 2008, with this figure representing a 3.3% decrease since 2001.

Alcohol-related crime also represents a considerable burden for younger Australians. In 1998/99, persons under 35 years of age accounted for 67% of hospitalisations resulting from alcohol-related assault and 78% of persons experiencing serious injury or death as a result of alcohol-related motor vehicle crashes between 1990 and 1997. Persons aged less than 30 years were reported to account for 54.8% of victims of alcohol-related physical abuse in Australia in 2007; a 4.5% decrease from the figure reported in the equivalent 2001 survey (57.4%). Among NSW drivers with illegal blood alcohol concentrations involved in motor vehicle crashes in 2008, 72.8% were
aged under 40 years of age, a proportion that does not differ from that recorded in 2001.

COST OF ALCOHOL-RELATED CRIME

Table 1.14 displays a summary of international studies that have estimated the economic burden of alcohol-related crime.

International perspective

Despite differences in methods of cost estimation, examination of costs between and within countries suggests that alcohol-related crime exacts a considerable economic burden (Table 1.14). In Canada in 2002, the tangible costs of policing, court and corrections associated with alcohol misuse and the tangible costs associated with traffic crashes were estimated to cost CAN$3,829.1 million. This figure equates to a cost of at least CAN$122 per person annually and represented 0.3% of GDP. Single et al estimated the tangible costs of alcohol-related crime in Canada in 1992 to be CAN$1,841.9 million, equating to approximately CAN$65 per person annually. In both studies policing costs followed by damages from motor vehicle crashes were the two categories accounting for the greatest proportion of alcohol-related crime costs.

In contrast, the costs associated with policing of alcohol-related crime are estimated to have increased while the costs attributed to alcohol-related motor vehicle crashes are estimated to have decreased between 1992 and 2002. Rehm et al also estimated that CAN$178.0 million (4.6%) of the costs attributed to alcohol-related crime in Canada in 2002 may be reduced if alcohol taxation was increased, austere drink driving policies were enacted, the minimum legal age of consumption was raised, a licensed drinking intervention was implemented and brief clinical interventions were delivered.
The estimated cost of alcohol-related crime in England and Wales in 2000/01 was GBP£11.9 billion, incorporating the intangible cost of the emotional impact of crime, and tangible expenses relating to: the criminal justice system; victim’s health and property protection, insurance and damage; lost productivity; and, the burden of drink-driving.\(^{46}\) Such an estimate equates to an annual cost of at least GBP£333 per person and the tangible costs represented 0.6% of GDP in 2000/01.\(^{12,46}\) Among these costs, law enforcement and property damage/victim services costs accounted for the greatest tangible costs, while the intangible costs of the emotional impact of crime represented the largest single category of cost attributed to alcohol-related crime.\(^{46}\)

In New Zealand in 2005/06, the estimated cost of alcohol-related crime was NZD$1,387.0 million, which equates to approximately NZD$330 per person.\(^{47}\) The tangible costs of such harm represented 0.6% of GDP in 2005/06.\(^{47}\) Law enforcement costs, in particular policing costs, and costs associated with road crashes accounted for the greatest tangible costs, while the intangible costs attributed to loss of life due to road crashes accounted for the greatest overall costs attributed to alcohol-related crime.\(^{47}\) An earlier study of the tangible costs attributed to alcohol-related crime in New Zealand in 1991 reported an estimate of NZD$479.0 million, equating to approximately NZD$136 per person.\(^{49,131}\) In this earlier study policing and court costs were the principle costs attributed to alcohol-related crime.\(^{49}\)
**TABLE 1.14:** International research estimating the cost (millions) of alcohol-related crime, by country, study and year of study

<table>
<thead>
<tr>
<th>Country</th>
<th>Australia</th>
<th>Canada</th>
<th>England &amp; Wales</th>
<th>New Zealand</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Author</strong></td>
<td>Collins &amp; Lapsley(^{23})</td>
<td>Rehm et al(^{14})</td>
<td>Strategy Unit(^{15})</td>
<td>Slack et al(^{16})</td>
</tr>
<tr>
<td><strong>Year of study</strong></td>
<td>2004/05</td>
<td>2002</td>
<td>2000/01</td>
<td>2005/06</td>
</tr>
<tr>
<td><strong>Currency</strong></td>
<td>AUD($)</td>
<td>CAD($)</td>
<td>GBP(£)</td>
<td>NZD($)</td>
</tr>
</tbody>
</table>

**Tangible costs**

**Crime**

<table>
<thead>
<tr>
<th></th>
<th>Australia</th>
<th>Canada</th>
<th>England &amp; Wales</th>
<th>New Zealand</th>
</tr>
</thead>
<tbody>
<tr>
<td>Law enforcement costs</td>
<td>974.7</td>
<td>3,072.2</td>
<td>1,750.3</td>
<td>367.8</td>
</tr>
<tr>
<td>Property damage and victim services</td>
<td>67.1</td>
<td>2,521.2</td>
<td>133.1</td>
<td></td>
</tr>
<tr>
<td>Violence</td>
<td>187.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insurance and private prevention</td>
<td>14.3</td>
<td>1,494.6</td>
<td>61.3</td>
<td></td>
</tr>
<tr>
<td>Productivity of prisoners and victims</td>
<td>368.0</td>
<td>969.8</td>
<td>193.6</td>
<td></td>
</tr>
</tbody>
</table>

**Road Crashes**

<table>
<thead>
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<th>Australia</th>
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<th>England &amp; Wales</th>
<th>New Zealand</th>
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<tr>
<td></td>
<td>2,202.0</td>
<td>756.9</td>
<td>525.1</td>
<td>202.1</td>
</tr>
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</table>

**Intangible costs**

<table>
<thead>
<tr>
<th></th>
<th>Australia</th>
<th>Canada</th>
<th>England &amp; Wales</th>
<th>New Zealand</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loss of life (violence)</td>
<td>124.4</td>
<td></td>
<td></td>
<td>2.3</td>
</tr>
<tr>
<td>Loss of life (road crashes)</td>
<td></td>
<td></td>
<td></td>
<td>384.4</td>
</tr>
<tr>
<td>Pain and suffering (road crashes)</td>
<td>916.9</td>
<td></td>
<td></td>
<td>8.8</td>
</tr>
<tr>
<td>Pain and suffering (victims of crime)</td>
<td></td>
<td></td>
<td></td>
<td>33.6</td>
</tr>
</tbody>
</table>

**TOTAL COST ESTIMATE**

<table>
<thead>
<tr>
<th></th>
<th>Australia</th>
<th>Canada</th>
<th>England &amp; Wales</th>
<th>New Zealand</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4,854.9</td>
<td>3,829.1</td>
<td>11,939.6</td>
<td>1,387.0</td>
</tr>
</tbody>
</table>

**TOTAL TANGIBLE COST AS % OF GDP**

<table>
<thead>
<tr>
<th></th>
<th>Australia</th>
<th>Canada</th>
<th>England &amp; Wales</th>
<th>New Zealand</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.2%</td>
<td>0.3%</td>
<td>0.6%</td>
<td>0.6%</td>
</tr>
</tbody>
</table>
Australian perspective

An estimate of the costs associated with alcohol-related crime in Australia is also displayed in Table 1.14. In 2004/05 the tangible burden of alcohol-related crime in Australia was approximately AUD$1,611.6 million, incorporating policing, criminal courts, prisons, property damage, administration of insurance, violence and prisoner productivity, with the relevant costs accounting for 0.2% of GDP.\textsuperscript{23} Alcohol-related motor vehicle crashes were separately estimated to have a tangible cost of AUD$2,202.0 million in 2004/05.\textsuperscript{23} The intangible cost associated with alcohol-related crime, which primarily incorporated the psychological harm caused by alcohol-related violence and pain and suffering as a result of motor vehicle crashes, was estimated at AUD$1,041.3 million.\textsuperscript{23} Policing costs and costs related to road crashes accounted for the greatest tangible costs attributed to alcohol-related crime, while pain and suffering resulting from road crashes accounted for the greatest intangible costs attributed to alcohol-related crime.\textsuperscript{23} The total of these costs associated with alcohol-related crime equates to approximately AUD$236 per person annually,\textsuperscript{23} with the burden of these costs shared across households, businesses and government.\textsuperscript{23} Although the avoidable costs of alcohol misuse have not been analysed for different types of alcohol-attributed harm, the impact of drink driving prevention strategies, such as random breath testing and decreasing the legal blood alcohol limit for drivers, have been estimated to have the potential to reduce the costs attributed to alcohol by AUD$1,220.0 million (2005/06 prices).\textsuperscript{50} This figure represents 39.1% of the costs attributed to alcohol-related motor vehicle crashes in 2005/06.\textsuperscript{23}

An earlier study of the cost of alcohol-related crime in Australia in 1998/99 estimated a cost of AUD$5,103.8 million, equating to AUD$269 per person annually.\textsuperscript{52} Similar to the more recent study,\textsuperscript{23} policing and motor vehicle crash costs accounted for the greatest
tangible alcohol-related crime costs in Australia in 1998/99, while the majority of intangible alcohol-related crime costs were attributed to the pain and suffering following motor vehicle crashes.  

A recent study of the policing costs of alcohol-related crime in NSW in 2005 estimated the salary costs of such policing activity to be AUD$49.1 million. The authors calculated this amount to be equal to the annual salary of approximately 1,000 constables within the NSW Police Force.  

**SUMMARY – BURDEN OF HARM ATTRIBUTED TO ALCOHOL-RELATED CRIME**

Section two of this chapter has provided a synopsis of the burden of alcohol-related crime across a number of developed nations. During the past decades gains have been made in reducing the number of alcohol-related motor vehicle crash fatalities. However, recent increases in the prevalence of alcohol in fatal and serious injury motor vehicle crashes in Canada, New Zealand and NSW suggest that such harm remains a concern. Similarly, despite reported reductions in alcohol-related violence in some countries, ongoing levels of alcohol-related violence remain high in Australia, with some research suggesting such harm may be increasing. As a consequence, alcohol-related crime continues to exact a considerable social, health and economic burden on these countries.
SECTION THREE

CONCLUSION

Sections one and two of this chapter summarised evidence regarding the burden and variability of alcohol-related harms and, specifically, alcohol-related crime. While the chapter identified particular trends in such harms associated with age and gender within the four developed nations of Australia, Canada, England and New Zealand, the prevailing finding was of persistent and, in some cases increasing, levels of alcohol-attributed harms within these populations. The potential to prevent a considerable proportion of such harms at a population level represents both a need and opportunity for government, community organisations and researchers.

In order for appropriate responses to be developed and targeted, a greater understanding of the prevalence, characteristics, determinants and variability of such harms is necessary, particularly at the local level. As evidence suggests that the occurrence of alcohol-related crime is influenced by a number of factors, including type of crime, place of alcohol consumption, geographic area, the broader environment, and socio-cultural factors, more detailed understanding of the contribution of such factors is necessary. At present, the data available to meet this need is limited by: intermittent and unrepresentative population surveys, aetiologically derived figures that are insensitive to local levels and patterns of alcohol consumption, and, inconsistencies in agency data collection and recording procedures not established for the purpose of monitoring alcohol-related harms.

To make a contribution to addressing these needs, this thesis examines:

1. the prevalence of police-recorded alcohol-related crime in non-metropolitan
NSW, Australia, where research suggests rates of alcohol consumption and the prevalence of related harms are high;

2 the day, time and location of alcohol consumption of people involved in police-recorded alcohol-related crime, and the geographic variation in such characteristics, in non-metropolitan NSW, Australia;

3 the variable contribution of licensed premises, according to licence type, and of individual premises, to police-recorded alcohol-related crime in non-metropolitan NSW, Australia; and

4 the effectiveness of routine police delivery of an educational strategy in reducing police-recorded alcohol-related crime associated with the consumption of alcohol on licensed premises.
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CHAPTER 2

INVolvEMENT OF ALCOHOL IN INCIDENTS OF VIOLENCE AND DISORDER IN NON-METROPOLITAN NEW SOUTH WALES, AUSTRALIA
INTRODUCTION

The précis in Chapter 1 of the burden of illness associated with alcohol misuse generally, and alcohol-related crime in particular, suggested that these harms remain at unacceptable levels in a number of countries,\textsuperscript{1-3} including in Australia.\textsuperscript{4} Research utilising various methodologies suggest that the nexus between alcohol misuse and crime is particularly apparent with regard to the offences of violence and public disorder.\textsuperscript{5-7} For example, aetiological research from Australia suggests that the offending behaviour of up to 31\% of arrestees for violent offences and 59\% of arrestees for public disorder offences could be attributed to alcohol consumption.\textsuperscript{8} A survey of assault-related attendees to a metropolitan hospital in Britain found that nearly 70\% had consumed alcohol preceding the occurrence of their injury.\textsuperscript{9} Similarly, surveys in the United Kingdom, Canada and Australia report that approximately 50\% of perpetrators of violent offences,\textsuperscript{5,10,11} and up to 70\% of persons arrested for public disorder offences\textsuperscript{7,12-14} were affected by alcohol at the time of the criminal incident. The apparent pervasiveness of alcohol intake prior to involvement in violent incidents appears to apply to both victims and perpetrators,\textsuperscript{15,16} suggesting that alcohol consumption is a risk factor for such harms regardless of the alcohol consumer's role in the incident.

Despite the consistency across developed nations of alcohol involvement in incidents of violence and disorder, a limited number of studies have suggested that the prevalence of such alcohol-related harms varies between geographic areas. For example, survey data suggest that the rate per capita of involvement in alcohol-related
violence incidents in Britain is higher in inner city and urban areas compared to rural areas. Conversely, in the United States of America, arrest rates for offences relating to alcohol have been reported to be higher in rural states, rural counties and smaller towns compared to non-rural states and counties, and suburban towns. Similarly, population rates of police-recorded incidents of alcohol-related assault and motor vehicle crashes, and other acute alcohol-attributed harms are higher in non-metropolitan areas, compared to metropolitan areas, of Australia.

Limited data have suggested that not only does the prevalence of alcohol-related crime vary between metropolitan and non-metropolitan areas, but that further variability in the prevalence of such harms exists within non-metropolitan areas, such as between regional cities, rural and remote areas. For example, recently published annual police-recorded crime profiles of local government areas in New South Wales (NSW), Australia, suggest that the population rate of incidents of alcohol-related assault is inversely related to population density. The highest rates of such incidents occurred in the most remote and, accordingly, least populated local government areas, and were reported to be as high as three in 100 persons per annum. The lowest annual rates of incidents of alcohol-related assault, at around one in 1,000 persons, occurred in inner-metropolitan local government areas, while rates in regional local government areas appear to vary between these two extremes. However, only one published peer-reviewed study examining differences in the prevalence of alcohol-related crime between non-metropolitan areas could be identified, with this research utilising Western Australian crime data from 1991/92.
CHAPTER 2: Involvement of alcohol in incidents of violence and disorder in non-metropolitan NSW

A primary constraint of many estimates of the prevalence of alcohol-related harms, including those reporting harms in non-metropolitan areas, is that they are largely dependent on the analysis of routinely recorded agency data, such as hospital admissions and police-recorded criminal incidents.\(^{26,27}\) The utility of such data to serve as measures of alcohol-related harm, however, is limited inconsistent recording in these settings.\(^{27-30}\) Such inconsistency is suggested to arise from a number of causes that include the requirement for the attending officer or clinician to make a judgement regarding alcohol involvement in the absence of specific and standardised criteria\(^{28,29}\) the need to make such a judgement while dealing with the immediate complexities of the incident or injury\(^{27-30}\) and, perhaps most importantly, the absence of systematic processes for the consistent recording and retrieval of such information within and across agencies and sites.\(^{31}\) In light of these limitations, governments, liquor industry and researchers alike have recommended that government agencies generally, and police services in particular, adopt explicit criteria for defining whether alcohol is involved in a recorded incident and the degree of alcohol impairment. Additionally, these services need to adopt procedures for the routine collection of information that describes the characteristics of alcohol involvement in a broad range of offence types.\(^{29-33}\)

The feasibility of police collecting such information has previously been reported in a limited number of small area (metropolitan) studies.\(^{13,14}\) More recently, Wiggers et al.\(^{34}\) described the introduction, on a jurisdiction-wide basis, of procedures for the routine collection and recording of information by police regarding alcohol involvement in recorded incidents. The initiative, implemented in NSW, required police to record whether or not a person had consumed alcohol prior to the incident and, if so,
determine their intoxication status based on observable appearance and behavioural signs of intoxication. To facilitate consistency of recording of this information by operational police officers, a number of organisational change strategies were implemented across the police force. These included: a standardised and specific definition and method for collecting and recording the information; training of all police in the rationale for, and the methods of data collection and recording; and implementation of monitoring and feedback protocols regarding command performance in the recording of the information. Evaluation of the initiative found that up to four years after its implementation, 89% of people involved in police-recorded incidents of assault had information recorded regarding their prior alcohol consumption status, with 100% of these having intoxication status recorded.

The adoption by police of enhanced collection and recording of alcohol involvement in recorded incidents provides an opportunity for improved estimates of alcohol-related violence and disorder in the community. Given the paucity of recently published peer-reviewed data of such harms in non-metropolitan areas, a study was undertaken to describe the extent of alcohol involvement in police-recorded violence and disorder incidents in non-metropolitan areas of NSW. The extent of alcohol involvement was determined in terms of: the annual population rate of people involved in incidents following the consumption of alcohol; the proportion of people involved in such incidents who consumed alcohol prior to the incident; and the proportion of such people who were intoxicated.
CHAPTER 2: *Involvement of alcohol in incidents of violence and disorder in non-metropolitan NSW*

71

METHOD

DESIGN, SETTING AND SAMPLE

According to NSW Police Force recording procedures, a criminal event may contain one or more criminal incidents, all of which are linked by the people involved, the location and the occurrence across an uninterrupted period of time.\(^{38}\) A criminal incident is a single occurrence of a single offence category.\(^{38}\)

In this study a descriptive analysis of people involved in police-recorded incidents of violence and disorder over a 24 month period (1 July 2003 – 30 June 2005) was conducted. The incidents occurred in 21 non-metropolitan NSW Police Force commands in the state of NSW, Australia (26.3% of state commands).

The study area encompassed regional cities, rural centres and rural and remote areas. The total population of the study area was approximately 1.4 million people (20.8% of the NSW population).\(^{39,40}\) Males constituted 50.0% of the population in the study area.\(^{40}\)

The modal age-group of the study area (grouped in 5 year age brackets up to 85 years and over) was 40 to 44 years.\(^{40}\) Across all of NSW and Australia, males constituted 49.6% and 49.7% (respectively) of the population and the modal age-group of these populations was 40 to 44 years.\(^{39,40}\)

DATA COLLECTION PROCEDURE

All NSW Police Force officers are required, as part of routine operational policing practice, to enter details of attended or reported criminal incidents into a statewide database. For each incident, officers record the offence category,\(^{41}\) the address of the
incident, date and time, and the particulars of persons involved, including their date of birth, gender and the nature of their involvement in the incident.

As described by Wiggers et al.,\textsuperscript{34} in 2002 it became mandatory for all police in the study area to collect and record, in the police database, information regarding the prior alcohol consumption and intoxication status of all drivers, victims and alleged offenders. Prior to the commencement of the study period, all officers were trained in the collection and recording of this intelligence through routine mandatory and brief training sessions (Appendices 2.1 and 2.2). Each command was also provided with hard copy manuals (Appendix 2.3) and monthly feedback reports (Appendix 2.4) to assist in the adoption of these new procedures. Furthermore, the data collection and recording practices were supported by the implementation of NSW Police Force Standard Operating Procedures (Appendix 2.5).

MEASURES
Geographic area
The geographic location of each incident was classified according to the postcode area in which it occurred using the Australian Standard Geographical Classification.\textsuperscript{40} Postcodes in the study area were classified as being either: regional cities, inner regional, outer regional, remote or very remote areas. A description of these categories\textsuperscript{42} and the population size of each category in the study area\textsuperscript{40} are shown in Table 2.1. The distribution of the postcode areas and their classifications are shown in Figure 2.1.
TABLE 2.1: Description\textsuperscript{42} and population of each geographic area\textsuperscript{40}

<table>
<thead>
<tr>
<th>Geographic area</th>
<th>Level of accessibility to goods, services and proximity to urban centres</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regional cities</td>
<td>Unrestricted</td>
<td>457,122</td>
</tr>
<tr>
<td>Inner regional</td>
<td>Selectively restricted</td>
<td>666,953</td>
</tr>
<tr>
<td>Outer regional</td>
<td>Moderately restricted</td>
<td>250,375</td>
</tr>
<tr>
<td>Remote</td>
<td>Highly restricted</td>
<td>29,440</td>
</tr>
<tr>
<td>Very remote</td>
<td>Extremely restricted</td>
<td>5,585</td>
</tr>
</tbody>
</table>

**ALL AREAS** 1,409,475

FIGURE 2.1: New South Wales, Australia, geographic areas under investigation shaded by remoteness classification (areas not shaded were outside the study area)
CHAPTER 2: Involvement of alcohol in incidents of violence and disorder in non-metropolitan NSW

Police-recorded incidents of violence and disorder

Excluding drink driving, violence and public disorder offences have been reported to be the police-recorded offence categories that have the greatest association with alcohol consumption.6 Consistent with previous research12,13 ‘violence’ incidents in this study included NSW Police Force recorded incidents of the following offences: common assault; actual bodily harm; grievous bodily harm (including malicious wounding); assault officer; and shoot with intent other than to murder. ‘Disorder’ incidents incorporated the offences of: offensive conduct; and offensive language.42 Being intoxicated in public is not an offence in NSW and, therefore, is not included in these disorder offences. Similarly, offences relating to the possession of alcohol in prohibited public places are separately classified within NSW Police Force offence categories.

Police-recorded prior alcohol consumption

For each victim or alleged offender involved in a recorded incident, police were required to record whether the person had consumed alcohol prior to the incident (‘yes’, ‘no’ or ‘not known’) based on the direct testimony of the person involved and/or the officer’s observation of signs of alcohol consumption (for example, smell of alcohol on breath or signs of intoxication).35-37 ‘Not known’ was the default response for any person not spoken to by an officer or when prior alcohol consumption was not ascertained. As this measure needed to account for differing dosages and timeframes of alcohol consumption, as well as for a number of individual factors that may influence the intoxicating effects of alcohol consumption (Chapter 1),43 a ‘yes’ response to ‘prior alcohol consumption’ was not restricted by individual characteristics, amount consumed or time since consumption.
Police-recorded intoxication

If alcohol was consumed by the person prior to their involvement in the incident, their level of intoxication (‘not’, ‘slightly’, ‘moderately’, ‘well’ or ‘seriously affected’) was recorded by police. The level of intoxication was based on the officer’s assessment of a range of appearance and demeanour indicators, including sweating, impaired psychomotor control and slurred speech. The assessment of intoxication based on these criteria has previously been reported to be sufficiently valid and reliable when undertaken by trained lay persons and police officers.

Police-recorded age and gender

Date of birth and gender of persons involved in incidents were extracted from the police database. Age of each person was calculated from the date of birth and incident date.

DATA EXCLUSION

Individuals involved in each criminal event were uniquely identified by their recorded date of birth and gender. To avoid replication of information in the analyses, individuals were counted only once for any given offence category within a criminal event. Accordingly, persons involved in multiple criminal events involving the same offence categories throughout the study period (for example, a victim of ongoing assaults of a domestic violence nature) were counted more than once. Only in the instance where two people of the same gender and date of birth were both being involved in the same offence category within the same criminal event, would the removal of duplicate data result in the loss of unique information from this study.
CHAPTER 2: Involvement of alcohol in incidents of violence and disorder in non-metropolitan NSW

Records of people were also excluded from the analysis if they were involved in incidents that were not within the study area; incident postcodes were not recorded; their gender or date of birth was unknown; or if their prior alcohol consumption status was recorded as ‘not known’.

ANALYSES

Statistical analyses were conducted using the SAS/STAT system for windows release 8.02.45

Three separate indicators were calculated to describe the extent of alcohol involvement in police-recorded incidents of violence and disorder.

1 To determine the extent of alcohol involvement in violence and disorder incidents within the population, an annual average population rate of involvement was calculated for the study area and for each geographic area. The rate was calculated on the number of people recorded to have consumed alcohol prior to being involved in each offence category and the population of the area in which the incident occurred (persons per year per 1,000 population). The population of the area was estimated at the mid-point of the study period (30 June 2004) based on census data.40 Due to differences in the age and gender distribution across geographic areas, direct age and gender standardised rates were calculated. To account for small numbers in particular age-groups in the remote and very remote areas, age-groups were defined as: 0-14, 15-24, 25-34, 35-44, 45-54, 55-64 and 65 years and over.
To determine the extent to which violence and disorder incidents involved people who consumed alcohol prior to the incident, the proportion of all such people involved in incidents was calculated for each offence category in the study area and for each geographic area. The proportion was calculated using those people whose alcohol consumption status was known (either yes or no) as the denominator.

To determine the extent to which violence and disorder incidents involved intoxicated people, the proportion of intoxicated people involved in such incidents was calculated for each offence category and for each geographic area using those people who were recorded to have consumed alcohol prior to the incident as the denominator. Those people who were recorded as moderately, well or seriously affected by alcohol were classified as intoxicated. The extent of appearance and demeanour signs of intoxication incorporated in this classification were considered consistent with those symptoms of intoxication outlined in the NSW government guidelines. Previous research has suggested a positive association between the extent of observable behavioural signs of alcohol intoxication and the likelihood of harm resulting from the effects of alcohol.

Separate logistic regression models (generalised linear models with the binomial proportion as the outcome) were used to determine the geographic variability in each of the three indicators above. For each model, ‘regional cities’ was used as the reference group and the person’s age and gender were entered to control for these effects. Except for analyses of the annual population rates, in which age was categorised in age-groups as previously described, age was treated as a continuous variable. The
likelihood ratio statistic of the predictor variable ‘geographic area’ for each logistic regression model is reported as LR $\chi^2$(df). For each geographic area, adjusted odds ratios were calculated to compare geographic areas on each of the indicators described above.

RESULTS

SAMPLE

Of the 74,026 police records of people involved in violence incidents and the 8,332 police records of people involved in disorder incidents, 4,288 (5.8%) people involved in violence and 338 (4.1%) people involved in disorder incidents were excluded from the analyses because: the location of the incident was not recorded; the location recorded not in the study area; or the person’s date of birth or gender were not known.

A further 6,051 (8.2%) records of people involved in violence and 253 (3.0%) records of people involved in disorder incidents were removed from the analyses as these people were already recorded once for the offence category within the criminal event. Between 1 July 2003 and 30 June 2005 a total of 63,687 people were recorded to have been involved in police-recorded violence incidents and 7,741 people were recorded to have been involved in police-recorded disorder incidents in the study area.

The prior alcohol consumption status of 5,768 (9.1%) people involved in violence incidents (regional city n=1,642, 9.6%; inner regional n=2,445, 8.5%; outer regional n=1,077, 9.1%; remote n=362, 9.6%; very remote n=242, 10.8%) and 431 (5.6%) people involved in disorder incidents (regional city n=84, 7.8%; inner regional n=179, 4.5%; outer regional n=110, 5.6%; remote n=20, 5.1%; very remote n=38, 12.0%) were recorded as ‘not known’. Across the study area and across the study period, not known
responses for persons involved in violence incidents were highest in July 2003 (11.5%) and lowest in May 2005 (7.4%) and highest in July 2003 (11.0%) and lowest in May 2005 (2.6%) for persons involved in disorder incidents. Records of persons whose alcohol consumption status was recorded as ‘not known’ were also excluded from the analyses.

The final samples for the analyses comprised 57,919 people involved in violence incidents and 7,310 people involved in disorder incidents. Within these samples, the intoxication level of eight people who had consumed alcohol prior to involvement in a violence incident (0.0% of those who had consumed) and four such people involved in a disorder incident (0.1% of those who had consumed) was not recorded. Such records of persons were not included in the analyses of intoxication.

**ANNUAL POPULATION RATE OF INVOLVEMENT IN INCIDENTS THAT FOLLOWED THE CONSUMPTION OF ALCOHOL**

**Violence**

As can be seen in Table 2.2, 22,002 people, or 8.5 in 1,000 people per year in the study area were recorded as being involved in a violence incident following their consumption of alcohol. The predictor variable ‘geographic area’ was significant in the logistic regression model (LR $\chi^2(4)=7,398.31$, $P<0.001$), with comparisons indicating that the rate of involvement was greater in all areas compared to regional cities ($P<0.001$). The adjusted odds of being involved in a violence incident following the consumption of alcohol was 30.1 times as likely (95% CI: 27.8-32.6) in very remote areas than in regional cities.
Disorder
In the study area 5,359 people, or 2.1 in 1,000 people per year, were recorded as being involved in a disorder incident following their consumption of alcohol. Within the logistic regression model, ‘geographic area’ was a significant predictor \( \chi^2(4) = 1,640.81, P<0.001 \), with comparisons indicating that the rate of involvement was greater in all areas compared to regional cities \( (P<0.001) \) (Table 2.2). The adjusted odds of being involved in a disorder incident following the consumption of alcohol was 20.7 times as likely \( (95\% \text{ CI: } 17.4-24.7) \) in very remote areas than in regional cities.

PROPORTION OF PEOPLE INVOLVED IN INCIDENTS WHO WERE RECORDED AS HAVING CONSUMED ALCOHOL PRIOR TO THE INCIDENT

Violence
Across the study area, 38.0% of people involved in a violence incident were recorded as having consumed alcohol prior to it occurring (Table 2.2). ‘Geographic area’ was a significant predictor variable in the logistic regression model \( \chi^2(4)=1,069.78, P<0.001 \), with comparisons between the areas indicating that people in all areas were more likely to be recorded to have consumed alcohol prior to such an incident compared to people in regional cities \( (P<0.001) \) (Table 2.2). The odds of being recorded as having consumed alcohol prior to a violence incident was 3.0 times as likely \( (95\% \text{ CI: } 2.7-3.3) \) in very remote areas than in regional cities.

Disorder
Seventy three percent of people involved in a disorder incident across the study area were recorded to have consumed alcohol prior to the incident (Table 2.2). ‘Geographic area’ was a significant predictor within this logistic regression model \( \chi^2(4)= 22.53, P<0.001 \), with comparisons indicating that people in very remote areas were less likely
to have consumed alcohol prior to involvement in the offence ($P=0.01$) and people in inner regional areas more likely to have done so ($P=0.02$) compared to those in regional cities (Table 2.2). The odds of being recorded as having consumed alcohol preceding a disorder incident was 1.2 times as likely (95% CI: 1.0-1.4) in inner regional areas than in regional cities and 0.7 times as likely (95% CI: 0.5-0.9) in very remote areas than in regional cities.
<table>
<thead>
<tr>
<th>Geographic area</th>
<th>People involved in incidents</th>
<th>People with complete alcohol data</th>
<th>People who consumed alcohol prior to incident</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total number</td>
<td>Number</td>
<td>Percent of people involved in incidents</td>
</tr>
<tr>
<td><strong>Violence</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regional cities</td>
<td>17,146</td>
<td>15,504</td>
<td>90.4</td>
</tr>
<tr>
<td>Inner regional</td>
<td>28,640</td>
<td>26,195</td>
<td>91.5</td>
</tr>
<tr>
<td>Outer regional</td>
<td>11,900</td>
<td>10,823</td>
<td>91.0</td>
</tr>
<tr>
<td>Remote</td>
<td>3,765</td>
<td>3,403</td>
<td>90.4</td>
</tr>
<tr>
<td>Very remote</td>
<td>2,236</td>
<td>1,994</td>
<td>89.2</td>
</tr>
<tr>
<td><strong>ALL AREAS</strong></td>
<td><strong>63,687</strong></td>
<td><strong>57,919</strong></td>
<td><strong>90.9</strong></td>
</tr>
<tr>
<td><strong>Disorder</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regional cities</td>
<td>1,084</td>
<td>1,000</td>
<td>92.3</td>
</tr>
<tr>
<td>Inner regional</td>
<td>3,977</td>
<td>3,798</td>
<td>95.5</td>
</tr>
<tr>
<td>Outer regional</td>
<td>1,973</td>
<td>1,863</td>
<td>94.4</td>
</tr>
<tr>
<td>Remote</td>
<td>389</td>
<td>369</td>
<td>94.9</td>
</tr>
<tr>
<td>Very remote</td>
<td>318</td>
<td>280</td>
<td>88.1</td>
</tr>
<tr>
<td><strong>ALL AREAS</strong></td>
<td><strong>7,741</strong></td>
<td><strong>7,310</strong></td>
<td><strong>94.4</strong></td>
</tr>
</tbody>
</table>
CHAPTER 2: Involvement of alcohol in incidents of violence and disorder in non-metropolitan NSW

PROPORTION OF PEOPLE INVOLVED IN INCIDENTS WHO HAD CONSUMED ALCOHOL PRIOR TO THE INCIDENT, WHO WERE RECORDED AS BEING INTOXICATED

Violence
As Table 2.3 shows, 71.2% of people across the study area who were recorded to have consumed alcohol prior to involvement in a violence incident were recorded as being intoxicated. ‘Geographic area’ was a significant predictor variable in this logistic regression model ($LR \chi^2(4) = 74.08, P<0.001$), with comparisons indicating that people in regional cities were less likely to be recorded as being intoxicated compared to those in all other areas ($P<0.001$). The odds of such a person being recorded as intoxicated in very remote areas was 1.8 times as likely (95% CI: 1.5-2.1) than those in regional cities.

Disorder
Eighty seven percent of people across the study area involved in disorder incidents who had consumed alcohol prior to the incident were recorded as being intoxicated (Table 2.3). ‘Geographic area’ was a significant predictor variable in the logistic regression model ($LR \chi^2(4) = 15.65, P=0.004$), with comparisons indicating that people in regional cities were less likely to be recorded as being intoxicated compared to those in inner regional ($P=0.003$), outer regional ($P=0.003$), and very remote areas ($P=0.003$). The odds of such a person being recorded as intoxicated in very remote areas was 2.6 times as likely (95% CI: 1.4-4.8) than those in regional cities.
TABLE 2.3: Number and proportion of people involved in incidents of violence and disorder who consumed alcohol prior to the incident and who were intoxicated, by geographic area

<table>
<thead>
<tr>
<th>Geographic area</th>
<th>Violence</th>
<th></th>
<th>Disorder</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>People</td>
<td>Percent</td>
<td>People</td>
<td>Percent</td>
</tr>
<tr>
<td>Regional cities</td>
<td>3,448</td>
<td>68.8</td>
<td>601</td>
<td>83.1</td>
</tr>
<tr>
<td>Inner regional</td>
<td>6,672</td>
<td>71.0</td>
<td>2,505</td>
<td>87.5</td>
</tr>
<tr>
<td>Outer regional</td>
<td>3,402</td>
<td>72.1</td>
<td>1,191</td>
<td>88.3</td>
</tr>
<tr>
<td>Remote</td>
<td>1,264</td>
<td>73.2</td>
<td>224</td>
<td>88.5</td>
</tr>
<tr>
<td>Very remote</td>
<td>883</td>
<td>77.7</td>
<td>156</td>
<td>92.9</td>
</tr>
<tr>
<td>ALL AREAS</td>
<td>15,669</td>
<td>71.2</td>
<td>4,677</td>
<td>87.3</td>
</tr>
</tbody>
</table>

DISCUSSION

In non-metropolitan areas of NSW, the annual population rate of involvement in police-recorded incidents of violence that followed the consumption of alcohol was one in 118 persons. This rate increased from one in 175 persons in regional cities to one in 10 persons in the very remote areas. The annual population rate of involvement in police-recorded disorder incidents that followed the consumption of alcohol was one in 476 persons across all areas, increasing from one in 1,250 persons in regional cities to one in 65 persons in the very remote areas.

Thirty eight percent of people involved in violence incidents had consumed alcohol prior to the incident, whilst 73% of people involved in disorder incidents had done so. While the proportion of people involved in violence incidents increased with increasing remoteness, the proportion involved in disorder incidents tended to decrease with increasing remoteness. A large majority of people who were recorded to have consumed alcohol preceding their involvement in violence and disorder incidents were...
CHAPTER 2: Involvement of alcohol in incidents of violence and disorder in non-metropolitan NSW

recorded as being intoxicated (71% and 87%), with these proportions increasing to 78% and 93% percent in the very remote areas. Such an extensive, yet variable, involvement of alcohol and intoxication in police-recorded crime in non-metropolitan areas suggests a need for further research into the determinants of alcohol misuse and intoxication in these areas, and the development of evidence-based interventions tailored to address these determinants and their resultant harms.

