REDUCING RISKY DRINKING & ALCOHOL-RELATED HARM IN THE SPORTS SETTING

Volume 1: Chapters 1-9

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Submitted for the
Degree of Doctor of Philosophy

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DECLARATIONS

Statement of originality

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15 January 2016
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Prior to starting and throughout my PhD I heard stories of stressful, torturous PhD experiences. The fact that my experience was so vastly different I put down to the wonderful people listed below.

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<td>AFL</td>
<td>Australian Football League</td>
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<tr>
<td>AUDIT</td>
<td>Alcohol Use Disorders Identification Test</td>
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<tr>
<td>DALY</td>
<td>Disability-Adjusted Life Year</td>
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<td>GEE</td>
<td>Generalised estimating equations</td>
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<td>GFI</td>
<td>Graduated frequency index</td>
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<td>HREC</td>
<td>Human Research Ethics Committee</td>
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<td>NSW</td>
<td>New South Wales</td>
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<tr>
<td>OR</td>
<td>Odds ratio</td>
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<tr>
<td>PRISMA</td>
<td>Preferred Reporting Items for Systematic Reviews and Meta-analyses</td>
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<tr>
<td>RCT</td>
<td>Randomised controlled trial</td>
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<tr>
<td>RSA</td>
<td>Responsible service of alcohol</td>
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<td>SES</td>
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# GLOSSARY

**Club member**  
A person affiliated with a sports club either as a paid financial member (player or non-player) or as a known supporter/fan of the club.

**Football**  
Sports codes including Association football (Soccer), Rugby League, Rugby Union, Australian Rules football and Gaelic Football.
THESIS ABSTRACT

Background

Players and spectators of sport report consuming alcohol at levels that place them at increased risk of alcohol-related harm compared to the overall adult population. Sports clubs represent a promising setting for the implementation of interventions to reduce such consumption and harm.

Aims

This thesis aimed:

1. To identify the characteristics and practices of community football clubs that are associated with risky alcohol consumption (Chapter 2).

2. To assess attitudes of football club management regarding alcohol use at sports clubs and alcohol harm reduction strategies (Chapter 3).

3. To develop (Chapter 4) and evaluate the effectiveness of interventions to:
   a. improve the implementation of alcohol management practices at community sports clubs (Chapter 5);
   b. reduce risky alcohol consumption and alcohol-related harm among community sports club members (players, spectators and officials) (Chapter 6).

4. To systematically review and synthesise current evidence of the effectiveness of interventions to reduce risky drinking and alcohol-related harm in sports settings generally (Chapters 7 and Chapter 8).

5. To provide recommendations for future research and practice regarding interventions to reduce risky alcohol consumption and alcohol-related harm in the sports setting (Chapter 9).

Methods

Aims 1 to 3 have been addressed through a series of studies undertaken within community football clubs and club members in urban and rural areas of New South Wales, Australia. These studies involved: a cross-sectional survey of 1428 football club members...
from 88 football clubs (Aim 1); a cross-sectional survey of 101 community football club management representatives (Aim 2); a randomised controlled trial of 87 football clubs (Aim 3a); and, a cluster randomised controlled trial of members of community football clubs (N=1411 at pre-intervention; N=1143 post-intervention)(Aim 3b). Aim 4 was addressed through a systematic review of published and grey literature.

**Key findings**

- Members of clubs that served alcohol to intoxicated people (OR: 2.23, 95%CI: 1.26-3.93; p=0.0074) conducted 'happy hour' promotions (OR: 2.84, 95%CI: 1.84-4.38; p<0.0001) or provided alcohol-only awards and prizes (OR: 1.80, 95%CI: 1.16-2.80; p=0.0084) were at significantly greater odds of consuming alcohol at risky levels than members of clubs that did not undertake such practices (Chapter 2).

- Over half of sports club representatives believed that players often consume too much alcohol (55%), 95-99% agreed that it is important that clubs ensure alcohol is served responsibly and that doing so is a responsibility of the club, and 75% believed that their club could benefit from assistance to encourage responsible alcohol consumption (Chapter 3).

- Following an organisational change intervention, 88% of community sports clubs in the intervention group reported implementing ‘13 or more’ of 16 responsible alcohol management practices, compared with 65% of control group clubs (OR: 3.7, 95%CI: 1.1-13.2; p=0.04) (Chapter 5).

- Following an alcohol management intervention, members of community sports clubs from the intervention group reported significantly lower proportions of: risky alcohol consumption at the club (Intervention: 19%; Control: 24%; OR: 0.63, 95%CI 0.40-1.00; p=0.05); risk of alcohol-related harm (Intervention: 38%; Control: 45%; OR: 0.58, 95%CI 0.38-0.87; p<0.01); alcohol consumption risk (Intervention: 47%; Control: 55%; OR: 0.60, 95%CI 0.41-0.87; p<0.01) and possible alcohol dependence (Intervention: 1%; Control: 4%; OR: 0.20, 95% CI 0.06-0.65; p<0.01) compared to members of control group clubs (Chapter 6).

- A systematic review found only three controlled trials within any sports setting (non-elite/community to elite/professional level) that assessed the effects of interventions to reduce risky alcohol consumption and harm amongst sportspeople and fans. The
included studies, which were from the United States, Ireland and Australia, included community and elite level sporting populations and interventions of varied content and intensity. Two of the studies reported positive intervention effects (Chapter 8).

**Conclusion and discussion**

The findings of this thesis support the findings of earlier non-controlled studies and provide the first randomised controlled trial evidence showing that interventions with community sports clubs can improve alcohol management practices and reduce risky alcohol consumption and alcohol-related harm amongst club members. Such interventions were also found to be acceptable to sports club management. However, as found in the subsequent systematic review, the generalisability of these findings to other countries, other sports and other levels of professionalism is unknown. A potential opportunity exists for increasing the effectiveness of the intervention in reducing risky alcohol consumption and related harm through addressing alcohol industry sponsorship of sports clubs. Similarly, a need exists to investigate mechanisms for supporting sports clubs to sustain the implementation of alcohol management practices over time.
THESIS OVERVIEW

CHAPTER 1 - Alcohol-related harm, prevalence of risky alcohol consumption and harm reduction interventions within the general community and sports settings

This introductory chapter outlines the burden of illness associated with risky levels of alcohol consumption and related harm and highlights the greater prevalence of such consumption and harm amongst sports people and spectators/fans compared to general populations throughout the world. Interventions to reduce risky alcohol consumption and related harm in licensed premises broadly are described, with a focus on those interventions that have the potential to be implemented in the sports club setting. Such evidence indicates that compliance with responsible alcohol service practices, implementation of pricing controls, and restriction of trading hours are effective strategies for reducing harm in licensed premises broadly, and have the potential to be implemented in the sports club setting. A review of studies in the sports setting indicates that free or cheap alcohol promotions, drinking games, and alcohol-related sponsorship are factors associated with risky alcohol consumption and should also be addressed in harm reduction interventions in this setting. While evidence suggests that sports clubs and venues are a potentially promising setting for reducing risky alcohol consumption and related harm amongst sports players and fans, there is a lack of rigorous experimental evidence regarding the effectiveness of such interventions in this setting.

CHAPTER 2 - Alcohol consumption and sport: a cross-sectional study of alcohol management practices associated with at-risk alcohol consumption at community football clubs

(Paper published in BMC Public Health)

The study reported in this chapter was undertaken in the context of limited research investigating modifiable practices associated with risky alcohol consumption in the sports setting generally, and particularly at the non-elite sports level. The cross-sectional study examined the association between the alcohol management practices and characteristics of 72 community football clubs and risky alcohol consumption by 1428 club members (players, spectators and officials). The study found that members of clubs that served alcohol to intoxicated people (OR: 2.23, 95% CI: 1.26-3.93; p=0.0074), conducted ‘happy
hour' promotions (OR: 2.84, 95% CI: 1.84-4.38; p<0.0001) or provided alcohol-only awards and prizes (OR: 1.80, 95% CI: 1.16-2.80; p=0.0084) were at significantly greater odds of consuming alcohol at risky levels than members of clubs that did not. A non-significant positive association between alcohol sponsorship and at-risk alcohol consumption was also found. These results provided additional evidence for the development of interventions to reduce risky alcohol consumption in the sports club setting.

CHAPTER 3 - Addressing alcohol use in community sports clubs: attitudes of club representatives
(Paper published in the Australian and New Zealand Journal of Public Health)

The cross-sectional study reported in this chapter was undertaken to assess the amenability of sports club managers/administrators to interventions targeting risky alcohol consumption within the sports club setting, including their attitudes and beliefs towards alcohol use at sports clubs. Sports club management representatives from 101 community sports clubs participated in the study. Over half of club representatives indicated that players often consumed too much alcohol (55%), with 95-99% agreeing that it was important that clubs ensured that alcohol was served responsibly, and that doing so was a responsibility of the club. Ninety-five per cent reported that the club would find it difficult to survive without revenue from alcohol sponsorship. Three-quarters believed that their club could benefit from assistance to encourage responsible alcohol consumption by members. The findings suggested that the majority of sports clubs may be supportive of interventions to address risky alcohol consumption among club members through improving club practices regarding alcohol provision.

CHAPTER 4 - A cluster randomised controlled trial of a comprehensive accreditation intervention to reduce alcohol consumption at community sports clubs: study protocol
(Paper published in BMJ Open)

This chapter outlines the study methodology for a trial of a responsible alcohol management intervention in community football clubs. The study was designed as a cluster randomised controlled trial with clubs randomised to control and intervention groups. The 2.5-year long intervention had a primary aim of reducing risky alcohol consumption by football club members and was based on evidence from studies from both
the sports club setting and licensed venues generally. In particular, the intervention was based on an existing program, *Good Sports*, that involved the implementation of alcohol management practices to decrease the supply of alcohol to intoxicated members, cease the provision of cheap and free alcohol, increase the availability and cost-attractiveness of non-alcoholic and low-alcoholic beverages, remove high alcohol drinks and cease drinking games. The intervention utilised a three-tiered accreditation framework designed to motivate implementation of alcohol management practices and a suite of organisational change and capacity building support strategies that involved project officer support, funding, accreditation rewards, training and observational audit feedback. Outcome data were collected pre- and post-intervention through cross-sectional telephone surveys of club members. The primary outcome measure, risky alcohol consumption by club members, was assessed using a graduated frequency index. Implementation of alcohol management practices was measured by club management representative report. The impact of the implementation strategies on modifying club alcohol management practices is reported in Chapter 5 and the primary outcomes of the study are reported in Chapter 6.

**CHAPTER 5 - Improving the implementation of responsible alcohol management practices by community sporting clubs: a randomised controlled trial**

(Paper published in Drug and Alcohol Review)

This chapter reports the findings of a randomised controlled trial of an intervention to improve the implementation of responsible alcohol management practices by community football clubs. Eighty-seven community football clubs participated in the trial, with football clubs randomised to control or intervention conditions. Interviews were undertaken with a management representative from each club pre- and post-intervention to assess alcohol management practice implementation. Club representatives were also asked to report on the usefulness of specific intervention strategies and the appropriateness of the amount of support provided. Following two years of intervention, 88% of intervention clubs reported ‘13 or more’ of 16 responsible alcohol management practices, significantly greater than the proportion of control clubs reporting this level of implementation (65%)(OR: 3.7, 95%CI: 1.1-13.2; p=0.04). All intervention strategies were considered highly useful and three-quarters or more of clubs rated the amount of support to be sufficient. These findings demonstrated that a multi-strategy implementation
intervention can improve the alcohol management practices of community football clubs. Further research is required to assess the long-term sustainability of such improvements.

CHAPTER 6 - Tackling risky alcohol consumption in sport: a cluster randomised controlled trial of an alcohol management intervention with community football clubs

(Paper published in Journal of Epidemiology and Community Health)

This chapter reports the findings of a cluster randomised controlled trial of the effectiveness of an alcohol management intervention in reducing risky alcohol consumption and risk of alcohol-related harm amongst community football club members. Eighty-eight football clubs participated in this trial and were randomised to control or intervention groups. Cross-sectional samples of club members completed pre- (N=1411) and post-intervention (N=1143) surveys reporting on their consumption of alcohol at the club and overall. Post-intervention, a significantly lower proportion of intervention club members reported: risky alcohol consumption at the club (Intervention: 19%; Control: 24%; OR: 0.63, 95%CI 0.40-1.00; p=0.05); risk of alcohol-related harm (Intervention: 38%; Control: 45%; OR: 0.58, 95%CI 0.38-0.87; p<0.01); alcohol consumption risk (Intervention: 47%; Control: 55%; OR: 0.60, 95%CI 0.41-0.87; p<0.01) and possible alcohol dependence (Intervention: 1%; Control: 4%; OR: 0.20, 95%CI 0.06-0.65; p<0.01) compared to members of control group clubs. These findings showed that a multi-component alcohol management intervention can reduce risky alcohol consumption by community football club members within the club setting, as well as reducing the overall risk of alcohol-related harm. To further enhance the intervention effect, futures trials are required to assess the incremental effect of additional strategies, such as addressing alcohol industry sponsorship of sports clubs.