The overall proportions of people in this study recorded by police to have consumed alcohol prior to their involvement in incidents of violence and disorder were similar to those reported in a number of previous police data-based studies conducted in the United Kingdom and Australia. However, these proportions were lower than those reported by Ireland and Thommeny in a similar study conducted in the same state a decade earlier. This disparity may be explained by differences between the studies in terms of: the unit of analysis in the current study being people not incidents; the previous study being limited to a 4-week period that coincided with a seasonal peak for excessive alcohol consumption and assaults; or changes over time. A further difference of particular importance in the context of the results of this study relates to the different geographic locations in which the two studies were conducted. Whereas the current study involved all areas within 21 police commands in remote, rural and regional areas, the previous study was conducted in six selected police patrols in one inner-city metropolitan area with a high concentration of licensed premises.

The observed findings are also lower than the estimates of English et al for alcohol involvement in hospital morbidity and mortality data. As the prevalence of alcohol involvement increases with the seriousness of assault, estimates of the involvement
of alcohol in incidents of violence based on hospital admissions and medical examiner reports are likely to be greater than those based on persons involved in all police-attended incidents of violence, regardless of the seriousness of the offence.

Accordingly, the ability to compare these findings with previous studies is limited by methodological differences between the various studies. However, the findings of an increasing population risk of involvement in incidents of alcohol-related violence and disorder with increasing remoteness are consistent with previous studies conducted in the United States of America and Australia. Together these studies suggest that alcohol-related crime represents a greater risk to non-metropolitan communities in these countries.12,18-20,24,25

The prevalence of recorded intoxication was high among people involved in both violence (71%) and disorder (87%) incidents. No previous study could be identified that reported the prevalence of intoxication among people involved in police-recorded incidents of violence and disorder. These findings suggest that intoxication, rather than the consumption of alcohol per se, may be the more relevant characteristic of alcohol-related violence and disorder incidents.35,51,52 A greater need for interventions that are specifically directed at modifying the culture of intoxication in society,32,53 including evidence-based approaches for reducing the risk of excessive alcohol consumption in particular at-risk drinking contexts, such as licensed premises,54 may therefore be required.

The higher levels of recorded alcohol involvement and intoxication among people involved in incidents of violence in the more regional, rural and remote areas are consistent with the findings of previous research.12,19,20,24,25,55 A possible explanation for
the greater population rate of alcohol involvement in violence and disorder incidents in rural and remote areas may relate to the existence of greater socio-economic inequality in these areas. Dietze et al have reported that greater income inequality is associated with greater rates of acute alcohol-attributed hospitalisations, with the highest levels of inequality predicting the highest levels of such harm. In NSW the prevalence of socio-economic disadvantage, measured in terms of income, employment and education level, increases with increasing geographic remoteness. Higher levels of alcohol availability may also explain the higher levels of alcohol-related crime in rural areas, with research suggesting a greater density (per capita) of licensed premises and greater perceived ease of access to alcohol in rural and remote areas compared to metropolitan areas.

The need for further research regarding the determinants of alcohol involvement in police-recorded incidents in non-metropolitan areas is also illustrated by the contrasting study findings regarding the involvement of alcohol in violence and disorder incidents. In particular, while the proportional involvement of persons who had consumed alcohol prior to involvement in violence incidents increased with increasing remoteness, the proportion of such persons involved in disorder incidents tended to decrease with increasing remoteness. Such differences in association between offence types suggests that differences in the context and circumstances of alcohol consumption and related harms, such as population density and demographic characteristics, the location where alcohol is consumed, number of licensed premises, and issues of urban design may influence the likelihood of an offence occurring and/or being associated with the prior consumption of alcohol. Furthermore, factors other than alcohol consumption which predict anti-social behaviour, and which increase with
increasing geographic remoteness, may also account for this contrasting finding. These factors include greater illicit drug use, economic stressors, and a lack of community support. Such suggestions indicate a greater understanding is required of how the determinants of alcohol-related violence and disorder vary by level of remoteness. Greater understanding of how these determinants and their relationship to remoteness differ between types of offences would also be of benefit.

The findings in this study of high levels of alcohol involvement in violence and disorder incidents underscore the need for the development and implementation of additional evidence-based alcohol harm-reduction interventions in non-metropolitan areas. The variability in such levels of involvement further highlight the need for harm-reduction interventions to be tailored to the particular pattern and characteristics of alcohol consumption and related harms in each community.

Recent reviews of alcohol harm-minimisation initiatives that were trialled in regional and remote areas of Australia provide an indication of the types of strategies that may be considered. Although few of these strategies have been subject to rigorous controlled evaluation, the reviews conclude that restricting the hours and days of trade of liquor outlets and restricting the volume of alcohol that may be purchased have the potential to result in significant reductions in alcohol consumption and alcohol-related violence in these areas.

In interpreting the results of this study, a number of its design characteristics should be considered. First, the results of the study serve to demonstrate the benefits of a standardised approach to defining and recording the alcohol consumption
characteristics of people involved in police-recorded incidents. The proportion of people across the study area for whom alcohol consumption characteristics were recorded was high relative to other studies (greater than 90% for both offence categories compared to 74% of incidents with complete alcohol data), with more than 99% of such people having their intoxication status recorded. Limited variability in recording of alcohol consumption status was evident across the study area for incidents of violence (range of 89% in very remote areas to 92% in inner regional areas) and disorder (range of 88% in very remote areas to 96% in inner regional areas).

Secondly, although the validity and reliability of the recording procedures utilised in this study have not been determined, previous studies have reported the validity and reliability of self-reported alcohol consumption, and of police officers, and others, assessment of prior alcohol consumption and intoxication status. In particular, one such trial reported that officers were able to detect prior alcohol consumption and intoxication in persons involved in attended incidents with 91% sensitivity and 97% specificity.

Third, notwithstanding the benefits of the data obtained through the enhanced police information collection and recording procedure described by Wiggers et al, the exclusion in this study of those people whose prior alcohol consumption was not recorded may have resulted in either an over or an under estimate of the extent of prior alcohol consumption or of intoxication in recorded incidents. If all such persons are considered to have consumed alcohol, or all are considered to have not consumed alcohol, the extent of prior alcohol consumption would vary between 35% and 44% for violence incidents, and 69% and 75% for disorder incidents. Furthermore, if the
reported rate of 70% of victim’s non-reporting to police were applied to the population rates in the current study to estimate all alcohol-related violence, such rates would range from 19.0 persons in 1,000 in regional city areas to one person in three in very remotes areas. Accordingly, as with all such agency data, the number of people involved in police-recorded incidents reported in this study is likely to represent only a fraction of the total number of people involved in such harms in these communities.

Fourth, as this study was conducted in one non-metropolitan area of Australia, the broad applicability of the study findings is unknown. Comparison with the population characteristics of NSW suggests that despite a slightly higher proportion of males, a characteristic of non-metropolitan areas of Australia generally, the population characteristics of the study area approximate those of the non-metropolitan areas of the remainder of the state and of the country generally. Nonetheless, based on the findings of this study, region specific data collection is required to determine the replicability of the findings in other areas.

Finally, differential policing activity between geographic areas has the potential to influence the likelihood of recorded alcohol involvement in police-recorded incidents. Rates of disorder offences, in particular, can be subject to police driven initiatives to address safety and fear of crime. Similarly, the greater informality of policing in remote areas may result in a reduced prevalence of incidents recorded by police in these areas. The extent to which police activity differed between areas during the study period is unknown.

In summary, the results of this study serve to highlight the high level of alcohol involvement in police-recorded incidents of violence and disorder that occur in non-
metropolitan NSW, Australia. Such findings emphasise the need for further research regarding the characteristics and determinants of these incidents, and for the deployment of locally relevant, yet evidence-based initiatives to reduce their prevalence in non-metropolitan areas.
REFERENCES


CHAPTER 2: Involvement of alcohol in incidents of violence and disorder in non-metropolitan NSW


CHAPTER 3

CHARACTERISTICS OF ALCOHOL-RELATED VIOLENCE AND DISORDER IN NON-METROPOLITAN NEW SOUTH WALES, AUSTRALIA
INTRODUCTION

Chapter 2 described the variable burden of police-recorded incidents of alcohol-related violence and disorder across rural and regional New South Wales (NSW), findings that extended previously reported research regarding higher rates of at-risk alcohol consumption\(^1,2\) and police-recorded alcohol-related crime in these areas.\(^3-6\) Such findings highlight the need for harm-reduction interventions to be specifically tailored to the types and characteristics of alcohol-related crime in particular geographic areas. In order for this to occur, an understanding of the characteristics of alcohol-related violence and disorder incidents in particular geographic areas is required.\(^6\)

Research conducted primarily in metropolitan areas of Australia and elsewhere has identified consistent characteristics of alcohol-related crime. In particular, research has suggested that the consumption of alcohol at night and on weekends,\(^3,7-10\) on licensed premises,\(^10-15\) and to intoxication,\(^11,15\) are disproportionately associated with the occurrence of criminal incidents. However, little is known of the extent to which such characteristics vary between metropolitan and non-metropolitan areas, or vary between different non-metropolitan areas.\(^16,17\)

Differences between metropolitan and non-metropolitan areas in the characteristics of alcohol-related crime, and of the persons involved in incidents of such harm, could be expected given the differences between these areas in terms of the density of alcohol outlets,\(^18,19\) rates of at-risk alcohol consumption,\(^1\) rates of alcohol-related illness and injury,\(^1,19,20\) and socio-cultural characteristics.\(^1\) Similarly, as differences in these indicators and determinants of alcohol-related harms also exist between different non-metropolitan areas,\(^1\) it could be expected that there are also differences between non-
metropolitan areas in the occurrence and characteristics of alcohol-related violence and disorder.

No Australian or international peer-reviewed studies could be located that described geographic differences in the extent to which the occurrence of alcohol-related violence and disorder incidents varied across days of the week, times of the day or place of alcohol consumption. Within the grey literature in Australia, annual crime profiles of local government areas provide some indication of the geographic variability in the characteristics of one form of alcohol-related crime: alcohol-related assault.\(^4,21\) The crime profile data indicate that police-recorded alcohol-related assaults occur most often between 12.00am and 6.00am on Saturdays and Sundays across most local government areas.\(^21-23\) Such profiles also indicate that in regional and remote local government areas with high rates of alcohol-related assault, less than 10% of police-recorded alcohol-related assaults occur in on-licensed premises.\(^4\) In comparison, on-licensed premises are the location of up to 30% of police-recorded alcohol-related assaults in metropolitan and regional city areas that experience high rates of such harm.\(^4\)

Although providing important information, these crime profiles do not report the alcohol consumption characteristics of individuals involved in incidents, such as their intoxication level\(^24\) or the location they last consumed alcohol before the incident. In the absence of this information, the capacity to appropriately target harm-reduction interventions to particular at-risk alcohol consumption contexts, or particular patterns of at-risk alcohol consumption, are constrained. As a consequence, there is an acknowledged need to increase the availability of information describing the
characteristics of alcohol-related crime for the purposes of intervention strategy development, implementation and evaluation.\textsuperscript{16,17}

Given the greater levels of police-recorded alcohol-related crime in non-metropolitan locations, and increasing demands for effective strategies to reduce the occurrence of such harms in these areas,\textsuperscript{17} a study was undertaken to describe the day, time and last place of alcohol consumption characteristics of people involved police-recorded violence and disorder incidents in non-metropolitan areas of NSW, Australia.

**METHODS**

**DESIGN, SETTING AND SAMPLE**

A descriptive analysis of people’s involvement in police-recorded incidents of violence and disorder over 24 months (1 July 2003 – 30 June 2005) was conducted. The incidents occurred in 21 non-metropolitan NSW Police Force commands in the state of NSW, Australia (26.3\% of state commands). The study area encompassed regional cities, rural centres, and rural and remote areas. The population of the study area was approximately 1.4 million people (20.8\% of the state population).\textsuperscript{25}

**DATA COLLECTION PROCEDURE**

All NSW Police Force officers are required, as part of routine operational policing practice, to enter details of attended and reported criminal incidents into a state-wide database. For each recorded incident, officers record the offence category,\textsuperscript{26} the address where the incident took place, the date and time of the incident, and the particulars of the people involved, including their date of birth, gender and the nature of their involvement in the incident.
A common limitation of measures of alcohol-related harm based on official data recorded by police involves the absence or lack of consistency of information regarding the alcohol consumption, location of drinking and level of intoxication characteristics of persons involved in incidents. As described in Chapter 2, to address these issues, the NSW Police Force in 2002 adopted within the study area mandatory procedures requiring officers to collect and record information regarding: the prior alcohol consumption status of all victims, drivers and alleged offenders based on either the officer's observation or the direct testimony of the person involved; the person's level of intoxication based on the officer's assessment of appearance and demeanour indicators; and, based on the self-report of the person involved, the location the person last consumed alcohol before the incident. Similar measures of alcohol consumption and intoxication have been found to be reliable and valid when utilised by trained police officers and lay persons.

As discussed in Chapter 2, prior to the commencement of the study period, all officers were trained in the collection and recording of this alcohol intelligence through mandatory and brief officer training (Appendices 2.1 and 2.2) and the provision of a hard copy manual (Appendix 2.3). The data collection and recording practices were operationalised through the implementation of the NSW Police Force Standard Operating Procedures (Appendix 2.5).

MEASURES

Geographic area
The Australian Standard Geographical Classification was used to categorise postcode areas in the study area according to the following geographic areas: regional cities; inner regional; outer regional; remote; and, very remote. Category classifications,
a description of the categories\textsuperscript{34} and the population size of each geographic area in the study are shown in Table 3.1.\textsuperscript{33} Figure 3.1 shows the distribution of postcode areas and their classifications.

TABLE 3.1: Description\textsuperscript{34} and population of each geographic area\textsuperscript{33} and the study

<table>
<thead>
<tr>
<th>Geographic area</th>
<th>Level of accessibility to goods, services and proximity to urban centres</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regional cities</td>
<td>Unrestricted</td>
<td>457,122</td>
</tr>
<tr>
<td>Inner regional</td>
<td>Selectively restricted</td>
<td>666,953</td>
</tr>
<tr>
<td>Outer regional</td>
<td>Moderately restricted</td>
<td>250,375</td>
</tr>
<tr>
<td>Remote</td>
<td>Highly restricted</td>
<td>29,440</td>
</tr>
<tr>
<td>Very remote</td>
<td>Extremely restricted</td>
<td>5,585</td>
</tr>
<tr>
<td>ALL AREAS</td>
<td></td>
<td>1,409,475</td>
</tr>
</tbody>
</table>
FIGURE 3.1: New South Wales, Australia, geographic areas under investigation shaded by remoteness classification (areas not shaded were outside the study area)

Police-recorded incidents of violence and disorder
Given the reported strong association between alcohol consumption and the commission of violence and disorder offences, and the use of such offence categories as indicators of alcohol-related harm in previous research, these offence categories were the focus of this study. ‘Violence’ incidents incorporated the NSW Police Force offences of: common assault; actual bodily harm; grievous bodily harm (including malicious wounding); assault officer; and, shoot with intent other than to murder. ‘Disorder’ incidents incorporated the NSW Police Force offences of: offensive conduct; and, offensive language.
Police-recorded prior alcohol consumption and Intoxication
As described in Chapter 2, for each victim and alleged offender involved in a police-recorded criminal incident, officers recorded whether the person had consumed alcohol prior to the incident (‘yes’, ‘no’ or ‘not known’). ‘Not known’ was the default response for any person not spoken to by an officer or when prior alcohol consumption was not ascertained.

If alcohol was consumed prior, the officer recorded the level of intoxication (‘not’, ‘slightly’, ‘moderately’, ‘well’ or ‘seriously affected’). For the purposes of this study, ‘intoxicated’ was considered to incorporate the response categories of moderately, well and seriously affected.

Day of week
The day of the week in which the violence or disorder incident occurred was determined from the date of the incident.

Time of day
The time of the day in which the violence or disorder incident occurred was recorded as hour:minutes.

Last place of alcohol consumption
For all persons recorded as having consumed alcohol prior to the incident, officers recorded their self-reported last place of consumption as ‘licensed premises’, ‘home/private residence’, ‘public place’, ‘other’ or ‘not known’. ‘Other’ incorporated drinking at licensed functions, restaurants, and locations not otherwise listed. Not
known was the default location for persons who refused or failed to provide a response, or where information was not recorded.

**DATA EXCLUSION**

People involved in incidents in which the postcode of the incident was not recorded or was not within the study area were excluded from the analyses.

A person may be recorded more than once within a police-recorded criminal event. For each criminal event, which may contain one or more criminal incidents, individuals were uniquely identified by their date of birth and gender. To avoid replication of information in the analyses, individuals were counted only once for any given offence category within a criminal event.

Persons whose alcohol consumption before an incident was recorded as ‘not known’ were excluded from the analyses. Persons who had consumed alcohol prior but whose intoxication status was not recorded were excluded from the intoxication analyses.

**ANALYSES**

Statistical analyses were conducted using the SAS/STAT system for windows release 8.02.

**Day of week**

The proportion of people who consumed alcohol preceding their involvement in a police-recorded violence or disorder incident, and the proportion of such people who were intoxicated, were calculated for each day of the week for the entire study area and for each geographic area.
Geographic variability in the proportion of all persons who consumed alcohol preceding their involvement in violence and disorder incidents by day of the week was assessed using separate multiple logistic regression models for each offence category. Similarly, separate regression models were used to determine geographic variability in the proportion of intoxicated persons involved in violence and disorder incidents by day of the week. Indicator variables in each logistic regression model were ‘day of week’ and ‘geographic area’ with ‘Saturdays’ and ‘regional cities’ used as reference groups respectively. The likelihood ratio statistic of the predictor variables in each logistic regression model is reported as LR $\chi^2$(df).

Odds ratios were calculated to compare the prevalence of prior alcohol consumption, and of intoxication, between days of the week and geographic areas.

**Time of day**

The proportion of people who consumed alcohol preceding their involvement in a police-recorded violence or disorder incident, and the proportion of such people who were intoxicated, was calculated for each 3 hour time period\(^3\) for the entire study area and for each geographic area.

Geographic variability in the proportion of all persons who consumed alcohol preceding their involvement in violence and disorder incidents by the time of day that the incident occurred was assessed using multiple logistic regression models for each offence category. Similarly, separate regression models were used to determine geographic variability in the proportion of intoxicated people involved in violence and disorder incidents by the time of day of the incident. Indicator variables in each logistic
regression model were ‘time of day’ and ‘geographic area’, with ‘12am-3am’ and ‘regional cities’ used as reference groups respectively.

Odds ratios were calculated to compare the prevalence of prior alcohol consumption, and of intoxication, between time of day and geographic areas.

**Last place of alcohol consumption**
Separate chi-square tests, $\chi^2$ (df), examined differences between geographic areas in the reported last place of alcohol consumption for people who consumed alcohol preceding their involvement in police-recorded violence and disorder incidents, and for such people who were recorded as intoxicated.

**RESULTS**

**SAMPLE**
A total of 74,026 records of people involved in police-recorded violence incidents and 8,332 records of people involved in police-recorded disorder incidents were recorded in the study area during the study period. Of these, 305 (0.4%) involved in violence and 21 (0.3%) involved in disorder incidents were excluded from the analyses because the location of the incident was not recorded or was recorded as a location just outside of the boundary of the study area. A further 6,472 (8.7%) records of people involved in violence incidents and 296 (3.6%) records of people involved in disorder incidents were removed from the analyses due to people being recorded more than once for the same offence within a criminal event.

Across the study area, the proportion of persons involved in violence incidents whose prior alcohol consumption status was recorded as ‘not known’ ranged from 9.0% on
Sundays to 9.9% on Mondays, and from 8.9% at 12am-3am to 10.5% at 12pm-3pm. Such figures for disorder incidents ranged from 3.0% on Saturdays to 10.0% on Tuesdays and from 2.0% at 3am-6am to 19.3% at 6am-9am. ‘Not known’ responses were excluded from the analyses.

Twelve people (0.1%) who consumed alcohol prior to their involvement in a police-recorded violence incident and 5 people (0.1%) who did so prior to a police-recorded disorder incidents were excluded from the intoxication analyses as their intoxication status was not recorded.

The final samples for this study comprised 60,864 people involved in police-recorded violence incidents, of whom 37.7% (n=22,968) were recorded to have consumed alcohol prior to the incident, and 7,552 people involved in police-recorded disorder incidents, of whom 72.8% (n=5,499) consumed alcohol prior to the incident.

**DAY OF WEEK**

**Violence**

Across all areas, the proportion of people who consumed alcohol prior to their involvement in a police-recorded violence incident ranged from a low on Mondays of 21.4% to a high on Saturdays of 51.6%. ‘Day of the week’ was a significant predictor in the logistic regression model (LR $\chi^2(6)=2,615.92$, $P<0.001$), with the odds of a person consuming alcohol prior to an incident on Saturdays being 3.9 times as likely (95% CI: 3.6-4.2) than on Mondays (fig 3.2). The proportion of such people who were intoxicated (70.6%-72.4%) did not differ significantly across the days of the week (LR $\chi^2(6)=6.44$, $P=0.38$).
In very remote areas the peak day for alcohol consumption prior to involvement in a police-recorded violence incidents was Fridays (68.2%), while all other areas experienced a peak on Saturdays. Across the week, the proportion of people who consumed alcohol prior to an incident increased with relative remoteness (LR $\chi^2(4)=968.10$, $P<0.001$), with the odds of a person having consumed alcohol prior to an incident being 2.9 times as likely in very remote areas (95% CI: 2.7-3.2) compared to regional cities (Figure 3.2).

Similarly, across the week the proportion of intoxicated people involved in a violence incident increased with relative remoteness (LR $\chi^2(4)=43.65$, $P<0.001$), with the odds of a person being intoxicated in very remote areas being 1.6 times as likely (95% CI: 1.3-1.8) compared to regional cities (Figure 3.2).

![Graph showing the proportion of people involved in violence incidents each day who consumed alcohol prior, and who were intoxicated, by geographic area](image-url)
Disorder

Across all areas, the proportion of people who consumed alcohol prior to their involvement in a police-recorded disorder incident ranged from a low of 44.1% on Tuesdays to a high on Saturdays of 85.8%. ‘Day of the week’ was a significant predictor variable in the logistic regression model (LR \( \chi^2(6)=850.58, P<0.001 \)), with the odds of a person consuming alcohol prior to involvement in an incident on Saturdays being 7.5 times as likely (95% CI: 6.0-9.2) than that on Tuesdays (fig 3.3). The proportion of such people who were intoxicated was high across all days of the week (82.4%-90.0%), with the odds of a person being intoxicated on Saturdays being 1.7 times as likely (95% CI: 1.2-2.3) than on Wednesdays (LR \( \chi^2(6)=26.11, P<0.001 \)).

A peak in alcohol consumption preceding disorder incidents was recorded on Thursdays in very remote areas, and on Saturdays or Sundays in all other areas (Figure 3.3). Across the week, significant geographic variability was detected in the proportion of people who consumed alcohol prior to the incident (LR \( \chi^2(4)=13.30, P=0.01 \)), with the odds of people consuming alcohol prior to the incident being 0.7 times as likely in very remote areas (95% CI: 0.5-0.9) than in regional cities.

Across the week the proportion of intoxicated people involved in disorder incidents increased with relative remoteness (LR \( \chi^2(4)=18.68, P<0.001 \)), with the odds of being intoxicated in very remote areas being 2.9 times as likely (95% CI: 1.6-5.5) than in regional cities (Figure 3.3).
CHAPTER 3: Characteristics of alcohol-related violence and disorder in non-metropolitan NSW

FIGURE 3.3: Proportion of people involved in disorder incidents each day who consumed alcohol prior, and who were intoxicated, by geographic area

TIME OF DAY

Violence

Across all areas, the proportion of people who consumed alcohol prior to their involvement in a police-recorded violence incident ranged from a low of 8.4% between 9am-12pm to a high of 71.8% between 12am-3am (fig 3.4). ‘Time of day’ was a significant predictor variable in the logistic regression model (LR $\chi^2$(7)=14,686.00, P<0.001), with the odds of prior alcohol consumption between 12am-3am being 28.4 times as likely (95% CI: 25.7-31.4) than between 9am-12pm.

While the proportion of such people who were intoxicated was high across all time periods (62.4%-77.2%), ‘time of day’ was still a significant predictor variable in the logistic regression model (LR $\chi^2$(7)=182.50, P<0.001). The odds of being intoxicated between 12am-3am was 1.9 times as likely (95% CI: 1.5-2.4) than between 6am-9am (LR $\chi^2$(7)=182.50, P<0.001) (fig 3.4).
In all but the outer regional areas, the proportion of people who consumed alcohol prior to their involvement in a police-recorded violence incident peaked between 12am-3am. A secondary peak (3pm-6pm) occurred in very remote areas (fig 3.4). Across the day, prior alcohol consumption increased with relative remoteness ($\chi^2(4)=817.01$, $P<0.001$), with the odds of prior alcohol consumption in very remote areas being 2.9 times as likely (95% CI: 2.6-3.2) than in regional cities.

Across the day, the proportion of intoxicated people increased with relative remoteness ($\chi^2(4)=59.32$, $P<0.001$), with the odds of being intoxicated in very remote areas being 1.7 times as likely (95% CI: 1.4-1.9) than in regional cities (fig 3.4).

**FIGURE 3.4:** Proportion of people involved in violence incidents in each time period who consumed alcohol prior, and who were intoxicated, by geographic area

**Disorder**

Across all areas, the proportion of people who consumed alcohol prior to involvement in a police-recorded disorder incident ranged from a low of 22.7% between 9am-12pm...
to a high of 94.9% between 3am-6am ($\chi^2(7)=2,600.80$, $P<0.001$), with the odds of prior alcohol consumption between 12am-3am being 56.4 times as likely (95% CI: 42.8-74.3) than between 9am-12pm (fig 3.5).

The proportion of people who were intoxicated was high across all time periods (78.3%-90.2%), with the odds of being recorded as intoxicated between 12am-3am being 2.3 times as likely (95% CI: 1.8-2.9) than between 6pm-9pm ($\chi^2(7)=58.06$, $P<0.001$) (fig 3.5).

In very remote areas the proportion of people who consumed alcohol prior to their involvement in a police-recorded disorder incident peaked earlier (12am-3am) compared to almost all other areas (3am-6am). A secondary peak also occurred in very remote areas between 3pm-6pm. Across the day, prior alcohol consumption increased with relative remoteness ($\chi^2(4)=11.05$, $P=0.03$), although comparisons of areas were not significant at the 0.05 level (fig 3.5).

For all time periods, and despite low cell counts in a number of time periods, the proportion of intoxicated people increased with relative remoteness ($\chi^2(4)=23.38$, $P<0.001$), with the odds of being intoxicated in very remote areas being 3.3 times as likely (95% CI: 1.8-6.1) than in regional cities (fig 3.5).
FIGURE 3.5: Proportion of people involved in disorder incidents in each time period who consumed alcohol prior, and who were intoxicated, by geographic area

LAST PLACE OF ALCOHOL CONSUMPTION

For all areas combined, ‘not known’ was recorded as the last place of alcohol consumption for 2,485 (10.8%) people who consumed alcohol prior to their involvement in a violence incident (range: 8.8% outer regional areas to 13.4% regional city), and for 1,092 (14.6%) people who consumed alcohol prior to their involvement in a disorder incident (range: 16.5% outer regional areas to 26.6% regional city areas). Across all areas, a further 37 (0.2%) and 35 (0.5%) people involved in violence and disorder incidents (respectively) failed to have their last place of alcohol consumption recorded. Such responses were removed from the analyses.

Violence

Across all areas, home/private residence was the most commonly recorded location of alcohol consumption for those involved in a police-recorded violence incident who had consumed alcohol (55.1%), and for those who were intoxicated (54.7%). Licensed premises was the second most commonly recorded location of prior alcohol
consumption (38.7% of those who consumed alcohol, and 39.2% of those who were intoxicated) (table 3.2).

Differences between geographic areas were evident in the last location of alcohol consumption for people who consumed alcohol prior to their involvement in a violence incident ($\chi^2(12)=877.65, P<0.001$) and for those who were intoxicated ($\chi^2(12)=754.38, P<0.001$). In regional cities, alcohol was more likely to have been last consumed, and consumed to intoxication, on licensed premises prior to a police-recorded violence incident. In regional, remote and very remote areas, such consumption was more likely to occur in a home/private residence.

**Disorder**

Across all areas, licensed premises were the most commonly recorded last location of alcohol consumption for those involved in a police-recorded disorder incident (57.9%), and among those who were intoxicated and involved in such incidents (60.5%). Home/private residences were the second most commonly recorded last location of alcohol consumption (26.8% of those who consumed alcohol, and 25.3% of those who were intoxicated) (table 3.2).

Differences between geographic areas were evident in the last location of alcohol consumption for people who consumed alcohol prior to their involvement in a police-recorded disorder incident ($\chi^2(12)=274.38, P<0.001$) and for those who were intoxicated ($\chi^2(12)=242.23, P<0.001$). In regional cities, inner regional and outer regional areas, alcohol was most commonly consumed and consumed to intoxication on a licensed premises prior to involvement in a police-recorded disorder incident. In contrast, private residences were the most common last location of alcohol
consumption, including to intoxication, for persons involved in such incidents in the remote and very remote areas. Public places were the third most common location in which alcohol was last consumed, including those who were intoxicated, particularly in regional cities and very remote areas.
### TABLE 3.2: Last place of consumption of alcohol (and the proportion of such people who were intoxicated) prior to becoming involved in an incident of violence or disorder, by geographic area

<table>
<thead>
<tr>
<th>Geographic area</th>
<th>Consumed alcohol prior (n)</th>
<th>Consumed alcohol prior to incident (%)</th>
<th>Intoxicated prior to incident (n)</th>
<th>Intoxicated prior to incident (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Licensed premises</td>
<td>Private residence</td>
<td>Public place</td>
<td>Other</td>
</tr>
<tr>
<td>Violence</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regional cities</td>
<td>4,507</td>
<td>48.6</td>
<td>44.9</td>
<td>4.0</td>
</tr>
<tr>
<td>Inner regional</td>
<td>8,733</td>
<td>43.3</td>
<td>50.8</td>
<td>3.6</td>
</tr>
<tr>
<td>Outer regional</td>
<td>4,496</td>
<td>31.9</td>
<td>62.7</td>
<td>3.2</td>
</tr>
<tr>
<td>Remote</td>
<td>1,645</td>
<td>20.7</td>
<td>71.1</td>
<td>5.8</td>
</tr>
<tr>
<td>Very remote</td>
<td>1,065</td>
<td>15.0</td>
<td>76.8</td>
<td>6.1</td>
</tr>
<tr>
<td>ALL AREAS</td>
<td>20,446</td>
<td>38.7</td>
<td>55.1</td>
<td>3.9</td>
</tr>
<tr>
<td>Disorder</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regional cities</td>
<td>540</td>
<td>56.5</td>
<td>21.1</td>
<td>19.1</td>
</tr>
<tr>
<td>Inner regional</td>
<td>2,346</td>
<td>66.2</td>
<td>22.0</td>
<td>8.7</td>
</tr>
<tr>
<td>Outer regional</td>
<td>1,155</td>
<td>50.6</td>
<td>32.5</td>
<td>12.5</td>
</tr>
<tr>
<td>Remote</td>
<td>196</td>
<td>30.1</td>
<td>53.1</td>
<td>13.8</td>
</tr>
<tr>
<td>Very remote</td>
<td>135</td>
<td>23.7</td>
<td>44.4</td>
<td>26.7</td>
</tr>
<tr>
<td>ALL AREAS</td>
<td>4,372</td>
<td>57.9</td>
<td>26.8</td>
<td>11.8</td>
</tr>
</tbody>
</table>

CHAPTER 3: Characteristics of alcohol-related violence and disorder in non-metropolitan NSW 118
DISCUSSION

The findings of this study address a gap in the literature and in doing so provide needed information for the development and implementation of initiatives to address alcohol-related harms in non-metropolitan areas.\cite{1,3} The study has confirmed the importance of day of the week, time of day, and last place of alcohol consumption as characteristics associated with the occurrence of police-recorded alcohol-related crime in these areas. Importantly, the study further demonstrates that the association between these characteristics and the occurrence of police-recorded alcohol-related violence and disorder incidents varies between non-metropolitan areas. Such a finding reinforces the need for alcohol-related crime reduction strategies to be tailored to the specific characteristics of alcohol consumption and alcohol-related crime in particular geographic areas.

The findings that weekends and late evenings were the peak times for alcohol involvement in police-recorded violence and disorder incidents are consistent with the findings of previous research of alcohol-related violence, anti-social behaviour and road crash incidents in Australia.\cite{7,8,36-40} That these characteristics appear to have similar relevance in regional and remote areas highlights the pervasiveness of the association between these characteristics of alcohol consumption and the occurrence of alcohol-related crime. However, the association is not unique to Australia, as illustrated by similar research findings from Canada,\cite{9} the United Kingdom,\cite{10} the United States of America,\cite{41} and Denmark\cite{42} suggesting a pervasive culture of alcohol misuse on these days and at these times across countries.
Notwithstanding the consistency of findings across countries and across metropolitan and non-metropolitan areas, variability in the association between such characteristics and the occurrence of police-recorded violence and disorder incidents was evident. For example, in very remote areas alcohol involvement in disorder incidents peaked on Thursdays, while alcohol involvement in violence incidents peaked on Fridays. In contrast, in all other areas alcohol involvement in these offence categories peaked on Saturdays and Sundays. Similarly, with regard to the time of incidents, in very remote areas the peak in alcohol involvement in disorder incidents was earlier (12am-3am) compared to the peak time in almost all other areas (3am-6am).

Demographic, social and cultural factors, including a higher level of reliance on social security entitlements (such entitlements being paid on Thursdays) and earlier closing times of licensed premises in rural and remote areas may contribute to these differential patterns of association. The identification of such determinants in each area is essential if crime reduction strategies are to be effective in reducing the burden of alcohol-related crime at the local level. The need for the identification of determinants is illustrated by the finding of this study that very remote areas experience a secondary peak of alcohol involvement in both police-recorded violence and disorder incidents between 3pm and 6pm. While a number of potential factors may account for this secondary peak, including variations in policing practices, an association with the trading hours of liquor outlets, or local sociocultural alcohol consumption practices, further research is required to validate this finding. Nevertheless, a need exists for local regulatory and enforcement agencies, health and industry bodies to identify contextual factors and adopt a flexible approach to the implementation of evidence-based intervention strategies that address these determinants of alcohol-related harms.
Despite the observed geographic variability in the characteristics of police-recorded alcohol-related violence and disorder incidents, intoxication appears a constant characteristic of these harms, regardless of the type, day or time of incident, location of consumption, or geographic area. Such consistency reinforces the need for placing the reduction of intoxication as the primary objective of alcohol harm-reduction policies and strategies.\textsuperscript{16,17,45,51} Intervention strategies suggested to be effective in reducing alcohol consumption and intoxication, the extent to which these strategies are supported by evidence of effectiveness in non-metropolitan areas, or are applicable to such areas are discussed more fully in Chapter 6.\textsuperscript{52-54}

The results of this study further expand the current limited understanding of the association between the last place of alcohol consumption and the occurrence of incidents of police-recorded alcohol-related crime. Previous research regarding this association has been limited primarily to analyses of incidents of drink driving.\textsuperscript{55,56-64} Such research has demonstrated distinctive patterns of association between particular locations of consumption and the occurrence of drink drive incidents. The findings of this study suggest that these patterns of association also apply to police-recorded alcohol-related violence and disorder incidents. For example, the observed high prevalence of alcohol consumption in private residences preceding involvement in police-recorded violence incidents in remote and very remote areas supports previous findings of a strong association between alcohol consumption and domestic violence in regional and remote areas.\textsuperscript{65} Similarly, the reported association between drinking on licensed premises and police-recorded violence incidents in regional city areas is consistent with research indicating that violence perpetrated by an unknown person,
which occurs more often in urban environments, is associated with drinking in licensed premises. In extending the understanding of drinking location as a factor associated with a broader range of alcohol-related harms, the findings of this study reinforce the need for harm-reduction strategies to target specific alcohol consumption contexts. For example, the finding that the majority of persons who had consumed alcohol preceding involvement in violence incidents had done so in a private residence suggests a need for strategies to address excessive consumption of alcohol in this context. Given that such drinking environments are not regulated, strategies which restrict alcohol affordability and availability generally (for example, alcohol taxation and restricted trading hours of premises permitted to sell take away alcohol), represent the most efficacious approaches to reducing harm in this setting.