CHAPTER 7 - Interventions in sports settings to reduce alcohol consumption and alcohol-related harm: a systematic review protocol

(Paper published in BMJ Open)

This chapter describes the prospectively registered protocol for a systematic review of interventions designed to reduce alcohol consumption and alcohol-related harms in the sports setting. Studies were to be included in the review that had implemented interventions within a sport setting and either measured: alcohol consumption, excessive
alcohol consumption or intoxication or alcohol-related injury or violence. Randomised controlled trials, staggered enrolment trials, stepped-wedged trials, quasi-randomised trials, quasi-experimental trials and natural experiments were to be included, with studies without a parallel comparison group excluded. Data were to be sourced from both electronic databases and grey literature and both published and unpublished reports were to be included. To determine eligibility, two authors were to independently screen the titles and abstracts of papers identified through the search strategy and then independently examine the full text of papers that progressed through to a second stage of screening. Using the procedures and tools outlined in the Cochrane Handbook for Systematic Reviews, two authors were to independently extract data from studies that were deemed eligible for inclusion in the review and assess their risk of bias. The outcomes of trials that were sufficiently homogeneous were to be combined in a meta-analysis.

CHAPTER 8 - Interventions in sports settings to reduce risky alcohol consumption and alcohol-related harm: a systematic review

(Paper published in Systematic Reviews)

This chapter reports the conduct and findings of the systematic review outlined in Chapter 7. The searches generated 6382 papers and screening of titles and abstracts identified 45 papers for full text assessment. Of these, three studies were deemed eligible and included in the review. One of these studies was a randomised controlled trial of a cognitive-behavioural intervention with athletes within an Olympic training facility in the United States. The study reported a significant change in alcohol use between pre-test and follow-up between intervention and control groups. The other two studies were cluster randomised controlled trials conducted in community sports clubs in Ireland and Australia (the study reported in Chapter 6 of this thesis). Whereas the Australian study found a range of positive intervention effects, the Irish study found no significant intervention effect for any of the outcomes assessed. The interventions of the two cluster trials differed in a number of ways, including length and dose of intervention. Due to the heterogeneity of included studies, no quantitative data synthesis was undertaken.

With only three studies identified, the review highlighted the limited availability of rigorous experimental evidence regarding the effectiveness of interventions in reducing risky alcohol consumption and alcohol-related harms in the sports setting. Replication of
the trials included in this review is needed, both in other jurisdictions and across different sports codes and levels of professionalism.

CHAPTER 9 - Thesis findings and implications for future research and practice

This chapter provides a summary of the findings of this thesis and discusses the implications of such findings for further research and practice. Two key issues are explored in depth: 1) potential enhancement of intervention effectiveness in reducing risky alcohol consumption and alcohol-related harm in sports clubs; and, 2) sustaining improvements in alcohol management practices of sports clubs.

In investigating the first of these issues, a growing body of evidence associating alcohol industry sponsorship with risky alcohol consumption and harm is described, as is the extent of alcohol industry sponsorship of sport from community-based amateur clubs through to professional sportspeople. Given this evidence, it is proposed that to potentially enhance the effectiveness of the intervention (Good Sports) reported in Chapter 6 of this thesis, an additional alcohol management practice be included in the intervention that seeks to remove alcohol industry sponsorship of sports clubs. It is proposed that the incremental effectiveness of such an intervention enhancement relative to the already effective Good Sports program be tested in a controlled trial.

The second of the issues explored in the final chapter of this thesis is the sustainability of the reported improvements in alcohol management practices in sports clubs that received the intervention. The need for strategies to sustain such practices is investigated as well as current theories, models and empirical evidence for sustaining effective health promotion practices in various organisations. A web-based solution is proposed as a potentially efficient strategy to provide sports clubs with ongoing support to sustain alcohol management practice improvements. It is proposed that a comparative effectiveness trial be conducted to compare the effectiveness of such a web-based intervention compared to face-to-face delivery of a sustainability strategy and a no-support based control in sustaining club implementation of alcohol management practices.
LIST OF PUBLICATIONS INCLUDED AS PART OF THIS THESIS

The main body of this thesis consists of seven papers that are either published or accepted for publication in peer-reviewed journals. The details of these papers are listed below. As these papers have been written as stand-alone publications there is some overlap in content between the papers, particularly in the background and methods sections. The papers included in this thesis include references to appendices, which were not included in the published versions.

Chapter 2

Chapter 3

Chapter 4

Chapter 5
Chapter 6


Chapter 7


Chapter 8

CO-AUTHOR STATEMENT FOR CHAPTER 2

By signing below I confirm that Melanie Kingsland contributed to the publication entitled:


By:

- Determining the research question and study design.
- Determining the measures.
- Leading the data collection tool development and data collection.
- Leading the data analysis.
- Leading the writing of the manuscript.

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- Contributing to the data analysis.
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- Leading the intervention and implementation strategy development.
- Leading the writing of the manuscript.

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- Determining the measures.
- Leading the intervention and implementation strategy development.
- Managing the intervention delivery.
- Leading the data collection tool development and data collection.
- Leading the data analysis.
- Leading the writing of the manuscript.

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- Leading the intervention and implementation strategy development.
- Managing the intervention delivery.
- Leading the data collection tool development and data collection.
- Leading the data analysis.
- Leading the writing of the manuscript.

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CO-AUTHOR STATEMENT FOR CHAPTER 7

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- Determining the search strategy.
- Leading the development of the screening, data extraction, risk of bias and meta-analysis processes and tools.
- Completing review registration.
- Leading the writing of the manuscript.

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- Conducting the narrative synthesis.
- Leading the writing of the manuscript.

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OTHER PAPERS PUBLISHED DURING CANDIDATURE

During candidature, the candidate co-authored eight additional relevant publications – four papers specifically relevant to the topic of this thesis, two relevant to alcohol-harm reduction generally and two relevant to the sport club setting generally. The details of these papers are provided below.

**Papers specifically relevant to the topic of this thesis**


**Papers related to alcohol harm reduction broadly**


Papers related to the sports club setting broadly


CONFERENCE PRESENTATIONS GIVEN DURING CANDIDATURE AND RELEVANT TO THIS THESIS

During candidature, the candidate presented the contents of this thesis at eight conferences, five of which were international conferences. The details of these presentations are provided below.

**Oral presentation**


Poster presentation

CHAPTER 1

Alcohol-related harm, prevalence of risky alcohol consumption and harm reduction interventions within the general community and sports setting
INTRODUCTION

The aim of this chapter is to describe alcohol-related harm and alcohol consumption in the community broadly and the sports setting specifically, and to identify opportunities to reduce such harms in the sports setting. Three dimensions of alcohol-related harm are described, with the burden of such harms quantified both globally and for selected high income countries, including Australia. National guidelines to reduce harm from alcohol consumption are outlined, against which current prevalence and patterns of alcohol consumption are described. The prevalence of alcohol-related harm and risky alcohol consumption within sports settings and by people involved in sport are described, as are alcohol management strategies that could potentially reduce such consumption and harms. Current levels of implementation of alcohol management strategies in sports settings are then outlined together with an overview of current research evidence assessing the effectiveness of such strategies in this setting. The chapter concludes with a statement of the thesis aims.

DIMENSIONS OF ALCOHOL-RELATED HARM

Three key dimensions of alcohol-related harm are described in the scientific literature: harm to the drinker; harm to others, including partners, family, friends and co-workers; and economic burden to society at large.

Harm to the drinker

Alcohol consumption is a causal component of more than 200 diseases, injuries and other health conditions. While alcohol contributes most notably to liver cirrhosis, alcohol dependence, cancers and injuries, the diseases and conditions to which it contributes are diverse due to multiple mechanisms of effect. These mechanisms can be classified in three ways: 1) toxic effects on tissues and organs; 2) dependence and subsequent lack of self-control over drinking behaviour; and 3) intoxication, whereby physical coordination, perception, cognition, consciousness and behaviour are impaired. Table 1.1 summarises the main diseases and health conditions to which alcohol consumption is causally linked.
### TABLE 1.1: A selection of the main diseases, health conditions and injuries to which alcohol is causally linked and the proportion of disease burden (% deaths and % DALYs) attributable to alcohol

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>DISEASE/INJURY/CONDITION</th>
<th>% OF DISEASE BURDEN ATTRIBUTABLE TO ALCOHOL</th>
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<tr>
<td></td>
<td></td>
<td>Deaths</td>
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<tr>
<td>Neuropsychiatric conditions</td>
<td>Alcohol use disorders, including alcohol dependence</td>
<td>100%</td>
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<td></td>
<td>Epilepsy</td>
<td>12%</td>
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<tr>
<td>Neonatal conditions</td>
<td>Fetal alcohol syndrome*</td>
<td>100%</td>
</tr>
<tr>
<td>Gastrointestinal diseases</td>
<td>Liver cirrhosis</td>
<td>50%</td>
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<tr>
<td></td>
<td>Pancreatitis</td>
<td>25%</td>
</tr>
<tr>
<td>Cancers</td>
<td>Oral cavity and pharynx</td>
<td>30%</td>
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<tr>
<td></td>
<td>Laryngeal</td>
<td>23%</td>
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<tr>
<td></td>
<td>Oesophageal</td>
<td>22%</td>
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<td></td>
<td>Liver</td>
<td>12%</td>
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<tr>
<td></td>
<td>Colorectal</td>
<td>10%</td>
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<tr>
<td></td>
<td>Breast</td>
<td>8%</td>
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<tr>
<td>Intentional injuries</td>
<td>Self-harm</td>
<td>22%</td>
</tr>
<tr>
<td></td>
<td>Interpersonal violence*</td>
<td>22%</td>
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<tr>
<td>Unintentional injuries</td>
<td>Poisoning</td>
<td>18%</td>
</tr>
<tr>
<td></td>
<td>Falls</td>
<td>16%</td>
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<td></td>
<td>Traffic injuries</td>
<td>15%</td>
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<tr>
<td></td>
<td>Drownings</td>
<td>13%</td>
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<tr>
<td>Cardiovascular diseases</td>
<td>Haemorrhagic stroke</td>
<td>11%</td>
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<tr>
<td></td>
<td>Hypertensive heart disease</td>
<td>8%</td>
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<tr>
<td>Infectious diseases</td>
<td>Tuberculosis</td>
<td>12%</td>
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</table>

*Harm is caused in part or fully to others apart from the drinker. Table adapted from World Health Organisation (2014).
Harm to others

In addition to alcohol-related harm to the drinker, harm to people other than the drinker requires specific attention.\textsuperscript{2} Such harmful effects involve health problems and socioeconomic consequences that may affect individuals including spouses/partners, children, other relatives, friends or strangers. Examples of alcohol-related harm to others include: intentional injury, such as assault; unintentional injury, such as traffic and workplace accidents; neglect of care for children; property damage; toxic effects of alcohol including fetal alcohol syndrome and preterm birth complications;\textsuperscript{3} psychological stress/truma, unemployment or absenteeism, family breakup or dysfunction, and social stigma and exclusion.\textsuperscript{2} Alcohol misuse can also lead to negative outcomes for others through the use of financial resources that would otherwise be available for other purposes. This is particularly the case for those who are economically disadvantaged.\textsuperscript{2,4}

Economic burden to society at large

A third primary form of harm caused by alcohol misuse is economic harm to society at large. Such harm has been grouped into two main categories: 1) direct economic costs of alcohol misuse, such as that borne by health, police, criminal justice and welfare systems;\textsuperscript{3,5,6} and 2) indirect costs of alcohol misuse, such as from lost workforce productivity and earnings due to absenteeism, unemployment and premature retirement and death.\textsuperscript{3,5,7,8}

**BURDEN OF ALCOHOL-RELATED HARM**

**Global perspective**

**Harm to the drinker**

As show in Table 1.1, 100% of deaths and Disability-Adjusted Life Years (DALYs) from alcohol use disorders deaths are attributable to alcohol. Other diseases, injuries and conditions for which 20%-50% of deaths and DALYs are attributable to alcohol include both those that are chronic (liver cirrhosis, pancreatitis, cancers of the oral cavity and pharynx and laryngeal and oesophageal cancers) and acute (self-harm) in nature.\textsuperscript{2}

In 2012, alcohol consumption was estimated to be responsible for 5.9% of deaths globally and 5.1% of the global burden of disease (as measured in DALYs), equating to
approximately 3.3 million deaths and 139 million DALYs. This burden was borne by proportionally more males than females, with 7.6% of deaths and 7.4% of DALYs among males attributable to alcohol compared to 4% of deaths and 2.3% of DALYs among females. Table 1.2 provides the number and distribution of alcohol-attributable deaths and DALYs globally, in 2012, across different disease categories. For males, the largest numbers of alcohol-attributable deaths were from cardiovascular diseases and diabetes and unintentional injuries (497,000/22.1% and 514,000/22.8%, respectively). While alcohol-attributable deaths in females occurred mostly from cardiovascular diseases and diabetes (600,000/58.2%), substantially more than the next highest contributor of alcohol-attributable deaths, gastrointestinal diseases (158,000/15.3%). In terms of DALYs, unintentional injuries (26,000,000/23.5%) and neuropsychiatric disorders (29,000,000/26.1%) accounted for the most alcohol-attributable burden for males, whereas, for females, cardiovascular diseases and diabetes (10,000,000/33.6%) was the primary contributor. The proportion of alcohol-attributable deaths and DALYs from intentional injuries differed significantly between males (deaths: 11.7%; DALYs: 12.2%) and females (deaths:2.0%; DALYs:3.2%).