Similarly, the finding that licensed venues were the most commonly reported last location alcohol had been consumed prior to involvement in police-recorded disorder incidents suggests a need for additional strategies to address the harm that arises from alcohol consumed in this context. As licensed premises were also found to be the most commonly reported last drinking location of intoxicated persons involved in disorder incidents, strategies targeting licensee and serving staff compliance with the intoxication provisions of the liquor regulations represent apposite approaches to reducing alcohol-related harm in licensed premises. Previously trialled compliance strategies in licensed premises include training in the responsible service of alcohol and voluntary codes of practice. However, research has suggested that one strategy, the active enforcement of liquor regulations restricting the service of
alcohol to intoxicated patrons, is demonstrably more effective in increasing compliance with such regulations and reducing the harm associated with alcohol consumed on licensed premises than other strategies. According to the study, the implementation of strategies to increase the enforcement of liquor laws in licensed premises represents the most effective means of reducing harms associated with this alcohol consumption context.

Interpretation of the results of this study should be undertaken in the context of a number of its design characteristics. First, the study utilised police records of people involved in incidents of alcohol-related crime. Missing data, differences in police recording practices across regions, and the validity of the data may have influenced the study findings. Despite the potential for such factors to have an effect on the findings, high levels of police recording of the information utilised in the study were consistently obtained over the study period (below 12% incomplete data for all months), with the level of incomplete data being lower than that reported in previous research utilising police data. Such findings suggest that the impact of incomplete data recording on the study findings may have been minimal.

The potential for differential police recording practices across geographic regions and over time was minimised through the mandatory requirement for police to record this information and the implementation of a number of strategies to support police in this task. Although previous research suggests that police assessment of intoxication and patron reports of alcohol consumption are both valid and reliable, further research regarding their validity and reliability in the Australian context is warranted.
Second, policing practices\textsuperscript{71} and the public’s willingness to report offences\textsuperscript{72} are likely to vary between and within geographic areas and in different contextual circumstances. Such differentials have the potential to impact on the observed characteristics of alcohol involvement in police-recorded incidents.\textsuperscript{49} The extent of any variation in public reporting of crimes and in policing activity during the study period are unknown. While alternate indicators of alcohol-related harm, including population surveys and emergency department presentations, have similar limitations,\textsuperscript{12,73,74} the findings of research based on such data have found similar findings in the characteristics of alcohol-related violence to those reported in this study.\textsuperscript{38,75}

Third, as the study utilises data collected between 2003 and 2005 the findings may not be able to be generalised to the current context. Since the study was conducted there have been minor amendments to the general trading conditions of existing liquor licenses\textsuperscript{76} as part of the 2007 Liquor Act,\textsuperscript{77} modest increases in the number of liquor licenses across NSW (7.2%),\textsuperscript{78,79} a series of national social marketing campaigns targeting excessive consumption of alcohol,\textsuperscript{16} and a number of local alcohol harm-reduction initiatives.\textsuperscript{80,81} Despite these initiatives, and the occurrence of some crime reduction benefits associated with the licensed drinking context as a result,\textsuperscript{80,81} population surveys have reported that alcohol consumption patterns over recent years have remained relatively stable across non-metropolitan regions of NSW.\textsuperscript{82} Accordingly, while these strategies and interventions of established effectiveness may have resulted in some local-level modification of the characteristics of police-recorded alcohol-related crime reported in this study, the impact of these harm-reduction strategies across the study area on the overall characteristics of alcohol involvement in police-recorded violence and disorder incidents is likely to be limited.
Finally, information regarding the reported location of alcohol consumption prior to an incident is subject to the limitations of self report by persons experiencing varying degrees of intoxication. While the validity and reliability of this information needs to be established, the data currently represent the best available information regarding the drinking contexts associated with police-recorded incidents of alcohol-related crime.\textsuperscript{27}

Improvement in the alcohol information recorded by police has enabled an analysis of, and comparison between, the characteristics of alcohol involvement in police-recorded violence and disorder incidents in non-metropolitan NSW. This enhanced data provide important intelligence upon which further confirmatory evidence can be gained to establish the need for, and guide the development of, specific locally targeted crime reduction interventions.
REFERENCES


LICENCED PREMISES AND THEIR CONTRIBUTION TO POLICE-RECORDED CRIME IN NON-METROPOLITAN NEW SOUTH WALES:

FURTHER OPPORTUNITIES FOR HARM REDUCTION

This chapter has been developed from a published manuscript: Rowe SC, Wiggers JH, Wolfenden L, Francis JL. Establishments licensed to serve alcohol and their contribution to police-recorded crime in Australia: further opportunities for harm reduction. J Stud Alcohol Drug. 2010; 71:909-16
INTRODUCTION
In Chapter 3 licensed premises that serve alcohol for consumption within their establishment were identified as at-risk locations for alcohol consumption preceding police-recorded incidents of violence and disorder. Despite the existence of regulations and harm-reduction strategies,¹ research from a number of developed nations similarly suggest that licensed premises are associated with a disproportionate amount of alcohol-related harm.²⁻⁵ Factors such as trading hours, size and capacity, proximity to other licensed premises, patron characteristics, patron behaviours, and management and alcohol service practices are suggested to increase the risk of harm associated with the consumption of alcohol in licensed premises.⁶⁻⁹

An enhanced understanding of the association between the occurrence of alcohol-related harm and licensed premises is essential if further reductions in harm associated with this setting are to be achieved. For example, variation in harm according to the type of premises has been reported for assaults, drink driving and the presence of intoxicated patrons.¹⁰⁻¹⁴ These findings suggest that harm-reduction strategies that address the specific operating characteristics of high-risk types of premises may be required.¹⁵⁻¹⁷

Various studies have similarly reported that the majority of assaults that occur within licensed premises,¹⁰,¹⁸ and the majority of drink drive incidents that follow the consumption of alcohol in such premises¹⁹ are associated with a relatively small proportion of premises. These findings suggest that harm reduction strategies that
specifically target individual high-risk premises may also represent a cogent application of resources for reducing the extent of alcohol-related harms.20

The capacity of agencies and services to develop harm-reduction strategies targeting particular types of premises, or particular individual premises, is constrained by limitations in available data regarding the alcohol consumption characteristics of people involved in incidents. Firstly, a commonly used measure of harm associated with a licensed premises involves the number of incidents that occur inside or in the proximity of the premises.10,21,22 However, such a measure may not represent an accurate indication of associated harms as those incidents that do not occur in or near such a premises are not necessarily unrelated to the alcohol service practices of the premises. Conversely, incidents that occur in the vicinity of a premises may unfairly implicate the premises as a person involved in an incident may not have consumed alcohol within the premises. In addition, such a measure does not account for the potential role of other factors that influence the occurrence of criminal incidents in particular areas.23 As a consequence of these limitations, the development of a more accurate measure of the association between licensed premises and incidents of alcohol-related crime is warranted.24

Secondly, although liquor licensing regulations proscribe the service of alcohol to intoxicated persons,1 to date there has been limited systematic recording of the degree of intoxication of patrons of licensed premises who are subsequently involved in criminal incidents.25 As a consequence, only an inferred association between the occurrence of harm and the supply of alcohol to an intoxicated patron within a licensed premises can be suggested, with a range of other premises-specific factors, including
trading hours, density of licensed premises in the area and assortative drinking, potentially being accountable for any reported association.\textsuperscript{6-9}

A practice commonly applied by police to reduce of the incidence and harm related to, drink driving may provide a means of addressing these limitations. In many jurisdictions police have introduced standard procedures that require officers to record the details of the last place of alcohol consumption for those people involved in drink driving incidents.\textsuperscript{12,15,19} This information, together with corresponding blood alcohol concentration readings, has been used to identify those premises that may be breaching liquor regulations through the service of alcohol to intoxicated patrons\textsuperscript{22,26} and, consequently, provide the basis for targeted intervention.\textsuperscript{12} The potential exists for this practice to be enhanced by the incorporation of information regarding a broader range of offence categories, thereby allowing a more comprehensive indication of the association between licensed premises and the occurrence of harm.\textsuperscript{27}

Given the suggestion of a variable association between the occurrence of alcohol-related incidents and both different types of licensed premises and individual premises, further understanding of this association is required to aid alcohol harm-reduction policy and intervention initiatives. To address this need, this study utilised enhanced police-recorded alcohol-related crime intelligence (Chapter 2) to describe the relationship between intoxicated patrons of licensed premises and incidents of violence, disorder and motor vehicle crashes.
CHAPTER 4: Licensed premises and their contribution to police-recorded crime in non-metropolitan NSW

METHODS

DESIGN AND SETTING
A descriptive analysis was undertaken of people’s involvement in police-recorded incidents of violence and disorder over 24 months (1 July 2003 – 30 June 2005). The incidents occurred in 21 police commands in the state of New South Wales (NSW), Australia (26.3% of state commands) and incorporated a population of 1.4 million people (20.8% of the state population).\(^\text{28}\)

The study was conducted in a non-metropolitan area where data suggests that excessive alcohol consumption and related harms exert a considerable social, health and economic burden.\(^\text{29,30}\) The study area contained regional cities, regional towns and rural centres, and remote and very remote areas.\(^\text{31}\) The state’s single major metropolitan city, Sydney, was not within the study area.

SAMPLE

Licensed premises
Premises licensed to serve alcohol for consumption within their establishment that were registered as operating in the study area from 2002 to 2004 were included in the study.\(^\text{32,33}\)

Police-recorded crime
Given that liquor licensing regulations proscribe the service of alcohol to intoxicated persons in premises licensed to serve alcohol,\(^\text{1}\) each driver, victim or alleged offender involved in a police-recorded incident, who was recorded as being intoxicated and having last consumed alcohol in a licensed premises was incorporated in the study.
CHAPTER 4: Licensed premises and their contribution to police-recorded crime in non-metropolitan NSW

DATA COLLECTION PROCEDURE

All NSW Police Force officers are required to record details of attended or reported criminal incidents into a state-wide database. For each recorded incident, officers record preliminary details such as the offence category, the address where the incident took place, the date and time of the incident, and the date of birth and gender of the people involved.

In addition, as described in Chapters 2 and 3, officers systematically collect and record in the police database, information regarding each person’s prior alcohol consumption, their level of intoxication within a range of ‘not’, ‘slightly’, ‘moderately’, ‘well’ and ‘seriously affected’, and the location at which alcohol was consumed preceding the incident, including the name and address if the last drink was consumed in a licensed premises. Research has demonstrated that, utilising similar measures, trained lay-persons and police officers are able to detect alcohol consumption and assess intoxication with sufficient reliability and validity. Training in the collection and recording of this data was delivered to all operational officers prior to the commencement of the study period.

MEASURES

Type of offences

Given that alcohol-related motor vehicle crashes are the principal cause of fatalities resulting from acute alcohol-attributed conditions in Australia, and the reported high association between alcohol and violence and disorder offences these offences were selected for inclusion in this study. ‘Violence’ incidents incorporated NSW Police Force offence categories of: common assault; actual bodily harm; grievous bodily harm
(including malicious wounding); assault officer; and, shoot with intent other than to murder. ‘Disorder’ incidents incorporated the offence categories of: offensive conduct; and, offensive language.34 ‘Motor vehicle crash’ incidents incorporated the offence categories of: injury or fatal crash; and, non-injury/ non-fatal crash.

Type of licensed premises
Consistent with previous research,10 licensed premises included in this study were those holding NSW liquor licences formally defined as: ‘Hotelier’s Licence’ (referred to in the remainder of this paper as hotel), ‘Club’ (registered club), ‘Nightclub’ and ‘Nightclub/Motel’ (nightclub), ‘Beer/Wine’ and ‘University’ (other).32 Restaurants were excluded as they contribute a small proportion of alcohol-related problems relative to the number of such liquor licences.10

Hotel licences, the oldest and most prevalent type of licensed premises in NSW,41,42 are permitted to sell alcohol for consumption on or off premises for up to 24 hours.43 (These premises are also commonly known as pubs, taverns, bars, public houses or saloons.) Hotels are mostly privately owned for-profit businesses that are open to the public, and have the sale and supply of alcohol as their general purpose and greatest source of income.43,44 The requirement for hotels to provide accommodation may be dispensed with under the Liquor Act43 and, accordingly, hotels in this sample may or may not provide such services. In Australia, 49.6% of hotels are located in metropolitan areas. Furthermore, across Australia, hotels employ an average of 19 staff per premises, with males accounting for 47.1% of all staff of hotels.44
Nightclubs are privately owned for-profit business open to the public, with alcohol sold only on the premises and then only ancillary to a meal or the provision of entertainment.\textsuperscript{43}

Registered clubs are not-for-profit member-based organisations run by an elected body for the purpose of providing sport, social, political, cultural or other recreational services. Such clubs have an official premises in which they are permitted to serve alcohol to members and guests for up to 24 hours.\textsuperscript{45} At the national level, 43.1\% of registered clubs are located in metropolitan areas, and such premises employ an average of 28 staff per premises with males accounting for 45.2\% of all staff of registered clubs.\textsuperscript{44}

Beer/wine licences permit the sale of alcohol up to midnight for consumption on or off premises and are generally held by privately owned for-profit businesses open to the public.\textsuperscript{46} University licenses are held by organisations located on university grounds that are governed by an association, club or union of the university.\textsuperscript{43} Such premises are permitted to sell alcohol to university members and guests in accordance with the trading hours set by the liquor licensing court.\textsuperscript{43}

\textbf{Intoxication of persons involved in police-recorded incidents}

An ‘intoxicated’ person was defined as one who was recorded by police to be either moderately, well or seriously affected by alcohol as these levels reflect the point at which the behavioural signs of intoxicated can be expected to be apparent.
DATA EXCLUSION
People involved in police-recorded incidents in which the incident postcode was not recorded or was not within the study area were excluded from the analyses.

A person may be recorded more than once within a police-recorded criminal event (for example, a driver involved in a motor vehicle crash may be recorded as both a driver and an alleged offender). For each criminal event, which may contain one or more criminal incidents, individuals were uniquely identified by their date of birth and gender. To avoid replication of information in the analyses, individuals were counted only once for any given offence category within a criminal event.

Where the name of a cited licensed premises could not be verified against NSW Department of Gaming and Racing registration lists, the person’s involvement in an incident was removed from the analyses.

ANALYSES
Statistical analyses were conducted using the SAS/STAT system for windows release 8.02.

Association between type of premises and intoxicated persons recorded as involved in violence, disorder and motor vehicle crashes
To describe the association between licence type and persons involved in incidents, the number and proportion of intoxicated people who last consumed alcohol in each type of premises prior to involvement in an incident was calculated. In addition, the average annual incidence rate of intoxicated persons linked to each premises was
calculated separately for violence, disorder and motor vehicle crashes (average annual number of intoxicated persons linked per premises).

For each offence type, poisson regression models were used to examine differences between types of premises in the average annual rate of intoxicated persons being associated with a premises. ‘Type of premises’ was the indicator variable in each model, with ‘hotel’ used as the reference group. The likelihood ratio LR $\chi^2$(df) is reported for each model. The relative risk of an intoxicated person having last consumed alcohol in each type of premises prior to involvement in an incident was calculated using coefficients in the regression models for violence, disorder and motor vehicle crash.

**Association between individual premises and intoxicated persons recorded as involved in violence, disorder and motor vehicle crashes**

To describe the association between individual premises and intoxicated persons involved in violence, disorder and motor vehicle crashes, the number of such persons who last consumed alcohol in premises prior to involvement in each of these offence categories was calculated for each individual premises for the entire study period. For each offence category, premises were ranked according to the number of such people linked to the premises for all premises combined and for each type of premises. The range and median number of intoxicated persons linked to a premises, and the proportion of premises not linked to any intoxicated persons, were calculated.

For all premises, and for each type of premises, the top 20% and the top 5% of premises were calculated according to the total number (entire study period) of intoxicated persons who consumed in the premises prior to involvement in police-
recorded violence, disorder and motor vehicle crash incidents. The number and proportion of such people involved in incidents of violence, disorder and motor vehicle crashes were calculated for the premises that were in the top 20% for all three offence types.

RESULTS

SAMPLE

A total of 1,421 licensed premises (841 hotels, 551 registered clubs, 11 nightclubs and 18 other) operated in the study area during the study period. Of these premises, 98.0% were either hotels (59.2%) or registered clubs (38.8%). Regional cities and towns accounted for 79.0% of the human population residing in the study area.28 Regional cities and towns accounted for 60.9% (n=512) of hotels, 62.4% (n=344) of registered clubs, 90.9% (n=10) of nightclubs and 88.9% (n=16) of other premises in the study area.

There were 6,286 records of intoxicated people who last consumed alcohol in licensed premises prior to involvement in incidents of violence, 2,414 records of such people involved in disorder incidents and 991 records of such people involved in motor vehicle crashes. This study sample represented between 33.7% and 48.3% of all intoxicated persons involved in these offences regardless of their last drinking location. Of these, 802 (12.8%) records of people involved in violence incidents, 173 (7.2%) records of people involved in disorder incidents and 526 (53.1%) records of people involved in motor vehicle crashes were removed due to previously outlined criteria, with the removal of duplicate data accounting for the greatest amount of excluded information.
The final samples used for analyses comprised 5,484, 2,241 and 465 intoxicated persons involved in incidents of violence, disorder and motor vehicle crashes, respectively.

**ASSOCIATION BETWEEN TYPE OF PREMISES AND INTOXICATED PERSONS RECORDED AS INVOLVED IN VIOLENCE, DISORDER AND MOTOR VEHICLE CRASHES**

Table 4.1 displays the number, percent and the average annual rate of intoxicated persons involved in each offence category per premises for all licensed premises and for each type of premises. The incidence rate differed by type of premises for persons involved in violence ($\chi^2(3) = 911.36$, $P < 0.001$), disorder ($\chi^2(3) = 1,355.91$, $P < 0.001$), and motor vehicle crashes ($\chi^2(3) = 106.74$, $P < 0.001$), with nightclubs having the highest rate for each offence category.

For intoxicated persons involved in a violence incident, the risk of having consumed alcohol in a nightclub was 2.4 times greater (95% CI: 2.0–2.8) than having last consumed alcohol in a hotel. The risk of having last consumed alcohol in a hotel was 2.3 times greater (95% CI: 2.2-2.5) than having last consumed alcohol in a registered club, and 3.9 times greater (95% CI: 2.6-5.8) than having done so in other premises.

For intoxicated persons involved in a disorder incident, the risk of having consumed alcohol in a nightclub was 9.4 times greater (95% CI: 8.1-10.8) than having last consumed alcohol in a hotel. The risk of having last consumed alcohol in a hotel was 4.0 times greater (95% CI: 3.5-4.5) than having last consumed alcohol in a registered club, and 12.4 times greater (95% CI: 4.0-38.5) than having done so in other premises.
Among the intoxicated persons involved in a motor vehicle crash, the risk of having last consumed alcohol in a hotel was 3.1 times greater (95% CI: 2.4-3.9) than having done so in a registered club.
TABLE 4.1: Number, percent and annual rate per premises of intoxicated persons who last consumed alcohol in licensed premises prior to involvement in an incident, by type of premises and offence type

<table>
<thead>
<tr>
<th>Licence type</th>
<th>Violence</th>
<th>Disorder</th>
<th>Motor vehicle crash</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Percent</td>
<td>Rate</td>
</tr>
<tr>
<td>Hotel</td>
<td>4,162</td>
<td>75.9</td>
<td>2.5</td>
</tr>
<tr>
<td>Registered club</td>
<td>1,169</td>
<td>21.3</td>
<td>1.1</td>
</tr>
<tr>
<td>Nightclub</td>
<td>130</td>
<td>2.4</td>
<td>5.9</td>
</tr>
<tr>
<td>Other</td>
<td>23</td>
<td>0.4</td>
<td>0.6</td>
</tr>
<tr>
<td><strong>ALL PREMISES</strong></td>
<td><strong>5,484</strong></td>
<td><strong>100.0</strong></td>
<td><strong>1.9</strong></td>
</tr>
</tbody>
</table>
ASSOCIATION BETWEEN INDIVIDUAL PREMISES AND INTOXICATED PERSONS RECORDED AS INVOLVED IN VIOLENCE, DISORDER AND MOTOR VEHICLE CRASHES

Data describing the association between intoxicated persons involved in violence, disorder and motor vehicle crashes and individual premises are displayed in Table 4.2.

As shown in the table, 20% of all premises licensed to serve alcohol accounted for 78.3%, 93.8% and 97.4% of intoxicated people who last consumed alcohol in licensed premises before involvement in incidents of violence, disorder and motor vehicle crashes respectively. This trend was consistent across all types of premises.

Ninety one (6.4%) premises were in the top 20% of premises for all three offence categories. These premises (79 hotels, 11 registered clubs and 1 nightclub) accounted for 40.3% (n=2,210), 45.3% (n=1,015) and 39.8% (n=185) of all intoxicated persons who consumed alcohol in a licensed premises preceding involvement in incidents of violence, disorder and motor vehicle crashes, respectively.
TABLE 4.2: Intoxicated persons linked to premises prior to involvement in alcohol-related violence, disorder and motor vehicle crashes, by type of premises (1 July 2003 – 30 June 2005)

<table>
<thead>
<tr>
<th></th>
<th>All premises (N=1,421)</th>
<th>Hotels (n=841)</th>
<th>Registered clubs (n=551)</th>
<th>Nightclubs (n=11)</th>
<th>Other (n=18)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Violence</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Range (lowest-highest) number of intoxicated persons linked to each premises</td>
<td>0 - 123</td>
<td>0 - 123</td>
<td>0 - 48</td>
<td>0 - 39</td>
<td>0 - 15</td>
</tr>
<tr>
<td>Median number of intoxicated persons linked to each premises</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>12</td>
<td>0</td>
</tr>
<tr>
<td>Percent of premises not linked to any intoxicated persons</td>
<td>42.7%</td>
<td>33.8%</td>
<td>53.5%</td>
<td>36.4%</td>
<td>83.3%</td>
</tr>
<tr>
<td>Percent of intoxicated persons linked to top 20% of premises*</td>
<td>78.3%</td>
<td>75.1%</td>
<td>80.9%</td>
<td>53.1%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Percent of intoxicated persons linked to top 5% of premises*</td>
<td>44.0%</td>
<td>41.6%</td>
<td>45.6%</td>
<td></td>
<td>65.2%</td>
</tr>
<tr>
<td><strong>Disorder</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Range (lowest-highest) number of intoxicated persons linked to each premises</td>
<td>0 – 186</td>
<td>0 – 186</td>
<td>0 – 32</td>
<td>0 – 128</td>
<td>0 - 3</td>
</tr>
<tr>
<td>Median number of intoxicated persons linked to each premises</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1.0</td>
<td>0</td>
</tr>
<tr>
<td>Percent of premises not linked to any intoxicated persons</td>
<td>70.2%</td>
<td>62.9%</td>
<td>81.15</td>
<td>45.5%</td>
<td>94.4%</td>
</tr>
<tr>
<td>Percent of intoxicated persons linked to top 20% of premises*</td>
<td>93.8%</td>
<td>89.8%</td>
<td>100.0%</td>
<td>91.1%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Percent of intoxicated persons linked to top 5% of premises*</td>
<td>63.7%</td>
<td>54.2%</td>
<td>64.9%</td>
<td></td>
<td>100.0%</td>
</tr>
<tr>
<td><strong>Motor vehicle crash</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Range (lowest-highest) number of intoxicated persons linked to each premises</td>
<td>0 – 8</td>
<td>0 – 8</td>
<td>0 – 5</td>
<td>0 – 2</td>
<td>0 - 2</td>
</tr>
<tr>
<td>Median number of intoxicated persons linked to each premises</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Percent of premises not linked to any intoxicated persons</td>
<td>79.2%</td>
<td>72.4%</td>
<td>89.5%</td>
<td>63.6%</td>
<td>88.9%</td>
</tr>
<tr>
<td>Percent of intoxicated persons linked to top 20% of premises*</td>
<td>97.4%</td>
<td>83.0%</td>
<td>100.0%</td>
<td>66.7%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Percent of intoxicated persons linked to top 5% of premises*</td>
<td>47.3%</td>
<td>41.5%</td>
<td>61.3%</td>
<td></td>
<td>66.7%</td>
</tr>
</tbody>
</table>

* Due to the small number of premises classified as other, these figures represent the top 5.6% of premises and the top 22.2% of premises. As there are only 11 nightclub licenses, this figure represents the top 18.2% of premises.
DISCUSSION

In NSW, Australia, liquor legislation proscribes the service of alcohol to intoxicated persons in premises licensed to serve alcohol.\textsuperscript{48} Despite this, within a non-metropolitan area of NSW across a two year period, police recorded a weekly average of 53 intoxicated persons involved in violence incidents, 22 persons involved in disorder incidents and four persons involved in motor vehicle crashes that followed the consumption of alcohol in licensed premises. These findings suggest further initiatives are required to enhance licensee adherence to current regulations.

Compared to registered clubs and other premises, hotels and nightclubs were at least twice as likely to be the last location of alcohol consumption for intoxicated persons involved in incidents. However, only a small minority of all premises accounted for the substantial majority of intoxicated persons involved in these offences. Such findings suggest the burden of alcohol-related crime may be reduced if additional harm-reduction strategies are implemented to address the specific risks posed by hotels and nightclubs and those of individual premises identified to be high-risk for alcohol-related harms.

The findings that hotels and nightclubs represented at least twice the risk of other premises is consistent with similar findings with regard to drink driving and motor vehicle crashes.\textsuperscript{19} These premises have also been reported to be disproportionately associated with people involved in assaults and anti-social behaviour that occurred in or near licensed premises.\textsuperscript{10,21} The study findings were similarly consistent with previously reported differential associations between the occurrence of alcohol-related crime and individual premises.\textsuperscript{10,18,19} However, no previous study has demonstrated
either form of association for a broad range of offence categories across a variety of geographic areas using last place of alcohol consumption data.

A number of factors have been suggested by previous research to account for the association between the occurrence of harm and individual licensed premises. For example, late trading premises have been reported to be associated with increased alcohol consumption, alcohol-related motor vehicle crashes and violence.\(^6,15\) Similarly, the density or bunching of premises\(^17\) and the resultant market competition and assortative drinking behaviours of at-risk populations\(^8\) have been suggested to contribute to differences in levels of harm between individual premises. Continued service of alcohol to intoxicated patrons has been reported to be one of the strongest predictors of alcohol-related harms associated with licensed premises.\(^7\) Further suggested explanatory factors include the physical design of the premises, crowding, staff and patron characteristics (for example, age and gender) and behaviours, and management practices (for example, a culture permissive of aggression).\(^6-9,15-17,49,50\)

The extent to which these explanatory factors vary between types of premises (for example, between hotels and registered clubs), the extent to which such variability accounts for differences in harm between these types of premises, and the ability of such factors to predict harms associated with individual premises has not been reported. Such analyses are required to identify whether it is possible for a premises to have a low association with harm despite having high-risk characteristics,\(^51\) and so guide regulators, police and licensees in the development of appropriate licence approval, enforcement and business management practices.
CHAPTER 4: Licensed premises and their contribution to police-recorded crime in non-metropolitan NSW

The availability of systematically recorded data that directly links the supply of alcohol within a particular premises to incidents of alcohol-related harm, as described in this study, provides a means by which such research can be undertaken. The alcohol intelligence obtained through this approach also has the capacity to provide a mechanism for monitoring the operation of licensed premises and informing the need for intelligence-led enforcement and other responses designed to enhance the alcohol service and management practices of high-risk premises. The implementation of intelligence-led approaches has been suggested to be a cost effective means of improving premises compliance with the liquor laws.\textsuperscript{20,52} While possible confounding factors (for example, the displacement of intoxication to other premises or drinking settings) may impact on the effectiveness of intelligence-led enforcement interventions, controlled trials of enforcement and other targeted strategies suggest that they are nonetheless effective in producing a net reduction in overall alcohol-related harm.\textsuperscript{27,53-55}

In interpreting the results of the present study, a number of limitations should be considered. First, the findings rely on the veracity of information provided by intoxicated persons involved in police-recorded incidents. While the validity of this self-reported last place of alcohol consumption data is not known, the collection of information with similar limitations is a common element of routine police investigation procedures when identifying the pre-conditions of crime. In this context, the last place of consumption data represents one form of intelligence that may indicate the potential breach of liquor laws by a particular premises, and hence indicate the need for the collection of more conclusive evidence. Despite this limitation, the consistency of the findings of the present study with those or previous research that did not rely on such measures\textsuperscript{10,18,21}
suggests that the associations observed in this study provide a depiction of the relationship between licensed premises and police-recorded alcohol-related crime.

Second, the number of dormant liquor licences within the study area is not known. Given the considerable cost of obtaining and maintaining a hotel or nightclub licence, the number of any such dormant licences is likely to be small. Similarly, the number of registered clubs that chose not to sell or supply alcohol during the study period is not known. The presence of such premises within the study area may have resulted in an underestimation of the rate of intoxicated persons involved in incidents and of the distribution of intoxicated persons linked to premises, and particularly registered clubs that serve alcohol.

Finally, the over-distribution of both hotels and registered clubs in rural centres, remote and very remote areas, where the burden of alcohol-related harm is greatest, has the potential to inflate the levels of harm associated with hotels and registered clubs in this study. However, this differential distribution is unlikely to have influenced the relative differences in risk between these types of premises reported in this study. In contrast, the distances required to travel in response to an incident, combined with a tendency towards informal law enforcement in rural centres, remote and very remote areas, may have resulted in fewer intoxicated persons being linked by police to premises in these areas.

The findings of the present study have considerable relevance to the prevention of alcohol-related harm in the community. As demonstrated in this study, the greater risks posed by particular types of premises, and particular individual premises, suggest that
further initiatives and considerations are required by legislators and public officers when determining liquor laws and when granting new liquor licences, and by police, regulatory and industry bodies when regulating, supporting and designing licensed premises. Notwithstanding the need for enhancement of such policies and practices, additional research regarding the particular social, organisational and physical characteristics of premises that predict alcohol-related harms, particularly in relation to the type of premises, is also needed. Indeed, the enhanced alcohol intelligence described in this study provides ideal means to conduct such research.
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CHAPTER 4: Licensed premises and their contribution to police-recorded crime in non-metropolitan NSW


EVALUATION OF AN EDUCATIONAL POLICING STRATEGY IN REDUCING ALCOHOL-RELATED CRIME ASSOCIATED WITH LICENSED PREMISES
INTRODUCTION

The synopsis of previous research described in Chapter 1, and the findings of Chapters 2, 3 and 4 served to underline the ongoing burden of alcohol-related crime internationally and in non-metropolitan New South Wales (NSW), Australia. As was described, alcohol-related crime exerts a substantial burden in the form of deaths, injuries, psychological suffering, property damage and lost productivity.\textsuperscript{1,2} Accordingly, the implementation of effective interventions to reduce these adverse impacts has been recommended.\textsuperscript{3}

A broad range of strategies are available to reduce the levels of at-risk alcohol consumption and of harms associated with alcohol misuse.\textsuperscript{4} Such strategies vary considerably in terms of their likely benefit, and of their feasibility of being implemented into routine practice.\textsuperscript{5} A summary of the evidence regarding the effectiveness of these strategies compiled from a number of recent reviews is outlined in Appendices 5.1 and 5.2. The available practice-based evidence\textsuperscript{6} suggests that strategies which involve regulation of the affordability, availability and consumption of alcohol represent the most effective means of reducing alcohol-related harm.\textsuperscript{4,5,7-13} Evidence of effectiveness also exists for strategies that facilitate compliance with such regulations (for example, breath testing and penalties for drink driving), and the monitoring and enforcement of licensee compliance with legislated service and management practices.\textsuperscript{4,5,7-13}

Despite the existence of laws regulating licensed premises, and of evidence regarding the benefit of such laws when enforced, research in Sweden, North America, New Zealand and Australia suggests that licensee compliance with these laws is poor.\textsuperscript{14-17} Possibly as a consequence, and as described in Chapters 3 and 4, licensed premises
are associated with a considerable and disproportionate amount of alcohol-related crime. For example, licensed premises have been reported to account for up to half of police-recorded incidents of alcohol-related violence, drink driving and alcohol-related motor vehicle crashes.\textsuperscript{18-22} Given the association with such levels of harm, it is suggested that further initiatives are required to enhance licensee compliance with liquor harm-reduction regulations.\textsuperscript{4}

Policing strategies, delivered by police and/or other liquor licensing regulatory agencies,\textsuperscript{23} which are designed to increase compliance by licensed premises with liquor licensing legislation, commonly draw on the principle of deterrence. Deterrence theory proposes that an individual may be deterred from violating laws when the likelihood of being detected for an infringement, and the level of punishment for an infringement, are both perceived to be high.\textsuperscript{24} Examples of policing strategies that target licensed premises and employ deterrence-based strategies include high visibility policing,\textsuperscript{25-29} and warnings of greater enforcement activity on licensed premises.\textsuperscript{30,31} These strategies are intended to propagate a perception that breaches of the liquor legislation are more likely to be detected and that resulting penalties may jeopardise income, profits and/or reputation. This perception is more likely to be achieved when exposure to deterrence-based policing strategies is repeated and ongoing.\textsuperscript{11,24}

A summary of the characteristics and outcomes of deterrence-based policing strategies designed to reduce harms associated with licensed premises is provided in Table 5.1. Eight trials were identified from those cited in existing reviews of strategies to reduce alcohol-related harms generally (see Appendices 5.1 and 5.2),\textsuperscript{4,5,7-13} and to reduce aggression in and around licensed premises in particular.\textsuperscript{32} Of the eight identified trials,
one was a developmental trial and five assessed the efficacy of deterrence-based policing strategies. The remaining two trials examined effectiveness of such strategies, as opposed to their efficacy, testing their impact under ‘real world’ conditions.

A number of further characteristics of the eight trials need to be considered when interpreting their efficacy or effectiveness in reducing alcohol-related harm associated with licensed premises. Although six of the eight located trials included control or comparison groups, only three employed a randomised experimental design. In terms of relevance to the contemporary drinking environment, only three studies were conducted in the past 15 years, a period which has experienced considerable change in the regulation of licensed premises. In addition, two of the eight trials failed to report statistical tests of differences in harms between experimental and control groups or preceding and following the delivery of policing strategies, or did so only for selected outcomes. Furthermore, while four of the eight trials occurred in or contained non-metropolitan towns, none incorporated outer-regional, remote or very remote areas. Given the considerable variability in the determinants and levels of alcohol-related crime across geographic areas (as described in Chapters 2 and 3), the absence of research in such areas represents a deficiency in the evidence base regarding effective alcohol harm-reduction strategies.

Notwithstanding these methodological limitations, seven of the eight trials reported positive results in terms of a reduction in at least one measure of alcohol-related harm. Notably, only one of two effectiveness trials suggested a positive harm reduction outcome.
### TABLE 5.1: Summary of studies examining deterrence-based policing strategies in licensed premises

<table>
<thead>
<tr>
<th>Author</th>
<th>Country</th>
<th>Year</th>
<th>Design</th>
<th>Sample</th>
<th>Policing strategy</th>
<th>Measures</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jeffs &amp; Saunders</td>
<td>England</td>
<td>1978-1979</td>
<td>Quasi-experimental with control</td>
<td>581 premises</td>
<td>Increased number of high visibility police visits to premises considered problematic during summer months. Study does not specify response taken by police for breaches of liquor laws.</td>
<td>No. arrests compared to preceding summer</td>
<td>Compared to control:</td>
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<tr>
<td></td>
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<td></td>
<td>- 14% (P&lt;0.005) decreases in all arrests</td>
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<td></td>
<td>- 29% decrease in alcohol-related arrests (P&lt;0.025)</td>
</tr>
<tr>
<td>Putnam et al</td>
<td>USA</td>
<td>1986-1988</td>
<td>Randomised group</td>
<td>3 communities (1 experimental and 2 controls)</td>
<td>Community mobilisation incorporating: training of police in drink driving and covert enforcement of liquor laws; responsible service of alcohol training for service staff. Study does not specify action taken by police for breaches of liquor laws.</td>
<td>No. arrests compared to preceding summer</td>
<td>Compared to controls:</td>
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<tr>
<td></td>
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<td>- Increase in arrests:</td>
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<td></td>
<td></td>
<td>- overall (9%),</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- alcohol-related (11%),</td>
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<td></td>
<td></td>
<td>- alcohol-related assault (29%)</td>
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<tr>
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<td></td>
<td></td>
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<td>- drink driving (4%)</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- Decrease in ER injury visits:</td>
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<tr>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td>- all (9%)</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- assault (21%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- motor vehicle crash (10%)</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- head injuries (24%)</td>
</tr>
<tr>
<td>Stewart</td>
<td>England</td>
<td>1986-1987</td>
<td>Quasi-experimental (pre-post)</td>
<td>1 township</td>
<td>Replication of Jeffs &amp; Saunders including audits of late-trading premises. Police provision of limited performance feedback to licensee and brewers and a publicity campaign.</td>
<td>No. arrests compared to preceding summer</td>
<td>Significant decline (14%) in alcohol-related arrests (no P value reported).</td>
</tr>
<tr>
<td>Author</td>
<td>Country</td>
<td>Year</td>
<td>Design</td>
<td>Sample</td>
<td>Policing strategy</td>
<td>Measures</td>
<td>Findings</td>
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</tbody>
</table>
| McKnight & Streff | USA         | 1990-1991    | Quasi-experimental with control | 205 premises    | Plain clothes police and sheriff’s staff visit premises over 12 month period (warning phase and 2 citation phases). Top 10% premises for drink driving offences received 50% of visits. 11 warnings and 13 citations of premises for liquor law breaches.                                                                 | Service to ‘pseudointoxicated patrons’ Drink drivers nominating licensed premises as last drinking location                                                                                     | Compared to controls:  
  - Rate of refusal greater in warning (37%) and first citation phase (30%) (P<0.05), but not second citation phase (24%) (P=0.07)  
  - Decrease (26%) in licensed premises nominated as last drinking location by drink drivers (P<0.01)                                                                                                                                                                                                                           |
| Burns et al       | Australia   | 1991-1994    | Randomised group with controls | 10 patrols (5 control, 5 experimental) containing 77 premises | Replication of Jeffs & Saunders. High visibility police visits over 2 months to premises considered by police to be problematic (64% of all premises in experimental area). Prosecutions of premises for breaches of liquor laws possible but none initiated during study. | Police-recorded offences ER attendances for assault injuries                                                                 | Compared to controls:  
  - Non-significant increase in recorded offences, including assault offences, pre-post intervention (P>0.05)  
  - Non-significant decrease in ER assault visits (approx. 9%) in both control and experimental areas (P>0.05)                                                                                                                                                                                                                           |
<p>| Wiggers et al     | Australia   | 1996-1999    | Randomised control trial | 400 premises in 7 police commands | Over 1 month, all premises received Level 1 - Information letter, or Level 2 - letter, incident report, audit of premises, meeting with police, if premises reported as last drinking location of persons involved in incidents during 4 month period. Advice and resources provided to premises in which intelligence indicated breaches of the liquor laws were likely to have occurred. | Rate per premises of nomination as last drinking location by persons involved in incident in 4 months prior and 3 months post intervention | Compared to control premises, reduction in alcohol-related incidents (P&lt;0.08)                                                                                                                                                                                                 |</p>
<table>
<thead>
<tr>
<th>Author</th>
<th>Country</th>
<th>Year</th>
<th>Design</th>
<th>Sample</th>
<th>Policing strategy</th>
<th>Measures</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warburton &amp; Shepherd²⁸</td>
<td>Wales</td>
<td>1999-2001</td>
<td>Quasi-experimental with control</td>
<td>170 licensed premises in central business district</td>
<td>All premises received visits from police. Two high-risk premises (identified through hospital intelligence data of assaults on premises) received high-visibility policing, covert operation and visits from emergency department staff with limited feedback of assaults on premises provided.</td>
<td>ER recorded assaults inside licensed premises and on streets outside licensed premise</td>
<td>No change in assaults inside premises; 19% increase in street assaults, 16% reduction in all assaults (no significance test reported) Compared to other high-risk premises, one high-risk premises recorded a significant (54%) decrease in assaults on premises</td>
</tr>
<tr>
<td>Sim et al²⁸</td>
<td>New Zealand</td>
<td>2004-2005</td>
<td>Quasi-experimental (pre-post)</td>
<td>On-licensed premises in central business district</td>
<td>Two 6-week periods of police and regulatory agency presence on premises; licensee meetings; 20 premises, identified as high-risk through nomination as the last drinking location of people involved in police-recorded incidents, received most visits. Advice provided to premises identified in the intelligence to be high-risk. Prosecution of one premises</td>
<td>Alcohol-related offences Alcohol-related ambulance attendances</td>
<td>▪ Non-significant decrease in violence, disorder, property damage (P&gt;0.1). 14% decrease in combined offences (P= 0.1) ▪ Decrease in alcohol-related ambulance attendances (P= 0.01)</td>
</tr>
</tbody>
</table>
Strategies that require significant additional police resources have been suggested to be less likely to be implemented into routine practice, and hence less likely to contribute to a reduction in the prevalence of alcohol-related harm at the community level.\textsuperscript{38,39} Accordingly, consideration of the likelihood of a policing strategy being implemented into routine policing practice is suggested to be warranted when assessing the potential ability of policing strategies to reduce the prevalence of such harm.\textsuperscript{40} The policing strategies described in six of the eight previously described trials required significant additional resources for their implementation, including the establishment of either specialist units,\textsuperscript{25,26,28} supplementary staffing costs,\textsuperscript{25,31} or other additional resources.\textsuperscript{28-31} The potential for such strategies to be adopted and delivered by police on a routine basis to address alcohol-related harm may therefore be limited.

Of the more rigorously evaluated efficacy studies with suggested positive outcomes, the policing strategy described by Wiggers et al required limited additional resources for its ongoing implementation.\textsuperscript{33} The randomised control trial of this strategy was conducted across seven non-metropolitan police commands in NSW and involved police provision of educational feedback to licensees with the aim of encouraging improvement in their alcohol service and management practices.\textsuperscript{33} Experimental group premises were classified as either high or low risk according to police-recorded intelligence. Low risk premises received, on one occasion, a letter detailing increased police surveillance of licensed premises via routine police recording of alcohol intelligence. High risk premises received, on one occasion, a letter (as described), a report of incidents associated with the premises and a covert premises audit and
feedback. A 15% greater reduction in alcohol-related incidents associated with premises that received the policing strategy approached statistical significance (p<0.08).33

The policing strategy reported by Wiggers et al involved three design elements intended to limit additional costs to police and to facilitate its adoption into routine policing practice.33 First, low cost response options in the form of letters to licensees were utilised as the principal mode of deterrence across all licensed premises.

Second, the policing strategy was designed to align with and systematise existing police practices. For example, the most intensive form of police response, the auditing of premises and face-to-face feedback to licensees, was designed to systematise existing policing practices of premises visits, walk-throughs and audits.41 Similarly, as the findings of Chapter 4, as well as other practice-based evidence6 suggest that the majority of alcohol-related harms associated with licensed establishments may be attributed to only a small number of premises,19,29,42,43 auditing and feedback responses were targeted to only those premises associated with the greatest level of harm. This cost-efficient approach was achieved through the application of intelligence-led policing; a method of crime reduction that utilises police-collected information to identify and target high-risk sources and preconditions of crime.44 Such an approach has been shown to be effective in reducing a range of crimes including homicide and other violence, antisocial behaviour, car theft and drug dealing.45-48

Third, the educational nature of the policing strategy reminded licensees of their legal obligations and provided guidance to assist with their compliance in a manner that
required fewer resources than more punitive policing approaches. Accordingly, the strategy was designed to be delivered to a greater number of premises, and on a repeated basis, thereby maximising the reach and effect of the deterrence strategy across the population of licensed premises. In addition, the use of an educational approach ensured procedural fairness in the form of providing licensees with an opportunity to rectify alcohol service practices in an environment that was initially free from the threat of sanction.

As an efficacy study, the trial reported by Wiggers et al was conducted under the most favourable conditions in which to determine a causal association between the policing strategy and alcohol-related harms. However, the effectiveness of this policing strategy when implemented as part of routine practice by police remains unknown. In view of this, the findings of the previous trial, and the implementation of the policing strategy in that trial on only one occasion, an evaluation study was undertaken to determine the potential effectiveness of the educational policing strategy when implemented as routine policing practice in reducing the number of patrons of licensed premises that are involved in police-recorded incidents of violence, disorder or motor vehicle crashes.

METHODS

DESIGN AND SETTING
A 'pre-post' study was conducted in 21 non-metropolitan police commands in the state of NSW, Australia. The study was conducted as an evaluation of a major policy implementation initiative designed to reduce the incidence of alcohol-related crime.
The study area was selected by the NSW Police Force on the basis of high rates of alcohol-related crime (Figure. 5.1). The area incorporated regional cities, towns, and rural and remote areas. The area had an approximate population of 1.3 million people (20.1% of the state population). The study area was serviced by approximately 2,400 police officers.

FIGURE 5.1: Map of New South Wales with the study area shaded.
SAMPLE

Licensed premises

Licensed premises eligible to participate in the study were all those holding liquor on-licences in the categories of hotelier’s, registered club, nightclub, nightclub/motel, beer/wine, university and casino, and who were registered as operating within the study area in 2003.\textsuperscript{55}

On-license premises with restaurant, motel, governor’s, aircraft, airport, college, public hall, 18(4)g (miscellaneous), theatre, vessel, wine, special event, community and function liquor licences were excluded from the study as such premises are considerably less likely to be associated with alcohol-related harm.\textsuperscript{19,22,42,56}

People involved in police-recorded incidents of violence, disorder and motor vehicle crashes

All people involved in either incidents of violence, disorder or motor vehicle crashes recorded by the NSW Police Force during a four month baseline period (August 2002 to November 2002) and the corresponding follow-up period one year later (August 2003 to November 2003) constituted the study sample.

EDUCATIONAL POLICING STRATEGY

The educational policing strategy was implemented over eight months from December 2002 immediately following the baseline data collection period to the following July. During this period, three rounds of the policing strategy (December-March; February; April-July) were delivered by the crime management unit in each command. Licensing and crime intelligence staff from the 21 commands were trained by the research team
to deliver the policing strategy. To assist delivery of the response, a training manual was developed and distributed to all licensing staff in each command (Appendix 5.3).

Details of the policing strategy are described in Table 5.2. The strategy involved the delivery to premises of one of three levels of policing response. The level of the policing response was based on the number of people recorded by police to have consumed alcohol on the premises prior to their involvement in a police-recorded incident. Each level of response involved the provision to licensed premises of educational information letters and incident reports based on alcohol intelligence routinely recorded by police regarding the characteristics of patrons involved in criminal incidents.

In addition to its being implemented in a large non-metropolitan area, the present study incorporated a number of enhancements to the policing strategy described by Wiggers et al. First, to enhance the deterrence effect, the policing strategy was delivered on three occasions. Second, the earlier study included only two levels of police response, reproduced as Level 1 and Level 3 responses in this study. In order to limit the number of premises receiving the most intensive and costly response option (Level 3), an additional intermediate level of response was introduced. Only those premises with an ongoing association of intoxicated patrons’ involved in police-recorded alcohol-related incidents received this level of response.
### TABLE 5.2: Criteria and level of police response for each round of the policing strategy

<table>
<thead>
<tr>
<th>Qualifying criteria</th>
<th>Level of police response</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Round 1: December 2002 to March 2003</strong></td>
<td></td>
</tr>
<tr>
<td>Level 1: Premises not reported as the last place of alcohol consumption by any person involved in a police-recorded incident in the six months (May - Oct 2002)</td>
<td>Letter (Appendix 5.4) detailing licensee legal obligations under the NSW Liquor Laws and advising of the ongoing nature of the new surveillance system</td>
</tr>
<tr>
<td>Level 2: Premises reported to be the last place of alcohol consumption by at least one person involved in a police-recorded incident in the six months</td>
<td>Letter (Appendix 5.5), and an incident report detailing the date, time, offence type, type of involvement, gender, age and level of intoxication of each person who had last consumed alcohol in the premises prior to involvement in an incident (Appendix 5.6)</td>
</tr>
<tr>
<td>Level 3: Premises reported to be the last place of alcohol consumption by at least one intoxicated person involved in a police-recorded incident in each of five of the six months</td>
<td>Letter, incident report (Appendix 5.6 and 5.7) and a police-conducted covert audit of the licensed environment and alcohol service practices (Page A81 in Appendix 5.3), followed by a feedback meeting with a NSW Police Force Licensing Officer to discuss strategies to improve alcohol service and management practices.*</td>
</tr>
<tr>
<td><strong>Round 2: February 2003</strong></td>
<td></td>
</tr>
<tr>
<td>Level 1: Premises not reported as the last place of alcohol consumption by any person involved in a police-recorded incident in the preceding two months (Dec 2002 - Jan 2003)</td>
<td>Information letter as described for Round 1</td>
</tr>
<tr>
<td>Level 2: Premises reported to be the last place of alcohol consumption by at least one person involved in a police-recorded incident in the preceding two months</td>
<td>Information letter and incident report as described for Round 1</td>
</tr>
<tr>
<td>Level 3: Not operationalised during Round 2</td>
<td>n/a</td>
</tr>
<tr>
<td><strong>Round 3: April 2003 to July 2003</strong></td>
<td></td>
</tr>
<tr>
<td>Level 1: Premises not reported as the last place of alcohol consumption by any person involved in a police-recorded incident in the preceding four months (Dec 2002 – Mar 2003)</td>
<td>Information letter as described for Round 1</td>
</tr>
<tr>
<td>Level 2: Premises reported to be the last place of alcohol consumption by at least one person involved in a police-recorded incident in the preceding four months</td>
<td>Information letter and incident report as described for Round 1</td>
</tr>
<tr>
<td>Level 3: Premises that received a Level 3 response in Round 1 and those reported to be the last place of alcohol consumption by at least 12 intoxicated persons involved in an incident in the four preceding months (with at least one intoxicated person nominating the premises in each of these four months)</td>
<td>Information letter, incident report, covert audit and feedback meeting with NSW Police Force Licensing Officer as described for Round 1</td>
</tr>
</tbody>
</table>

*Officers were instructed to proceed with standard liquor licensing enforcement whilst conducting the covert audit. Accordingly, any serious breaches of the Liquor Act detected during the audit were to be considered for legal sanction.
DATA COLLECTION PROCEDURES

Existing NSW Police Force recording procedures, as described in Chapters 2, 3 and 4, provided the alcohol-related intelligence included in the policing strategy and the data for measurement of study outcomes. For each driver, victim or alleged offender involved in an incident, police routinely collected and recorded, information regarding the incident type, the person’s age and gender, their prior alcohol consumption status, level of intoxication and the last reported place alcohol was consumed. Throughout the study period this data was recorded in the NSW Police Force mainframe computer.

Using direct testimony or police officer assessment, alcohol consumption status was recorded as ‘yes’, ‘no’ or ‘not known’, and the level of intoxication was recorded as ‘not’, ‘slightly’, ‘moderately’ or ‘seriously affected’.

The intoxication status of the person involved was determined by police assessment of the persons appearance and demeanour,\(^{58-60}\) using indicators that have been reported to be valid and reliable in the assessment of intoxication.\(^{60,61}\) In this study, ‘intoxicated’ incorporated the response categories of moderately and seriously affected. These levels reflected the point at which a person could be expected to display apparent visual and behavioural signs of intoxication such as smell, staggered gait, diminished fine and gross motor coordination, and argumentativeness.\(^{61}\) Furthermore, such indicators of intoxication most closely reflect the signs and symptoms of intoxication as described by the NSW liquor regulatory agency.\(^{62}\)

Based on the report of the person involved in the police-recorded incident, last place of alcohol consumption was recorded by police as being a ‘home/private residence’,
‘licensed premises’, ‘public place’, ‘special event’, ‘non-licensed restaurant/café’, ‘other’, or ‘not known’. Where a person was recorded as having last consumed alcohol on a licensed premises, the name and the address of the premises was recorded. Only persons involved in police-recorded incidents and who had last consumed alcohol on a licensed premises within the study area were included in this study.

Training of police in the collection and recording of this intelligence began in January 2002 and involved mandatory and brief officer training, and the provision of a hard copy manual (Appendices 2.1, 2.2 and 2.3). NSW Police Force Standard Operating Procedures were developed for the routine collection and recording of this alcohol intelligence (Appendix 2.5).

Over a three year period, including the study period in this trial, levels of police recording of complete information regarding prior alcohol consumption status (‘yes’ or ‘no’) of persons who had consumed alcohol prior to involvement in assault offences was recorded at least 92% of the time. Of these people, level of intoxication was recorded approximately 100% of the time. Last place of alcohol consumption was recorded approximately 84% of the time, and the name and address of licensed premises were recorded for at least 93% of persons involved in assault offences who had consumed alcohol prior to the offence on a licensed premises.

**MEASURES**

**Police-recorded incidents of violence, disorder and motor vehicle crashes**

Violence and disorder incidents and motor vehicle crashes were selected as the outcome measures of interest due to the strong association of such offences with
alcohol consumption,\textsuperscript{2} and the large contribution of such offences to overall levels of alcohol-related harm.\textsuperscript{1} Consistent with previous research,\textsuperscript{35,42,43,63} these incidents incorporated the NSW Police Force offences of: major vehicle accident, major traffic crash, assault (common assault, actual bodily harm, grievous bodily harm, and shoot with intent other than to murder), assault officer, offensive conduct and offensive language.\textsuperscript{64}

**Delivery of policing strategies**

Delivery of the policing strategy was measured in terms of the extent to which each of the three policing responses was delivered as planned (Table 5.2). Measurement of response delivery was based on project management records regarding the mailing of letters and reports, and police records of the conduct of covert audits. Police officers provided copies of completed audits to research staff.

**DATA EXCLUSION**

Licensed premises that were reported as the last place of alcohol consumption but could not be verified against NSW Department of Gaming and Racing lists of registered licensed premises in New South Wales\textsuperscript{55} were removed from the data.

In addition, as a person may be recorded more than once within a police-recorded criminal event that contains one or more incidents,\textsuperscript{64} duplicate records of individuals for any one offence category within an event were removed. Individuals were uniquely identified within each event by their police-recorded date of birth and gender.
ANALYSES

Statistical analyses were conducted using SAS for windows 9.1.3.\(^6\)

Delivery of policing strategies

The number and proportion of police responses that were delivered during the study period were calculated.

Rates of persons involved in police-recorded incidents following the consumption of alcohol on licensed premises

The rate per premises of all persons recorded to have been involved in at least one of the three offence categories following their consumption of alcohol on a licensed premises were calculated for the baseline and follow-up periods. Given that one element of licensing legislation involves the refusal of service to patrons who are intoxicated, such rates were also calculated for persons who were recorded as being intoxicated (moderately or seriously affected).

Poisson regression analysis was undertaken to determine if the rates per premises of patrons who had consumed alcohol prior to involvement in an incident, and such rates for intoxicated patrons, were different at follow-up compared to those at baseline. As results from the poisson regression analyses indicated a lack of fit due to over-dispersion for each of the models, negative binomial models were fitted. Generalised estimating equations (GEE) were used to account for the correlation of paired premises (baseline and follow-up) and to provide population averaged estimates.\(^6\) The standard errors in the regression models were adjusted due to the over-dispersion of the data.\(^6\) Results are reported as rate ratios with 95% confidence intervals.
Additional poisson regression analyses were undertaken to determine if the above rates per premises of patron involvement in incidents differed between baseline and follow-up for those premises that received at least one Level 2 police response (but not a Level 3 police response), and premises that received at least one Level 3 police response. Similarly, due to a lack of fit for each of these models, negative binomial models with GEE and adjusted standard errors were fitted.

Separate modeling was not undertaken for those premises that received only a Level 1 police response due to the limited variability in the data, with 98% of such premises in the baseline period and 94% of such premises in the follow-up period recording a count of zero patrons involved in police-recorded incidents.

RESULTS

SAMPLE

Licensed premises

Of the 3,778 hotels, registered clubs, nightclubs, nightclub/motels, beer/wine, university and casino licenses registered as operating in NSW in 2003, a total of 1,414 premises (37.4% of those in the state) were recorded as operating within the study area during this period. Of these, one premises was excluded from the analyses as it began trading during the study period.

The final sample of 1,413 licensed premises consisted of 839 hotels (59.4%), 550 registered clubs (38.9%), 10 nightclubs or nightclub/motels (0.7%), eight beer/wine (0.6%) and six university (0.4%) licences.
Police-recorded incidents of violence, disorder and motor vehicle crashes

A total of 2,681 records of duplicate information of victims, drivers and alleged offenders involved in incidents of violence, disorder and motor vehicle crashes were excluded from the baseline period and 3,826 were excluded from the follow-up period. Table 5.3 displays details of the remaining people involved in incidents of violence, disorder and motor vehicle crashes during the baseline and follow-up periods. Table 5.3 also displays the number and percent of such people who were recorded to have consumed alcohol prior to the incident. Among those persons who had reportedly last consumed alcohol on licensed premises prior to involvement in a police-recorded incident, 103 (5.6%) were excluded from the baseline period and 95 (5.7%) were excluded from the follow-up period as the recorded licensed premises was either outside of the study area, was not of a license type of interest or was otherwise unable to be confirmed against Department of Gaming and Racing lists of premises. The number and percent of people that last consumed alcohol on licensed premises prior to involvement in police-recorded incidents of violence, disorder or motor vehicle crashes, and the number and percent of intoxicated persons who last consumed on licensed premises prior to the incident, are also displayed in Table 5.3. Such data comprises the sample for this study.
CHAPTER 5: Evaluation of an educational policing strategy in reducing alcohol-related crime associated with licensed premises

**TABLE 5.3: Number and percent of people involved in police-recorded incidents**

<table>
<thead>
<tr>
<th></th>
<th>Number and percent of people recorded by police as involved in incidents</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Violence n (%)</td>
</tr>
<tr>
<td>Baseline</td>
<td></td>
</tr>
<tr>
<td>All persons involved</td>
<td>11,954</td>
</tr>
<tr>
<td>Consumed alcohol prior</td>
<td>3,969 (33.2)</td>
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<tr>
<td>Last consumed alcohol on premises</td>
<td>1,256 (10.5)</td>
</tr>
<tr>
<td>Intoxicated and last consumed on premises</td>
<td>900 (7.5)</td>
</tr>
<tr>
<td>Follow-up</td>
<td></td>
</tr>
<tr>
<td>All persons involved</td>
<td>11,203</td>
</tr>
<tr>
<td>Consumed alcohol prior</td>
<td>3,719 (33.2)</td>
</tr>
<tr>
<td>Last consumed alcohol on premises</td>
<td>1,155 (10.3)</td>
</tr>
<tr>
<td>Intoxicated and last consumed on premises</td>
<td>799 (7.1)</td>
</tr>
</tbody>
</table>

**DELIVERY OF POLICING STRATEGIES**

The number of licensed premises that were eligible for each level of police response during each of the three rounds of the educational policing strategy, and the number of actual responses that were delivered are shown in Table 5.4. Of the 254 covert audits required to be conducted according to the criteria, 200 (78.7%) were recorded as having been conducted. All 4,239 of the required letters and all 2,412 of the required incident reports were recorded as being distributed.
TABLE 5.4: Number of licensed premises eligible for (and percent receiving) designated police response during the three rounds of the policing strategy

<table>
<thead>
<tr>
<th>Level of police response</th>
<th>Number delivered and percent of those eligible</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Letters n (%)</td>
</tr>
<tr>
<td>All premises (N=1,413)</td>
<td>1,413 (100%)</td>
</tr>
<tr>
<td>Level 1 (n=462)</td>
<td>462 (100%)</td>
</tr>
<tr>
<td>Level 2 (n=830)</td>
<td>830 (100%)</td>
</tr>
<tr>
<td>Level 3 (n=121)</td>
<td>121 (100%)</td>
</tr>
</tbody>
</table>

Round 2 (February 2003)

| All premises (N=1,413)   | 1,413 (100%) | 627 (100%)             | n/a                |
| Level 1 (n=786)          | 786 (100%)   | n/a                    | n/a                |
| Level 2 (n=627)          | 627 (100%)   | 627 (100%)             | n/a                |

Round 3 (April 2003 to July 2003)

| All premises (N=1,413)   | 1,413 (100%) | 834 (100%)             | 84 (63%)           |
| Level 1 (n=579)          | 579 (100%)   | n/a                    | n/a                |
| Level 2 (n=701)          | 701 (100%)   | 701 (100%)             | n/a                |
| Level 3 (n=133)          | 133 (100%)   | 133 (100%)             | 84 (63%)           |

Based on the association of their patrons with police-recorded incidents, across the three rounds of the educational policing strategy, 331 (23.4%) premises received only Level 1 police responses, 949 (67.2%) premises received at least one Level 2 response and 133 (9.4%) premises were eligible to receive at least one Level 3 response.
CHAPTER 5: Evaluation of an educational policing strategy in reducing alcohol-related crime associated with licensed premises

RATES OF PERSONS INVOLVED IN POLICE-RECORDED INCIDENTS FOLLOWING THE CONSUMPTION OF ALCOHOL ON LICENSED PREMISES

Patrons who consumed alcohol prior to the police-recorded incident
The rate per premises of all people who consumed alcohol on licensed premises prior to involvement in an incident was 1.24 at baseline and 1.11 at follow-up ($P=0.08$) (Table 5.5). There was no difference in such a rate between baseline and follow-up for premises that received at least one Level 2 response. However, the rate of persons who had consumed alcohol in premises that received at least one Level 3 response significantly decreased from 7.08 to 5.65 ($P=0.03$).

Intoxicated patrons who consumed alcohol prior to the police-recorded incident
The rate per premises of all intoxicated patrons who consumed alcohol on licensed premises prior to involvement in an incident was 0.92 at baseline and 0.83 at follow-up ($P=0.11$) (Table 5.5). No difference in such a rate was found between baseline and follow-up for premises that received at least one Level 2 response. However, the rate for premises that received at least one Level 3 police response significantly decreased from 5.50 to 4.40 ($P=0.05$).
TABLE 5.5: Number and rate per premises of persons involved in incidents during the baseline and follow-up periods

<table>
<thead>
<tr>
<th>Premises</th>
<th>Number and rate of people per premises involved in incidents</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Baseline</td>
<td>Follow-up</td>
<td>Change</td>
<td>Rate ratio</td>
<td>95% CI</td>
<td>P value</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>No.</td>
<td>Rate</td>
<td>SD</td>
<td>No.</td>
<td>Rate</td>
<td>SD</td>
<td>No.</td>
<td>Rate</td>
<td>%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alcohol consumed prior</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All premises (N=1,413)*</td>
<td>1,751</td>
<td>1.24</td>
<td>2.97</td>
<td>1,573</td>
<td>1.11</td>
<td>2.89</td>
<td>-178</td>
<td>-0.13</td>
<td>-10.12</td>
<td>0.90</td>
<td>0.80 – 1.01</td>
<td>0.08</td>
<td></td>
</tr>
<tr>
<td>Level 2 (n=949)</td>
<td>801</td>
<td>0.84</td>
<td>1.50</td>
<td>794</td>
<td>0.84</td>
<td>1.59</td>
<td>-7</td>
<td>-0.01</td>
<td>-0.87</td>
<td>0.99</td>
<td>0.86 – 1.14</td>
<td>0.90</td>
<td></td>
</tr>
<tr>
<td>Level 3 (n=133)</td>
<td>941</td>
<td>7.08</td>
<td>6.22</td>
<td>751</td>
<td>5.65</td>
<td>6.85</td>
<td>-190</td>
<td>-1.43</td>
<td>-20.19</td>
<td>0.80</td>
<td>0.65 – 0.97</td>
<td>0.03</td>
<td></td>
</tr>
<tr>
<td>Intoxicated</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All premises (N=1,413)*</td>
<td>1,305</td>
<td>0.92</td>
<td>2.44</td>
<td>1,167</td>
<td>0.83</td>
<td>2.37</td>
<td>-138</td>
<td>-0.10</td>
<td>-10.57</td>
<td>0.89</td>
<td>0.78 – 1.03</td>
<td>0.11</td>
<td></td>
</tr>
<tr>
<td>Level 2 (n=949)</td>
<td>571</td>
<td>0.60</td>
<td>1.18</td>
<td>562</td>
<td>0.59</td>
<td>1.24</td>
<td>-9</td>
<td>-0.01</td>
<td>-1.58</td>
<td>0.98</td>
<td>0.84 – 1.15</td>
<td>0.84</td>
<td></td>
</tr>
<tr>
<td>Level 3 (n=133)</td>
<td>731</td>
<td>5.50</td>
<td>5.48</td>
<td>585</td>
<td>4.40</td>
<td>5.82</td>
<td>-146</td>
<td>-1.10</td>
<td>-19.97</td>
<td>0.80</td>
<td>0.64 – 1.00</td>
<td>0.05</td>
<td></td>
</tr>
</tbody>
</table>

*Includes all premises in the study (Levels 1, 2 and 3)
DISCUSSION

The study found a non-significant reduction (P=0.08) in the rate at which patrons of licensed premises were involved in aggregated police-recorded incidents of violence, disorder and motor vehicle crashes following the implementation of the educational policing strategy. Significant reductions in the rate at which patrons of high-risk premises that received the most intensive policing response were involved in such incidents were detected. Given the absence of a control or comparison group, the attribution of these reductions to the educational policing strategy remains qualified. Nonetheless, the results support the potential of the educational policing strategy in reducing the prevalence of patron involvement in police-recorded incidents in non-metropolitan areas. Further assessment of the effectiveness of the policing strategy in this context using a controlled evaluation design is required to confirm this potential.

Despite differences in methodologies, the magnitude of the observed reductions in rates of patron involvement in incidents in this study (10% reduction across all premises and 20% reduction among high-risk premises) were comparable to the reductions in harm reported in other deterrence-based studies targeting licensed premises. As such, the findings of this study lend support to the previously reported benefit of deterrence-based policing strategies in reducing alcohol-related harms associated with the consumption of alcohol on licensed premises.

This study departed from most deterrence-based interventions targeting licensed premises in the use of systematically recorded criminal intelligence information (Chapter 4), rather than police or other liquor enforcement agency presence within licensed premises, to achieve a deterrent effect. Accordingly, the findings represent a
promising and potentially cost-effective additional deterrence-based approach to the policing of licensed premises.

The findings of the study have provided further support for the potential benefit of an intelligence-led approach to the implementation of licensed premises policing strategies. In order for the benefits of a deterrence-based intelligence-led policing approach to be realised, however, known barriers to its adoption, such as police attitudes and a lack of organisational capacity, will need to be addressed. The less than optimal strategy fidelity in this study (79% of audits and feedback delivered) demonstrates the need for such barriers to be addressed through the delivery of additional practice change strategies.

This study has extended the limited research into deterrence-based interventions with licensed premises in non-metropolitan areas. Such research is warranted given the variable prevalence and determinants of alcohol-related crime (as described in Chapters 2 and 3 and elsewhere) and the likely variable availability of enforcement resources between and within metropolitan and non-metropolitan areas. Furthermore, although research has identified effective strategies in reducing harm attributed to alcohol consumption (Appendices 5.1 and 5.2), the impact and feasibility of implementing such strategies in non-metropolitan communities is less well researched. Accordingly, the findings of this study add valuable practice-based evidence regarding the implementation of alcohol harm-reduction strategies in these areas.
The reduction in the rate of patrons of high-risk premises being involved in police-recorded incidents represents, if extrapolated to a full year, four fewer patrons (three fewer intoxicated patrons) of each premises being involved in police-recorded violence, disorder and motor vehicle crash incidents. That is, 532 fewer patrons (399 fewer intoxicated patrons) across the 133 premises involved. If attributable to the policing strategy, such a reduction is consistent with previous research indicating a benefit of educational feedback as a means of reducing alcohol-related harm associated with licensed premises.\textsuperscript{29} In this trial, however, the possibility exists that the reported findings may have been the result of a regression to the mean effect.\textsuperscript{72} (As may be noted in the ‘all premises’ figures in Table 5.5, a regression to the mean effect may explain the slight increase in the number of patrons of premises receiving only Level 1 responses involved in police-recorded incidents.) While no accepted adjustment for such an effect exists for the data and analyses described in this study,\textsuperscript{73} the use of trend rather than threshold criteria\textsuperscript{72} for the allocation of premises to the level 3 police response (unlike those receiving only Level 1 responses) is considered to have minimised the likelihood of such an effect.

Although the use of a non-controlled pre-post study design limits the ability to attribute the study findings to the policing strategy, the design was considered appropriate in the context of the specific questions posed by the study and its conduct as an evaluation of a major policy implementation initiative.\textsuperscript{53,74} In the context of this latter characteristic, the opportunity to collect ‘last place of alcohol consumption’ data in a control or comparison area elsewhere in the state was not available.
In the absence of a control or comparison area, the possibility exists that the observed reductions in patron involvement rates in police-recorded incidents could simply reflect temporal trends in recorded crime rates. However, the likelihood of the results being attributable to such a cause is considered to be low as the results of population surveys conducted during the study period suggest that the prevalence of self-reported involvement in alcohol-related violence, disorder and drink driving incidents remained stable across the state. Similarly, analysis of police and road authority statistics for the study period suggests that the prevalence of such offences across the state also remained relatively stable. While changes in the policing of licensed premises in the study area, other than those associated with the study, remains a plausible explanation for the observed findings, no such initiatives were consistently implemented across the diverse 21 police commands involved in this study.

The findings of slight increases in the follow-up period in the proportions of persons involved in disorder and motor vehicle crash incidents following the consumption of alcohol on licensed premises relative to other drinking locations, and of a decrease in such proportions for persons involved in violence incidents, suggests the possibility of variability in the impact of the educational policing strategy on different offences. Furthermore, as hotels and nightclubs are likely to have been the predominant types of premises within those considered ‘high-risk’ (Chapter 4), and the variable association between these premises and types of harm (Chapter 4), there is the potential for variability in receptivity to the educational policing strategy between types of premises. Accordingly, further evaluation of the intervention, utilising a broader range of offence categories, and examining ‘type of premises’ as a moderating variable, is recommended.
The use of ‘last place of alcohol consumption’ as an outcome measure in this study addresses a limitation of similar previous studies\textsuperscript{79} in that it provides a direct measure of the association between the occurrence of an incident of alcohol-related harm and a specific licensed premises.\textsuperscript{33} Such data have been recorded by police over two decades as a means of monitoring and assessing the association between licensed premises and drinking driving incidents,\textsuperscript{19,56,60,81} and of evaluating the impact of deterrence-based and regulatory interventions on the harms associated with licensed premises.\textsuperscript{31,62} Despite this advantage, the validity of such self-report data is unknown, as is the extent to which changes in validity between the baseline and follow-up periods may have contributed to the findings in the present study. Notwithstanding this limitation, the consistently high rates of recording of ‘last place of alcohol consumption’ data between baseline and follow-up suggest that changes in the rate or validity of recording of this information are unlikely to have influenced the study findings. Future evaluation of this and other policing strategies using ‘last place of alcohol consumption’ data as an outcome measure would be strengthened through the use of additional recognised measures of alcohol-related harms including night-time single-vehicle road crashes, assaults, emergency room attendances for assault injuries and population surveys.\textsuperscript{79}

The duration of the baseline and follow-up data collection periods was limited and may not have provided a sample with sufficient power to detect statistical differences in the outcome measures pre and post the delivery of the policing strategy. Similarly, the timing of the measurement periods coincided with the seasonal lows for police-recorded incidents of violence and disorder\textsuperscript{76} which may have also limited the sample
of persons involved in incidents following their consumption of alcohol on licensed premises. Both the duration and timing of the measurement periods were constrained by the policy implementation context of the study; a reflection of the limitations inherent in the rigorous evaluation of major public health initiatives in the context of policy implementation.51,74

Given the profound burden posed by alcohol misuse to communities in Australia and elsewhere,1,2,83-86 it has been suggested that a need exists for the implementation of new interventions even in the absence of statistical certainty regarding their effectiveness.5 In the event of new interventions being implemented in such circumstances, and where such interventions have been shown not to contribute to harms, further examination of their effectiveness, acceptability, cost, consistency and sustainability of effect concurrent with their implementation is required.87

An important determinant of whether a public health intervention should be implemented in this manner is suggested to involve the extent of its public support.6 Across the state of NSW, community support exists for the implementation of further strategies to reduce the harms associated with licensed premises, and for such premises to be held more accountable for their service of alcohol.88 Similarly, the implementation of an intelligence-led approach to the achievement of such an objective, such as that described in this study, has been recommended in a number of national policy documents.3,89

The findings in this study suggest that a routinely delivered educational policing strategy may be associated with a reduction in licensed premises patron involvement in
police-recorded alcohol-related incidents. Given these findings, the study design employed and the contextual factors described above, further implementation and concurrent rigorous evaluation of the effect appears warranted to confirm the potential to reduce alcohol-related harms associated with licensed premises.
REFERENCES


CHAPTER 5: Evaluation of an educational policing strategy in reducing alcohol-related crime associated with licensed premises


CHAPTER 5: Evaluation of an educational policing strategy in reducing alcohol-related crime associated with licensed premises


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CHAPTER 6

A SUMMARY OF FINDINGS AND FUTURE DIRECTIONS FOR POLICY, PRACTICE AND RESEARCH
INTRODUCTION

As previously described, alcohol is widely available commonly consumed\(^1\) and has both beneficial and detrimental effects on the well-being of individuals, communities and governments.\(^2\) In light of the burden of harm imposed by alcohol misuse, this thesis has aimed to:

1. describe the prevalence of alcohol-related harms and, in particular, alcohol-related crime in a number of developed countries, and in non-metropolitan New South Wales (NSW), Australia;

2. describe the day, time and location of alcohol consumption of people involved in police-recorded alcohol-related crime, and the geographic variation in such characteristics in non-metropolitan NSW;

3. describe the variable contribution by different types of licensed premises, and by individual premises, to police-recorded alcohol-related crime in non-metropolitan NSW;

4. evaluate the effectiveness of routine police delivery of an educational strategy in reducing police-recorded crime associated with the consumption of alcohol on licensed premises.