**TABLE 1.2: Number and distribution of alcohol-attributable deaths and DALYs globally in 2012**

<table>
<thead>
<tr>
<th>DISEASE CATEGORY</th>
<th>NUMBER OF DEATHS (% OF ALL ALCOHOL-ATTRIBUTABLE DEATHS)</th>
<th>NUMBER OF DALYS (1000’S) (% OF ALL ALCOHOL-ATTRIBUTABLE DALYS)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Males</td>
<td>Females</td>
</tr>
<tr>
<td>Cardiovascular diseases and diabetes</td>
<td>497,000</td>
<td>600,000</td>
</tr>
<tr>
<td></td>
<td>(22.1%)</td>
<td>(58.2%)</td>
</tr>
<tr>
<td>Unintentional injuries</td>
<td>514,000</td>
<td>49,000</td>
</tr>
<tr>
<td></td>
<td>(22.8%)</td>
<td>(4.8%)</td>
</tr>
<tr>
<td>Gastrointestinal diseases</td>
<td>375,000</td>
<td>158,000</td>
</tr>
<tr>
<td></td>
<td>(16.6%)</td>
<td>(15.3%)</td>
</tr>
<tr>
<td>Cancers</td>
<td>306,000</td>
<td>103,000</td>
</tr>
<tr>
<td></td>
<td>(13.6%)</td>
<td>(10.0%)</td>
</tr>
<tr>
<td>Intentional injuries*</td>
<td>265,000</td>
<td>21,000</td>
</tr>
<tr>
<td></td>
<td>(11.7%)</td>
<td>(2.0%)</td>
</tr>
<tr>
<td>Infectious diseases</td>
<td>191,000</td>
<td>71,000</td>
</tr>
<tr>
<td></td>
<td>(8.5%)</td>
<td>(6.9%)</td>
</tr>
<tr>
<td>Neuropsychiatric disorders</td>
<td>104,000</td>
<td>26,000</td>
</tr>
<tr>
<td></td>
<td>(4.6%)</td>
<td>(2.6%)</td>
</tr>
</tbody>
</table>
As shown in Table 1.3, the burden of alcohol-related harm differs across countries, but is an important contributor to deaths from all causes across countries of low, middle and high income. For those low-middle income countries included in Table 1.3, such a burden is significantly greater than the included high-income countries, a difference that is suggested to be due to differences in alcohol control policies between the two groups. Across all measures of harm included in Table 1.3, males are affected by alcohol-related harm significantly more than females. While the prevalence of alcohol-use disorders and alcohol dependence and the death rates from liver cirrhosis and road traffic accidents is lower in Australia than some other high income countries including Canada, the United Kingdom and the United States, the proportion of all deaths attributable to alcohol in Australia is comparable to these other high income countries.
### TABLE 1.3: Burden of alcohol-related harm across selected high-income and low-middle income countries (2010)

<table>
<thead>
<tr>
<th>COUNTRY</th>
<th>PREVALENCE OF ALCOHOL USE DISORDERS (15 years+)</th>
<th>PREVALENCE OF ALCOHOL DEPENDENCE (15 years+)</th>
<th>AGE STANDARDISED DEATH RATES FOR LIVER CIRRHOSIS (PER 100,000 POPULATION 15 years+)</th>
<th>AGE STANDARDISED DEATH RATES FOR ROAD TRAFFIC ACCIDENTS (PER 100,000 POPULATION 15 years+)</th>
<th>ALCOHOL ATTRIBUTABLE FRACTION FOR DEATHS FROM ALL CAUSES (as % all deaths)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Males</td>
<td>Females</td>
<td>Males</td>
<td>Females</td>
<td>Males</td>
</tr>
<tr>
<td>High income countries</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Australia</td>
<td>5.0%</td>
<td>2.1%</td>
<td>2.2%</td>
<td>0.8%</td>
<td>6.8</td>
</tr>
<tr>
<td>Canada</td>
<td>10.2%</td>
<td>3.6%</td>
<td>6.0%</td>
<td>2.3%</td>
<td>10.6</td>
</tr>
<tr>
<td>New Zealand</td>
<td>4.5%</td>
<td>2.0%</td>
<td>1.9%</td>
<td>0.9%</td>
<td>4.2</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>16.3%</td>
<td>6.0%</td>
<td>8.7%</td>
<td>3.2%</td>
<td>16.0</td>
</tr>
<tr>
<td>United States</td>
<td>10.7%</td>
<td>4.2%</td>
<td>6.9%</td>
<td>2.6%</td>
<td>14.9</td>
</tr>
<tr>
<td>Low-middle income countries</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brazil</td>
<td>8.2%</td>
<td>3.2%</td>
<td>3.9%</td>
<td>1.8%</td>
<td>28.8</td>
</tr>
<tr>
<td>China</td>
<td>9.3%</td>
<td>0.2%</td>
<td>4.5%</td>
<td>0.1%</td>
<td>9.9</td>
</tr>
<tr>
<td>India</td>
<td>4.5%</td>
<td>0.5%</td>
<td>3.8%</td>
<td>0.4%</td>
<td>39.5</td>
</tr>
<tr>
<td>Russian Federation</td>
<td>31.0%</td>
<td>6.2%</td>
<td>16.5%</td>
<td>3.3%</td>
<td>48.7</td>
</tr>
<tr>
<td>South Africa</td>
<td>10.0%</td>
<td>1.5%</td>
<td>4.2%</td>
<td>0.7%</td>
<td>25.2</td>
</tr>
</tbody>
</table>

High-income countries were selected based on social and cultural similarities to Australia and low-middle income countries based on data availability. Data from the World Health Organisation Global Health Observatory Data Repository – Global Information System on Alcohol and Health.
Trend data show that misuse of alcohol is progressively contributing more to global disease and injury over time. Lim et al (2012) found that global alcohol-attributable deaths and DALYs have increased between 1990 (deaths: 1,988,502; DALYs: 73,715,000) and 2010 (deaths: 2,735,511; DALYs: 97,237,000), with harmful use of alcohol increasing from the 8th most important cause of both death and disability in 1990 to the 5th most important in 2010.9

**Harm to others**

Emerging data regarding alcohol-related harm to others indicate that the burden of such harm is substantial. For instance, in one New Zealand study, the prevalence of alcohol-related harm to others was found to be higher than the prevalence of such harms to the drinker themselves (18% versus 12%), particularly for women and young people.10 Additionally, in the European Union, in 2004, there were 7,710 deaths (men: 5,564; women: 2,146), 191,151 potential years of life lost (men: 139,824; women: 51,326), 27,410 years lived with disability (men: 18,987; women: 8,423) and 218,560 DALYs (men: 158,811; women: 59,749) attributable to harm to others caused by alcohol misuse,11 with the main causes of such harms being transport injuries and violence.11

**Economic burden to society at large**

Globally, the economic costs of alcohol abuse are significant. A 2009 study of a selected group of high-income and middle-income countries found that the total costs associated with alcohol misuse were more than 1% of the gross national product in all countries, and as much as 2.7% in the United States (with alcohol-attributable cost per head of International dollar I$837) and 3.3% in South Korea (with an alcohol-attributable cost per head of I$524).1 Direct costs accounted for between 5.2%-51% of the total costs associated with alcohol consumption. The largest contributor to these direct costs differed between countries. For countries including Canada, the United States and Thailand, health care was the predominant direct cost (22.7%, 12.7% and 4.3%, respectively), whereas for France and South Korea, other undefined direct costs (33.9% and 21.9%, respectively) were higher. Indirect costs accounted for between 49%-95% of the total costs associated with alcohol consumption. Costs due to lost productivity were the predominant alcohol-attributable indirect cost, found to account for between 45%-95% of the total cost in these countries.1
CHAPTER 1: Alcohol-related harm, prevalence of risky alcohol consumption and harm reduction interventions within the general community and sports setting

Australian perspective

Harm to the drinker

In the 10 years between 1996 and 2005, over 32,000 Australians died from alcohol-attributable injury and disease caused by risky drinking.\(^1\) In 2003, the burden (DALYs) associated with harmful alcohol consumption was estimated to be 3.2% of the total burden of disease in Australia (4.9% for males and 1.6% for females).\(^1\) This rose to 8.1% for males under 45 years of age. In this group, alcohol was the leading risk factor for the total disease burden, compared to tobacco (1.9%), physical inactivity (1.8%), high blood cholesterol (1.9%), high body mass (3.3%) illicit drugs (5.7%), occupational exposure and hazards (2.7%), and low fruit and vegetable consumption (0.8%).\(^1\) Over one-third (39%) of all alcohol attributable DALYs were linked to alcohol dependence, 13% to road traffic accidents, 14% to suicide/self-inflicted harm, 5% to breast cancer, 5% to oesophageal cancer and 25% to other diseases and health conditions.\(^1\) As with alcohol-attributable deaths, the majority (76%) of this burden was borne by males, a differential that was greater for specific causes, including road traffic accidents (89%), suicide/self-harm (83%) and alcohol-dependence (80%).\(^1\)

Harm to others

Laslett and colleagues (2010) estimated that in a single year 367 Australians died and almost 14,000 people were hospitalised due to the misuse of alcohol by others, with interpersonal violence, pedestrian deaths and child abuse the major contributors.\(^1\) Additionally, the 2013 National Drug Strategy Household Survey showed that 26% of Australians aged 14 and over (almost 5 million) had been a victim of an alcohol-related incident in the past year. The largest proportion (22.3%) reported verbal abuse by persons affected by alcohol, followed by being put in fear (12.6%) and physical abuse (8.7%).\(^6\) Hospital admission was required in 8.3% of such cases. Males were more likely than females to report being verbally (26% v 19%) or physically abused (10.4% v 7.1%) by someone who had been drinking; however, females were more likely than males to have been put in fear (13.8% v 11.3%). A higher proportion of younger people (18-24 years) also experienced verbal abuse (35.0%), physical abuse (15.2%) or were put in fear (18.6%) by someone affected by alcohol, compared to other age groups.\(^6\) Women reported being more likely to be harmed or affected by someone they know in their household or family, while men reported being more likely to be harmed by strangers, friends and co-workers.\(^6\)
Economic burden to society at large

The total annual cost of alcohol abuse in Australia in 2010 was estimated to be in excess of $14 billion, including costs that were both tangible (labour, health care, road accidents, crime) and intangible (loss of life, pain and suffering). The majority were tangible costs, including just under $3 billion in costs to the criminal justice system, $1.7 billion in costs to the health system, $6 billion in costs to productivity due to premature mortality, sickness and absenteeism and $3.7 million in costs associated with traffic accidents. These cost estimates did not incorporate costs associated with harm to others. Such costs have been separately estimated to total $13 billion due to forgone wages or productivity, $765 million in hospital and child protection costs and over $6 billion in intangible costs.