This chapter first summarises the findings of the studies described in the preceding chapters, and subsequently discusses their implications for future alcohol policy, practice and research.
SUMMARY OF RESEARCH FINDINGS

THE BURDEN OF HARM ATTRIBUTED TO ALCOHOL MISUSE

As described in Section 1 of Chapter 1, a recent publication estimated that approximately 4% of all deaths across the world in 2004 were attributed to alcohol use and abuse. While the level of harm related to alcohol misuse is of concern internationally, it was shown to be a particular problem in developed nations where it is the seventh highest risk factor for mortality. The overall cost of alcohol misuse in these nations has been estimated to represent up to 2% of gross domestic product (GDP), and above 1% of GDP in Australia. Alcohol-attributed mortality and morbidity, particularly those attributed to acute harms associated with alcohol consumption, continue to effect a considerable burden globally, especially in some developed nations. For example, in Australia and the state of NSW, increases of more than 15% in alcohol-attributed hospitalisations have been reported since 1993/94. At the national level, such increases are attributed almost entirely to increases in hospitalisations from acute causes.

Chapter 1 further demonstrated that all forms of alcohol-attributed harm occur disproportionately in males, and acute forms of such harm are more prevalent among young people. However, in recent years in Australia, as in Canada, England and New Zealand, greater increases or lesser decreases in alcohol-attributed deaths and hospitalisations have been reported for females, resulting in a narrowing of past alcohol-related gender disparities. There is some indication that the observed relative increases in harms among females may be attributable to increases in at-risk alcohol consumption, particularly consumption that increases the risk of harm in the short-term.
THE BURDEN OF HARM ATTRIBUTED TO ALCOHOL-RELATED CRIME

Section 2 of Chapter 1 described the extent and cost of harm attributable to alcohol-related crime in Canada, the United Kingdom, New Zealand and Australia. In particular, the chapter described the extent and nature of two of the more commonly measured and reported forms of alcohol-related crime in these countries: alcohol-related violence and motor vehicle crashes.

It was reported that in these countries over the past decade, deaths and injuries from alcohol-related motor vehicle crashes have decreased by at least 20%. Similarly, incidents of non-fatal alcohol-related violence were reported to have decreased by at least 24% in Canada and the United Kingdom. In contrast, Australian research suggests an increase of up to 10% in alcohol-related assaults.

As with acute harms generally, alcohol-related motor vehicle crashes and violence were shown to occur predominantly among persons under 40 years of age (at least 60% of deaths and hospitalisations) and among males (at least 63% of deaths and hospitalisations). However, the extent of this gender disparity has reduced during the past decade in a number of countries, including Australia.

In describing the quantum and pattern of alcohol-related harms both internationally and in Australia, Chapter 1 demonstrated a substantial, ongoing, and in some instances an increasing burden of harm. Such findings suggest the need for further research into the nature of alcohol-related harm, particularly alcohol-related crime, and opportunities for its reduction. The empirical studies reported in the subsequent chapters of the thesis were undertaken to address this need.
IN Volvement Of AlCOhOl IN IncIdEntS OF VIOlEnCe AND DiSOlDER IN NON-METROPOLITAN NEW SOUTH WALES, AUSTRALIA

The development and implementation of appropriately designed and effective interventions to reduce alcohol-related crime is dependent, in part, on an understanding of the prevalence and characteristics of such crime in specific locations. A limited number of studies in the United States of America and Australia have suggested that the burden of alcohol-attributed harms, particularly violent crime, is greater in non-metropolitan locations. Further variability in the prevalence of such harms between non-metropolitan areas, has also been reported in a limited number of studies, with a higher prevalence in more remote locations relative to more urbanised areas.

Current understanding of the prevalence of alcohol-related crime in particular geographic locations is limited by the inconsistency with which official records, such as police-recorded data, identify the involvement of alcohol in criminal incidents. Utilising data from a newly implemented police system (implemented in 2002) of enhanced collection and recording of such information, the study described in Chapter 2 found that each year (from 1 July 2003 to 30 June 2005) in a non-metropolitan area of NSW, 9.1 persons per 1,000 people in the population, consumed alcohol prior to involvement in a police-recorded violence incident and 2.2 persons per 1,000 people in the population consumed alcohol prior to involvement in a police-recorded disorder incident. For both offence categories the police-recorded population rate of involvement increased with increasing geographic remoteness, with the odds of being recorded as involved in an incident of violence or disorder following the consumption of alcohol at least 20 times greater for people in very remote areas compared to those in regional cities.
The study further revealed that 38% of persons involved in violence incidents and 73% of persons involved in disorder incidents had consumed alcohol prior to their involvement in the incident. The odds of a person having consumed alcohol prior to their involvement in a violence incident was three times as likely in very remote areas compared to those in regional cities. In contrast, the odds of having consumed alcohol prior to involvement in a disorder incident was 30% less likely in very remote areas compared to regional city areas.

At least 70% of persons who had consumed alcohol prior to involvement in either offence type were recorded as being intoxicated. The odds of being recorded as intoxicated was at least twice as likely among people in very remote areas compared to those in regional cities.

The findings of this study confirmed the need for government and support agencies to implement further efficacious alcohol policies and interventions in non-metropolitan areas, particularly in remote and very remote areas. The development and implementation of such tailored interventions is, however, dependent on a greater understanding of the determinants and characteristics of alcohol-related crime in these locations, and of how these factors vary between geographic areas.

CHARACTERISTICS OF ALCOHOL-RELATED VIOLENCE AND DISORDER IN NON-METROPOLITAN NEW SOUTH WALES, AUSTRALIA

Existing Australian and international data suggest that the occurrence of alcohol-related crime varies according to the day, time and location of alcohol consumption. However, no peer-reviewed studies have reported the extent to which such characteristics vary across geographic areas. Similarly, no studies have
reported the variability in prevalence of intoxication among those people involved in incidents by the day of the week and time of day of the incident, the location of alcohol consumption or the geographic area of its occurrence. To address these deficiencies, an analysis of these characteristics of people involved in police-recorded incidents of violence and disorder in non-metropolitan areas of NSW was reported in Chapter 3.

The study found that over a 2 year period (1 July 2003 to 30 June 2005), the proportion of people who had consumed alcohol prior to involvement in police-recorded violence and disorder incidents was highest on Saturdays (52% and 86% respectively), and between 12.00am and 3.00am (72%) for violence incidents, and between 3.00am and 6.00am for disorder incidents (95%). In very remote areas, such alcohol involvement in both violence and disorder incidents peaked earlier in the week (Fridays and Thursdays respectively) and earlier in the day (12.00am to 3.00am for disorder incidents) relative to other areas. Very remote areas also recorded a secondary peak in alcohol involvement in both violence and disorder incidents between 3.00pm and 6.00pm.

Across the study area, 55% of persons who consumed alcohol preceding involvement in a police-recorded violence incident did so within a private residence, with this proportion varying between 45% in regional cities to 77% in very remote areas. Conversely, 58% of persons involved in disorder incidents last consumed alcohol in a licensed premises, with this proportion varying between 24% in very remote areas to 66% in inner regional areas.
As reported in Chapter 2, intoxication was a highly prevalent feature of police-recorded alcohol-related incidents (at least 62% across all days and times) and displayed little appreciable variation between areas across days of the week (at least 63% in all areas) or times of the day (at least 55% in all areas). Importantly, the prevalence of intoxication also showed little variation according to last place of alcohol consumption, including those who last consumed alcohol on a licensed premises.

The findings of marked variability in the highest risk days, times and places of alcohol consumption across non-metropolitan areas confirm the need for public health practitioners, legislators, town planners, and liquor enforcement agencies to implement intervention strategies that are tailored to address local conditions. In particular, the findings suggest that strategies which address excessive alcohol consumption in private settings and on licensed premises are a particular public health priority.43

LICENSED PREMISES AND THEIR CONTRIBUTION TO POLICE-RECORDED CRIME IN NON-METROPOLITAN NEW SOUTH WALES: FURTHER OPPORTUNITIES FOR HARM-REDUCTION

The findings in Chapter 3 that licensed premises are one of the higher risk alcohol consumption contexts in non-metropolitan areas supports earlier findings reported in previous international and Australian studies.47,48 Previous research has also suggested that particular types of licensed premises, namely hotels and nightclubs, and a small number of individual premises disproportionately contribute to levels of alcohol-related harm.48-54 However, with the exception of drink driving studies,48,49 such research has drawn these conclusions based on data that lack a direct link between a patron's consumption of alcohol on a licensed premises and their subsequent involvement in an alcohol-related incident. Past research has further lacked a measure of the intoxication status of patrons involved in such incidents,55 a relevant piece of
information given the inclusion in liquor licensing laws of provisions to minimise the likelihood of intoxication on licensed premises.\textsuperscript{56-59} In the absence of such information, understanding of the association between licensed premises and police-recorded incidents of alcohol-related harm remains qualified.

To address these limitations, the association between licensed premises and police-recorded alcohol-related crime in a non-metropolitan area of NSW, was examined in Chapter 4. The study was conducted using police-recorded alcohol intelligence that provided a direct link between licensed premises and incidents via police recording of the last drinking location and the level of intoxication of all drivers, victims and alleged offenders involved in incidents from 1 July 2003 to 30 June 2005. The association between licensed premises and police-recorded incidents of crime was investigated in terms of the rate per premises of intoxicated patrons involved in incidents of violence, disorder or motor vehicle crashes. Such rates were calculated for each type of premises (hotel, registered club, nightclub, or other) and for individual premises.

The study found that the risk of an intoxicated person having last consumed alcohol in a hotel or nightclub prior to involvement in a violence, disorder or motor vehicle crash incident was at least twice (and up to 12 times) the risk for any other type of licensed premises. In terms of the association between an intoxicated person’s involvement in such offences and prior alcohol consumption in individual premises, the study found that approximately 20% of all licensed premises accounted for at least 78% of intoxicated patrons involved in incidents. A similar distribution of patron involvement across premises was evident for each type of licensed premises. Furthermore, six
percent of premises were in the top 20% of licensed premises for all three offence types.

The findings of this study confirm that particular types of premises, and specific individual premises, make a disproportionate contribution to police-recorded alcohol-related crime in non-metropolitan communities. Such findings support further alcohol harm-reduction policies and interventions that target the greater risks associated with excessive alcohol consumption in hotels and nightclubs generally, and in specific individual high-risk premises.

**EVALUATION OF AN EDUCATIONAL POLICING STRATEGY IN REDUCING ALCOHOL-RELATED CRIME ASSOCIATED WITH LICENSED PREMISES IN NON-METROPOLITAN NEW SOUTH WALES**

Although practice-based evidence\(^{60}\) supports the efficacy of deterrence-based police enforcement in reducing alcohol-related harms associated with licensed premises,\(^1,43,61-65\) the level of resources required to deliver many of these strategies is considered prohibitive for their adoption into routine policing practice.\(^{65}\) Based on theory and practice-based evidence, intelligence-led policing strategies that target high-risk premises are suggested as a potentially more resource efficient policing approach to reducing alcohol-related crimes associated with licensed premises.\(^{66}\) The adoption of a policing approach that provides educational feedback and guidance to licensees as an initial response to identified problems has also been suggested as a more resource efficient and procedurally fair approach to reducing harm associated with licensed premises.\(^{67}\)

Based on the positive findings of a randomised controlled trial that investigated the efficacy of an intelligence-led educational policing strategy,\(^{68}\) a study was undertaken in
21 police commands in a non-metropolitan area of NSW, to determine its potential effectiveness when delivered as part of routine policing practice. The intervention involved the delivery to licensed premises of graduated policing responses based on the extent of association of the premises' patrons with police-recorded alcohol-related incidents. The three levels of police response included: a general information letter; the letter and a report detailing police-recorded incidents involving the premises’ patrons; or the letter, report and a police covert audit and subsequent feedback meeting. Three rounds of the intervention were delivered across an eight month period (December 2002 to July 2003) to all premises (N=1,413) in the study area.

A pre-post evaluation design was used to determine if there was a change in the rate per premises of patrons involved in police-recorded incidents of violence, disorder or motor vehicle crash. The rate per premises was calculated for a four month pre-intervention baseline period (August 2002 to November 2002) and an equivalent four month post intervention period in the following year (August 2003 to November 2003). A reduction in the rate per premises that approached statistical significance was observed for all premises combined (P=0.08). In addition, a significant reduction in the rate was found for patrons of premises that received the highest level of police response (letter, report plus audit and feedback) (P=0.03), and for intoxicated patrons of such premises (P=0.05).

The findings of the study suggest that an intelligence-led educational policing strategy represents a potential additional response that police may apply to reduce alcohol-related crime associated with licensed premises in non-metropolitan areas. However, a more rigorously controlled evaluation utilising alternate indicators of alcohol-related
crime is required to confirm this potential. In light of the considerable burden associated with alcohol-related crime generally, the community’s desire for licensed premises to be held accountable for the service of alcohol to intoxicated patrons, and the relatively limited resources required for the implementation of the proposed policing strategy, the opportunity exists for police to implement this strategy on a routine basis and to conduct a prospective controlled evaluation of its effectiveness.

**IMPLICATIONS FOR ALCOHOL RESEARCH, POLICY AND PRACTICE**

The findings of this thesis suggest that further initiatives directed at the implementation of effective alcohol harm-reduction strategies in Australia are required. This need is an acknowledged public health priority. Moreover, the findings of this thesis have implications for this broad agenda in two key areas: the need to enhance the implementation of harm-reduction strategies in non-metropolitan Australia; and the need to build on existing knowledge regarding the effectiveness of policing strategies relating to licensed premises.

A range of strategies have been reported to be effective in reducing alcohol consumption and related harm (Appendices 5.1 and 5.2). The following section describes the potential applicability of two categories of strategy for reducing alcohol consumption and harm in non-metropolitan areas of Australia: strategies that focus on reducing the demand for alcohol; and those that focus on reducing the supply (availability) of alcohol in the community.
REDCUING THE DEMAND FOR ALCOHOL IN NON-METROPOLITAN AUSTRALIA

Although a large number of education-focused demand reduction strategies exist, for example alcohol education programs in schools, warning labels and public service messages, no evidence supports their effectiveness in reducing alcohol consumption and related harms.\(^1,62,64,74\) Nonetheless, such strategies are important for raising awareness within the community of the risks associated with alcohol consumption and may also contribute to the mobilisation of public opinion for the implementation of efficacious alcohol harm-reduction strategies.\(^64\) Despite the absence of evidence supporting these strategies, findings from a limited number of studies suggest support for school-based programs designed to strengthen the social capital of, and personal resilience within, at-risk communities in reducing alcohol consumption.\(^62\) Accordingly, further research is warranted to identify the effectiveness of alternative education and information approaches in reducing the demand for alcohol and its related harms.\(^64\)

**Alcohol treatment and brief alcohol interventions**

Only one demand reduction strategy, the provision of alcohol treatment services by health care providers, has been reported by systematic reviews to be effective in reducing alcohol consumption and related harms.\(^1,61-64,74,75\) Although brief interventions and other forms of alcohol treatment services operate at the individual rather than the population level, an inverse relationship between the availability of such services within a community and the prevalence of harms at the population level has been suggested.\(^1,76\) In light of this association, treatment services, in particular the recruitment and training of staff in screening of patients and the delivery of brief alcohol interventions, represent a potential means of addressing the high levels of at-risk
alcohol consumption and associated harm in regional, rural and remote Australian communities\textsuperscript{77} (Chapter 2).

Higher demand for alcohol and the resultant high levels of alcohol-related harms in rural and remote communities in Australia has been suggested to be a consequence, in part, of the limited availability of alcohol treatment services in these areas.\textsuperscript{43,77} Availability of this type of service in Australia is predominately concentrated in the metropolitan cities.\textsuperscript{78} In NSW in 2007/08, no alcohol treatment agencies were located in remote or very remote areas, with just 8\% of such agencies located in the outer regional areas.\textsuperscript{78} While remote and very remote areas account for less than 1\% of the NSW population\textsuperscript{79} and outer regional areas make up 7\%,\textsuperscript{79} the higher levels of at-risk alcohol consumption\textsuperscript{12} and related harms (Chapter 2) suggest a potential need for greater access to alcohol treatment services in these areas.

The limited access to alcohol treatment facilities in non-metropolitan areas is exacerbated by the relatively low level of access to all types of health care providers in these areas. For example, in non-metropolitan areas of Australia, access to primary health care is limited by a lack of general practitioners.\textsuperscript{80} The limited access to general practice care is of particular importance to reducing alcohol-related harms as the provision of alcohol treatment by these health care providers has been shown to be efficacious\textsuperscript{75} and is a recommended approach to reducing alcohol-related problems.\textsuperscript{1,61-64}

The difficulties and inefficiencies of providing both primary care and specific alcohol treatment services in areas of low population density are acknowledged barriers to
increasing access to these services.\textsuperscript{77} To address these barriers, alternative modes of service delivery, such as internet-based counselling, video and telephone conferencing support and outreach services are currently being trialled.\textsuperscript{77} In addition, engaging other health care providers in the delivery of alcohol screening and subsequent care, providers including community health, outpatient and emergency department staff represents a further alternative approach to enhancing access to alcohol treatment services in non-metropolitan areas.\textsuperscript{77} While the delivery of such strategies is consistent with the World Health Organisation’s priority to reduce health inequalities associated with risky alcohol consumption,\textsuperscript{73} the extent to which distance-based strategies are effective in improving access to alcohol treatment services and in reducing at-risk alcohol consumption and related harms in rural and remote communities have not been widely evaluated or reported.

**REDUCING THE SUPPLY OF ALCOHOL IN NON-METROPOLITAN AUSTRALIA**

Research suggests that reductions in excessive alcohol consumption and related harms are achievable if access to, and the supply of alcohol is reduced.\textsuperscript{1,43,61-64} The elements of alcohol supply that are suggested to either contribute to higher levels of alcohol consumption and related harms, or have the potential to reduce excessive consumption and harm generally, and their applicability in non-metropolitan areas, are briefly described below.

**Minimum legal age for the purchase of alcohol**

Systematic and comprehensive reviews of the research literature have reported that reductions in the minimum legal age for the purchase of alcohol are associated with increases in alcohol consumption and related harms. Similarly, such reviews have
reported that increases in the minimum legal purchasing age are associated with a reduction in alcohol consumption and related harms.\textsuperscript{1,43,61,64,74,81}

Across all state jurisdictions of Australia, the minimum legal age for the purchase of alcohol is 18 years,\textsuperscript{43} although the consumption of alcohol among persons under 18 years is permitted with the supervision of a legal guardian.\textsuperscript{59} While persons aged 15 to 24 years in all areas of Australia report a high prevalence of at-risk alcohol consumption,\textsuperscript{70} such patterns of consumption are particularly high among persons in this age group in outer regional, remote and very remote areas of Australia.\textsuperscript{72}

Given the consistent findings reported in Chapter 1 of young people consuming alcohol at risky levels and experiencing greater levels of acute alcohol-related harms, an increase in the minimum legal age for the purchase of alcohol represents a potential strategy for reducing this burden for all young Australians. In addition, previous research suggests that such a change in policy may result in decreases in alcohol consumption among young people, including those both younger and older than the minimum legal age of purchase.\textsuperscript{82} This would enhance the benefit of such a policy to reduce the burden of excessive alcohol consumption and related harms for all young people.

While historically increasing the minimum legal age for the purchase of alcohol has not had widespread support in the Australian community, support for such a strategy has increased in recent years (from 41% in 2004 to 46% of the population in 2007).\textsuperscript{70} Given the high rates of at-risk alcohol consumption and related harms among young people in rural and regional areas of Australia,\textsuperscript{72} an increase in the minimum legal age for the
purchase of alcohol for the whole population, combined with effective enforcement of these laws, represents an evidence-based strategy that may have a differentially greater impact on rates of high-risk alcohol consumption and related harms in these areas.

**Number, density and clustering of licensed premises**

The number, density and clustering of licensed premises within a given area has been shown to be positively associated with levels of alcohol consumption and alcohol-related harms in many countries, including Australia.\(^\text{1,43,64,74,84}\)

The potential relevance of the number of liquor outlets in non-metropolitan areas to the greater prevalence of alcohol consumption and alcohol-related harms in these areas is illustrated by the results of a population survey which reported a positive association between the perceived ease of access to alcohol among at-risk alcohol consumers and increasing geographic remoteness.\(^\text{85}\) However, while there is some research suggesting a greater density, on a per capita basis, of licensed premises in non-metropolitan areas of Australia,\(^\text{86,87}\) studies have also suggested that the density of licensed premises does not significantly predict alcohol-related assault in these areas.\(^\text{86}\) Additional research has similarly concluded that alcohol outlet density may not be an adequate measure of the relative accessibility of alcohol in non-urban populations and that other measures of alcohol availability may be required.\(^\text{88}\) Given such limited and contrasting findings, further research is needed to examine the association between the number, location and concentration of alcohol outlets and levels of alcohol consumption and related harms in non-metropolitan areas. This research would assist in identifying possible benefits of reducing access to alcohol from alcohol outlets by reducing their number, location and concentration in these areas.
Reducing the trading hours of licensed premises

The results of Chapter 3 confirmed strong temporal patterns in the occurrence of police-recorded alcohol-related violence and disorder incidents, and suggest that such patterns are associated with, among other determinants, the trading hours of licensed premises.

Restricting the trading hours of licensed premises, particularly on the days and times identified as high-risk for alcohol-related harms, has been reported as a successful strategy in reducing alcohol supply and harms in a number of countries, and in regional cities, rural and remote areas of Australia. For example, in Newcastle, a regional city in NSW, the trading hours of on-licensed premises in the central business district were reduced to 3.30am (previously 5.00am) and a lockout restricting entry and movement of patrons from 1.30am were introduced as components of a court-imposed harm-reduction intervention. A controlled evaluation of the intervention identified a significant decline in night-time non-domestic assaults representing 133 fewer assaults annually, with substantial reductions (11%) in such harm between 3.00am and 6.00am.

In the rural and remote Australian communities of Tennant Creek, Northern Territory and Derby and Halls Creek, Western Australia, prohibition of alcohol sales on Thursdays (the day social welfare payments were transacted), the cessation of trading on all other days no later than 10.00pm and limited hours of sale of packaged liquor have been implemented to reduce alcohol-related harms. In Tennant Creek the restrictions applied to both on- and off-licensed premises, while in Derby and Halls Creek they were limited to off-license outlets. A controlled evaluation of the initiatives on consumption levels reported up to 18% reduction in alcohol
consumption\textsuperscript{91,92} while pre-post (non-controlled) analyses suggested reductions in crime and public disorder (up to 18\%) and alcohol-related emergency department presentations (up to 34\%).\textsuperscript{90-92}

In view of these findings and the findings reported in Chapter 3 of on-license premises being the most common location of alcohol consumption of persons involved in incidents of violence and disorder in regional cities, the imposition of restrictions on the trading hours of such premises in these areas has the potential to reduce the level of alcohol-attributed harm. In particular, the imposition of earlier closing times on Fridays and Saturdays on hotels and nightclubs, license types identified in Chapter 4 as being disproportionately associated with alcohol-related crime, is a strategy with strong potential for substantial harm reduction.\textsuperscript{89}

Given that the consumption of alcohol preceding involvement in police-recorded incidents in remote and very remote areas was shown in Chapter 3 to predominantly occur in private residences, more widespread implementation of trading restrictions on off-license premises and premises which permit take-away sales in more rural and remote locations represents a possible means of reducing alcohol supply in these locations.\textsuperscript{90-92} To minimise the displacement of alcohol consumption and related harms to earlier times in these communities,\textsuperscript{43} a reduction of trading hours could incorporate both later opening and earlier closing times, with consideration given to the potential secondary peak in alcohol-related crime between 3.00pm and 6.00pm in very remote areas as reported in Chapter 3. The possibility of further restrictions or the prohibition of alcohol sales on Thursdays, when alcohol-related disorder peaks (Chapter 3), and/or
the day welfare payments are transacted, represents a further potential strategy based on instigating change at times of highest risk for alcohol-related crime in these areas.90

Decreasing the affordability of alcohol

Comprehensive and systematic reviews have concluded that strategies which decrease the affordability of alcohol through price increases, including increasing government collected taxes on alcoholic beverages, are associated with reductions in alcohol consumption and a range of adverse alcohol-related outcomes.1,61,64,74,93,94

The applicability of affordability strategies to non-metropolitan areas is illustrated by a study conducted in Northern Territory, Australia that confirmed the harm reduction benefit of a taxation/pricing strategy applied in a non-metropolitan jurisdiction.95 The study examined the impact of a state-wide volumetric price increase on alcohol through the implementation of a 5 cent levy per standard drink, with levy proceeds funding alcohol treatment, public education and prevention programs.95 Although the impact of the levy cannot be separated from the impact of the associated programs, a controlled evaluation of the overall intervention reported a 22% reduction in per capita alcohol consumption, 26% reduction in night-time road crash injuries, 35% reduction in motor vehicle crash fatalities and a 19% reduction in alcohol-related deaths, with acute deaths decreasing by 23%.95

More recently, Chikritzhs et al described the impact of an Australian tax applied to pre-mixed spirit beverages, alcoholic drinks considered high-risk especially for young females.96 The authors reported that in the three months following the introduction of the tax, compared to the same three months in the preceding year, 26% fewer
standard pre-mixed drinks were consumed nationally, with other beverage types recording only minor decreases (3%) or increases (up to 11%) during this period.\textsuperscript{96}

Given that the jurisdictional control of alcohol pricing and taxation occurs at both the state and federal levels in Australia, any amendments to alcohol taxation to decrease the affordability of alcohol are likely to impact on all geographic areas from major metropolitan cities to the very remote areas. Nonetheless, a restructure of alcohol taxation in Australia that is sensitive and proportionate to the pure alcohol content of the beverage,\textsuperscript{62,64} and which may decrease the affordability of alcohol for young people (Chapter 1), may have a positive impact on excessive alcohol consumption and related harms across all geographic areas. Furthermore, given the higher prevalence of at-risk alcohol consumption and police-recorded alcohol-related crime across all communities in non-metropolitan NSW as described in Chapter 2, such a volumetric increase in alcohol taxation has the potential to have a differentially greater benefit for these areas.\textsuperscript{43} Further research is required to confirm this anticipated gain in benefit for different populations, particularly non-metropolitan populations.

**Decreasing the quantity and strength of alcohol able to be purchased**

Natural experiments have suggested that, when implemented in European countries, strategies which limit the volume or strength (pure alcohol content) of alcohol that may be purchased, alcohol consumption and levels of alcohol-related harms including violence, suicide and vandalism decrease.\textsuperscript{1,43,61,97-99}

In Australia, and particularly in non-metropolitan areas, a number of strategies have been adopted to reduce the quantity or strength of alcohol able to be purchased from both on and off-licensed premises. Among the trading restrictions placed on on-
licensed premises in the regional city of Newcastle, the prohibition of the sale of high-alcohol content drinks and the banning of bulk purchases of alcohol or the stockpiling of drinks were, together with other intervention strategies, associated with decreases in non-domestic night-time assaults. In regional and remote areas of Australia the prohibition of off-license sales of wine in containers greater than two litres, limits on per capita and bulk off-license alcohol purchases and the banning of off-license sales of fortified wine in containers equal to or larger than 1.125 litres have been evaluated in both controlled and non-controlled studies. Such restrictions on the quantity and strength of alcohol able to be purchased in these areas have been reported to be associated with reductions in alcohol consumption and acute alcohol-attributed harms, alcohol-related hospital admissions and emergency evacuations, and police-recorded criminal offences including violence. In light of these findings and of the findings reported in Chapters 2, 3 and 4, a wider application in non-metropolitan areas of restrictions on the quantity and strength of alcohol that may be purchased both on and off-license may be effective in reducing the burden of alcohol-related crime in non-metropolitan areas of NSW.

The declaration of dry and alcohol-restricted areas
Only a very small number of countries, all of which have a predominantly Islamic population, prohibit alcohol sales and consumption. Many developed nations, however have instituted partial (prohibiting certain types of alcohol) or temporary total bans in order to reduce alcohol consumption and related harms. In Australia, such legal declarations either ban alcohol (a ‘dry’ area) or limit the carriage and/or the sale of alcohol (an alcohol ‘restricted’ area) in a prescribed geographic area.
While there appears to be a lack of rigorous evidence regarding the benefits of alcohol bans or restricted areas in urban locations, benefits of both bans and alcohol-restricted areas in remote locations in Australia have been reported. Such strategies have been implemented in Queensland, Northern Territory and South Australia, principally in isolated Indigenous communities at the behest and direction of local community members. For example, a pre-post evaluation of the implementation of Alcohol Management Plans (AMPs) in four Indigenous communities in Cape York, Australia reported significant reductions in serious injury. The implementation of AMPs involved restrictions on sales of wine, high alcohol content beers and spirits, off-license sales, and on the carriage of alcohol into communities.

More recently, a federal government initiative to improve the health and well-being of Indigenous peoples in the Northern Territory of Australia has included, amongst a wide range of strategies, the banning of alcohol in prescribed geographic areas. While ongoing monitoring of this initiative suggests an increase in police-recorded alcohol-related incidents in the areas most affected by this initiative, the increased policing activity and reporting in these areas has likely contributed to this finding. Further controlled evaluation is needed to determine if the banning of alcohol in these prescribed areas is associated with lower rates of risky alcohol consumption and related harms.

Given the suggested positive effects of bans and restricted areas in remote locations, the findings of a high prevalence of police-recorded alcohol-related crime in these areas of NSW (Chapter 2), and the propensity for such harm to be preceded by alcohol consumed in either private residences or public places (Chapter 3), a more widespread
application of bans and restrictions represents a possible means of reducing alcohol-related harms in these communities. Given the paucity of research in this area, however, implementation of bans and restricted areas should be monitored and accompanied by rigorous methods of evaluation.

**Regulating the licensed drinking environment**

A systematic review of interventions in the licensed drinking environment concluded that, in the absence of mandated strategies or incentives for intervention compliance, the evidence regarding the effectiveness of interventions in reducing alcohol consumption is inconclusive.\(^{104}\) Similarly, comprehensive reviews of alcohol policies in the licensed drinking environment have also concluded that enforcement is a necessary element of harm-reduction strategies in this alcohol consumption context.\(^{1,43,61-64,74}\) Even those strategies which have displayed some evidence of effectiveness in reducing alcohol consumption and related harms associated with licensed premises, such as responsible alcohol service training, aggression management and community mobilisation, are suggested to only be effective when they are actively enforced.\(^{1,43,61-64,74}\)

Few rigorously designed studies have reported the effectiveness of harm-reduction strategies in licensed premises that involve an enforcement component, and only one has been reported in a non-metropolitan area of Australia. As previously described, a randomised control trial of a deterrence-based educational policing strategy in a regional area of NSW reported significantly greater reductions in alcohol-related incidents associated with premises receiving the policing strategy compared to those premises that did not.\(^{68}\)
A number of other studies similarly suggest that alcohol harm-reduction strategies that involve an enforcement component may be effective in non-metropolitan areas. For example, a community mobilisation initiative involving the establishment of a steering committee and task groups; a community forum; safety audits; training of police, bar and security staff; enhanced enforcement by police; and the setting of a code of practice were separately undertaken in three regional towns in Queensland, Australia. A pre-post (non-controlled) evaluation reported reductions in levels of intoxication and police-recorded incidents in and around licensed premises. Similarly, in Geelong, Victoria, a partnership between licensees, police and other enforcement officers and community members resulted in the establishment of a Liquor Accord designed to limit patron intoxication and unnecessary patron movement between licensed premises. The establishment of the Accord was driven primarily by police and involved police monitoring of licensee compliance with the policies of the Accord, including restrictions on drink promotions and on the movement of patrons between premises. A controlled pre-post evaluation suggested that the Accord was associated with reduced rates of serious assault compared to other regional cities in Victoria. Similarly, the restricted trading conditions recently placed on licensed premises in the regional city of Newcastle, NSW, by the NSW Liquor Administration Board, as described earlier, were enforced by police and the liquor regulatory agency. When compared to another regional city area in which such trading conditions were not imposed, these restricted trading conditions, and the active enforcement of these conditions, were associated with significant reductions in night-time non-domestic violence assaults.
In light of these findings, and of the findings reported in Chapter 5, the implementation of alcohol harm-reduction strategies that involve elements of enhanced enforcement of licensed premises are recommended for regional cities and inner regional locations, the areas in which licensed premises were reported in Chapter 3 to be associated with heightened levels of alcohol-related harms. Although few studies have evaluated the effectiveness of such strategies in rural and remote locations, the practice-based evidence that is available suggests the potential effectiveness of enforcement-focused strategies in these areas. Nonetheless, further research is required to verify this potential.

Despite research suggesting that the enforcement of the provisions of liquor laws within licensed premises is effective in reducing alcohol-related harms, the number and types of enforcement strategies shown to be effective is primarily limited to those focused on formal enforcement of liquor regulations. Of these studies, none have demonstrated effectiveness over an extended period. Given this limited range of proven enforcement strategies, or of factors identified in the research that will contribute to sustained effectiveness of enforcement strategies, the development and evaluation of further such strategies is recommended.

The findings of Chapter 5 demonstrated the potential of one such additional strategy: educational policing of licensed premises. The situation-specific and intelligence-led characteristics of this approach draw on the principles of problem-oriented policing. This is a policing framework based on the development of an understanding of the clustering of crime through analysis of incidents and their context, and the development and delivery of targeted strategies employed to address identified determinants of such
Problem-oriented policing aims to deliver policing responses with established effectiveness and to do so with local resources, specifically resources beyond those available to the criminal justice system. A problem-oriented policing framework has been successfully applied to a number of social concerns including violence generally and illicit drug supply.

A problem-oriented policing framework has also been suggested as essential for interventions to achieve significant and sustained reductions in alcohol-related harm. Despite the potential of such a framework, and perhaps due to difficulties in evaluating a comprehensive and situation-specific approach, few evaluated enforcement interventions in licensed premises could be characterised as having a problem-oriented policing framework.

An exception to this trend in the research is the recently proposed five to seven year comprehensive initiative designed to address alcohol-related aggression associated with licensed premises across sites in Queensland, Victoria and New Zealand. This proposal builds on a community mobilisation initiative in Stockholm, Sweden which displayed sustained effects in reducing alcohol-related harm associated with licensed premises. Elements of this proposal include the training of service and security staff to prevent violence in licensed premises and formal enforcement of liquor laws through targeted policing of licensed premises. These are complimented by industry and community regulation via community monitoring and mobilisation. The model aims to achieve local ownership and a localised approach to alcohol-related violence in the licensed drinking environment.
This proposed research will contribute important developments in knowledge regarding the variable benefits of each of the components of the study, the combined benefits and sustained effect of the components, and the variable benefits of the intervention between metropolitan and non-metropolitan areas. However, as was demonstrated in this thesis (Chapter 5), given the variability of alcohol-related harms in non-metropolitan areas and the variable capacity to support potential strategies, further research is needed to evaluate the feasibility and effectiveness of such strategies for non-metropolitan areas with differing characteristics.

**CONCLUSION**

Alcohol-related crime exerts considerable harm on the Australian population generally, and in non-metropolitan areas in particular. The availability of enhanced alcohol-related crime intelligence (first described by Wiggers et al and in Chapter 2) has been demonstrated in this thesis to provide police and the broader community with information that enables them to better characterise the extent, type and variability of police-recorded alcohol-related. Greater understanding of the determinants of alcohol-related harm in non-metropolitan areas serves to inform the choice of feasible harm-reduction strategies with established effectiveness in reducing excessive alcohol consumption and related harms in these communities.

The availability of such alcohol-related harm intelligence, as demonstrated in this thesis, provides an enhanced platform upon which problem-oriented and intelligence-based strategies for reducing alcohol-related crime can be developed and implemented. As the evidence-base regarding the effectiveness and sustainability of regulatory strategies for licensed premises in non-metropolitan areas is limited, further
research is required to enhance the capacity of police and other agencies in these areas to implement feasible strategies with demonstrated effectiveness to reduce the burden of alcohol-related harms arising from this alcohol consumption context.