GUIDELINES TO REDUCE HEALTH RISKS FROM ALCOHOL CONSUMPTION

For most alcohol-related harms there is a dose-response relationship between the amount (volume) of alcohol consumed and the risk of harm. In addition, the pattern of alcohol consumption, primarily involving the frequency of consuming a high volume of alcohol on a single occasion, is also associated with the risk of harm. Based on such evidence, governments across the world have developed alcohol consumption guidelines to indicate amounts of alcohol consumption below which risk of alcohol-related health risks are acceptably reduced.

Global perspective

Across the globe, alcohol consumption guidelines differ in the level of consumption that is recommended to reduce risk of harm. For example, Table 4.1 outlines the maximum number of standard drinks of alcohol (with one standard drink equal to 10 grams of alcohol) per day that are recommended by national guidelines from selected countries. As shown, in these countries, the recommended limit on alcoholic drinks per day ranges from 1 to 4.2 per day for women and 2 to 5.6 per day for men.
TABLE 1.4: Alcohol consumption recommendations outlined in drinking guidelines for a selection of countries around the world

<table>
<thead>
<tr>
<th>COUNTRY</th>
<th>RECOMMENDED MAXIMUM NUMBER OF STANDARD DRINKS (10g ALCOHOL) PER DAY&lt;sup&gt;a&lt;/sup&gt;</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Men</td>
<td>Women</td>
<td></td>
</tr>
<tr>
<td>Australia</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Brazil</td>
<td>3</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Bulgaria</td>
<td>3</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Canada</td>
<td>4</td>
<td>2.7</td>
<td></td>
</tr>
<tr>
<td>Finland</td>
<td>2</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>France</td>
<td>3</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Hong Kong</td>
<td>2</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Ireland</td>
<td>4</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Italy</td>
<td>3.6</td>
<td>2.4</td>
<td></td>
</tr>
<tr>
<td>Mexico</td>
<td>4.8</td>
<td>3.6</td>
<td></td>
</tr>
<tr>
<td>Netherlands</td>
<td>3</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>New Zealand</td>
<td>3</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Poland</td>
<td>4</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Singapore</td>
<td>3</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>South Africa</td>
<td>3.6</td>
<td>2.4</td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>3.2</td>
<td>2.4</td>
<td></td>
</tr>
<tr>
<td>United States</td>
<td>5.6</td>
<td>4.2</td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup>To allow comparison, one standard drink has been defined as 10 grams of alcohol, as it is in Australia. Adapted from a review by Furtwaengler & de Visser (2013).<sup>17</sup>

**Australian perspective**

In Australia, in 2009, the National Health and Medical Research Council disseminated the following alcohol consumption guidelines:

- Guideline 1: for healthy men and women, drinking no more than two standard drinks on any one day reduces the lifetime risk of harm from alcohol-related disease or injury.
- Guideline 2: for healthy men and women, drinking no more than four standard drinks on a single occasion reduces the risk of alcohol-related injury arising from that occasion.<sup>18</sup>
Guideline 1 was based on evidence that the lifetime risk of harm from drinking alcohol increases with the amount consumed, and Guideline 2 was based on evidence that on a single occasion of drinking, risk of alcohol-related injury increases with the amount consumed. In addition, two further guidelines were disseminated:

- **Guideline 3**: a) parent and carers should be advised that children under 15 years of age are at the greatest risk of harm from drinking and that for this age group, not drinking alcohol is especially important; b) for young people aged 15-17 years the safest option is to delay initiation of drinking for as long as possible.
- **Guideline 4**: a) for women who are pregnant or planning a pregnancy, not drinking is the safest option; b) for women who are breastfeeding, not drinking is the safest option.\(^\text{18}\)

### ALCOHOL CONSUMPTION: VOLUME, PATTERNS AND RISK OF HARM

The following section reviews evidence on the volume and patterns of alcohol consumption, and the prevalence of risky consumption relative to national alcohol consumption guidelines.

#### Global perspective

**Volume consumed**

According to the World Health Organisation, in 2010, across the globe, a mean of 6.2 litres of pure alcohol was consumed per person aged 15 years or older, translating to 13.5 grams of alcohol per day. However, total alcohol consumption varied widely across regions and countries, with high-income countries generally having the highest alcohol per capita consumption. For instance, in 2010, per capita consumption of alcohol for the European region was 10.9 litres of pure alcohol, compared to 3.4 litres in South East Asia.\(^2\)

Table 1.5 shows recorded per capita consumption of alcohol for selected high income and low-middle income countries for 2006, 2009 and 2012 (where data are available). For most of the included countries, annual per capita consumption of alcohol has either remained stable or increased between 2006 and 2012, with reductions of more than 1 litre in only the United Kingdom. Consumption in three of the selected low-middle income countries (Brazil, China and India) increased between 2006 and 2009. Australia’s annual
per capital consumption of alcohol has remained stable over this time period, and in 2012, was the highest of the high-income countries.

### TABLE 1.5: Recorded annual per capita consumption of alcohol for selected high-income and low-middle income countries

<table>
<thead>
<tr>
<th>COUNTRY</th>
<th>RECORDED ANNUAL PER CAPITA (15+ YEARS)</th>
<th>2006</th>
<th>2009</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CONSUMPTION OF ALCOHOL (IN LITRES OF PURE ALCOHOL)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High-income countries</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Australia</td>
<td>10.31</td>
<td>10.62</td>
<td>10.05</td>
<td></td>
</tr>
<tr>
<td>Canada</td>
<td>8</td>
<td>8.2</td>
<td>8.1</td>
<td></td>
</tr>
<tr>
<td>New Zealand</td>
<td>9.33</td>
<td>9.37</td>
<td>8.9</td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>11.34</td>
<td>10.76</td>
<td>9.65</td>
<td></td>
</tr>
<tr>
<td>United States of America</td>
<td>8.63</td>
<td>8.67</td>
<td>8.82</td>
<td></td>
</tr>
<tr>
<td>Low-middle income countries</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brazil</td>
<td>6.99</td>
<td>7.22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>China</td>
<td>3.28</td>
<td>4.88</td>
<td></td>
<td></td>
</tr>
<tr>
<td>India</td>
<td>1.36</td>
<td>2.17</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Russian Federation</td>
<td>11.83</td>
<td>11.3</td>
<td>11.2</td>
<td></td>
</tr>
<tr>
<td>South Africa</td>
<td>8.79</td>
<td>8.06</td>
<td>8.09</td>
<td></td>
</tr>
</tbody>
</table>

*High-income countries were selected based on social and cultural similarities to Australia and low-middle income countries based on data availability. Data not available. Data from the World Health Organisation Global Health Observatory Data Repository – Global Information System on Alcohol and Health.

### Patterns of alcohol consumption and prevalence of risky consumption

The majority (61.7%) of the world’s adult population (15 years or older) report abstaining from alcohol consumption, either as lifetime abstainers or former drinkers, with the proportion of abstainers substantially lower in high-income countries. In contrast, high-income countries have the highest prevalence of heavy episodic drinking (defined as 60 grams or more of alcohol in a single occasion at least monthly). For instance, while at a global level around 16% of drinkers 15 years or older are reported to participate in heavy episodic drinking, in the European Region and the Americas this proportion was 22.9% and 22.0%, respectively, compared to 12.4% in South East Asia. In all regions, a higher proportion of females is reported to be lifetime abstainers and a lower proportion is reported to engage in heavy episodic drinking than males. For instance, in the European...
and South East Asian regions, 29.4% and 15.4% of males were reported to participate in heavy episodic drinking, respectively, compared to 12.6% and 1.4% of females, respectively.\textsuperscript{2}

As shown in Table 6, the prevalence of heavy episodic drinking among both drinkers and the population overall (including abstainers) also differs markedly between countries within income groups, with the highest rates of heavy episodic drinking amongst drinkers in selected high-income countries occurring in the United Kingdom and the United States, and in selected low-middle income countries occurring in the Russian Federation and South Africa.\textsuperscript{4} For all countries included in the table, regardless of whether low-, middle- or high-income, the prevalence of heavy episodic drinking is consistently higher amongst males than females.

**TABLE 1.6: Prevalence of heavy episodic drinking in the past 30 days for selected\textsuperscript{4} high-income and low-middle income countries**

<table>
<thead>
<tr>
<th>COUNTRY</th>
<th>HEAVY EPISODIC DRINKING (DRINKERS ONLY) PAST 30 DAYS (%)</th>
<th>HEAVY EPISODIC DRINKING (POPULATION) PAST 30 DAYS (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td>High-income countries</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Australia</td>
<td>6.3</td>
<td>19.1</td>
</tr>
<tr>
<td>Canada</td>
<td>14.7</td>
<td>31.2</td>
</tr>
<tr>
<td>New Zealand</td>
<td>2.3</td>
<td>8.7</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>25.8</td>
<td>40.8</td>
</tr>
<tr>
<td>United States of America</td>
<td>17.3</td>
<td>30.9</td>
</tr>
<tr>
<td>Low-middle income countries</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brazil</td>
<td>11.1</td>
<td>29.9</td>
</tr>
<tr>
<td>China</td>
<td>2.5</td>
<td>24.3</td>
</tr>
<tr>
<td>India</td>
<td>0.7</td>
<td>12.9</td>
</tr>
<tr>
<td>Russian Federation</td>
<td>16.6</td>
<td>39.8</td>
</tr>
<tr>
<td>South Africa</td>
<td>13.9</td>
<td>31.7</td>
</tr>
</tbody>
</table>

\textsuperscript{4}High-income countries were selected based on social and cultural similarities to Australia and low-middle income countries based on data availability. Data from the World Health Organisation Global Health Observatory Data Repository – Global Information System on Alcohol and Health.\textsuperscript{4}
Volume consumed

In Australia, average per capita alcohol consumption for people 15 years and over between 2008 and 2010 was estimated to be 12.2 litres of pure alcohol. During this period, annual per capita alcohol consumption was significantly higher for males (17.3 litres) than females (7.2 litres). In 2010, with non-drinkers removed from the denominator, estimates of total per capita alcohol consumption rose to 14.5 litres for all drinkers 15 years and over – 19.7 litres for male drinkers and 9 litres for female drinkers.2

Patterns of alcohol consumption and prevalence of risky consumption

In the 2013 National Drug Strategy Household Survey (N=23,855), 22% of people aged 14 years or over reported abstaining from alcohol, 6.5% reported that they consumed alcohol daily, 18.2% reported drinking at levels that placed them at lifetime risk of an alcohol-related disease or injury (more than two standard drinks per day) and 26% reported exceeding single occasion risk guidelines (five or more standard drinks on a single occasion) at least once a month (13.8% at least once a week).6 At a population level, these proportions equated to 3.5 million people drinking more than two standard drinks per day and five million people drinking five or more standard drinks on a single occasion at least once a month. In addition, 15.6% of people reported that they had consumed 11 or more standard drinks on a single drinking occasion in the past 12 months.6

Australian males were more than twice as likely as females to consume more than two standard drinks per day (26% and 9.7%, respectively), with 32% of males aged 25–29 drinking at these levels.6 Similarly, males were significantly more likely than females to report drinking five or more standard drinks on a single occasion at least once during the last year (47% and 27%, respectively). Twenty percent of males reported consuming alcohol at this level at least weekly, compared with 7.5% of females.6

In Australia, there is an inverse relationship between age and the proportion of people drinking five or more drinks on a single occasion, with people aged 18–24 years most likely to report consuming at these levels weekly or monthly (47%, compared to 8.7% of the 12-17 years age group, 37% of the 30-39 years age group, 31% of the 30-39 and 40-49 years age groups, 24% of the 50-59 years age group, 16.3% of the 60-69 years age group, and 6.3% of the 70+ years age group).6 However, contrary to this trend, 40-49 year olds
(6.3%) and 50-59 year olds (6.2%) were the groups most likely to report consuming alcohol at these levels (five or more drinks on a single occasion) on most days or every day, compared to, for example, 1.8% of 18-24 year olds, 3.7% of 25-29 year olds, and 4.3% of 30-39 year olds.6

**ALCOHOL AND SPORT**

Interventions to address risky alcohol use associated with sport has been identified as a priority action to reduce alcohol-related harm by the World Health Organisation19 and specifically within Australia by the Australian government.20 The following section outlines evidence for such a priority, including a review of the burden of alcohol-related harm associated with people involved in sport, and of risky alcohol consumption amongst sportspeople and fans/spectators. The current implementation of responsible alcohol management practices in sports settings to mitigate such risky alcohol consumption is then outlined, followed by an examination of community sports clubs as a setting to reduce such consumption and associated alcohol-related harms. The section concludes with a description of possible strategies to reduce alcohol-related harm in the community sports setting and an overview of current research evidence assessing the effectiveness of such strategies.

**Burden of alcohol-related harm and risky alcohol consumption associated with people involved in sport**

**Global perspective**

Elevated levels of alcohol-related harm have been found amongst people engaged in sport compared to people who are not.21-22 In a recent systematic review of alcohol use, aggression and violence in athlete populations, 10 of 11 included cross-sectional and longitudinal studies found higher rates of alcohol use, aggression and violence for athlete populations compared to non-athlete populations.21 The included studies involved middle/high school students, college/university students, current/former athletes, and general populations at both the professional (elite) and non-professional (non-elite or community) level. The outcomes assessed included physical, verbal and sexual violence, aggression, risk taking behaviours and general risk of alcohol-related harm (as measured by the Alcohol Use Disorders Identification Test (AUDIT)). All of the included studies were from the United States (n=9) and Australia (n=2). Results of individual studies within the review included a finding by Garry and colleagues (2000) that sports team participation
amongst middle school students was associated with 1.24 the odds of alcohol use (OR 1.24, 95%CI 1.05–1.46, p=0.05) compared to non-sports team participation. Similarly, Koss and colleagues (1993) found that amongst a sample of undergraduate men, sexual aggression was predicted by athletic involvement (β=0.11, p<0.001) and general alcohol use (β =0.23, p<0.05). Likewise, in a Irish study (not included in the review) of alcohol use consequences in amateur players of Gaelic football and hurling, a significant difference was found between the proportion of players who reported involvement in a fight due to their drinking (32%) compared with a national sample of age-matched males (15%). Almost all players (87.6%) who reported consuming alcohol also reported experiencing at least one harm due to their drinking.

A number of studies have reported a higher prevalence of risky alcohol consumption amongst sportspeople across different levels of professionalism compared to non-sportspeople. For example, there is a large body of such evidence in the college context within the United States. Nelson and colleagues (2001), for instance, found that a significantly higher proportion of college athletes (57%) reported binge drinking (≥5drinks) compared to students who were not athletes (49%). Weschler and colleagues (1997) also found that frequent heavy episodic drinking (≥3 heavy drinking episodes in the past 2 weeks) was more common among student athletes (males: 29%; females: 24%) than non-athletes (males: 18%; females: 15%) for both males and females.

Similar high levels of risky consumption have been found amongst community-level samples of sportspeople in Ireland, New Zealand and Brazil. O’Farrell and colleagues (2010) found that 54% of non-professional Gaelic footballers and hurlers within Ireland were regularly binge drinking (≥6 drinks at least once a week) compared with 40% of males nationally and that 30% reported drinking over the recommended weekly limit (21 standard drinks) compared with 15% in the national sample. Similarly, in New Zealand, O’Brien and colleagues (2005) found greater rates of binge drinking (≥6 drinks at least weekly) were reported by sportspeople at the international/country elite sport level (59%), provincial elite level (56%), and non-elite level (51%) compared to non-sportspeople (31%). Finally, a study conducted in Brazil by Bedendo and colleagues (2013) examining the relationship between sport participation and heavy episodic drinking (≥ 5 drinks on a single occasion) amongst 19,132 high school students found that a larger proportion of soccer playing students reported heavy episodic drinking in the last month (21.0%, 95% CI: 18.6%–23.6%) than did non-players (16.7%, 95% CI: 14.7%–
18.8%) and players of other team sports (basketball, volleyball or handball)(13.9%, 95% CI: 11.2%–17.1%). Other research indicates that the highest levels of risky alcohol consumption are among sports people involved in team and contact sports, males and younger persons. Studies conducted in the United States have also reported higher levels of alcohol consumption among spectators/fans when they are at games compared to when they are not at games, and compared to non-spectator populations. Glassman and colleagues (2007) found, for example, that spectators/fans drank significantly more alcohol on game days (mean: 5.6 drinks) compared to other social occasions (mean: 4.9 drinks) and Nelson and Wechsler (2003) found higher levels of binge drinking (≥5 drinks on a single occasion for males and ≥4 drinks on a single occasion for females) in the past two weeks among sports fans compared to non-fans (OR 1.55; 95%CI: 1.43, 1.69). Such findings provide support for the idea that not only might the characteristics of individuals involved in sport and sport culture influence the likelihood of excessive alcohol consumption and related violence, but that the availability and management of alcohol at sports events may also contribute to such outcomes.

**Australian perspective**

The burden of alcohol-related harm to sporting populations within the Australian context has been found to be similarly high and, in most cases, significantly greater than that experienced by the wider community. For instance, a study by O’Brien and colleagues (2012) found that, at the university level, sports people were significantly more likely than non-sports people to display aggressive behaviours such as verbal insults or assaults (OR 1.65) and more likely to damage property (OR 1.98) when intoxicated. A study of Australian Football League (AFL) players in the Australian state of Victoria found similar results amongst professional players, with players who did not have interests other than full-time football having significantly higher AUDIT scores (8.19) than those who reported having such interests (7.04)(1.05 points lower; 95%CI -1.89, -.041). Another recent longitudinal study in Victoria, Australia, examined the relationship between alcohol use, sports participation and violent behaviours in a large community-based cohort of young people (N=2,262) ranging in age from 17-24 years of age in 2010 and 19-26 years of age in 2012. While the study found that sport participation was not associated with violent behaviour, problem alcohol use was found to be associated with sports participants...
engaging in fights. The authors concluded that it may not be sport participation in itself that influences violence, but rather the drinking norms or culture of certain sporting contexts that influences the occurrence of violence.  

As with the burden of alcohol-related harms, within the Australian context, high levels of risky alcohol consumption have been reported for sportspeople compared to non-sportspeople, with such associations demonstrated at a professional/elite, university and amateur/community level. At the amateur level, Black and colleagues (1999) found that sportspeople reported higher rates of excessive drinking (≥5 drinks in one day) (35%) compared to similarly aged men in the general population (26%), with significant differences in alcohol consumption between players of different sporting codes. For instance, rugby league players were found to be 1.63 times the odds (95% CI 1.16-2.30; p=0.05) of consuming more than four standard drinks in one session compared to non-rugby league players. At the university sports level, O’Brien and colleagues (2012) found that 41% of athletes/sportspeople reported binge drinking (≥7 drinks on one occasion) compared to 35% of non-athletes/sportspeople. At the elite/professional level, a survey of Australian Football League (AFL) players by Dietze and colleagues (2008), revealed that risky alcohol consumption for long-term harm (≥5 drinks/average day; ≥29 drinks/week) was higher among AFL players during the end-of-season period (54%) and off-season/vacation period (42%) than in age-matched Australian men (15%). In contrast, the prevalence of such risky alcohol consumption was lower during pre-season (8%) and the playing season (2%). The study also found that risky/high risk drinking for short-term harm (≥7 drinks on any one day on a monthly basis) ranged from between 51% (during the season) to 88% at the end of the season (71% in the pre-season period), proportions which were all greater than the proportion of males in the general population (44%).

**Sports clubs and venues: an opportunity to reduce risky alcohol consumption and related harms**

There are a number of suggested reasons that sport clubs and venues are an opportune setting for reducing risky alcohol consumption and related harm among sportspeople and fans.

First, in many countries, large numbers of people attend sports clubs and venues either as players, fans or officials. In Australia and England, for example, the population level
prevalence of participation in organised sports is high, with 28%\textsuperscript{42} and 34%\textsuperscript{43} of the populations of these countries, respectively, reporting such participation. Football is particularly popular, with five million people reportedly playing Association football/soccer worldwide\textsuperscript{44} and 1.26 million Australians (7.4%) participating in some form of football.\textsuperscript{45}

Second, sports settings in countries including Australia and New Zealand are venues that are licensed to sell alcohol and, as such, are bound by liquor licensing laws and requirements to sell alcohol responsibly.\textsuperscript{46,47} Through such regulations, the potential exists to influence the responsible supply and consumption of alcohol in an identified high-risk setting.

Third, a settings-based approach to health promotion,\textsuperscript{48} has been used effectively to modify risky alcohol consumption in other licensed venues.\textsuperscript{49,50} Such an approach is based on ecological and social ecological theories of health promotion\textsuperscript{51-53} that recognise the importance of physical, social and cultural environmental factors in modifying health risk behaviours such as alcohol consumption. The opportunity exists to determine whether modification of such constructs in the community sports club setting has a similar beneficial impact in terms of reducing risky alcohol consumption.

Fourth, there is some evidence that sports clubs find interventions to reduce risky alcohol consumption acceptable and believe such intervention would be useful. A study by Warner-Smith and colleagues (2000) found that over 90% of a sample of Australian rugby league clubs found strategies designed to increase the responsible service of alcohol acceptable.\textsuperscript{54} The majority of clubs (>60%) also reported that such initiatives were useful.\textsuperscript{54}

**Strategies for reducing alcohol-related harm in the sports club environment**

Reviews of a range of experimental and epidemiological studies have found that managing the sale, promotion and consumption of alcohol in a way that is consistent with liquor licensing legislation\textsuperscript{46,47,55} and harm minimisation theory\textsuperscript{56} is associated with reduced risky alcohol consumption and harm in licensed premises.\textsuperscript{57-59} Based on these reviews and additional randomised controlled trials, there is evidence supporting the effectiveness of
the following strategies in reducing alcohol consumption and/or alcohol-related harm in settings that serve/supply alcohol:

- differential pricing and availability of alcoholic drinks based on alcohol content;\(^{37,58}\)
- enforcement of responsible alcohol management policies and practices;\(^{37,57,58}\)
- restrictions on the hours/days of alcohol sales;\(^{37,57,58,60}\)
- prohibiting sale of alcohol to persons under a minimum legal purchase age;\(^{37,59}\)
- prohibiting price discounts and promotions of alcoholic drinks, such as happy hour promotions.\(^{37,57,61}\)

In addition, based on the results of a number of cross-sectional studies involving sporting clubs and sports participants, the following factors have been suggested to be associated with lower levels of risky alcohol consumption or harm amongst sportspeople and fans in the sports setting:

- prohibiting free or cheap alcohol promotions\(^{39}\)
- prohibiting drinking games or competitions\(^{62,63}\)
- prohibiting the sale of alcohol via roaming sale in stands\(^{64}\)
- restricting/ceasing alcohol-related sponsorship.\(^{65-67}\)

Such evidence provides a guide for the design and implementation of interventions to reduce risky alcohol consumption in sports clubs.

**Current implementation of responsible alcohol management practices in sports settings**

Three cross-sectional studies from the United States,\(^{68}\) New Zealand\(^{69}\) and Europe\(^{70}\) have reported that sporting clubs and venues failed to comprehensively and consistently implement alcohol management practices designed to reduce risky alcohol consumption and related harms. Lenk and colleagues (2010) reported that just over a quarter (27%) of 66 sports stadiums in the United States implemented ‘11 or more’ (of 12) alcohol control policies and practices\(^{68}\) and Lyne and colleagues (2012) reported a similarly low level of implementation of such practice at sporting events in New Zealand (N=13),\(^{69}\) with, for instance, low/non-alcoholic drinks promoted at under a quarter of events (23%) and free water provided at under one-third (31%).\(^{69}\) A multi-national study by Drygas and
colleagues (2013) reported similar findings, with only 22% of 88 sports stadiums across 10 European countries reporting initiatives to encourage responsible alcohol use.70

Limited resources (including money, staff, and time),71-74 structural barriers (e.g. limited facilities or contractual arrangements),72 competing priorities,72 and limited support from overarching sporting associations/bodies73 have been identified as potential barriers to the implementation of such responsible alcohol management policies and practices by sports clubs and venues, particularly amateur clubs at the community level.