The most effective strategies to reduce the harms attributed to alcohol consumption are likely to differ according to the type, level and characteristics of harm, socio-demographic and sociocultural factors, and local community support and resources. Accordingly, a commitment is required to the ongoing development and evaluation of alcohol harm-reduction initiatives that are tailored to varying geographic and sociocultural areas. However, such tailoring to local circumstances should be founded on the application of strategies shown by evidence to be effective in reducing harm. Increased availability of evidence-based strategies relevant to non-metropolitan areas is therefore a key priority.
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### WORLD HEALTH ORGANISATION MEMBER STATES BY WHO REGION

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<th>Region</th>
<th>Member States</th>
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<tbody>
<tr>
<td><strong>Africa</strong></td>
<td>Algeria, Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, Central African Republic, Chad, Comoros, Congo, Cote d'Ivoire, Democratic Republic of the Congo, Eritrea, Equatorial Guinea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mozambique, Namibia, Niger, Nigeria, Rwanda, Sao Tome and Principe, Senegal, Seychelles, Sierra Leone, South Africa, Togo, Uganda, United Republic of Tanzania, Zambia, Zimbabwe</td>
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<td><strong>Americas</strong></td>
<td>Antigua and Barbuda, Argentina, Bahamas, Barbados, Belize, Bolivia, Brazil, Canada, Chile, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, Ecuador, El Salvador, Grenada, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago, United States of America, Uruguay, Bolivian Republic of Venezuela</td>
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<td>Bangladesh, Bhutan, Democratic People’s Republic of Korea, India, Indonesia, Maldives, Myanmar, Nepal, Sri Lanka, Thailand</td>
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PRESENTATION FOR NSW POLICE FORCE MANDATORY OFFICER TRAINING

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 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 (100%)
- 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
APPENDIX 2.1: Presentation for NSW Police Force mandatory officer training

Pilot Study
Results
• 50% of the POI/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

Pilot Study
Results: reductions in ARIs

<table>
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<th>Post-linking</th>
<th>Reduction in ARIs</th>
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<td>Control</td>
<td>447</td>
<td>354</td>
<td>93 (21%)</td>
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<tr>
<td>Intervention</td>
<td>425</td>
<td>271</td>
<td>154 (56%)</td>
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Difference between control + intervention 61

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

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<th>Incident Type</th>
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<td>1</td>
</tr>
<tr>
<td>Domestic violence</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>Assault</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>Intoxicated persons</td>
<td>7</td>
<td>5</td>
</tr>
</tbody>
</table>

Pilot Study
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
• 66% 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
APPENDIX 2.1: Presentation for NSW Police Force mandatory officer training

Introduction of Western & Southern Rivers Regions to the Linking trial
- Western Region has rates of ARIs - 3 to 4% times higher than the state average
- Southern Rivers Region has rates of ARIs - 3 times higher than the state average

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
- 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

Training
- Will commence from early 2002
- Will be conducted in 2 phases:
  Phase 1: COPS enhancements
  All police within Western, Southern Rivers & Hunter Regions will be trained in the COPS enhancements and the need for accurate and complete recording of ARIs.
  Phase 2: Working with licensed premises
  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.
APPENDIX 2.1: Presentation for NSW Police Force mandatory officer training

**Linking Project Procedures**

**Phase 1: COPS ENHANCEMENTS**

There are **TWO STEPS** 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 consuming alcohol prior to the incident

All POs/driver/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.

**Stage 2: At the station**

Enter information obtained at the scene into COPS.

**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
- Severely 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.
APPENDIX 2.1: Presentation for NSW Police Force mandatory officer training

Roles & Responsibilities

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

**Data Officers**
Ensure that ALL police under their Command collect data for any incident attended.

**Supervisors**
Deliver project-specific SMFIS during shift Changeover. When verifying CPS entries, check police entry of Linking Project information. Ensure all police officers are collecting alcohol-related information for ALL events.
APPENDIX 2.1: Presentation for NSW Police Force mandatory officer training

Roles & Responsibilities

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

**EDOs**
- Coordination of Linking Project training for ALL police within their LAC. Reinforce 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.

Roles & Responsibilities

**All Operational Police**
- Attend incidents and record alcohol status for all persons involved at police attended events, including (where necessary) the location details for the last place the POI (Victim/driving consumed alcohol).

**Regional Project Officers**
- Coordination and monitoring of project implementation in their region. Assist EDOs in training of police and assist in licencing and intelligence officers with their project roles.

Supervisor verification of events

What was their response to the first new COPS 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 McPhee (DOB 1/7/77) 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 lock the front door, which closed. The owner phoned the police. Police apprehended Mark McPhee and issued a FCAM for malicious damage. He was judged to be seriously intoxicated at the time.

**Case Study One - Q&A**

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

**Answer**
- Police need to determine whether Mark McPhee had been drinking prior to the incident.
- It is presumed that they do this by asking him whether he had been drinking. However, as he was obviously seriously affected he may be inappropriate for police to ask this question without further choice 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.
APPENDIX 2.1: Presentation for NSW Police Force mandatory officer training

**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
   - What was his alcohol level?
     - C SERIOUSLY AFFECTED
   - Where had the POC 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: 31/1/51) was visiting an ATM in the Wagga Wagga Strand Shopping Centre around 3:30pm. He told police he had not had a drink at all that day. He was approached by two local youth, Trent Darcy (DOB: 15/5/88) and Warren Smith (DOB: 19/9/79) 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 POCs. 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?
     - Trent Darcy
     - Warren Smith
   - Two people involved in the incident had consumed alcohol beforehand.

2. What should be entered into COPs for Doug Anderson in response to the following:
   - Did this person consume alcohol prior to the incident?
     - B NO

**Case Study Two - Q&A (cont.)**

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 7:15pm, Highway Patrol stopped a blue VL Commodore (MRX 556) on the Sturt Highway outside Wagga Wagga for a random breath test. The driver, Mary Lamb (DOB: 19/8/59), told police that she was driving back to work after having had lunch and some wine at the Reserve 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**

4. After assessing that Mary had been drinking (she stated that she had wine with her lunch), what additional linking POC information should Highway patrol have then gathered?
   - Where she consumed her last drink
   - (The name and location details of the licensed premise must be recorded)
   - Mary’s level of intoxication.
APPENDIX 2.1: Presentation for NSW Police Force mandatory officer training

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 POI last consumed alcohol prior to the incident?
A LICENSED PREMISES

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

Case Study Four

Scenario
On Sunday 22 July 2001, at around 12.30pm. Police responded to a domestic dispute at 21 Graham St Griffith. Police found a Mr John Dobbs (DOB: 23/5/77) in a distressed state with bruises on her face and upper body. He claimed that his wife Mrs Dobbs (DOB: 12/5/79) came home drunk and started to abuse him 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 the police 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 POI?
   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 Four - Q&A (cont.)

2. Should the Gemini Hotel be 'linked' to the incident?
   F REFUSED / UNABLE TO ANSWER

John Dobbs was unable to tell police where he had his last drink as he was too intoxicated. Information provided by Mr. Dobbs should not be used to answer this question. The only person who can answer this is the POI.

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: 29/8/73) were heard about their abusive language and behaviour. Both continued to abuse police and were given a PCAM for offensive behaviour. Luke and Dick told police they had been on a pub-crawl through Goulburn but had had their last drinks 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 alcohol consumption of how many POIs?
   C NONE

The POIs were outside the Southside Tavern discussing 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 POIs 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
APPENDIX 2.1: Presentation for NSW Police Force mandatory officer training

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 Southside Tavern, will be "blamed" for 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 Blinsey (DOB: 23/4/48). 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 DOCs refuge under the Intoxicated Persons Act.

While attending the scene, police noticed a juvenile, Marie Clifton (DOB: 14/11/93) drinking alcohol in the public area. She was given a warning under the VOA and escorted off the premises. The public was issued a formal warning in relation to this matter

Case Study Six - Q&A

1. The Black Swan Hotel will be "blamed" to the alcohol consumption of:
   B MARIE CLIFTON

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

   Bob Blinsey 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 Blinsey in the following COPs fields:
   Did this person consume alcohol prior to the incident?
   A YES

   He admitted to police that he had been drinking.

Case Study Seven

Scenario
On Saturday 21 July 2001 at 7:10pm, police received a call of an injured person outside 48 Haynes 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 FCM 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 important to try to establish whether he was drunk. However, if he was moderately affected it may be inappropriate for officers to be the ones who may choose to add their own observations to complete this step.

   They should ask a question:

   "Where did you have your last drink?"
APPENDIX 2.1: Presentation for NSW Police Force mandatory officer training

Case Study Seven - Q&A (cont.)

2. Should a licensed premises be ‘linked’ to the incident?
   If yes, which premises?
   YES

Roger White told police that the Red Lion Tavern was the last place he was drinking at before colleagues. Therefore, the Red Lion Tavern will be ‘linked’ to the alcohol consumption of the POE.

Case Study Eight

Scenario
On Thursday 14 June 2001 at 6.42pm, two pedestrians, Frank Morris (DOB: 06/01/74) and Jodi Fitchburn (DOB: 27/07/76), were knocked down and injured at a pedestrian crossing by a car driven by Martin McMahon (DOB: 10/11/77).

From statements taken at the scene, it appears that, although not visibly intoxicated, Frank Morris had been drinking earlier at the Red Lion Hotel. Jodi arrived at the Hotel straight from work, not having had a drink all day. They departed immediately tojoin friends at the Marborough Hotel. In their haste to meet their mates, 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 his way to a party in Anson Park. He was breath tested and showed no signs of alcohol.

Case Study Eight - Q&A

1. How many of the three POEs should be recorded as drinking prior to the incident?
   Two - Frank Morris and Martin McMahon.
   Jodi Fitchburn had not had a drink all day.

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'.

Case Study Eight - Q&A (cont.)

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

Case Study Nine

Scenario
On Friday 16 November 2001 at 7.45pm police attend the scene of an assault occasioning the assault 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 add to soft drink while there.

Greg Prince (19/2/65), 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

1. What ‘Linking Questions’ questions should the attending police officer ask Greg Prince?
   “Have you been drinking?”
   If YES: “Where did you have your last drink?”
   The level of intoxication of Greg Prince should also be assessed and recorded.

2. What ‘Linking Questions’ should the attending police officer ask Simon West?
   The same as Greg Prince.
Case Study Nine: Q&A (cont.)

3. Will the Coolamon Hotel be linked to the incident? (ie., acted as the last place either of the PCs consumed alcohol) Why not?

No, neither of the PCs 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 before Greg Prince had a drink at the Coolamon Hotel.

Frequently Asked Questions

Q: What should I do if an PCP 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 COPPS.

Q: What should I do if the PCP or victim is too intimated 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 COPPS.

Frequently Asked Questions

Q: Can I change a licencee 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


Why is Linking back?

• Last time the Linking Project had extremely promising results! **THANK YOU!!!**
• 1/2 of POI/victims consumed their last drink on a licensed premises.
• After gathering 4 months of info we gave 1/2 the premises reports, feedback and education.
• 4 months later those premises had 61 less incidents "LINKED" to them!!!

Why is Linking back?

We have been funded to prove that educating licensees about the events that occur after patrons leave their venue will make them change their serving practices! This will decrease police time spent dealing with so many alcohol-related incidents!

What did licensees think?

• About 1/2 found the feedback report useful in improving their practices.
• 91% found the police visit to be acceptable, but only about 1/3 thought it was actually useful for improving their practices.

What do we want to do now?

• **Reduce alcohol-related crime** (and police work/time spent dealing with problems associated with public/alcohol).
• **Improve police intelligence** on alcohol by improving COPs.
• **Help police to work with licensed premises** and responsible service practices.

Stage 1: At the scene

**STEP 1** Determine if the POI / 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 don’t.

For step 1 record: **YES**, **NO**, **NOT KNOWN**
APPENDIX 2.2: Presentation for NSW Police Force for brief officer training

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

Record their level of intoxication as either:
- Not affected
- Slightly affected
- Moderately affected
- Severely affected

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

Record the place as either:
- Licensed Premises
- Licensed Premises - special event/function
- Public Place
- Home/Private Residence
- Other (eg. Boat)
- Unknown
- Refused / unable to answer

If a ‘licensed premises’, make a note of the name and location of the premises.
APPENDIX 2.2: Presentation for NSW Police Force for brief officer training

Verification of events

Check their entry to the question: was this person drinking prior to the incident?

If they answered:

**“NOT KNOWN” or “NO”:**

There will be no alcohol details in the narrative. Details:
Check if there is an explanation in the narrative as to why this has been entered. If necessary this event can be returned to the officer as incomplete.

**“YES”:**

There are further checks that can be conducted.
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.

Q: Can I change 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.
Appendix 2.3 (pages A19 – A59) has been removed from the digital version of this thesis as the document is copyrighted to New South Wales Police Service (NSW Police Force) and Hunter Centre for Health Advancement (Hunter New England Population Health).
RECORDERE OF ALCOHOL-RELATED CRIME FEEDBACK LETTER FOR NSW POLICE FORCE

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 includes 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 99% 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 2% 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 (e.g. 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.
Western Region Standard Operating Procedures for The Linking Project - Collaborative project between the NSW Police and the Hunter Centre for Health Advancement aimed at improving police recording of alcohol-related incidents and decreasing alcohol related incidents.

The following procedures will be used when police speak to all persons of interest, driver's or victim's of crime within Western Region.

All Officers:

In all circumstances, officers attending an incident will:

- Determine whether individual/s have consumed alcohol prior to police attendance (either by asking the individual/s or by visual assessment);

- Assess the individual/s level of intoxication (Slightly/moderately/seriously);

- Establish where the exact location individual/s had consumed their last alcoholic drink prior to the incident (Licensed premises, public place, home/private residence etc);

- If individual/s consumed their last alcoholic drink prior to the incident at a licensed premises, establish the name and location of the premises;

- Record all of this information in official police notebooks and;

- Include in each COPS narrative whether the individual/s were spoken to about consuming alcohol, their level of intoxication and the location of their last drink.

- When creating all individual/s in COPS enter information into mandatory fields regarding consuming alcohol, level of intoxication and location of last drink.
Supervisors:

- Review each event to establish that the information has been entered onto the COPS system correctly. If information has not been entered correctly (e.g., if narrative indicates that alcohol was consumed and the mandatory field states no or unknown), the Supervisor will resubmit the event to the submitting officer for further attention.

- At each shift changeover reinforce the importance of this project and remind staff of their responsibilities in regard to creating events containing this information.

Crime Management Unit/Duty Officers:

- Reinforce the importance of the project and remind staff of their responsibilities in regard to creating events containing this information.

Intelligence Staff:

- Intelligence staff will conduct a two (2) monthly review of events related to licensed premises and merge any cases where different names and locations have been recorded for the same location.

Future Strategies:

- Use intelligence obtained via mandatory alcohol fields in COPS to development Local Operation Strategy to address alcohol related crime within the Local Area Command.

Morris West
Regional Commander – Western
### SUMMARY OF THE EVIDENCE REGARDING THE EFFECTIVENESS OF STRATEGIES TO REDUCE LEVELS OF ALCOHOL CONSUMPTION AND RELATED HARM

<table>
<thead>
<tr>
<th>Authors</th>
<th>Evidence of effectiveness in reducing consumption and harm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shults et al</td>
<td>Babor et al</td>
</tr>
</tbody>
</table>

#### Alcohol affordability
- **Alcohol taxes**
  - High
  - Dissemination
  - Effective
  - High
  - Strong
  - Effective
  - Convincing

#### Regulating the availability of alcohol
- **Alcohol bans**
  - High
  - Partial bans
  - Outcomes

- **Alcohol rationing**
  - Moderate
  - Outcomes

- **Government monopoly on alcohol sales**
  - High
  - High
  - Positive
  - Effective
  - Convincing

- **Minimum legal age of purchase**
  - Strong
  - High
  - Effective
  - High
  - Strong
  - Effective
  - Convincing

- **Hours and days of sale restrictions**
  - Moderate
  - Outcomes
  - Unclear
  - Moderate
  - Strong
  - Effective
  - Convincing

- **Restrictions on density of outlets**
  - Moderate
  - Further research
  - Effective
  - Moderate
  - Positive
  - Effective
  - Convincing

- **Restrict high-strength/promote low-strength alcohol**
  - Moderate
  - Positive

- **Promoting alcohol free events**
  - Lacking
<table>
<thead>
<tr>
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<tbody>
<tr>
<td></td>
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<td>Loxley et al</td>
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<tr>
<td></td>
<td>Anderson et al</td>
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<tr>
<td></td>
<td>WHO</td>
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</tbody>
</table>

**Strategies to reduce drink driving**

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Year of publication</th>
<th>Evidence of effectiveness in reducing consumption and harms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selective sobriety check-points</td>
<td>2001</td>
<td>Strong, Moderate, Effective, Effective</td>
</tr>
<tr>
<td>Random breath testing</td>
<td>2003</td>
<td>Strong, High, Dissemination, Effective, High</td>
</tr>
<tr>
<td>Lowered BAC limits</td>
<td>2004</td>
<td>Strong, High, Effective, High</td>
</tr>
<tr>
<td>License suspension via administrative process</td>
<td>2001 &amp; 2004</td>
<td>Moderate, Effective, High</td>
</tr>
<tr>
<td>Lower BAC for young/inexperienced drivers</td>
<td>2006</td>
<td>Sufficient, High, Implementation, Effective, High</td>
</tr>
<tr>
<td>Graduated licensing system</td>
<td>2007</td>
<td>Moderate</td>
</tr>
<tr>
<td>Designated driver and safe ride programs</td>
<td>2009</td>
<td>Lacking, Implementation, Lacking, Lacking</td>
</tr>
<tr>
<td>Vehicle ignition locks</td>
<td>2009</td>
<td>Lacking, Limited, Limited, Limited-suggestive</td>
</tr>
<tr>
<td>Mandatory treatment of recidivist drink drivers</td>
<td></td>
<td>Limited, Limited-suggestive</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Effective</td>
</tr>
</tbody>
</table>
## Effectiveness of strategies to reduce levels of alcohol consumption and related harm

<table>
<thead>
<tr>
<th>Authors</th>
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<tbody>
<tr>
<td>Shults et al&lt;sup&gt;6&lt;/sup&gt;</td>
<td>Evidence of effectiveness in reducing consumption and harms</td>
</tr>
<tr>
<td>Babor et al&lt;sup&gt;4&lt;/sup&gt;</td>
<td>Sufficient, further research</td>
</tr>
<tr>
<td>Loxley et al&lt;sup&gt;7&lt;/sup&gt;</td>
<td>Limited</td>
</tr>
<tr>
<td>Ludbrook et al&lt;sup&gt;6&lt;/sup&gt;</td>
<td>Contra-indicative</td>
</tr>
<tr>
<td>Ludbrook&lt;sup&gt;3&lt;/sup&gt;</td>
<td>Weak</td>
</tr>
<tr>
<td>Anderson &amp; Baumberg&lt;sup&gt;10&lt;/sup&gt;</td>
<td>Limited</td>
</tr>
<tr>
<td>NDRT&lt;sup&gt;5&lt;/sup&gt;</td>
<td>Lacking without enforcement</td>
</tr>
<tr>
<td>Anderson et al&lt;sup&gt;11&lt;/sup&gt;</td>
<td>Limited without enforcement</td>
</tr>
<tr>
<td>WHO&lt;sup&gt;12&lt;/sup&gt;</td>
<td>Lacking</td>
</tr>
</tbody>
</table>

### Regulating the licensed environment

<table>
<thead>
<tr>
<th>Action</th>
<th>Evidence of effectiveness in reducing consumption and harms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Responsible beverage training and policy</td>
<td>Sufficient, further research</td>
</tr>
<tr>
<td>Staff training to manage aggression</td>
<td>Limited</td>
</tr>
<tr>
<td>Voluntary codes of practice</td>
<td>Lacking Contra-indicative</td>
</tr>
<tr>
<td>Enforcement of on-premise regulations</td>
<td>Moderate Outcomes Effective Moderate Positive Probable</td>
</tr>
<tr>
<td>Staggered closing times/lock outs</td>
<td>Contra-indicative</td>
</tr>
<tr>
<td>Community mobilisation</td>
<td>Moderate Outcomes Effective Moderate Lacking without enforcement Effective with enforcement Limited-suggestive</td>
</tr>
<tr>
<td>Server liability</td>
<td>High Implementation High</td>
</tr>
<tr>
<td>Service of food</td>
<td>Implementation</td>
</tr>
<tr>
<td>Environmental design</td>
<td>Insufficient Limited</td>
</tr>
<tr>
<td>Plastic or tempered glass</td>
<td>Implementation Insufficient</td>
</tr>
</tbody>
</table>
### Effectiveness of strategies to reduce levels of alcohol consumption and related harm

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<td>Babor et al&lt;sup&gt;4&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

#### Education

<table>
<thead>
<tr>
<th>In schools and colleges</th>
<th>Lacking</th>
<th>Implementation</th>
<th>Weak</th>
<th>Lacking</th>
<th>Lacking</th>
<th>Lacking</th>
<th>Lacking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public service messages</td>
<td>Lacking</td>
<td>Implementation</td>
<td>Lacking</td>
<td>Lacking</td>
<td>Lacking</td>
<td>Lacking</td>
<td>Lacking</td>
</tr>
<tr>
<td>Low risk drinking guidelines</td>
<td>Implementation</td>
<td>No research</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Warning labels</td>
<td>Lacking</td>
<td>Lacking</td>
<td>Lacking</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Regulating the promotion of alcohol

<table>
<thead>
<tr>
<th>Ban/reducing volume of alcohol advertising</th>
<th>Limited</th>
<th>Mixed</th>
<th>Limit-moderate</th>
<th>Effective</th>
<th>Probable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content controls / self-regulation</td>
<td>Insufficient</td>
<td>Further research</td>
<td>Insufficient</td>
<td>Lacking</td>
<td></td>
</tr>
</tbody>
</table>

#### Treatment

<table>
<thead>
<tr>
<th>Screening and detection</th>
<th>Effective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brief clinical interventions</td>
<td>Moderate</td>
</tr>
<tr>
<td>Pharmacological detoxification</td>
<td>Effective</td>
</tr>
<tr>
<td>Treatment of alcohol problems</td>
<td>Limited</td>
</tr>
<tr>
<td>Mutual help/self-help programs</td>
<td>Limited</td>
</tr>
<tr>
<td>Psychological/ pharmacological relapse prevention</td>
<td>Effective</td>
</tr>
<tr>
<td>Authors</td>
<td>Evidence of effectiveness in reducing consumption and harms</td>
</tr>
<tr>
<td>------------------</td>
<td>-------------------------------------------------------------</td>
</tr>
<tr>
<td>Shults et al(^6)</td>
<td>2001</td>
</tr>
<tr>
<td>Babor et al(^4)</td>
<td>2003</td>
</tr>
<tr>
<td>Loxley et al(^7)</td>
<td>2004</td>
</tr>
<tr>
<td>Ludbrook et al(^8)</td>
<td>2001 &amp; 2004</td>
</tr>
<tr>
<td>Ludbrook(^3)</td>
<td>2006</td>
</tr>
<tr>
<td>Anderson &amp; Baumberg(^10)</td>
<td>2007</td>
</tr>
<tr>
<td>NDRI(^5)</td>
<td>2007</td>
</tr>
<tr>
<td>Anderson et al(^11)</td>
<td>2009</td>
</tr>
<tr>
<td>WHO(^12)</td>
<td>2009</td>
</tr>
</tbody>
</table>

**Harm reduction**

<table>
<thead>
<tr>
<th>Thiamine supplementation</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mandatory restrictions for remote and regional communities</td>
<td>Positive</td>
</tr>
<tr>
<td>Night patrols and sobering-up shelters</td>
<td>Further research</td>
</tr>
<tr>
<td>Dry community declarations</td>
<td>Positive</td>
</tr>
<tr>
<td>Dry public space areas</td>
<td>Lacking</td>
</tr>
<tr>
<td>Social welfare programs</td>
<td>Outcomes</td>
</tr>
<tr>
<td>Pregnancy advice</td>
<td>Outcomes</td>
</tr>
</tbody>
</table>
### SUMMARY OF THE AIM, SCOPE AND RATINGS SCALE OF REVIEWS OF STRATEGIES TO REDUCE ALCOHOL CONSUMPTION AND RELATED HARM

<table>
<thead>
<tr>
<th>Aims and scope of review</th>
<th>Ratings scale</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Shults, Elder, Sleet, Nichols, Alao, Carande-Kulis et al</strong></td>
<td>Ratings noted in Table 12 refer to the following descriptions:</td>
</tr>
</tbody>
</table>
| Systematically reviews the effectiveness and cost-effectiveness of selected population-based strategies to reduce drink driving in the United States of America and other developed nations. Policies/strategies were selected based on expert opinion. The outcome measure was alcohol-related motor vehicle crashes. | • Insufficient - there are too few studies, studies have insufficient design or execution, findings of studies are inconsistent, and/or effect size is too small.  
• Sufficient - at least one well-controlled study, or studies with reasonable control consistently indicate the intervention reduces motor vehicle crashes  
• Strong - efficacy and effectiveness studies consistently show reductions in alcohol-related motor vehicle crashes |
| **Babor, Caetano, Casswell, Edwards, Giesbrecht, Graham et al**                           | Evidence demonstrating effectiveness of policy or strategy in reducing alcohol consumption, alcohol-related problems or costs of such problems to society with emphasis given to experimental designs with greater control of confounding factors. Evidence supporting the effectiveness of policies/strategies are rated as: |
| Reviews the literature on the prevention and treatment of alcohol-related problems with findings intended to impact policy-making world-wide. The policies reviewed are those that are currently favoured globally and which possess a research base on which to assess their effectiveness. | • Insufficient – lack of studies or studies do not permit judgement  
• Lacking – evidence indicates a lack of effectiveness  
• Limited – evidence for limited effectiveness  
• Moderate – evidence for moderate effectiveness  
• High – evidence of high degree of effectiveness |
### Aims and scope of review

<table>
<thead>
<tr>
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<tbody>
<tr>
<td><strong>Loxley, Toumbourou, Stockwell, Haines, Scott, Godfrey et al</strong>&lt;sup&gt;8&lt;/sup&gt;</td>
<td>Provides an evidence-base for the Australian prevention agenda on drug use, drug-related risk and harm. Review articles primarily sourced for the literature review.</td>
</tr>
<tr>
<td></td>
<td>Conclusions of the review of policies and strategies in light of future investment in research and dissemination:</td>
</tr>
<tr>
<td></td>
<td>- Contra-indicative – Null, contra-indicative, or negative findings for targeted outcome measures in well-controlled evaluation studies</td>
</tr>
<tr>
<td></td>
<td>- Further research – Theoretically sound strategies with some research support but no evidence from well-controlled studies. Further research warranted.</td>
</tr>
<tr>
<td></td>
<td>- Implementation – Rationale theoretically sound, with well specified service delivery format and acceptance within delivery setting. Studies have sufficient recruitment of the population to assess impact although lack rigorously controlled outcome evaluation</td>
</tr>
<tr>
<td></td>
<td>- Outcomes – Positive outcomes of strategies consistently reported within well-controlled studies</td>
</tr>
<tr>
<td></td>
<td>- Dissemination – Positive outcomes of strategies consistently reported in published reports by service delivery agents or governments; following established effectiveness of outcomes in well-controlled studies</td>
</tr>
<tr>
<td><strong>Ludbrook, Godfrey, Wyness, Parrott, Haw, Napper et al</strong>&lt;sup&gt;8&lt;/sup&gt; and <strong>Ludbrook</strong>&lt;sup&gt;10&lt;/sup&gt;</td>
<td>Reviews the evidence of the effectiveness and cost-effectiveness of policies and strategies aimed at reducing alcohol misuse. Reviews from 1990 onwards are the primary source of data with particular reference to Scotland.</td>
</tr>
<tr>
<td></td>
<td>No scale provided in document. Terms in Appendix 1 relate to the following descriptions of the evidence:</td>
</tr>
<tr>
<td></td>
<td>- Unclear – Evidence from studies does not permit judgement</td>
</tr>
<tr>
<td></td>
<td>- Lacking – Controlled studies have not been conducted. Studies may show change in knowledge</td>
</tr>
<tr>
<td></td>
<td>- Mixed – Studies show both nil and minimal effect of strategy on consumption and harms</td>
</tr>
<tr>
<td></td>
<td>- Weak – Studies indicate that intervention produces only weak effects, and outcomes may only indicate changes in knowledge, not necessarily changes in alcohol consumption or harm</td>
</tr>
<tr>
<td></td>
<td>- Effective – reviews indicate evidence of effectiveness of strategy in reducing access to alcohol, alcohol consumption and/or related harms</td>
</tr>
</tbody>
</table>
## Aims and scope of review

<table>
<thead>
<tr>
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<th>Ratings scale</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Anderson &amp; Baumberg</strong>¹¹</td>
<td>Policies and strategies are rated on the scientific evidence establishing the policy/strategy's effectiveness in reducing alcohol consumption, alcohol-related harms and the cost of alcohol-related harm within the society.</td>
</tr>
</tbody>
</table>
| Reviews the existing evidence of alcohol policies to develop recommendations for the development of a comprehensive strategy to reduce alcohol-related harm in Europe. Synthesises existing reviews, meta-analyses, individual studies and data. | - Insufficient – Lack of studies assessing the effectiveness of the policy/strategy or studies do not provide sufficient evidence for judgement  
- Lacking – Evidence indicates lack of effectiveness  
- Limited – Scientific evidence for limited effectiveness  
- Moderate – Evidence for moderate effectiveness  
- High – Evidence of a high degree of effectiveness |
| **NDR**² | The effectiveness of alcohol regulations on consumption and related harms were rated according to the available evidence as: |
| Reviews the alcohol regulation literature (international and Australian) to establish the effectiveness of particular regulation strategies in order to form recommendations for future regulation of alcohol in Australia. | - Lacking – Evidence consistently shows a lack of positive effect, or counter-productive outcomes  
- Unclear – Evidence is currently unclear or insufficient to form judgement of effectiveness. Further investigation is warranted  
- Positive – Evidence for positive outcomes, although may require ongoing substantial functional support  
- Strong – Evidence for positive outcomes, including substantial and/or compelling evidence of effectiveness in an Australian context |
<table>
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<tr>
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</tr>
</thead>
<tbody>
<tr>
<td><em>Anderson, Chisholm and Fuhr</em>&lt;sup&gt;12&lt;/sup&gt;</td>
<td>Evidence of the effect of the policy or intervention in reducing the harm caused by alcohol is described as:</td>
</tr>
<tr>
<td>Reviews the evidence for the effectiveness of policies and programs to reduce the avoidable harm attributed to alcohol consumption. The review is based on the analysis of systematic reviews and meta-analyses.</td>
<td>- No research – no scientifically published research to determine the effectiveness of the policy or intervention</td>
</tr>
<tr>
<td></td>
<td>- Lacking – there is no evidence of effectiveness of the policy or intervention</td>
</tr>
<tr>
<td></td>
<td>- Limited – evidence is limited in the effect of the policy or intervention</td>
</tr>
<tr>
<td></td>
<td>- Effective – evidence suggests positive effect of the policy or intervention</td>
</tr>
<tr>
<td><em>WHO</em>&lt;sup&gt;13&lt;/sup&gt;</td>
<td>Alcohol policies were rated on the evidence of effectiveness in reducing alcohol-related harm:</td>
</tr>
<tr>
<td>Reviews the literature (internationally) of the effectiveness and cost-effectiveness of alcohol policies in reducing the harm attributed to alcohol consumption, with particular reference to amendments to European alcohol policy.</td>
<td>- Lacking – evidence indicates policies are not effective in reducing alcohol-related harm</td>
</tr>
<tr>
<td></td>
<td>- Limited - suggestive – evidence is limited, but suggestive of reductions in harm</td>
</tr>
<tr>
<td></td>
<td>- Probable – evidence indicates probable reduction in harm</td>
</tr>
<tr>
<td></td>
<td>- Convincing – evidence convincingly demonstrates policy reduces related harm</td>
</tr>
</tbody>
</table>
RESPONSIBLE HOSPITALITY OBSERVATIONS & FEEDBACK MEETINGS WITH LICENSEES/MANAGERS

TRAINING MANUAL

5 December 2002
1. PURPOSE OF THE TRAINING MANUAL

- To provide Police Officers with background information and instructions regarding covert or unannounced observations to be conducted for Licensed Premises identified by Police alcohol-related crime intelligence.
- To provide police with instructions regarding the feedback meetings to be conducted with the Licensees/Managers of the Licensed Premises that were the subject of Police Observation.

2. RESPONSIBLE HOSPITALITY OBSERVATIONS

2.1 Objectives of the observations

- To document aspects of a Licensed Premises' operation and management as observed at a busy trading time.
- To identify aspects of a Licensed Premises' operation and management practices that may lead to the service of intoxicated patrons and contribute to the potential for patrons to be involved in incidents while at the premises or after they leave.

2.2 Instructions for conducting observations

Premises' observations need to:

- Be covert and/or unannounced
- Occur at a busy trading time- Friday or Saturday night.
- Occur either at closing time or as close to it as possible so that actions taken by staff at this time (such as ceasing to serving patrons and instructing patrons to leave) can be observed.
- Be conducted without taking the checklist into the premises. The checklist (see Appendix I) needs be completed as soon as you leave the premises.
- Take as long as it is required for you to gather the information required to complete the checklist (as a guide, this may take up to 1 hour).

Note: Take 2 photocopies of the checklist. Take the original copy with you to the meeting with the licensee, keep one photocopy for your records and send one to your Linking Project Coordinator- Emma Fletcher, Newcastle LAC.
3. FEEDBACK MEETINGS WITH LICENSEES / MANAGERS

3.1 Objectives of the feedback meetings

- To discuss the incident report that the licensee/manager received in the mail.
- To identify aspects of the premises' operation and management that may lead to the service of intoxicated patrons and contribute to the potential for patrons to be involved in incidents while at the premises or after they leave.
- To provide practical advice that the licensee/manager can use to rectify these identified problems.

3.2 Instructions for conducting feedback visits to licensees/managers

Feedback visits need to:

- Be conducted as soon as possible after the observation has been conducted and checklist filled out.
- Conducted with the Licensee/manager of the Licensed Premises.
- Take as long as is required for the Police Officer and the Licensee/manager to discuss the incident report and to talk through the responsible service checklist (as a guide this may take up to 1 hour).

In discussing the checklist ensure that:

- Where a **BOLD** option was selected in relation to a checklist item, the corresponding information in the right-hand column is discussed with the licensee/manager. This column explains why this aspect of the premises' operation may contribute to potential harm and provides practical solutions for how this can be changed or modified.
- You leave the bound/coloured copy with the licensee/manager for their reference, as well as the resource folder.

4. ADDITIONAL INFORMATION ABOUT THE RESPONSIBLE HOSPITALITY CHECKLIST

4.1 How was the checklist developed?

The checklist was developed by combining results from:

1. Premises observations conducted in the Hunter in early 2002 and
2. A review of past studies that looked at the effect specific practices had on the level of intoxication of the patrons and resulting alcohol-related harm.

As a result, there is evidence to suggest that each item in the checklist has some impact on alcohol-related harm, whether it be to prevent or encourage harm.
It is known that usually not one factor of a premises' operation or management will prevent or encourage harm, but is likely to be a combination of factors.

### 4.2 What is included in the checklist?

The checklist contains 12 sections:

1. Patron characteristics
2. Staff characteristics
3. Responsible Service of alcohol policy
4. Responsible service of alcohol promotions
5. Underage patrons
6. Signage
7. Security
8. Safe transport options
9. Crowd control
10. Physical environment
11. Social environment
12. Crowd control

Some of the items in the checklist are legislative (eg. not serving alcohol to an intoxicated patron and signage), however, most of the items are factors that have been shown to increase or decrease alcohol-related harm (eg. cover charges, free water).

Most of the checklist items are self-explanatory, however, below is some additional information for those items that may require a little clarification:

#### Section 1: Patron Characteristics

#### 1.6 Signs of patron intoxication:

- **Noticeable changes in behaviour**
  - Inappropriate volume of speech
  - Aggressiveness
  - Violence
  - Inappropriate rate of speech (Talking too fast or too slow)

- **Loss of coordination**
  - Swaying or falling down
  - Spilling drinks
  - Fumbling with money

- **Decreased alertness**
  - Sleeping at the bar
- Difficulty paying attention or following directions

- **Lack of judgment**
  - Carelessness with money
  - Confusion
  - Lack of understanding or ability to hear

- **Physical signs**
  - Vomiting
  - Abusive language
  - Bloodshot eyes
  - Slow or shallow breathing
  - Slurring of, or difficulties in, speech

### Section 4: Responsible Service of Alcohol Promotions

- **Q4.1 Water:** You may need to ask the bar staff if available. Ask for a glass of water and see what they say.

- **Q4.2 Drink promotions:** Look for signs of promotions eg. promotional materials on tables, posters on walls. This includes promotions at any time, not just during the observation time. The promotions include happy hour.

- **Q4.4 Non-Standard Measures:** By non-standard measures we mean any size other than middies, schooners, 7 oz spirit glasses, standard nips of spirits. Look for promotions, drink menus or ask bar staff.