**Reducing risky alcohol consumption and related harms in the community sports setting – current research evidence**

Three systematic reviews of controlled trials to reduce risky alcohol consumption and related harms in the sports setting and/or by sports participants have been conducted.60,75,76 All three failed to identify a single study testing the effectiveness of an alcohol management intervention in the sports setting.60,75,76 An additional literature search identified one unpublished cluster controlled trial77 and a small number of non-controlled trials of such interventions in the sports club setting.78-82

The unpublished cluster controlled trial, by O’Farrell (2010), involved Gaelic Football and hurling clubs in Ireland, with clubs within one county acting as control clubs (n=29) and a group of clubs within another county randomly selected to receive the intervention (n=12).77 The intervention involved community level (e.g. media campaign), club level (e.g. responsible alcohol service practices) and player level (e.g. education) strategies implemented over a four-month period. Repeat cross-sectional surveys of players were used at pre- (n=628) and post-intervention (n=659) to measure primary trial outcomes. No significant intervention effects were found across various reported alcohol consumption and harm measures, including overall AUDIT score, regular binge drinking and alcohol-related harms.77

Mentha and colleagues (2009) conducted a single group, pre-post study evaluating the effectiveness of an intervention to introduce light and mid-strength beer and targeted alcohol bans in an amateur football competition in a remote community in Australia. Survey data collected from sports club representatives including umpires, administrators and security personnel indicated reductions in alcohol-related anti-social behaviour and a decrease in the amount of alcohol sold at matches was also reported. However, there were
no significant decreases in injury related hospitalisations or police incidents between pre- and post-test periods.\textsuperscript{78} While these results supported the potential effectiveness of strategies to modify and limit alcohol availability, the study had a number of methodological limitations. The uncontrolled nature of the design did not allow for factors of seasonality and other external influences (e.g. economic factors) to be accounted for, and the use of overall alcohol sales data as an outcome did not account for fluctuations in crowd numbers, and therefore per capita sales.\textsuperscript{78}

Four cross-sectional studies led by Rowland et al\textsuperscript{80-83} assessed the association between a multi-component responsible alcohol intervention and measures of excessive alcohol use in a range of Australian sporting club types. Two of the studies\textsuperscript{80,83} involved a comparison group of clubs not exposed to the intervention. One of these studies, reported a significant inverse association between the prevalence of member reported risky alcohol consumption and the implementation (by the club) of a multi-strategic alcohol management program (\textit{Good Sports}) in 92 AFL and cricket clubs in Australia.\textsuperscript{80} Higher levels of implementation of alcohol management strategies was found to be associated with a reduction in the odds of risky consumption on game day (OR 0.79, 95\%CI 0.66-0.94; \textit{p}=0.011), short-term risky drinking (≥5 standard drinks per drinking occasion) (OR 0.85, 95\%CI 0.74-0.99; \textit{p}=0.04) and long-term risky drinking (≥2 standard drinks per day) (OR 0.86, 95\%CI 0.75-0.98; \textit{p}=0.02).\textsuperscript{80} The other controlled study by Rowland et al found that the length of time a club implemented the intervention was inversely associated with drink driving by club members.\textsuperscript{83} The study, which also involved AFL and cricket clubs (n=92), found that for each season a club implemented the intervention, there was an 8\% reduction in the odds of club members reporting drink-driving from the club.\textsuperscript{83}

An additional small pre-post pilot study (N=5 clubs) of sporting clubs in the state of Western Australia, Australia, provided clubs with funds to implement safe alcohol policies, display messages promoting responsible drinking, promote low-alcohol beers and train bar staff in safe serving practices.\textsuperscript{79} While post-test data showed that the majority of club members recognised program messages, there was no significant change in reported alcohol consumption at sports club between pre- and post-intervention.\textsuperscript{79}

Given the limited and equivocal results across existing studies, most of which were neither longitudinal and/or controlled, a need exists for the conduct of randomised controlled trials to assess whether modification of the alcohol management and social characteristics
of community sports clubs is effective in reducing risky alcohol consumption and alcohol-related harm among club members.

**SUMMARY AND THESIS AIMS**

Harm caused by risky alcohol consumption is diverse in aetiology and widespread in impact. Such an impact is global in nature and affects not only the drinker but also other people and society at large. A large body of literature from multiple countries has found that the prevalence of alcohol-related harm and risky alcohol consumption is higher among players and fans of sports of all levels of professionalism compared to nonsporting populations. While sporting clubs are an important and promising setting for reducing such risky alcohol consumption and harm, there is a need for further research to determine:

- which modifiable characteristics and practices of sports club environments are associated with risky alcohol consumption and alcohol related harm by players and fans, particularly in the community sports club setting;
- whether the administrators of sports clubs believe that there is a problem with risky alcohol consumption in the setting and whether they are amenable to change;
- if alcohol management practices of sports clubs are able to be improved through the provision of organisational change strategies and supports; and,
- if risky alcohol consumption by sports people and fans and alcohol-related harm can be reduced through improved alcohol management practices of sports clubs.

In this context, the aims of this thesis were:

1. To identify the characteristics and practices of community football clubs that are associated with risky alcohol consumption (Chapter 2);
2. To assess the attitudes of football club management regarding alcohol use at sports clubs and alcohol harm reduction strategies (Chapter 3).
3. To develop (Chapter 4) and evaluate the effectiveness of interventions to:
   a. improve the implementation of alcohol management practices at community sports clubs (Chapter 5);
   b. reduce risky alcohol consumption and alcohol-related harm among community sports club members (players, spectators and officials) (Chapter 6).
4 To systematically review and synthesise current evidence of the effectiveness of interventions to reduce risky drinking and alcohol-related harm in sports settings generally (Chapter 7, Chapter 8).

5 To provide recommendations for future research and practice regarding interventions to reduce risky alcohol consumption and alcohol related harm in the sports setting (Chapter 9).
REFERENCES


CHAPTER 1: Alcohol-related harm, prevalence of risky alcohol consumption and harm reduction interventions within the general community and sports setting


CHAPTER 2

Alcohol consumption and sport: a cross-sectional study of alcohol management practices associated with at-risk alcohol consumption at community football clubs

Published in:
CHAPTER 2: Alcohol consumption and sport: a cross-sectional study of alcohol management practices associated with at-risk alcohol consumption at community football clubs

ABSTRACT

Background
Excessive alcohol consumption is responsible for considerable harm from chronic disease and injury. Within most developed countries, members of sporting clubs participate in at-risk alcohol consumption at levels above that of communities generally. There has been limited research investigating the predictors of at-risk alcohol consumption in sporting settings, particularly at the non-elite level. The purpose of this study was to examine the association between the alcohol management practices and characteristics of community football clubs and at-risk alcohol consumption by club members.

Methods
A cross sectional survey of community football club management representatives and members was conducted. Logistic regression analysis (adjusting for clustering by club) was used to determine the association between the alcohol management practices (including alcohol management policy, alcohol-related sponsorship, availability of low- and non-alcoholic drinks, and alcohol-related promotions, awards and prizes) and characteristics (football code, size and location) of sporting clubs and at-risk alcohol consumption by club members.

Results
Members of clubs that served alcohol to intoxicated people (OR: 2.23, 95%CI: 1.26-3.93), conducted ‘happy hour’ promotions (OR: 2.84, 95%CI: 1.84-4.38) or provided alcohol-only awards and prizes (OR: 1.80, 95%CI: 1.16-2.80) were at significantly greater odds of consuming alcohol at risky levels than members of clubs that did not have such alcohol management practices. At-risk alcohol consumption was also more likely among members of clubs with less than 150 players compared with larger clubs (OR:1.45, 95%CI: 1.02-2.05) and amongst members of particular football codes.

Conclusions
The findings of this study suggest a need and opportunity for the implementation of alcohol harm reduction strategies targeting specific alcohol management practices at community football clubs.
BACKGROUND

Excessive alcohol consumption continues to be a primary cause of chronic and acute harm in almost all countries. Causally linked to more than 60 types of injury and chronic disease, alcohol causes 3.2% of deaths worldwide and is responsible for 4.0% of disability adjusted life years. The economic costs of alcohol abuse are estimated to be significant; for instance, in the United States the cost of alcohol abuse is predicted to be 2.7% of the country's gross domestic product (purchasing power parity).

A number of studies have demonstrated a link between sport, excessive alcohol consumption and alcohol-related harm among sports fans/spectators and elite athletes. A relationship between alcohol-related harm and sport has also been established among non-elite players and spectators of community-level sport. For example, studies conducted in England and New Zealand have reported higher levels of harmful alcohol consumption among people involved in community sporting clubs than amongst community members generally. A number of Australian studies have also reported alcohol consumption levels among members of community sports clubs to be markedly higher than those in the general community. One such study found that 48% of players and members of non-elite community football and cricket clubs consumed more than four drinks on a single occasion at least once a month at their sports club. A similarly high prevalence of risky alcohol consumption (54% consuming six or more drinks at least once a week) has been documented amongst non-elite Gaelic footballers in Ireland. Explanations as to why excessive alcohol consumption and alcohol-related harm are more prevalent amongst people involved with sport include: the ritualism associated with sporting events, with overindulgence more acceptable and even expected; alcohol marketing and promotion specifically targeting sports; drinking as a reward for sports participation; and drinking as a coping mechanism for dealing with the stresses of sports participation.

In order to address such harms, the World Health Organisation's Global Strategy to Reduce the Harmful Use of Alcohol has identified community organisations such as sporting clubs as important settings for policy interventions to reduce alcohol-related harm. Governments and peak sports organisations within Australia have made similar recommendations regarding the implementation of strategies to reduce the risk of alcohol-related harms in sports clubs. Identifying the determinants of alcohol-related harm in sporting clubs is an important first step in the development of evidence based...
harm reduction interventions in this setting. Research conducted in other, somewhat analogous, venues that sell alcohol (e.g. bars, taverns and pubs) suggests a range of alcohol management practices are associated with at-risk alcohol consumption and alcohol-related violence. Such practices include: possession of an appropriate license to sell alcohol; existence of an alcohol management policy; staff training in responsible service of alcohol and patron aggression management; effective supervision of alcohol-service staff;\textsuperscript{18,19} responsible service of alcohol;\textsuperscript{19-21} alcohol sale promotions and drinking games; and acceptance of sponsorship benefits from the alcohol industry.\textsuperscript{19,21-23}

The prevalence of alcohol management practices and the extent to which such practices are associated with alcohol-related harms and at-risk alcohol consumption in community sporting clubs is largely unreported. A literature search\textsuperscript{a} by the authors identified just one study that examined the association between the alcohol management practices of community (non-elite) sports clubs and alcohol-related harms or consumption.\textsuperscript{23} The study conducted in New Zealand, found that alcohol sponsorship at the individual, team and club level, particularly in the form of free or discounted alcohol, was associated with higher scores on the Alcohol Use Disorders Identification Test among players.\textsuperscript{23} The study did not examine the relationship between other alcohol management practices of clubs and alcohol consumption. An additional study investigating the correlates of high risk alcohol consumption in Australian Rules Players was found, however, this study only included professional players.\textsuperscript{7} This study found that players who received a drink card entitling them to free drinks were 1.68 (95% CI: 1.11, 2.55) times more likely to report monthly risky drinking than those who did not report receiving a drink card.\textsuperscript{7}

Given the limited evidence available regarding practices that contribute to excessive alcohol consumption in community sports clubs, a study was undertaken to examine the association between the alcohol management practices and characteristics of community football clubs and at-risk alcohol consumption by club members (e.g. players, committee members, spectators and coaches).
METHODS

Ethics approval

The study was approved by the University of Newcastle Human Research Ethics Committee on the 29/1/09 and conforms to the provisions of the Declaration of Helsinki [see Appendix 5].

Design and setting

A cross-sectional survey of community football club management representatives and members was conducted in the state of New South Wales, Australia, as part of a larger randomised controlled intervention study. The larger study assessed the effect of a two-and-a-half-year alcohol management intervention on at-risk alcohol consumption and alcohol-related harms amongst members of community sports clubs. The study area included metropolitan, regional and rural communities and accounted for approximately 75% of the state population and 25% of Australia's overall population.

Sample

Community football clubs

The sample of clubs consisted of community-level, non-elite football clubs across four major football codes: soccer/association football, Rugby League, Rugby Union, and Australian Rules football. All are team-based ball sports predominantly involving male players, played at both the amateur and professional levels in Australia and in the first three cases internationally. Clubs were defined as amateur or non-elite if they were not a part of a major national or state level league or competition.

To ensure relevant clubs participated in the study, clubs were considered eligible if they: had players over the legal drinking age (18 years of age and over); were a non-elite community sporting club; had over 40 members (enough to participate in the survey); and, held a liquor licence enabling sale of alcohol at the sporting club.
Club members
Club members were eligible to participate in the study if they were 18 years of age or over and were current members of the club. Members included players, committee members, spectators and coaches.

Recruitment procedures

Community football clubs
In the absence of a state or national register of community sporting clubs, a list of all community football clubs in the study area was created by contacting local councils and the peak association for each football code, and searching telephone directories and sporting web sites.

Club management representatives
The presidents of identified clubs were invited to complete a survey on behalf of club management. Alternatively, the president was able to nominate another member of club management (e.g., vice president or secretary) to complete the survey for the club [see Appendix 6 for information letter to clubs representatives].

Club members
Lists of club members were provided by participating clubs. A quasi-random procedure was used to select club members to participate in the survey, with the 25 club members who most recently celebrated a birthday being invited to participate [see Appendix 7 for information letter to club members].

Data collection procedures
Computer-assisted telephone surveys were conducted with the nominated management representative from each of the participating clubs to assess the club’s alcohol management policies and practices (average length: 40 minutes) [see Appendix 8 for survey script], and with the selected members from each participating club to assess alcohol consumption at the club (average length: 19 minutes) [see Appendix 9 for survey script]. Interviews were conducted by trained interviewers and were conducted during playing season (May and September 2009). Alcohol consumption questions were developed based on validated measures of alcohol consumption. Alcohol management
items were developed by an expert advisory group of health promotion practitioners and alcohol researchers, with reference to the scientific literature.\textsuperscript{7,32,33}

**Measures**

**Club alcohol management practices**

Club representatives were asked to report on the following club alcohol management practices: liquor licence status (yes/no) and type;\textsuperscript{34} existence of a written alcohol management policy (yes/no); alcohol-related sponsorship of the club (yes/no); sponsorship through free/discounted alcohol (yes/no); proportion of staff trained in responsible service of alcohol (all/most/some/none); how often staff consumed alcohol on duty (never/rarely/sometimes/usually/always); availability of non-alcoholic and low-alcoholic drinks (yes/no); relative pricing of low-alcohol and full-strength alcohol drinks (low-alcohol more expensive/priced the same/full-strength alcohol more expensive);\textsuperscript{32} availability of substantial food when alcohol is sold (snacks/light meals/full meals); and, existence of alcohol promotions: drinks discounted for a defined period of time ('happy hour' promotions), 'all you can drink' promotions, other discounted/cheap drink promotions (eg. two drinks for the price of one),\textsuperscript{33} alcohol awards/prizes and drinking vouchers (all yes/no).\textsuperscript{7}

**Club code, size and location**

Club representatives were also asked in the telephone interview to describe their club in terms of: football code; number of registered players (as a measure of club size); and postcode of the club’s sports ground. Postcode was used to categorise clubs as ‘major city’, ‘inner regional’ or ‘outer regional’.\textsuperscript{35}

**Club member alcohol consumption**

Level of alcohol consumption of club members whilst at their club was assessed using a modified version of the graduated frequency index (GFI), a validated measure widely used in population surveys.\textsuperscript{29-31} Members were asked how often they consumed the following number of standard drinks of alcohol in one drinking session at their club over the past three months: 20 or more; 11-19; 7-10; 5-6; 3-4; and 1-2 (5 to 6 days a week; 3 to 4 days a week; 1 to 2 days a week; 2 to 3 days a month; about 1 day a month; less often; or never). The GFI was modified to only cover alcohol consumed within the sports club setting and only alcohol consumed over the past three months, as this was the period when clubs
were operating (sporting season). Based on Australia's national drinking guidelines, consumption of five or more drinks at least once a month was defined as placing members at risk of immediate harm.\textsuperscript{38}

Club members were also asked how often they had witnessed alcohol being served to intoxicated people at the club and how often they had witnessed intoxicated people being admitted to the club (never/rarely/sometimes/frequently/always).

Club members were asked to report their age, gender, income and highest level of educational attainment.\textsuperscript{29}

\textbf{Statistical analyses}

The following categories were used for analysis: number of players grouped into ‘less than 150’ or ‘equal to or above 150’; postcodes used to group clubs as ‘major city’, ‘inner regional’ or ‘outer regional’;\textsuperscript{36} proportion of staff trained in responsible service of alcohol grouped as ‘all’ or ‘most/some/none’; how often staff are allowed to consume alcohol on duty grouped as: ‘never’ or ‘rarely/sometimes/usually/always’; pricing of low-alcohol drinks relative to full-strength alcohol drinks grouped as ‘full strength drinks most expensive’ or ‘low-alcohol drinks most expensive/priced the same’; and, availability of food when alcohol sold grouped as ‘light meals/full meals’ or ‘snacks’.

Responses to questions from the graduated frequency index were used to categorised club members as consuming either ‘five or more drinks at least once a month’ or ‘not’.\textsuperscript{37}

Analysis of the association between club alcohol management practices and characteristics, and club member alcohol consumption was undertaken as a two-step process. First, univariate analysis (chi square) was undertaken to test associations between at-risk alcohol consumption of members and 18 club alcohol management practices and three club characteristics. Second, variables with a chi-square p-value $\leq 0.2$ were included in a backwards stepwise logistic regression analysis, controlling for age and gender as known variables associated with at-risk consumption of alcohol.\textsuperscript{38-40} Variables that had a p-value greater than 0.05 were removed from the analysis one at a time until all variables in the model had a p-value below this level. Club members who reported that they abstained from consuming alcohol were excluded from such analyses.
In both stages of analysis, adjustments were made for clustering at the club-level. SAS version 9.2 was used for all analyses.

RESULTS

Sample

Club management representatives
A total of 328 community football clubs within the study area were identified and contacted. Upon screening, 228 (70%) of these clubs were deemed eligible to participate and invited to take part in the study. Of these, 72 (32%) clubs consented to participate. Consenting clubs did not differ significantly from non-consenting clubs in terms of football code ($\chi^2=6.68$ df=3; $p=0.0764$) or location (major city; inner regional; outer regional) ($\chi^2=0.20$ df=1; $p =0.6559$). Half of the club management representatives who completed the club survey were club presidents or vice presidents ($n=36; 50$%), 31% were club secretaries ($n=22$) and 19% had other executive roles on club committees ($n=14$).

Club members
Participating clubs provided contact details for 1726 club members. Of these, 1671 (97%) were eligible to participate in the study, 1514 (90%) were able to be contacted and 1428 completed the survey - an overall consent rate of 94% and response rate of 85%. An average of 20 members per club completed the survey (range: 12-24 members).

Of the 1428 club members surveyed, 7% ($n=93$) reported that they did not ever consume alcohol. As shown in Table 2.1, the vast majority of the 1335 survey participants who reported consuming alcohol were male (83%) and employed (87%) and just over half were players (55%). The average age of participants was 34 years. Study participants were comparable to participants in football codes across Australia generally in terms of gender (national data: male 82%), and slightly older in terms of age (national data: average age 18-24 years). While equivalent national data are not available for the other variables, national data for all sports indicates that the study sample may have had more employed people (national data for all sports: 65% employed), and more people in non-playing roles (national data for all sports: 15%) than the national average.
Of the 1335 club members who consumed alcohol, 26% (n=366) reported drinking five or more standard drinks at the club at least once a month.

### Association between risky alcohol consumption and club alcohol management practices and characteristics

Table 2.2 displays the results of univariate analyses of the association between club alcohol management practices and characteristics and at-risk alcohol consumption by club members. The eight club alcohol management practices and two club characteristics with a chi square p-value of ≤0.2 were included in the subsequent logistic regression analysis.
<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>MEMBERS WHO CONSUMED 5 OR MORE DRINKS AT LEAST ONCE A MONTH AT THE CLUB NUMBER (%)</th>
<th>p VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hold a liquor licence</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>300 (28.4%)</td>
<td>p=0.411</td>
</tr>
<tr>
<td>No</td>
<td>66 (23.8%)</td>
<td></td>
</tr>
<tr>
<td>Type of liquor licence</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Limited licence-single function</td>
<td>6 (40.0%)</td>
<td>p=0.572</td>
</tr>
<tr>
<td>Limited licence- multiple function</td>
<td>242 (28.2%)</td>
<td></td>
</tr>
<tr>
<td>Function licence</td>
<td>12 (17.6%)</td>
<td></td>
</tr>
<tr>
<td>Written alcohol management policy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>140 (26.9%)</td>
<td>p=0.843</td>
</tr>
<tr>
<td>No</td>
<td>222 (27.9%)</td>
<td></td>
</tr>
<tr>
<td>Sponsors who make, distribute or sell alcohol</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>316 (28.0%)</td>
<td>p=0.382</td>
</tr>
<tr>
<td>No</td>
<td>50 (24.2%)</td>
<td></td>
</tr>
<tr>
<td>Alcohol received from sponsors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>67 (34.0%)</td>
<td>p=0.248</td>
</tr>
<tr>
<td>No</td>
<td>299 (26.3%)</td>
<td></td>
</tr>
<tr>
<td>Staff trained in responsible service of alcohol</td>
<td></td>
<td></td>
</tr>
<tr>
<td>All staff trained</td>
<td>231 (27.8%)</td>
<td>p=0.783</td>
</tr>
<tr>
<td>Less than all staff trained</td>
<td>130 (26.5%)</td>
<td></td>
</tr>
<tr>
<td>Staff consumption of alcohol while on duty</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>183 (23.6%)</td>
<td>p=0.027</td>
</tr>
<tr>
<td>Rarely / sometimes / usually / always</td>
<td>183 (32.7%)</td>
<td></td>
</tr>
<tr>
<td>Availability of low-alcohol options</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>341 (26.7%)</td>
<td>p=0.008</td>
</tr>
<tr>
<td>No</td>
<td>25 (42.4%)</td>
<td></td>
</tr>
<tr>
<td>Pricing of full strength and low alcohol drinks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full strength most expensive</td>
<td>258 (26.4%)</td>
<td>p=0.758</td>
</tr>
<tr>
<td>Priced the same or low alcohol most expensive</td>
<td>69 (28.2%)</td>
<td></td>
</tr>
<tr>
<td>Availability of food when alcohol served</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>360 (27.4%)</td>
<td>p=0.947</td>
</tr>
<tr>
<td>No</td>
<td>6 (27.3%)</td>
<td></td>
</tr>
<tr>
<td>Allow intoxicated people to enter club</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>298 (31.8%)</td>
<td>p&lt;0.001</td>
</tr>
<tr>
<td>No</td>
<td>68 (17.1%)</td>
<td></td>
</tr>
<tr>
<td>Service of alcohol to intoxicated people</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>321 (31.7%)</td>
<td>p&lt;0.001</td>
</tr>
<tr>
<td>No</td>
<td>45 (13.9%)</td>
<td></td>
</tr>
</tbody>
</table>
As shown in Table 2.3, five of the 10 variables entered into the logistic regression model were independently associated with members consuming alcohol at levels linked with immediate harm (p<0.05).

Members of clubs where service of alcohol to intoxicated people was observed had significantly greater odds of consuming alcohol at risky levels than members of clubs were
this practice was not observed (OR: 2.23). This was also the case for members of clubs that had happy hour promotions (OR: 2.84) or alcohol-only awards/prizes (OR: 1.80).

Members of Rugby Union and Rugby League clubs had significantly greater odds of consuming alcohol at risky levels compared to Australian Rules football club members. Rugby Union club members had significantly greater odds (adjusted odds ratio: 2.1; 95% CI: 1.28-3.47) of consuming alcohol at risky levels compared to soccer/association football club members. Members of clubs with less than 150 players had significantly greater odds of consuming alcohol at risky levels compared to members of larger clubs.

| TABLE 2.3: Multivariate association between club alcohol management practices and characteristics and at-risk alcohol consumption by club members |
|---------------------------------------------|---------------------|------------------|
| VARIABLE                                      | ADJUSTED ODDS RATIO (95% CI) | p VALUE |
| Service of alcohol to intoxicated people    | No                  | referent          | p=0.0074 |
|                                             | Yes                 | 2.23 (1.26-3.93)  |         |
| Happy hour promotions                        | No                  | referent          | p<0.0001|
|                                             | Yes                 | 2.84 (1.84-4.38)  |         |
| Alcohol-only awards or prizes                | No                  | referent          | p=0.0084|
|                                             | Yes                 | 1.80 (1.16-2.80)  |         |
| Football code                                | Australian Rules    | referent          | p=0.0004|
|                                             | Soccer/association football | 1.25 (0.70-2.24)  |         |
|                                             | Rugby League        | 1.95 (1.10-3.46)  |         |
|                                             | Rugby Union         | 2.64 (1.60-4.37)  |         |
| Number of players                            | 150 or more         | referent          | p=0.0393|
|                                             | Less than 150       | 1.45 (1.02-2.05)  |         |

*Adjusted for clustering of members at the same club.