- **Q4.6 Food:** By food, we are referring to food other than packets of chips and nuts. Department of Gaming and Racing define the food as 'light meals' that excludes chips, nuts or any food from vending machines. Common foods include hot chips, hot dogs, pies, sausage rolls and pizzas.

### Section 6: Signage

Use the diagrams of signs in Appendix II as a guide to identifying signage.
5. APPENDIX I: RESPONSIBLE HOSPITALITY CHECKLIST

Responsible Hospitality Checklist

For the

(Insert premises name)
Responsible Hospitality Checklist

Responsible Hospitality is about reducing the harm associated with the misuse and abuse of alcohol. Responsible Hospitality is not just about alcohol serving practices, but also the physical design of licensed premises, the selection and training of staff (including security staff) and the overall image of the premises.

This checklist is a tool that is designed to assist you in identifying aspects of your premises' operation that may encourage unsafe levels of drinking by your patrons and subsequent harm on and around your premises and in the wider community.

HOW TO USE THE CHECKLIST

THE LEFT-HAND COLUMN

In the left-hand column we have listed practices or actions that have been identified by the liquor industry, police and experts in health and crime as measures of Responsible Hospitality practice.

THE MIDDLE COLUMN

On _________ the ___/____/2002 between _________ and _________
(day of week) (date) (start time) (finish time)

__________________ observed the operation of your premises and rated it against the
(Police Officer)

responsible hospitality indicators in the left-hand column. The results of these observations are displayed in the middle column. If the RED option is selected, it is recommended that you assess the potential for this practice/issue to be causing harm and look at ways of improving it.

THE RIGHT-HAND COLUMN

The right-hand column provides suggestions for how you can address issues raised in relation to the operation of your premises.

It is suggested that you continue to use this checklist in the future to conduct regular reviews of your premises.
### Checklist Item: PATRONS CHARACTERISTICS

<table>
<thead>
<tr>
<th>Observation</th>
<th>‘Why’ is this important? and ‘How’ can changes be made?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1.1</strong> What is the average age of the patrons?</td>
<td></td>
</tr>
<tr>
<td>1. &lt;18 years</td>
<td><strong>Why?</strong> Younger crowds tend to be rowdier and are associated with higher rates of alcohol-related harm from binge drinking. <strong>How?</strong></td>
</tr>
<tr>
<td>2. 18 to 21 years</td>
<td></td>
</tr>
<tr>
<td>3. 22 to 25 years</td>
<td></td>
</tr>
<tr>
<td>4. 26 to 35 years</td>
<td></td>
</tr>
<tr>
<td>5. Over 35 years</td>
<td></td>
</tr>
<tr>
<td><strong>1.2</strong> Are patrons mostly male, female or mixed gender?</td>
<td></td>
</tr>
<tr>
<td>1. More than 1/2 male</td>
<td><strong>Why?</strong> Male crowds, particularly young males, tend to be rowdier and are associated with higher rates of alcohol-related harm from binge drinking. <strong>How?</strong></td>
</tr>
<tr>
<td>2. More than 1/2 female</td>
<td></td>
</tr>
<tr>
<td>3. Approx 50:50</td>
<td></td>
</tr>
<tr>
<td><strong>1.3</strong> Does the premises have a dress code clearly displayed near the main entrance?</td>
<td></td>
</tr>
<tr>
<td>1. Yes</td>
<td><strong>Why?</strong> Dress of patrons contributes to the overall image of a premises, its reputation and its attractiveness to the overall community. Having dress codes clearly displayed (eg. no bare feet, singlets) ensures patrons are aware of acceptable dress. <strong>How?</strong></td>
</tr>
<tr>
<td>2. No (go to 1.5)</td>
<td></td>
</tr>
<tr>
<td><strong>1.4</strong> Did you observe patrons who were not complying with the dress code?</td>
<td></td>
</tr>
<tr>
<td>1. Yes</td>
<td></td>
</tr>
<tr>
<td>2. No</td>
<td></td>
</tr>
<tr>
<td><strong>1.5</strong> Does the premises have conditions of entry (eg. ‘no entry to under 18s’, ‘no entry to intoxicated persons’) clearly displayed near all entrances?</td>
<td></td>
</tr>
<tr>
<td>1. Yes</td>
<td><strong>Why?</strong> Having entry conditions clearly displayed such as ‘no entry to under 18s’ and ‘no entry to intoxicated persons’ provides both staff and patrons with an understanding of what is acceptable. It assists staff in confidently refusing entry. <strong>How?</strong></td>
</tr>
<tr>
<td>2. No</td>
<td></td>
</tr>
<tr>
<td>Checklist Item</td>
<td>Observation</td>
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<td>---------------</td>
<td>------------</td>
</tr>
</tbody>
</table>
| 1.6 What % of patrons where showing signs of intoxication? | % | **Why?** Serving intoxicated patrons and having intoxicated patrons on your premises is not permitted under the Liquor Act. **How?**  
- Ensure that staff are adequately trained and confident identifying intoxicated patrons, refusing service, asking patrons to leave premises and dealing with difficult and aggressive situations.  
- Only employ staff with an RSA certificate from an accredited trainer OR have all staff trained as soon as possible. |
| 2.1 What was the maximum number of patrons in the premises? | | **Why?** There should be enough staff working so all aspects of responsible service and management can be undertaken including the identification and management of intoxicated patrons, the removal of empty glasses, patron id checks and the control of crowds/lines. **How?**  
- Ensure that an adequate number of staff are rostered on to deal with the number of patrons and that they are trained and confident in undertaking RSA procedures. |
| 2.2 What was the maximum number of staff working? | | **Why?** The age of staff may affect their confidence in following RSA procedures when dealing with certain patrons. For example, younger staff may be less confident in refusing service to patrons in their age group or older regular patrons. **How?**  
- Ensure that all staff, particularly younger staff, are trained to be confident in RSA procedures. |
| 2.3 Did this appear to be adequate to manage patron numbers? | 1 Yes 2 No | **Why?** Staff behaviour can affect the ‘image’ of your premises. By having your staff comply with high standards, they will be treated with more respect by your patrons. **How?**  
- Don’t allow staff to consume alcohol on the premises before of during their shift. |
<p>| 2.4 What is the average age of the staff? | 1 &lt;18 years 2 18 to 21 years 3 26 to 35 years 4 Over 35 years | <strong>Why?</strong> |</p>
<table>
<thead>
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</tr>
</thead>
<tbody>
<tr>
<td>2.6 - 2.9 to be completed during the meeting with the licensee/manager:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.6 What % of your staff are trained in RSA by an accredited trainer?</td>
<td>% (if 0% got to 2.8)</td>
<td>Why? RSA training provides staff with the skills and confidence to assess levels of intoxication and deal with intoxicated patrons.</td>
</tr>
<tr>
<td>IF YES:</td>
<td></td>
<td>How?</td>
</tr>
<tr>
<td>2.7 Training register witnessed by Police Officer?</td>
<td>1 Yes 2 No</td>
<td>- Only employ staff with an RSA certificate from an accredited trainer OR have all staff trained as soon as possible.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- You must, under legislation, maintain an RSA Training Register. You can contact the Department of Gaming and Racing for a copy.</td>
</tr>
<tr>
<td>2.8 Does your premises have a written code of conduct for staff?</td>
<td>1 Yes 2 No</td>
<td>Why? Staff behaviour can affect the ‘image’ of your premises. By having your staff comply with high standards, they will be treated with more respect by your patrons.</td>
</tr>
<tr>
<td>IF YES:</td>
<td></td>
<td>How?</td>
</tr>
<tr>
<td>2.9 Code of conduct witnessed by Police Officer?</td>
<td>1 Yes 2 No</td>
<td>- Develop and implement a staff code of conduct for staff to abide by. It is suggested that this include, standard dress/uniform, and guidelines for interacting with patrons.</td>
</tr>
<tr>
<td>3 RESPONSIBLE SERVICE OF ALCOHOL (RSA) POLICY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.1 Does the premises have a written RSA ‘House’ Policy that is clearly displayed for patrons and staff to refer to?</td>
<td>1 Yes 2 No</td>
<td>Why? A written policy clearly displayed helps staff and patrons know what is expected from them, clearly defines the rules and formalises the procedure. A written RSA policy is requirement if you have harm minimisation conditions on your license.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>How?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Develop, implement and clearly display a ‘house’ policy where clearly visible to patrons and staff or display the standard Gaming &amp; Racing House Policy.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Ensure all staff are aware of the policy.</td>
</tr>
<tr>
<td>Checklist Item</td>
<td>Observation</td>
<td>'Why' is this important? and 'How' can changes be made?</td>
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<td>--------------------------------------------------</td>
</tr>
</tbody>
</table>
| **4.1** Is FREE cold water available over the bar to patrons at all times? (This includes water coolers) | 1 Yes 2 No | **Why?**  
Having free water available can encourage patrons to consume water between drinks, helping to slow down the rate at which they consume alcohol.  
**How?**  
- Allow staff to serve free iced water when requested, or have a water cooler on the bar.  
- Ask bar staff to encourage patrons to consume water in between alcoholic drinks if they appear to be approaching intoxication. |
| **4.2** Does the premises appear to conduct any drink promotions that encourage excessive alcohol consumption including 'Toss the boss', 'Two for the price of one', 'Free drinks with door charge', 'Free drinks for women' and 'Happy hour'? | 1 Yes 2 No | **Why?**  
These promotions encourage excessive alcohol consumption and rapid intoxication. Providing these promotions sends a message to your patrons that you have little regard for RSA, encourage intoxication and often attracts a clientele that tends to drink at faster rate and are planning to get drunk. This may result in problems for your premises.  
This is a requirement if you have harm minimisation conditions on your license.  
**How?**  
- Avoid unacceptable promotions. Consider promotions with low alcoholic drinks, non-alcoholic drinks and food.  
- Display Liquor Code of Practice (Promotions) on premises |
| **4.3** Does the premises appear to serve or sell alcohol in non-standard measures? eg. spirit shooters, slammers, jugs of beer and carafes of wine. | 1 Yes 2 No | **Why?**  
These practices are not accepted by the department of Gaming and Racing. Their emotive titles and their method of consumption encourage irresponsible drinking habits and rapid intoxication.  
Non-standard measures also make it difficult for patrons to judge a standard drink and their legal driving limit.  
**How?**  
- Avoid selling/serving alcoholic drinks in non-standard drink measures.  
- Use glasses with standard drink measures. |
**APPENDIX 5.3: NSW Police Force training manual for the delivery of licensed premises audits and feedback meetings with licensees**

<table>
<thead>
<tr>
<th>Checklist Item</th>
<th>Observation</th>
<th>&quot;Why&quot; is this important? and 'How' can changes be made?</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.4 RESPONSIBLE SERVICE OF ALCOHOL (RSA) PROMOTIONS (Continued...)</td>
<td>1 Yes</td>
<td>Why? Food will slow down the rate at which patrons drink and the absorption of alcohol into the blood. It is legislation that hotels, under section 21(3) of the Liquor Act, provide light meals at ALL times when alcohol served. A 'Light Meal' is not simply packets of chips, nuts or confectionary bars.</td>
</tr>
</tbody>
</table>
|                                                     | 2 No (go to 5.1) | How?  
- Ensure food is available for all patrons. This can be done by having a pie oven, sandwiches, hot chips, hot dogs etc.  
- The availability of food should be promoted using signage or announcements. |
| 4.5 What types of food do they provide? (may select multiple) | 1 Restaurant/Bistro meals | Why?  
Food will slow down the rate at which patrons drink and the absorption of alcohol into the blood. It is legislation that hotels, under section 21(3) of the Liquor Act, provide light meals at ALL times when alcohol served. A 'Light Meal' is not simply packets of chips, nuts or confectionary bars. |
|                                                     | 2 Bar/counter meals | How?  
- Ensure food is available for all patrons. This can be done by having a pie oven, sandwiches, hot chips, hot dogs etc.  
- The availability of food should be promoted using signage or announcements. |
|                                                     | 3 Bar snacks (eg. pies, chips, pizza etc) |  |
|                                                     | 4 Other (please specify) |  |
| 5 UNDERAGE PATRONS                                  | 1 Security/door staff | Why?  
All patrons who look like they may be underage (under 18) should be asked for ID before entering your premises or before service. If you routinely ask for ID, it will be expected by patrons. |
|                                                     | 2 Bar staff | How?  
- Ensure that all staff are adequately trained in checking for identification of age. This includes both security and bar staff.  
- Ensure you have a procedure in place for dealing with false identification.  
- Only employ staff with an RSA certificate from an accredited trainer OR have all staff trained as soon as possible. |
|                                                     | 3 Reception staff (clubs only) |  |
|                                                     | 4 No one |  |
### Checklist Item

#### 6 SIGNAGE

Does the premises clearly display the following signs for patrons to see?

6.1 Intoxication (No more it's the law OR any other sign stating that it is an offence to sell to intoxicated patrons)

<table>
<thead>
<tr>
<th></th>
<th>Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Yes</td>
</tr>
<tr>
<td>2</td>
<td>No</td>
</tr>
</tbody>
</table>

**Why?**

Required by legislation for hotels and registered clubs. Also assists staff in clearly defining the rules and taking action, and provides patrons with clear rules.

6.2 Underage signs in ALL bar areas (Section 114: Liquor not be sold/supplied or obtained on behalf of a minor)

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Yes</td>
</tr>
<tr>
<td>2</td>
<td>No</td>
</tr>
</tbody>
</table>

**Why?**

Required by legislation for hotels. Voluntary for registered clubs. Also assists staff in clearly defining the rules and taking action, and provides patrons with clear rules. 

Ensure located in every bar area at bar/counter or main entrance.

6.3 (a) **Hotels**:

Restricted areas at ALL entrances (STOP, not permitted in this part of the hotel if under 18 years)

<table>
<thead>
<tr>
<th></th>
<th>Observation</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Yes</td>
</tr>
<tr>
<td>2</td>
<td>No</td>
</tr>
<tr>
<td>3</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

(b) **Registered Clubs**:

Bar/Poker machine area poster at ALL entrances to bars and poker machine areas (RC Act 1976 Prohibits any person under the age of 18 years being in this part of the club)

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Yes</td>
</tr>
<tr>
<td>2</td>
<td>No</td>
</tr>
<tr>
<td>3</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

6.4 Proof of age (No proof, no purchase)

<table>
<thead>
<tr>
<th></th>
<th>Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Yes</td>
</tr>
<tr>
<td>2</td>
<td>No</td>
</tr>
</tbody>
</table>

6.5 Fail to leave (If you are drunk, disorderly or violent you will be asked to leave. If you refuse, you are committing an offence)

<table>
<thead>
<tr>
<th></th>
<th>Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Yes</td>
</tr>
<tr>
<td>2</td>
<td>No</td>
</tr>
</tbody>
</table>

**Why?**

Required under harm minimisation if conditions applied to your license. Assists staff in clearly defining the rules and taking action, and provides patrons with clear rules. 

Ensure located at all public entrances.

**Recommended**

It is recommended that these signs are located in ALL bar areas.
<table>
<thead>
<tr>
<th>Checklist Item</th>
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</tr>
</thead>
<tbody>
<tr>
<td>6 SIGNAGE (Continued....)</td>
<td>6.6 Accord membership (if applicable to area)</td>
<td>1 Yes</td>
</tr>
<tr>
<td></td>
<td>2 No</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 N/A (no Accord)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6.7 Standard drink posters (Drinking to stay under the limit - Department of Gaming and Racing)</td>
<td>1 Yes</td>
</tr>
<tr>
<td></td>
<td>2 No</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6.8 Spiked drinks warning patrons about the risks of spiking drinks and ways to avoid the situation</td>
<td>1 Yes</td>
</tr>
<tr>
<td></td>
<td>2 No</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6.9 Liquor Industry Code of Practice (Liquor Promotions)</td>
<td>1 Yes</td>
</tr>
<tr>
<td></td>
<td>2 No</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6.10 Does the premises have ALL exits clearly sign-posted?</td>
<td>1 Yes</td>
</tr>
<tr>
<td></td>
<td>2 No</td>
<td></td>
</tr>
<tr>
<td>7 SECURITY / DOOR STAFF</td>
<td>7.1 Does the premises have security / door staff?</td>
<td>1 Yes</td>
</tr>
<tr>
<td></td>
<td>2 No (go to 8.1)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>IF YES COMPLETE 7.2-7.4</td>
<td>1 Rigorous (all who look under 25)</td>
</tr>
<tr>
<td></td>
<td>2 Haphazard/random</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 Gender biased (eg males only)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4 No checking</td>
<td></td>
</tr>
<tr>
<td>Checklist Item</td>
<td>Observation</td>
<td>'Why' is this important? and ‘How’ can changes be made?</td>
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<td>--------------------------------------------------</td>
</tr>
<tr>
<td><strong>7 SECURITY / DOOR STAFF (Continued...)</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| 7.3 Did you witness security/door staff refusing entry to any intoxicated patrons? | 1 Yes | How?  
- Ensure that you employ security/door staff when bar staff cannot adequately monitor intoxication and underage patrons.  
- Employ security that are not aggressive or intimidating.  
- If you have security you must hold a security masters license and keep it on file.  
- As a general guide have 1 security person per 100 patrons plus 1 extra.  |
| | 2 No | |
| | 3 No intoxicated persons | |
| 7.4 Did security staff monitor (walk around routinely) nearby surrounds of the premises? | 1 Yes | Why?  
It is important that nearby surrounds of premises are monitored by security as they help minimise noise, loitering and street offences.  
Under section 104 of the Liquor Act and Section 17AA of Registered Clubs Act, you must ensure quiet and good order of the neighbourhood. Having security monitor nearby surrounds will assist in this requirement. Duty of care to your patrons.  |
| | 2 No | How?  
- Employ/designate a security/door staff to monitoring surrounds such as streets and parking areas.  
- It may be possible to team up with nearby premises to ensure that surrounds are covered.  |
| **8 SAFE TRANSPORT OPTIONS** | | |
| 8.1 What assistance is provided to patrons who would like to call a taxi? (Multiple options may be selected) | 1 Staff call taxi | Why?  
Under section 104 of the Liquor Act and Section 17AA of Registered Clubs Act, you must ensure quiet and good order of the neighbourhood. Assisting patrons to get to other premises and home is important for the safety of patrons, to help reduce drink driving and street offences. Allowing staff to call for taxi's is a way of providing such a service.  |
<p>| | 2 Taxi stand right outside premises | |
| | 3 Taxi number by public phone | |
| | 4 Free direct taxi phone | |
| | 5 No assistance | |
| | 6 Don’t know | |
| | 7 No taxi service in area | |</p>
<table>
<thead>
<tr>
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<tbody>
<tr>
<td><strong>SAFE TRANSPORT OPTIONS (Continued…)</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| 8.2 Does the premises provide any type of courtesy transport for patrons to get safely BETWEEN premises and/or to get HOME? | 1 Yes 2 No (go to 8.4) | **Why?** Under section 104 of the Liquor Act and Section 17AA of Registered Clubs Act, you must ensure quiet and good order of the neighbourhood. Assisting patrons to get to other premises is important for the safety of patrons, to help reduce drink driving and street offences.  
**How?**  
- Consider such options as courtesy buses and taxis.  
- If there are premises nearby, you may be able to team up to share the cost. |
| IF YES: 8.3 What type of transport is provided? | | |
| 8.4 Does the premises provide a Designated Driver Program for patrons? | 1 Yes 2 No | **Why?** Designated driver programs provide free soft drink to designated drivers. They can help prevent drink driving.  
**How?**  
- Consider providing a Designated Driver Program to your patrons.  
- Remember to promote the program to patrons. |
| | | |
| **CROWD CONTROL** | | |
| 9.1 Does the premises apply door charges to entertainment areas? | 1 Yes 2 No 3 N/A no entertainment areas | **Why?** Door charges to entertainment areas are an effective method of crowd control as they help monitor patron numbers, and minimise movement between premises that can result in street crime and problems for licensees, staff, police and the community.  
**How?**  
- Consider implementing door charges to entertainment. Contact your local licensing police regarding this legislation. |
| 9.2 Does the premises apply prevention of entry/re-entry restrictions after a certain time in the evening? | 1 Yes 2 No | **Why?** Many problems experienced by licensed premises stem from admitting intoxicated patrons late in the night.  
**How?**  
- Consider implementing entry/re-entry times.  
- This will encourage patrons to stay at your premises longer and prevent you admitting already intoxicated patrons. |
<table>
<thead>
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</thead>
<tbody>
<tr>
<td><strong>9 CROWD CONTROL (Continued...)</strong></td>
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<td></td>
</tr>
</tbody>
</table>
| 9.3 Does the premises have line-ups for entry to any area of the premises? | 1 Yes 2 No 3 N/A, not busy enough | **Why?** Line-ups for entry to premises allows for closer monitoring of the number of patrons entering premises, intoxication levels and underage.  
**How?**  
- On busy nights have a line up to get in.  
- Ensure staff monitoring lines are trained in dealing with situations such as patrons jumping the line, consuming alcohol in the line, checking ID, monitoring intoxication levels, and keeping the patrons orderly and calm. |
| 9.4 Does the premises have separate entry and exit doors? | 1 Yes 2 No 3 N/A for CLUBS | **Why?** Separate entry/exit doors which meet fire safety regulations can help reduce harm caused by patrons crowding doorways, reducing the potential for patrons to feel crowded and become aggressive. They can also improve your premises ability to monitor patron numbers, entry of intoxicated patrons and underage patrons.  
**How?**  
- Consider having separate entry and exit doors on busy nights of the week that are adequately monitored by security/door staff. |
| **10 PHYSICAL ENVIRONMENT** | | |
| 10.1 How would you describe the lighting in the premises at night? | 1 Dark 2 Dim 3 Bright | **Why?** Adequate lighting in your premises can assist staff in monitoring the crowd for intoxicated patrons, underage patrons and aggressive situations or problem behaviour. Ensure the safety of your staff and patrons eg. easy identification of broken glass. Dark lighting in premises has been associated with increased aggression.  
**How?**  
- Ensure all areas in and around your premises are adequately lit. |

**NB:**  
*Dark:* virtually all lights off, except bar area - difficult to see  
*Dim:* some lights on, but comfortable to see  
*Bright:* all lights on
<table>
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</tr>
</thead>
<tbody>
<tr>
<td>10.2 CROWD CONTROL (Continued…)</td>
<td>1 Very quiet 2 Medium loud 3 Loud 4 Painful 5 Don't Know</td>
<td>Why? High noise levels will often aggravate patrons and encourage rowdy behaviour. High noise levels have been associated with increased aggression on premises and makes the premises less attractive to the wider community. There are set regulations in relation to noise under harm minimisation. How? • Ensure that music is played at a reasonable volume so that patrons can still communicate without shouting. • Ensure that your music meets regulation. You can contact the Department of Gaming and Racing for more information.</td>
</tr>
<tr>
<td>10.3</td>
<td>1 High 2 Medium 3 Low</td>
<td>Why? Poor ventilation will cause the premises to be hot, stuffy, and smoky. This will affect the comfort levels of patrons. When patrons are hot they will often drink more to try and reduce their discomfort increasing their chance of rapid intoxication. How? • Ensure that your premises has adequate ventilation to keep patrons comfortable. • Example could be the installation of air conditioners. • Consider making a bar area smoke free.</td>
</tr>
<tr>
<td>10.4 Are patrons allowed to sit or stand at the bar service area consuming drinks?</td>
<td>1 Yes 2 No</td>
<td>Why? Allowing patrons to sit at the bar service area may reduce access to the bar service area. This often causes frustration for patrons and may cause aggressive situations. How? • Designate a section of the bar to bar service only. You can do this by hanging a sign above. This will ensure patrons don’t sit in service areas.</td>
</tr>
</tbody>
</table>

**NB:**
- **Painful:** music and voices very loud-uncomfortable, not possible to have conversation
- **Loud:** music and voices loud, need to shout to talk
- **Medium Loud:** a lot of noise, but still possible to have a conversation
- **Very quiet:** no or minimal music, quiet voices

**NB:**
- **High:** smoke very visible and strong smelling
- **Medium:** visible but not as strong smelling
- **Low:** unable to notice
### Checklist Item

#### CROWD CONTROL (Continued…)

10.5 How would you rate the flow of traffic through the bar?

<table>
<thead>
<tr>
<th>Observation</th>
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</tr>
</thead>
<tbody>
<tr>
<td>1. Very Poor</td>
<td>Why? If patrons are crowded and bumping into each other, there is increased possibility of frustration and aggressive situations. How? Review your premises on a busy night to determine where problems with crowding may occur. If possible, move furniture to remove any bottlenecks. Ensure the legal capacity of your premises isn't exceeded.</td>
</tr>
<tr>
<td>2. Poor</td>
<td></td>
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<tr>
<td>3. Fair</td>
<td></td>
</tr>
<tr>
<td>4. Good</td>
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</table>

**NB:**
- **Very Poor:** unable to move through
- **Poor:** difficult to move without bumping others
- **Fair:** crowded, but a clear passage
- **Good:** no problems

10.6 Did you witness any large amounts of empty glasses around the premises?

<table>
<thead>
<tr>
<th>Observation</th>
<th>'Why' is this important? and 'How' can changes be made?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Yes</td>
<td>Why? Empty glasses can make the premises look untidy as well as be potential sources of harm if broken. How? Give clear direction to staff that empty glasses should be removed as soon as possible from patron areas. If possible, have a dedicated 'glassy' whose primary role is to float around the premises collecting empty glasses. These people are also valuable in identifying intoxicated patrons.</td>
</tr>
<tr>
<td>2. No</td>
<td></td>
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</tbody>
</table>

#### SOCIAL ENVIRONMENT

11.1 Did you witness excessive amounts of bad language/swearing?

<table>
<thead>
<tr>
<th>Observation</th>
<th>'Why' is this important? and 'How' can changes be made?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Yes</td>
<td>Why? Permissive environments that allow uncontrolled bad language are often highly associated with aggression. Atmospheres that are more controlled and friendly can make patrons feel more comfortable and help attract the wider community to your premises. How? Make it very clear to patrons and staff that uncontrolled bad language will not be tolerated on your premises. Ensure that your staff, including bar staff and security, are adequately trained to intervene in such activity.</td>
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<tr>
<td>2. No</td>
<td></td>
</tr>
</tbody>
</table>
### Social Environment

<table>
<thead>
<tr>
<th>Checklist Item</th>
<th>Observation</th>
<th>Why</th>
<th>How</th>
</tr>
</thead>
</table>
| 11.2 Did the premises have any form of entertainment (including juke box and pool tables)? | 1 Yes  
2 No (go to 12.1) | **Why**?  
Bored patrons drink more, are often more hostile and become easily agitated. This can result in problems with intoxication and violence.  
Quality entertainment can create a positive environment. You must have an entertainment authority for any amplified music that is clearly displayed. | **How**?  
- If you provide entertainment at any time, ensure that the entertainment is of good quality and complies with noise regulations.  
- Some forms of entertainment may require stricter monitoring, and specific rules of conduct (eg juke box and pool tables).  
- In addition, some forms of entertainment may have space requirements (eg pool tables and dance areas for live bands).  
- Ensure that you have an entertainment authority and display it clearly. You can contact your local council for this. |
| IF YES, 11.3 What? (may circle multiple) | 1 Live band/singer  
2 DJ  
3 Karoke  
4 Juke Box  
5 Pool Table  
6 Comedy act  
7 Strip/lingerie girls  
8 Other (Please specify) | | |
| 12 Closing Time | | **Why**? | **How**? |
| 12.1 Were you at the premises at closing time? | 1 Yes  
2 No (go to 13) | | |
| IF YES, 12.2 Did the premises cease the serving of alcohol at least 15 minutes prior to closing time? | 1 Yes  
2 No | | |
| 12.3 Did the premises call "last drinks"? | 1 Yes  
2 No | | |
| | | **Why**?  
Serving alcohol to patrons within fifteen minutes of closing time makes it more difficult to remove patrons before your legally defined closing time. This may cause patrons to feel rushed and potentially cause aggressive situations. | **How**?  
- It is highly recommended that you cease selling alcohol at least 15 minutes before you close the premises. |
| | | **Why**?  
Calling last drinks can encourage excessive drinking at closing time, or the purchasing of take-away drinks. This can increase the risk of harm in and around your premises at closing time. | **How**?  
- Make it clear to patrons that the bar has been closed without calling for last drink orders and do not allow any further purchases after this time. |
13 ADDITIONAL COMMENTS / OBSERVATIONS

Include here any additional information you think should be fed back to the licensee/manager. This may include case studies of intoxicated people that were on the premises at the time of observation, their behaviour and treatment by staff (eg. service or refusal of service).
Use the information provided in the following section to address any issues that were raised in relation to the operation of your premises.

Information is provided on the following:

- NSW Department of Gaming and Racing Resources
- Dress code and conditions of entry
- Staff code of conduct policy
- Indicators of intoxication
- Refusing service and asking patrons to leave
- Responsible Service of Alcohol training
- Incident logs
- Responsible Service of Alcohol House Policy
- Checking identification
- Signs in licensed premises (hard copy only)
- Security
- Safe transport
- Crowd control
- Physical environment of a licensed premises
- Entertainment
- Social environment of a licensed premises
- Safe needle and syringe disposal
NSW DEPARTMENT OF GAMING & RACING

Fact Sheets and Industry Information Sheets

The NSW Department of Gaming and Racing has a number of fact and industry information sheets available on their web site (http://www.dgr.nsw.gov.au) that are easily downloaded and printed. Alternatively, you can contact them on (02) 9995 0333.

Available Alcohol Fact Sheets include:
- Fact Sheet 1.2 Minors Functions Authority - Hotels
- Fact Sheet 1.3 Minors Functions Authority - Nightclubs
- Fact Sheet 1.4 10 Hints on How to Make Your Under 18s Function A Success
- Fact Sheet 2.1 Signs in Registered Clubs
- Fact Sheet 2.3 Functions Authority - Registered Clubs
- Fact Sheet 6.3 Applications to the Liquor Administration Board
- Fact Sheet 6.4 Signs in Licensed Premises
- Fact Sheet 8. Complaints - Quiet and Good Order of the Neighbourhood and Statutory Declaration and Authorisation for Complaints

Available Industry Information Sheets include:
- Dine or Drink Authority - Fees Payable - Schedule of fees payable for a dine-or-drink authority for a licensed restaurant.
- End of Year Functions and Alcohol Checklist
- Liquor Accords - local solutions for local liquor problems
- Code of practice- Responsible Promotion of Liquor Products
- Proof of Age Information Sheet
- Proof of Age Brochure - applying for a card
- Responsible Service of Alcohol Program
- Underage Drinking Program
- Young People and the NSW Liquor Laws
DRESS CODES & CONDITIONS OF ENTRY

By clearly displaying a dress code and conditions of entry, you are providing patrons with a clear understanding of what is acceptable on your premises. Remember the dress and behaviour of patrons contributes to the reputation of your premises. By having conditions of entry clearly displayed, it helps staff to refuse entry to underage and intoxicated patrons that could potentially cause problems on your premises. Here are a few ideas:

DRESS CODE:

- Neat and tidy dress at all times
- Shoes must be worn at all times
- No singlets, thongs, swimwear, manual work gear

CONDITIONS OF ENTRY:

- Underage signs - by law, these MUST be displayed at the entrance to each bar. See Fact 6 Sheet 6.4 Department of Gaming and Racing (Signs in Licensed Premises)
- Intoxication signs - by law, ALL premises MUST display a poster on intoxication in each bar area. You could display at the main entrance.
- RSA House policy - display your premise’s ‘house’ policy or the standard policy poster from the Department of Gaming and Racing at the entrance.
- Alternatively, you could design your own sign eg. 'If you are underage or intoxicated, you are not permitted on these premises, so please don’t try'.

ENFORCING DRESS CODES AND CONDITIONS OF ENTRY:

Remember that it is great to have a dress code and conditions of entry, but these must be enforced. Make sure you have identified and trained staff in enforcing such policies. Staff that should be trained include:

- Security/door staff
- Reception staff (Registered Clubs)
- Bar staff
- Management

Ideally, ALL staff should be enforcing these policies. If you develop and implement your own 'house' policy, you should include a statement relating to these conditions. Make sure that all staff members are aware of the conditions of entry and dress code, and are confident to take action when patrons don’t comply.
Staff Code of Conduct Policy Guidelines

By having a staff code of conduct policy, your staff will know what behaviour and standards are acceptable whilst employed by your premises. By having your staff abide with high standards, they will be treated with respect by your patrons.

Your Staff Code of Conduct Policy should include the following:

1. **CONDITIONS OF EMPLOYMENT**
   This section should include a statement on the hours of work, grade of employment (eg. Grade 3 Food and Beverage attendant), trial periods (if applicable), annual and sick leave entitlements, and payment details (eg. pay date and method of payment).

2. **DRESS & CODE OF CONDUCT**
   This section should include a number of statements pertaining to how you expect your staff to dress and behave whilst on the premises. Include:
   
   **Dress:**
   - Dress at all times is to be suitable attire - state what attire is expected eg. uniform provided by premises or black/white attire. If you want all staff to wear name badges, include at this also. It is recommended that staff wear a uniform so that they are easily identifiable by patrons.

   **Occupational Health and Safety:**
   - OH&S Regulations to be adhered to at all times.

   **Alcohol Consumption:**
   - Drinking whilst or before commencing a shift is unacceptable. If you have a rule that no staff member is to consume alcohol on the premises outside of work OR that staff must change clothes after their shift to have a drink, make sure it is included here.

   **Gambling:**
   - No gambling in any form whilst at work - this includes poker/card machines and TAB (if have a gaming area).
   - No advancement of wages prior to pay day.
   - No patron cheques are to be cashed without direct authorisation from management.
   - No monies/cred to be given to customers under any circumstances.
   - All goods/services are to be paid for at the time of purchase.

3. **RESPONSIBLE SERVICE OF ALCOHOL & GAMING TRAINING**
   This section should include a statement that all staff must have completed accredited Responsible Service of Alcohol and Gaming Training Courses (if applicable).
   Include statements about any other training staff are required to undertake and Remember to file copies of all RSA Certificates in your RSA Training Register.

4. **POLICY**
   If your premises has a written 'house' policy, you should attach a copy for the staff member. They must review the policy and be familiar with it prior to employment commencement date.

   The conditions of employment should then be signed by both the employee and the manager of the premises. You could then file in your RSA Training Register.
INDICATORS OF INTOXICATION

Determining a patron's intoxication level is often difficult, but people normally progress through a number of stages when drinking. Some noticeable changes may be:

**Changes in behaviour**
- Becoming loud and boisterous
- Suddenly using offensive language
- Slurring of words or mistakes in speech
- Aggression or violence
- Inappropriate sexual behaviour

**Lack of judgement**
- Being careless with their money eg. shouting lots of other people drinks
- Complaining about the strength of their drinks
- Becoming aggressive or bad tempered
- Annoying other patrons
- Confusion

**Clumsiness**
- Spilling drinks
- Fumbling with money and/or cigarettes
- Trouble removing money from wallet or purse

**Loss of coordination**
- Swaying and staggering
- Difficulty in walking straight
- Bumping into furniture and/or other patrons

**Decreased alertness**
- Delays in responding to questions
- Drowsiness
- Not hearing or understanding what others are saying
- Falling asleep (eg. in a corner)

**Physical signs**
- Vomiting
- Bloodshot eyes
- Slow or shallow breathing
- Slurring of, or difficulties in, speech
- Rambling or loss of train of thought

If patrons show any of the above signs, consider them potentially intoxicated.

Remember- it is against the Liquor Registered Clubs Acts for intoxicated patrons to be served alcohol and for intoxicated patrons to remain on your premises.
REFUSAL OF SERVICE & ASKING PATRONS TO LEAVE

Practical Tips for Staff

EARLY INTERVENTION - take steps to prevent intoxication
- Slow the service of drinks.
- Suggest food and soft drink/low-alcohol drinks.
- Warn the patron that they are nearing intoxication and may be refused later and asked to leave.

DON'T BE JUDGEMENTAL - treat all patrons the same way
- Don't reprimand the patron.
- Avoid blaming the patron.

BE COURTEOUS AT ALL TIMES
- Be polite.
- Use 'I' statements eg. 'I'm sorry, if I serve you another drink, I'd be breaking the law' OR 'I'm concerned about your safety'
- Shift the blame eg. there's been a police crackdown on intoxication lately.
- Ask 'what if' questions eg. 'What if I call you a cab?' 'What if you go home and come back another time?'
- Speak to them away from other patrons and friends.

KEEP CALM AT ALL TIMES - don't lose your cool
- Remember, your tone of voice is very important.
- Be firm, but not aggressive.
- Don't raise your voice - if you raise your voice, they may do the same thing.
- It is easier to keep them calm, if you remain calm.
- Ignore negative comments or criticism.
- Never physically touch the patron.

USE RSA SIGNS TO HELP YOU
- Use the displayed RSA 'house' policy or RSA signs to assist you in explaining situation to patron.

CLARIFY REFUSAL
- Explain why service is being refused eg. 'you're clearly intoxicated and by law I can't serve you any more alcohol'.
- Focus on the behaviour, not the patron.
- Clarify that they are not being barred - simply asked to leave and are welcome back in the future.
- Never let the patron persuade you into serving them one last drink - this is breaking the law and you can still be fined.

CONSULT WITH MANAGEMENT
- If in doubt about refusing service or about how to deal
with situation, always talk to the rostered manager or licensee.

CALL SECURITY

• If you are having problems with a patron (eg. they won't leave when asked), and have security on the premises, call them over to assist you.

CALL THE POLICE

• If the patron refuses to leave or becomes aggressive or violent, call the police - let them know what steps you have taken to refuse service and ask them to leave.
• On asking a patron to leave, refer to the signs that says 'If you are asked to leave, and you refuse, you are breaking the law'.

REPORT & FILL OUT INCIDENT LOG

• Make sure all staff on duty know what actions you have taken (eg. if the patron returns to premises and expects a drink).
• Complete incident log - write every action you took and how they reacted - this ensures that your actions are recorded.
## RESPONSIBLE SERVICE OF ALCOHOL TRAINING

**Liquor Administration Board (LAB) APPROVED TRAINING COURSES**

Contact the following course providers to find out about local courses - it is HIGHLY RECOMMENDED that ALL management and bar staff are trained in RSA by an accredited trainer.

<table>
<thead>
<tr>
<th>COURSE NAME</th>
<th>COURSE PROVIDER</th>
<th>DURATION</th>
<th>TELEPHONE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hotel Licensees</td>
<td>TAFE</td>
<td>One week</td>
<td>(02) 8234 2778 1800 817 507</td>
</tr>
<tr>
<td>Hotel Licensees</td>
<td>Open training and Education Network (Distance Education)</td>
<td>Self-paced learning</td>
<td>(02) 9715 8517</td>
</tr>
<tr>
<td>Restaurant and Nightclub Licensees</td>
<td>TAFE</td>
<td>One week</td>
<td>(02) 8234 2778 1800 817 507</td>
</tr>
<tr>
<td>Restaurant and Nightclub Licensees</td>
<td>Restaurant and Catering NSW</td>
<td>Four days</td>
<td>(02) 9211 3500 1300 650 646</td>
</tr>
<tr>
<td>Motel Licensees</td>
<td>Restaurant and Catering NSW</td>
<td>Four days</td>
<td>(02) 9211 3500 1300 650 646</td>
</tr>
<tr>
<td>Caterers</td>
<td>Restaurant and Catering NSW</td>
<td>Four days</td>
<td>(02) 9211 3500 1300 650 646</td>
</tr>
<tr>
<td>Responsible Service of Alcohol</td>
<td>TAFE</td>
<td>One day</td>
<td>(02) 8234 2778 1800 817 507</td>
</tr>
<tr>
<td>Responsible Service of Alcohol</td>
<td>Restaurant and Catering NSW</td>
<td>One day</td>
<td>(02) 9211 3500 1300 650 646</td>
</tr>
<tr>
<td>Responsible Service of Alcohol</td>
<td>Australian Hotels Association (NSW)</td>
<td>One day</td>
<td>(02) 9281 6922</td>
</tr>
<tr>
<td>Responsible Service of Alcohol</td>
<td>MHM Australasia P/L</td>
<td>One day</td>
<td>(02) 9211 4110</td>
</tr>
<tr>
<td>Responsible Service of Alcohol</td>
<td>Open training and Education Network (Distance Education)</td>
<td>One day</td>
<td>(02) 9715 8517</td>
</tr>
<tr>
<td>Responsible Service of Alcohol</td>
<td>Retail Group Training and Employment (available for liquor store personnel only)</td>
<td>One day</td>
<td>(02) 9235 0777</td>
</tr>
<tr>
<td>Responsible Service of Alcohol</td>
<td>Club Managers Association</td>
<td>One day</td>
<td>(02) 9643 2300</td>
</tr>
<tr>
<td>Responsible Service of Alcohol</td>
<td>Amstar Training</td>
<td>One day</td>
<td>(02) 9251 2222</td>
</tr>
</tbody>
</table>
## Incident Log

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Incident Description (What happened and who was involved?)</th>
<th>Action Taken (eg. refused service, called taxi, called police)</th>
<th>Staff Member Name</th>
<th>Signature Staff Member</th>
<th>Signature Manager</th>
</tr>
</thead>
<tbody>
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RESPONSIBLE SERVICE OF ALCOHOL 'HOUSE' POLICY

HOW TO DEVELOP AND IMPLEMENT A POLICY

A 'house' policy describes how you want your business operated. All staff must be aware of the policy AND you should display it clearly in the bar area for staff and patrons to refer to. A 'house' policy clearly defines the rules and formalises the procedure. A well-publicised policy provides a positive context to the responsible service of alcohol, and for refusing service to intoxicated patrons. If you have a 'harm minimisation' clause on your liquor license, you are required by law to have a policy clearly displayed. This can be your premises 'house' policy or the standard policy posters from the Department of Gaming and Racing. Steps in developing and implementing your 'house' policy include:

1. Gain support and commitment from your staff, and review current serving practices
   - It is important to involve your staff in developing and implementing your policy - this will help create a sense of ownership. Have an open discussion about what is to be included and how you can implement the policy.
   - Review your current serving practices eg. When is food available? What non or low alcoholic alternatives are available? How are they promoted? What alcohol promotions do we have? What procedures do we have in place to deal with underage and false identification? How do staff deal with intoxicated or underage patrons?
   - You may like to form a small working party or have a brainstorm session at your next staff meeting - use a whiteboard or butchers paper to write up suggestions.
   - This session may also assist you in identifying training needs of your staff.

2. Writing the policy
   - A sample policy is included in this resource kit - you can simply use the policy by writing in the name of your premises and displaying OR modify it to suit the needs of your premises. We have also provided a copy in the enclosed disk - modify to suit your premises.
   - Ideally, the policy should include statements on:
     ✓ Your commitment to patrons in providing an enjoyable and safe environment.
     ✓ Management commitment to staff training and improvement.
     ✓ A commitment of staff and management to friendly, responsible and professional customer service.
     ✓ How minors and intoxicated patrons will be dealt with, and when security/police will be involved.
     ✓ Promotion of non-alcoholic and low-alcoholic drinks.
     ✓ Prohibition of unacceptable liquor promotions.
     ✓ Availability of food, free water and tea/coffee.
     ✓ Safe transport options.
     ✓ Recording of all incidents in incident log book.
   - You can include more in your policy - but remember - keep it simple!
3. Identify barriers to implementation

- Identify any barriers that your premises may face when introducing the policy - barriers from staff and patrons. Think of ways to overcome these barriers.

4. Implement the policy

- Start promoting your policy to staff and patrons.
  - **Staff:** Make sure that all staff are provided with a copy of the policy, and identify any staff requiring training. Ensure that the policy is provided to all new staff during their orientation session.
  - **Patrons:** Clearly display the policy in the bar area and on any noticeboards. If you are a club and send out newsletters/information/membership renewal letters to members, you may like to send a copy of the policy to all members.
- Ensuring consistent standards of serving, and always be supportive of staff when patrons have been refused service and asked to leave.

5. Review and improve your policy

- You should review the policy on an annual basis to ensure the statements are still applicable and include any new actions undertaken by your premises in the last year.

If you don’t want to develop your own policy, it is highly recommended that you display the standard ‘house’ policy posters from the Department of Gaming and Racing, Australian Hotels Association or Clubs NSW.
RESPONSIBLE SERVICE OF ALCOHOL POLICY

It is the policy of ................................................................. to promote the responsible service of alcohol on our premises.

This premises aims to:

- Provide a safe and enjoyable environment for our patrons.
- Provide friendly, responsible and professional service to all patrons.
- Support our staff in undertaking training in the Responsible Service of Alcohol.
- Prevent underage drinking by insisting on 'proof of age'. We will only accept RTA photo drivers licences, passports, RTA Proof of age cards and NSW Birth Cards. We will call the police if you attempt to use false identification.
- Prevent intoxication by refusing to sell or supply alcohol to any person who is intoxicated or nearing intoxication. By law all intoxicated patrons will be asked to leave. If you refuse, we will call the police and you can be fined.
- Provide and promote the availability of non-alcoholic drinks including free water, soft drinks, tea and coffee.
- Provide and promote the availability of food at ALL times when alcohol is served.
- Prohibit any drink promotions deemed unacceptable by the Department of Gaming and Racing.
- Provide and promote safe transport options for ALL patrons eg. staff calling taxi’s, Designated Driver Programs for groups of 4 or more patrons, and the promotion of local transport time tables.
- We maintain an incident log of all incidents including intoxication, underage and aggression.

If you have any questions, please feel free to ask our staff.

LICENSEE/ MANAGER
Checking Identification

Helpful Tips for Staff

BE ALERT AND PRO-ACTIVE
- Monitor the premises - inside and outside (eg. security staff).
- Make sure that the proof of age posters and other signage relating to underage are displayed in all bars - these are often useful when dealing with underage.

ALWAYS ASK FOR PROOF OF AGE
- ALWAYS ask for proof of age of any patron who looks under 25 years. Some peoples age can be deceiving.
- Accepted ID:
  - RTA Drivers Licence
  - Proof of Age Card (RTA)
  - NSW Birth Card
  - Passport

STAND YOUR GROUND
- Make it VERY clear that they are breaking the law by being on the premises - they can be fined and so can you.
- Be calm, courteous and professional at all times.
- Simply remind them that it is the law that you ask for ID.
- Let them know that it is ‘house’ policy that you ask for ID - show them the policy.

CONSULT WITH MANAGEMENT and/or SECURITY
- If you are unsure about any ID presented to you, always talk to the rostered manager or licensee.

REPORT AND FILL OUT INCIDENT LOG
- Make sure all staff on duty knows what actions you have taken (eg. if patron tried to return to premises that night).
- Complete the incident log - write every action you took and how they reacted - this ensures that your actions are recorded.
When checking proof of age, you must be satisfied that it is authentic. If you are suspicious, you should refuse access or service, and ask them to leave the premises. Tips include:

1. **Check the photo:** Is it the same person?

2. **Check the birth date:** Does it confirm that the patron is 18 yrs or over? Check the numbers carefully to see if the numbers have been tampered with - especially the last number.

3. **Check the lamination:** For driver's licences and NSW Proof of Age Cards made 1991 to 1996 for tampering.

4. **Check the hologram:** For driver's licences and NSW Proof of Age Cards made from 1996 for existence & tampering.

5. **If you suspect a false ID, ask the person some simple questions like:** 'What month were you born?', 'What star sign are you?' or 'What is your post code?' Most people will know these responses quickly, so if they hesitate or don't know the answer, treat the ID as false.

**WHAT ACTION TO I TAKE IF I SUSPECT A FALSE ID?**

If you have checked all of the above and still suspect that the ID is false, you should ask for some form of secondary identification eg. full birth certificate, current credit card, current card issues by Government eg. Medicare card. Consult with the rostered manager or licensee about what to do next.

You are legally allowed to confiscate Proof of Age Cards that you suspect are false. Send any confiscated Proof of Age Cards to your Local Area Commander for investigation.

You are NOT legally allowed to confiscate driver's licences OR passports as these are legal documents. If you suspect a false driver's licence or passport, call the police.
SECURITY CHECKLIST

When you are employing security or contracting a security firm, think about the following things:

- **Have and display a Security Masters License**
  
  If your premises employs security staff, you MUST hold a license. If you are contracting staff from a security company, make sure they hold the license. Either way, they MUST be covered and you MUST clearly display the license on your premises and send a copy to your local Licensing Police. If you would like to apply for a Security Masters License, contact your local Licensing Police.

Ensure all security staff are:

- Trained in the Responsible Service of Alcohol and Responsible Conduct of Gaming by an Accredited Trainer
- Trained in dealing with aggressive/violent situations
- Trained in the safe entry and exit of patrons on YOUR premises
- Instructed on how to deal with certain situations on YOUR premises including:
  - Underage patrons
  - Intoxicated patrons
  - Patrons who are refused service
  - Patrons who refuse to leave
  - Patrons who become aggressive or violent

  Remember, all premises may want their security staff to deal with these situations differently. Don't assume that security know how to deal with these situations or will deal with them how you would like.

- Instructed not to allow any patrons to enter or leave premises with alcohol (unless unopened take-away)
- Instructed on the monitoring of nearby surrounds eg. car parks, taxi ranks.
- Instructed to wear their ID badges at ALL times
- Instructed to wear their uniform at ALL times
- Friendly, courteous and not intimidating towards patrons
- Trained in dealing with armed hold-ups (Talk to your local Licensing Police)

If you didn't tick ALL of the above, think about how you can implement such actions - they may help reduce harm in and around your premises.

**TIP:** Take a photocopy of all security staff's identification badges. Keep on file (eg. in RSA Training Register).
SAFE TRANSPORT

What are your options?

By providing Safe Transport Options for your patrons you are helping them to travel home or to other premises safely. You can also help minimise street crime in your local area by providing options. Remember that, under section 104 of the Liquor Act and Section 17AA of Registered Clubs Act, you must ensure quiet and good order of the neighbourhood.

So, what are your options? You don't have to spend a lot of money - some of them are quite simple and inexpensive. Here are some ideas:

- Allow staff to call taxis for all patrons.
- Allow staff to call a friend or relative for all patrons.
- Display the phone number of your local taxi service near the public phone.
- Consider installing a taxi phone - free, direct to your local taxi company.
- Consider installing a breathalyser/alcoliser machine.
- Promote local public transport details eg. bus departure times.
- Implement a designated driver program (free or discounted soft drink to the designated driver of a group of people).
- Display standard drink posters (Dept of Gaming and Racing), and have wallet cards available (see resource kit).
- Team up with nearby premises to book taxi's on Friday/Saturday nights. Patrons can pay a subsidised fee to get home. Talk to your local taxi service.
- Hire a courtesy bus to pick patrons up in the evening and take them home - or just take them home. This can be costly, so think about teaming up with nearby premises.
- Team up with other nearby premises to hire a courtesy bus for patron travel between premises.
- Make sure you have a secure car park so patrons will feel comfortable leaving their car overnight if they are over the legal Blood Alcohol Concentration. If you employ security, make sure they monitor the car park regularly.

If you decide to implement any of the above options on your premises - be sure to promote them eg. signage or announcements

For further advice about Safe Transport Options

Contact the Road Safety Officer at your local RTA.
INFORMATION FOR ORDERING RESOURCES ON DRINK DRIVING

Below are the contact details for two organisations you can contact to order resources for your staff and customers on drink driving. You can order ALL resources for FREE. We encourage you to order the resources and maintain a supply in an appropriate location for your staff and customers to access.

1. ROADS AND TRAFFIC AUTHORITY

- “Drink Driving—The Facts” (#4039)
- “Cheers without Fears: A Year-Round Party Guide” (#4020)
- “Use a Breath Tester” (#4079)

Contact Details:

Mail: RTA Distributor
PO Box 572
Matraville NSW 2036

Phone: 1800 060607
Fax: (02) 9311 9913

2. AUSTRALIAN TRANSPORT & SAFETY BUREAU

(Formerly Federal Office of Road Safety – FORS)

- Standard Drink Cards
- ‘Do you know when to stop?’ (Brochure)

Contact Details:

Phone: 1800 621 372
Fax: (02) 6247 3117
E-Mail: pubed@atsb.gov.au
WHAT ARE YOU DOING ABOUT CROWD CONTROL?

Overcrowding can cause many problems on your premises including aggression, violence and non-compliance with the law. It can also have a negative impact on the social and physical environment of premises. For example, overcrowding can increase the potential for harm by making patrons hot and sweaty and therefore drink more alcohol. It can also reduce the ability of patrons to move through the premises (eg. to the toilets or dance area), and can cause problems if patrons can't easily access the bar area.

Here are some ideas you may like to think about for busy nights.

- **Know your legal capacity of patrons**
  You should know the legal limit for your premises. If you are not sure, contact your local council. If you have an Entertainment Authority, your premises capacity will be displayed on the sign.

- **Employ security on busy nights**
  Security can monitor the entry and exit of patrons. Patron numbers can be monitored by people counters, tickets and through the register if you apply a door charge.

- **Apply door charges to entertainment areas on busy nights**
  This can help monitor patron numbers, and actually keep patrons at your premises for the night minimising movement between premises helping to reduce street crime. Make sure you contact your local Licensing Police prior to applying as restrictions do apply based on poker/card machines.

- **Apply entry/re-entry restrictions after a certain time on busy nights**
  These restrictions can help monitor patron numbers, keep patrons at your premises minimising movement between premises and reducing street crime. If you have a midnight license, think about preventing entry/re-entry from 11pm - this will prevent already intoxicated patrons from entering. If you are a club, you may like to restrict entry to non-members eg. all non-members in by 11pm.

- **If your premises is busy, have orderly line-ups for entry**
  If your premises is busy on certain nights, consider having patrons line-up for entry. This can help monitor the number of patrons, and allow for closer monitoring of intoxication levels and for underage (give stamp once checked). Make sure you have staff monitoring line (security or door staff), and that alcohol consumption is not allowed in the line and that no patrons jump the line.

- **Allocate specific doors for entry and exit on busy nights?**
  This can improve your premises ability to monitor entry and exit eg. patron numbers, intoxication levels and underage. Consider locking all but the main entry door - but REMEMBER that patrons must be able to exit from ALL doors for safety regulations. Contact your local council to about fire safety regulations.
PHYSICAL ENVIRONMENT CHECKLIST

The physical environment of a licensed premises can impact on the comfort of your patrons, the type of patrons who frequent your premises, and the reputation of your premises.

Here are a few things to think about. Does your premises:

- **Have adequate lighting inside and outside?**
  Good lighting can make it easier for your staff to monitor intoxication levels, identify underage and monitor patron behaviour. Dark or dim lighting may also reduce the ability for patrons to see causing them to spill drinks or bump into other people.

- **Have a comfortable noise level on busy nights?**
  High noise (music, voices and poker machines) can make patrons frustrated, aggravate patrons, and encourage rowdy behaviour. If you have amplified music, you must have an Entertainment Statutory and comply with local noise restrictions - contact your local council about this.

- **Have adequate ventilation?**
  Hot, stuffy and smoky atmospheres can affect the comfort levels of your patrons. If they are hot and stuffy, they may leave, or drink more. Remember, not everyone can tolerate a smoky environment - consider making a room smoke-free if appropriate. Environmental Tobacco Smoke is also an OH&S issue. Ensure that you have adequate ventilation for your number of patrons eg. exhaust fans, air conditioners and overhead fans.

- **Allow patrons to sit or stand in the bar service area consuming drinks?**
  This can cause frustration with patrons trying to buy drinks. Consider designating an area of the bar as 'service area only' with signage, and keep stools away from this area.

- **Keep bar areas, tables and floors clear of glasses?**
  Unclean bars can be dangerous and make patrons feel uncomfortable. Make sure that all bar areas, tables and floors are cleared of empty glasses/bottles on a regular basis. Designate this job to a staff member on busy nights. Remember to also empty ash trays. On busy nights, consider using plastic cups - reduces risk of injury and cleaning.

- **Have adequate seating for your patrons?**
  Patrons can feel uncomfortable if they are not able to sit down, and patrons standing in high-traffic areas can cause problems. Ensure that your premises has adequate seating, and that tables and chairs are not located in high-traffic areas eg. blocking access to toilets or bar service areas.

- **Have attractive furnishings and decor?**
  Premises that have low quality or shabby furnishings and decor are not always attractive to the wider community. Take note of aspects such as wall colour, the condition of tables and chairs, condition of bar service area, and pictures on the wall. While some changes may be costly and impossible, think of cheaper alternatives that could give your premises a boost and make it more appealing to the wider community.

- **Allow for the easy flow of patrons around the premises?**
  The inability of patrons to move easily can cause hostility and aggression. Ensure that patrons can easily move between key areas on your premises such as the bar service area, toilets, dance areas, pool tables and entry/exit doors. Ensure that all 'bottlenecks' are easily accessed eg. stairways. If you employ security, it may be a good idea to ask security to monitor such areas.
ENTERTAINMENT CHECKLIST

The type and quality of entertainment can affect alcohol-related harm in and around your premises. Remember, bored patrons may cause more problems, so providing some form of entertainment is a good idea. Does your premises:

- **Have an Entertainment Authority?**
  
  If you have amplified entertainment on any night of the week (eg. band, singer, DJ), you MUST have an entertainment authority. Juke boxes and pool tables do not require an Authority. If you are unsure as to whether you need one, or would like to apply for an Authority contact your local council. You MUST display a copy of your Entertainment Authority on your premises where staff and patrons can see it.

- **Provide good quality Entertainment?**
  
  Entertainment acts such as lingerie girls or strippers often attract undesirable patrons. Poor quality entertainment can also cause problems, as patrons tend to get bored and frustrated. Ensure that all entertainment booked is of good quality - it is always a good idea to book bands/singers with a good reputation or that you have seen play before.

- **Display Music Videos/Movies/Sport?**
  
  Television screens with TV shows, sport and music videos can help provide a positive atmosphere. Ensure that you have enough TV screens to cope with patron demand eg. if on a Friday night there is rugby league, rugby union and golf, ensure that you display what the patrons want. Remember though that some sports can actually cause aggression eg. boxing, wrestling or even rugby league. If you are going to display music videos or movies, ensure that they portray non-violent images.

- **Have Pool Tables?**
  
  Pool or snooker tables provide an excellent form of entertainment, but make sure that they are located in an accessible and don’t disrupt the flow of traffic through the premises. Consider displaying rules of play (eg. standard rules of pool) and rules of conduct (eg. not putting drinks on table, no king of the table etc). These will help patrons know what the rules are on your premises, and help staff deal with negative situations. Also ensure that a staff member, or security supervises the pool tables.

- **Have a Juke Box?**
  
  Juke boxes can provide entertainment for patrons. Ensure that you have a good mix of music to allow for patron tastes, and consider displaying a sign recommending that patrons don’t program more than 3 songs at one time.
SOCIAL ENVIRONMENT

How can it affect alcohol-related harm?

A friendly and relaxed atmosphere rather than a tense and hostile atmosphere can have a positive impact on your premises. It can also attract the wider community if your premises has a good reputation. It is well known that premises that allow the following behaviours are associated with higher levels of aggression and violence.

There are a number of behaviours that can be detrimental to your premises atmosphere and can promote aggression. Ensure you have a procedure for dealing with such behaviours - makes sure staff are aware if such procedures.

- **Excessive swearing/bad language**: If you have a ‘conditions of entry’ sign at the entrance to your premises, ensure it includes a statement about excessive swearing/bad language not being tolerated OR include in your displayed ‘house’ policy.
  
  Alternatively, you can make sure that staff have a quiet word with patrons who repeatedly swear and ask them to ‘consider other patrons and not swear/use bad language’.

- **Sexual activity, sexual competition and prostitution**: Ensure that patrons know that these activities are not tolerated on your premises. If such situations do occur, have a quiet chat with the patrons involved.

- **Hostility and aggression**: Ensure that all staff are trained in dealing with such situations. On busy nights, employ security. It is important to diffuse such situations before fights begin.

- **Drug dealing and drug use**: If you or your staff notice any evidence of drug dealing, you can call the police. You should have a Needle Disposal Kit and clear instructions located on your premises, or a needle disposal bin located in your toilets. See following flyers on needle disposal kits.
SAFE NEEDLE & SYRINGE DISPOSAL KITS

What items should be included?

Making up your own needle and syringe disposal kit is simple and cheap. By having it available before it is needed, it will ensure the safety of your staff.

You will need:

- Gloves – BOTH disposable & leather (eg. gardening gloves)
- Tongs/forceps – specially marked “not for use with food"
- Plastic sealable bags
- Sharps container with a lid. This container should be clearly marked, puncture resistant and tamper proof. Recommended size is at least 1.4 litres.

For information about purchase and disposal of sharps containers, please see attached suppliers sheet.
Procedure for Safe Disposal of Needles & Syringes

Below is a checklist of essential procedures for the safe recovery and disposal of needles and syringes. These procedures need to be undertaken to prevent contamination should the needle/syringe carry an infectious disease.

Needles/syringes recovered may be infected with blood-borne viruses, such as HIV or Hepatitis.

To safely recover needles you MUST do the following:

- Use BOTH disposable and leather gloves
- Use metal tongs
- Dispose of the needle & syringe into a SHARPS DISPOSAL CONTAINER
- Complete a hazard report form
- Report the incident to Management
- If a needle stick injury occurs encourage bleeding and wash the wound with disinfectant/soap and warm water
- Seek immediate medical advice
- Give all employees a copy of this procedure
## Where To Get Your ‘SAFE DISPOSAL’ Resources

<table>
<thead>
<tr>
<th>Product</th>
<th>Company</th>
<th>Phone/Fax</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SHARPS DISPOSAL CONTAINERS</strong></td>
<td>GO SCIENTIFIC</td>
<td>Ph 1800 645123</td>
</tr>
<tr>
<td>(small, holds 8 needles order code BC-125)</td>
<td>PO Box 1108</td>
<td>Fax: 1800 635123</td>
</tr>
<tr>
<td></td>
<td>Huntingdale VIC 3166</td>
<td></td>
</tr>
<tr>
<td><strong>SHARPS DISPOSAL CONTAINERS</strong></td>
<td>SARSTEDTS AUSTRALIA Pty Ltd</td>
<td>Ph (08) 8349 6555</td>
</tr>
<tr>
<td>(2.5 Ltr, hold 100 + sliding lid)</td>
<td>Technology Park</td>
<td>Fax: (08) 8349 6882</td>
</tr>
<tr>
<td>Sarstedts Australia Pty Ltd</td>
<td>South Australia</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Post Office Box 90</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ingle Farm SA 5098</td>
<td></td>
</tr>
<tr>
<td><strong>FIXED NEEDLE DISPOSAL BINS</strong></td>
<td>SATA Environmental</td>
<td>Ph 13 17 12</td>
</tr>
<tr>
<td>(small)</td>
<td>201-205 Newton Road</td>
<td>Fax: (02) 9725 3773</td>
</tr>
<tr>
<td></td>
<td>Wetherill Park NSW 2164</td>
<td></td>
</tr>
<tr>
<td><strong>FIXED NEEDLE DISPOSAL BINS</strong></td>
<td>JOHN Mc GAIN PRODUCTS</td>
<td>Ph (02) 9587 0232</td>
</tr>
<tr>
<td>(small-medium)</td>
<td>3 Production Avenue</td>
<td>Fax: (02) 9587 8443</td>
</tr>
<tr>
<td></td>
<td>Kogarah NSW 2217</td>
<td></td>
</tr>
<tr>
<td><strong>COLLECTION AND DISPOSAL OF CONTAMINATED WASTE</strong></td>
<td>PINK HEALTHCARE Head Office</td>
<td>Ph: (02) 9898 8300</td>
</tr>
<tr>
<td>(and provision of containers)</td>
<td>24 South Street Rydalmere NSW 2116</td>
<td>Fax: (02)98988399</td>
</tr>
<tr>
<td></td>
<td>45 Fitzroy Street Carrington NSW 2294</td>
<td>Ph (02) 4961 0217</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fax: (02) 4961 0769</td>
</tr>
<tr>
<td></td>
<td>CLINICAL WASTE AUST.</td>
<td>Ph (02) 9748 4552</td>
</tr>
<tr>
<td></td>
<td>PO Box 6585</td>
<td>Fax: (02) 9748 2456</td>
</tr>
<tr>
<td></td>
<td>Silverwater NSW 2128</td>
<td></td>
</tr>
<tr>
<td><strong>AMBU LIFE KEY</strong></td>
<td>PAT TAMS</td>
<td>Ph (02) 9698 9211</td>
</tr>
<tr>
<td></td>
<td>William Pearce &amp; Co.</td>
<td>Fax (02) 9319 5717</td>
</tr>
<tr>
<td></td>
<td>PO Box 69</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Strawberry Hills NSW 2012</td>
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</tr>
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</table>
NSW POLICE FORCE LETTER TO PREMISES MEETING THE CRITERIA FOR LEVEL 1 RESPONSE

NSW Police is committed to reducing alcohol-related crime in your local community. It is committed to achieving this objective in collaboration with the local liquor industry. New intelligence gathering procedures have been developed by NSW Police to monitor compliance with the NSW Liquor Act and NSW Registered Clubs Act. Information collected by this process is being provided to the Licensees and Secretary Managers of hotels, clubs and night clubs to assist them in fulfilling their responsibilities under current liquor legislation.

- As you would be aware, serving an intoxicated patron and permitting an intoxicated patron to remain on the premises are offences under the NSW Liquor Act and NSW Registered Clubs Act.

- Many premises within this Local Area Command were reported by Persons of Interest (POI), victims or drinkers to be the last place they consumed alcohol prior to being involved in a police-attended incident. Many of these people were judged to be either moderately or seriously intoxicated at the time, an indication that these premises may not have been satisfying their responsible service of alcohol obligations.

- Each Licensee/Secretary Manager is being provided with details of those incidents that have been associated with the alleged consumption of alcohol on their premises. This information is being provided to these premises to raise their awareness about alcohol-related harm and to serve as a reminder of the need to serve alcohol responsibly.

YOUR PREMISES WAS NOT ASSOCIATED WITH THE ALCOHOL CONSUMPTION OF ANYONE INVOLVED IN AN INCIDENT FROM 1 DECEMBER 2002 TO 31 JANUARY 2003.

We encourage you to serve alcohol in a responsible manner in the future. These new compliance monitoring procedures will be ongoing with NSW Police issuing reports every two months.

- If you have any questions regarding the information contained within this letter, please contact your local Police Licensing Officer Sgt Greg McMahon on (08) 8087 0200.

Yours sincerely,

Superintendent Geoff McKechnie
Local Area Commander
NSW POLICE FORCE LETTER TO PREMISES MEETING THE CRITERIA FOR LEVEL 2 RESPONSE

NSW Police is committed to reducing alcohol-related crime in your local community. It is committed to achieving this objective in collaboration with the local liquor industry. New intelligence gathering procedures have been developed by NSW Police to monitor compliance with the NSW Liquor Act and NSW Registered Clubs Act. Information collected by this process is being provided to the Licensees and Secretary Managers of hotels, clubs and night clubs to assist them in fulfilling their responsibilities under current liquor legislation.

- As you would be aware, serving an intoxicated patron and permitting an intoxicated patron to remain on the premises are offences under the NSW Liquor Act and NSW Registered Clubs Act.

- Many premises within this Local Area Command were reported by Persons of Interest (POI), victims or drivers to be the last place they consumed alcohol prior to being involved in a police-attended incident. Many of these people were judged to be either moderately or seriously intoxicated at the time, an indication that these premises may not have been satisfying their responsible service of alcohol obligations.

- Each Licensee/Secretary Manager is being provided with details of those incidents that have been associated with the alleged consumption of alcohol on their premises. This information is being provided to these premises to raise their awareness about alcohol-related harm and to serve as a reminder of the need to serve alcohol responsibly.

YOUR PREMISES WAS ALLEGEDLY ASSOCIATED WITH THE ALCOHOL CONSUMPTION OF ONE OR MORE PEOPLE INVOLVED IN POLICE-ATTENDED INCIDENTS FROM 1 JUNE 2002 TO 30 NOVEMBER 2002. PLEASE REFER TO THE ATTACHED REPORT FOR DETAILED INFORMATION REGARDING THESE ALCOHOL-RELATED INCIDENTS.

On the basis of this information it is recommended that you immediately review the responsible service of alcohol practices of your premises.

These new compliance-monitoring procedures will be ongoing with NSW Police issuing reports every two months.

- If you have any questions regarding the information contained within this letter and report, please contact your local Police Licensing Officer Sgt Greg McMahon on (08) 8087 0260.

Yours sincerely,

Superintendent Geoff McKeechnie
Local Area Commander
# NSW Police Force Incident Report to Premises Meeting the Criteria for Level 2 or Level 3 Responses

**GEN831S**
New South Wales Police Service
Responsible Serving Practices Program
Hotel/Club Report

Date: 07/02/2003
Time: 17:50:12

Report Period: 01/12/2002 to 31/01/2003

Hotel/Club: XXX TAVERN, XXX ST, XXX, NSW, 2XXX

<table>
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<th>Incident Date/Time</th>
<th>Incident Number</th>
<th>Incident Type/ Further Classification</th>
<th>Person Type</th>
<th>Sex/Age</th>
<th>Degree of Intoxication</th>
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<td>VICTIM</td>
<td>U</td>
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<td>MODERATELY AFFECTED</td>
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<td>08/12/2002 01:50 E 16320306</td>
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<tr>
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<td>23</td>
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<td>POI</td>
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<td>REFUSE DIRECTION</td>
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<td>21/12/2002 03:05 E 54573193</td>
<td>RESIST/HINDER/ASSAULT OFFICER</td>
<td>POI</td>
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APPENDIX 5.6: NSW Police Force incident report to premises meeting the criteria for Level 2 or Level 3 responses

A122
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<tr>
<th>Date</th>
<th>Time</th>
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<td>21/12/2002</td>
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<td>OFFENSIVE LANGUAGE</td>
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<tr>
<td>28/12/2002</td>
<td>23:00</td>
<td>ASSAULT</td>
<td>E 16967641</td>
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<td>M 53</td>
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<tr>
<td>28/12/2002</td>
<td>23:00</td>
<td>BREACH AVO</td>
<td>E 16967641</td>
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<td>M 53</td>
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<tr>
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<td>MISCELLANEOUS</td>
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<td>28/12/2002</td>
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<td>23:00</td>
<td>JUDICIAL OFFENCES</td>
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<td>M 53</td>
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<td>01/01/2003</td>
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<td>M 26</td>
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<td>01/01/2003</td>
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<td>PRESCRIBED CONCENTRATION ALCOH</td>
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<td></td>
<td></td>
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<tr>
<td>01/01/2003</td>
<td>02:59</td>
<td>MAJOR MVA</td>
<td>E 16197227</td>
<td></td>
<td>M 26</td>
<td>MODERATELY AFFECTED</td>
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<td>01/01/2003</td>
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<td>TOW AWAY COLLISION</td>
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<td>01/01/2003</td>
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<td>MAJOR MVA</td>
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<tr>
<td>01/01/2003</td>
<td>04:11</td>
<td>DRIVER LEFT SCENE</td>
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<tr>
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***** End Of List *****
NSW POLICE FORCE LETTER TO PREMISES MEETING THE CRITERIA FOR LEVEL 3 RESPONSE

NSW Police is committed to reducing alcohol-related crime in your local community. It is committed to achieving this objective in collaboration with the local liquor industry. New intelligence gathering procedures have been developed by NSW Police to monitor compliance with the NSW Liquor Act and NSW Registered Clubs Act. Information collected by this process is being provided to the Licensees and Secretary Managers of hotels, clubs and night clubs to assist them in fulfilling their responsibilities under current liquor legislation.

- As you would be aware, serving an intoxicated patron and permitting an intoxicated patron to remain on the premises are offences under the NSW Liquor Act and NSW Registered Clubs Act.

- Many premises within this Local Area Command were reported by Persons of Interest (POI), victims or drivers to be the last place they consumed alcohol prior to being involved in a police-attended incident. Many of these people were judged to be either moderately or severely intoxicated at the time, an indication that these premises may not have been satisfying their responsible service of alcohol obligations.

- Each Licensee/Secretary Manager is being provided with details of those incidents that have been associated with the alleged consumption of alcohol on their premises. This information is being provided to these premises to raise their awareness about alcohol-related harm and to serve as a reminder of the need to serve alcohol responsibly.

YOUR PREMISES WAS ALLEGEDLY ASSOCIATED WITH THE ALCOHOL CONSUMPTION OF A NUMBER OF PEOPLE INVOLVED IN POLICE-ATTENDED INCIDENTS FROM 1 JUNE 2002 TO 30 NOVEMBER 2002. PLEASE REFER TO THE ATTACHED REPORT FOR DETAILED INFORMATION REGARDING THESE ALCOHOL-RELATED INCIDENTS.

On the basis of this information your premises will be the subject of police observation within the next month. Shortly thereafter, you will receive a visit from a Policing Officer who will provide you with feedback regarding the observation.

The purpose of the observation and meeting is to assist you in identifying aspects of your premises' operation and management that may need to be improved and to provide you with information about how these issues can be addressed.

These new compliance-monitoring procedures will be ongoing with NSW Police issuing reports every two months.

- If you have any questions regarding the information contained within this letter and report, please contact your local Police Licensing Officer Sgt Greg McMahon on (08) 8087 0200.

Yours sincerely,

Superintendent Geoff McKechnie
Local Area Commander