**DISCUSSION**

The findings of this study suggest that a number of modifiable alcohol management practices are associated with at-risk alcohol consumption by community sport club members, and that such consumption is more likely to occur in small clubs and in specific football codes. Service of alcohol to intoxicated people, happy hour promotions (where alcohol is provided at a discounted rate for a defined period of time) and alcohol-only awards or prizes were found to be associated with club members being more than twice as
likely to consume alcohol to excess. These findings confirm the need and the opportunity for the development and implementation of alcohol harm reduction interventions in these settings.\(^{13}\)

To our knowledge, this is the most comprehensive study examining the association between the consumption of alcohol by club members and the alcohol management practices of sporting clubs, at either the community or professional level.\(^ {7,23}\) The identification of service of alcohol to intoxicated people, happy hour promotions and alcohol-only awards or prizes as predictors of at-risk alcohol consumption is consistent with work conducted in other drinking contexts,\(^ {18-21}\) and with professional sports players.\(^ {7}\) For instance, Dietze and colleagues\(^ {7}\) found greater alcohol consumption among professional football players who received a drink card entitling them to free drinks, which is analogous to the alcohol-based awards and prizes examined in this study. Also consistent with our findings, Dietze and colleagues found that having formal club rules (or policy) on alcohol consumption was not a predictor of excessive alcohol consumption amongst professional players. Such findings are consistent with evidence from the broader body of scientific literature on licensed premises in general, which suggests that policies alone are insufficient to reduce excessive alcohol consumption and prevent alcohol-related harm.\(^ {47}\)

This study's finding regarding a lack of association between alcohol-related sponsorship of clubs and at-risk alcohol consumption by club members is in contrast with that of O’Brien and Kypri,\(^ {23}\) who found that players receiving alcohol sponsorship had significantly higher scores on the Alcohol Use Disorders Identification Test than those receiving no sponsorship. A number of factors may account for this contrast. First, the O’Brien and Kypri\(^ {23}\) study examined an individual’s total alcohol consumption (not only that within the club setting) and covered a number of sports, whereas the present study only investigated the consumption of alcohol within the sporting club setting and focused solely on football clubs. Furthermore, O’Brien and Kypri\(^ {23}\) examined sponsorship at individual, team and club levels whereas the current study examined sponsorship at the club-level only. Future studies seeking to explore the impact of alcohol-related sports sponsorship may benefit from utilising the more comprehensive approach reported by O’Brien and Kypri.\(^ {23}\)

While previous research has found a positive association between the size of licensed premises and alcohol-related violence (with larger premises associated with greater levels
of violence), the relationship between premises size and level of alcohol consumption has received less attention in the literature.48 The findings of this study, which suggest that excessive alcohol consumption is greater in smaller clubs, appear to be in contrast to that reported in relation to licensed premises size and alcohol-related violence. As sporting clubs are typically staffed by volunteers49 and alcohol consumption is often permitted in large areas surrounding playing fields, including grandstands,50 the increased risk of at-risk alcohol use within smaller clubs may reflect a lower level of capacity of such clubs to monitor and manage alcohol consumption compared to larger clubs.

By targeting those club practices that have been identified as predictors of at-risk alcohol consumption, community sports clubs have an opportunity to reduce alcohol-related harm involving players and spectators. A number of interventions in non-sporting licensed venues have been found to reduce patron intoxication and prevent alcohol-related harm1,18-21 and the potential exists for such interventions to be similarly effective if appropriately tailored to the sports club setting and focussed on the predictors identified in this study. For instance, such interventions should prohibit happy hour promotions and alcohol-only awards and prizes and include strategies to assist staff or volunteers to identify intoxicated patrons, refuse them service of alcohol and ask them to leave the club (actions that are consistent with current state liquor laws).34 However, as with non-sporting licensed premises, it is unlikely that these interventions would be effective without adequate monitoring and enforcement.1,18,21,34,47,52 Given the cost of enforcement, a lower cost strategy for increasing the uptake of harm reduction strategies by clubs is through accreditation with a recognised authority, as has been described by Duff and Munro.49 Findings from past, non-randomised studies suggest that such an intervention approach may have the potential to reduce at-risk alcohol consumption and related harm.53,54

The results of this study need to be considered in the context of the study methodology. First, the study relied on the self-report of club delegates to report on club alcohol management practices. While the validity of such self-reported assessments are not known, self-reported assessment of the health promotion policies and practices of alcohol outlets as well as community organisations such as schools and childcare services is common,55-57 with representatives of such organisations having previously been found to validly and reliably report organisational policies and practices.58,59
The low club consent rate (32%) obtained for this study is likely to be related to clubs being concurrently recruited into a large intervention trial that required an ongoing commitment to data collection and other activities for a four-year period. Comparison of the characteristics of consenting and non-consenting clubs in terms of football code and location suggested that this risk of bias was limited. Finally, the study involved participation by clubs that served 75% of the population in the most populous state in Australia. The extent to which the findings are generalisable to other states, to other sports codes, and to other countries is unknown and warrants further study.

Further research should be conducted to confirm the findings of this study, particularly in the context of sports other than football. It would also be beneficial if future research investigated the relationship between, and relative importance of, individual and club-based predictors of excessive alcohol consumption and alcohol-related harm.

CONCLUSIONS

This study highlights the importance of both modifiable practices and club characteristics as factors associated with at-risk alcohol consumption at community football clubs. Given the extensive participation of community members in football clubs around the world, an opportunity exists to reduce alcohol-related harm associated with at-risk consumption by club players and spectators through the implementation of appropriately tailored and targeted alcohol management strategies.

COMPETING INTERESTS

The authors declare that they have no competing interests.

AUTHORS’ CONTRIBUTIONS

Melanie Kingsland drafted the manuscript and conducted a review of the literature and the statistical analysis. John Wiggers and Luke Wolfenden helped to conceive the study, participated in its design and helped to draft the manuscript. Bosco Rowland and Sarah Weir assisted with the literature review and Bosco Rowland assisted with the statistical analysis. Karen Gillham, Vanessa Kennedy, Robyn Ramsden and Richard Colbran provided conceptual advice and advice regarding the setting and participants. All authors read and approved the final manuscript.
ACKNOWLEDGEMENTS

The research team acknowledges the funding support of the Australian Research Council, Hunter New England Population Health, the Australian Drug Foundation, The University of Newcastle and Hunter Medical Research Institute, and assistance provided by Jennifer Tindall, Christophe Lecathelinais and Daniel Groombridge.

ENDNOTES

a The authors search the following databases: The Cochrane Library (1996-2013), MEDLINE (1950-2013), EMBASE (1988-2013), PsychINFO (1806-2013), CINAHL (1956-2010) and SPORTDiscus (1977-2013), using the search terms ‘alcohol’ and ‘sport’. Articles were eligible for inclusion in the review if they examined club-based predictors of excessive alcohol consumption or alcohol-related harm amongst amateur or non-elite athletes/other club members.

REFERENCES


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CHAPTER 3

Addressing alcohol use in community sports clubs: attitudes of club representatives

Published in:
BACKGROUND

Alcohol has been characterised as among the most harmful drugs on the planet. Excessive alcohol consumption has been found to be particularly prevalent among sports participants. The promotion of alcohol at sporting events and venues, sponsorship by the alcohol industry of individual athletes and sports clubs, and the engagement of clubs and players in practices such as drinking games and alcohol awards have been associated with increased levels of alcohol consumption. Sporting club based interventions which attempt to address these and other practices associated with excessive consumption therefore may represent an effective strategy in reducing harm among sporting club members.

Despite the merits of intervention, a recent systematic review failed to identify interventions (evaluated using experimental or quasi-experimental designs) targeting excessive alcohol use in this setting.

METHODS

In order to assess how amenable sports club representatives may be to interventions targeting alcohol use we conducted a telephone survey of club representatives (presidents or nominated representatives) of community Australian Rules Football (or AFL), Rugby League, Rugby Union and Soccer (European football) clubs in New South Wales, Australia. Clubs in the Hunter, New England and selected Sydney metropolitan regions were sampled from a database compiled from sports associations, council listings and web searches. To be eligible for the study clubs were required to have senior teams (players >18 years of age), over 40 members, to have legally sold or supplied alcohol and not be involved in an existing program to reduce alcohol-related harm. Club representatives were mailed a study information statement and consent form [see Appendix 6] and the representatives of consenting clubs completed a structured computer assisted telephone interview conducted by a trained research assistant between May and September 2009. [see Appendix 8 for survey script] As part of the survey, club representatives were asked to respond using a four point Likert scale (strongly agree, agree, disagree, strongly disagree) to a series of statements about alcohol use and alcohol related practices at their club.
RESULTS

In total 101 (44% of eligible clubs approached) provided consent and completed the telephone interview. There were no significant differences between participating clubs and clubs which did not participate in the study in terms of geographic locality or football code. A third of clubs were from Rugby League, 29% from Rugby Union, 25% from Soccer and 14% from AFL codes; 55% were clubs with greater than 150 members; and 80% were clubs from Major City regions. Club representative responses to the survey items are reported in Table 3.1.

TABLE 3.1: Club representative attitudes to alcohol use and alcohol related sports club practices

<table>
<thead>
<tr>
<th>Description</th>
<th>N</th>
<th>STRONGLY AGREE / AGREE (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sporting clubs play an important role in promoting healthy lifestyles to their club members</td>
<td>96</td>
<td>95%</td>
</tr>
<tr>
<td>Providing a healthy and safe environment will encourage members to join our club</td>
<td>96</td>
<td>95%</td>
</tr>
<tr>
<td>Club players and members often consume too much alcohol</td>
<td>56</td>
<td>55%</td>
</tr>
<tr>
<td>It is important for sporting clubs to ensure that alcohol is served responsibly</td>
<td>100</td>
<td>99%</td>
</tr>
<tr>
<td>Our club could benefit from assistance to encourage responsible alcohol consumption at club venues</td>
<td>76</td>
<td>75%</td>
</tr>
<tr>
<td>Our club is responsible for ensuring players and spectators do not consume too much alcohol at club venues and events</td>
<td>100</td>
<td>99%</td>
</tr>
<tr>
<td>Players would not want to be part of a club that had strict rules around alcohol consumption at club venues and club event (e.g. banning drinking games)</td>
<td>15</td>
<td>15%</td>
</tr>
<tr>
<td>It would be difficult for our club to survive without revenue from the sale of alcohol</td>
<td>51</td>
<td>51%</td>
</tr>
<tr>
<td>It would be difficult for our club to survive without revenue from sponsorship</td>
<td>96</td>
<td>95%</td>
</tr>
<tr>
<td>I believe that the provision of a healthy and safe environment within a sporting club will help encourage members to join clubs.</td>
<td>96</td>
<td>95%</td>
</tr>
</tbody>
</table>

Information presented in this table was gathered in June 2009, in the Hunter New England and Sydney regions of NSW, Australia.
Most clubs representatives agreed (95-99%) that clubs are an important setting to promote healthy lifestyles, that it is important that clubs ensure alcohol is served responsibly, and that doing so is a responsibility of the club. Nonetheless most clubs believed that players often consume too much alcohol (55%), and that their club could benefit from assistance to encourage responsible alcohol consumption (75%).

**DISCUSSION**

The findings suggest that clubs may be positively predisposed to supportive interventions to address alcohol use among club members through improving club practices regarding alcohol provision.

Supporting clubs to modify alcohol relate practices, however, is likely to represent a considerable challenge given the perceived dependence of clubs on the sale of alcohol and alcohol related sponsorship. [see Table 3.1] Importantly, however, early evidence from interventions with community sports clubs suggest that reducing excessive alcohol consumption at sporting club fixtures can be achieved without compromising club revenue, and may improve the viability of community sports clubs through increased membership. If these findings are substantiated as part of more rigorous trials, such interventions may address concerns of club management and represent attractive public health interventions to reduce alcohol misuse, and encouraging greater community participation in sport.

**REFERENCES**


CHAPTER 4

A cluster randomised controlled trial of a comprehensive accreditation intervention to reduce alcohol consumption at community sports clubs: study protocol

Published in:
ABSTRACT

Introduction

Excessive alcohol consumption is responsible for considerable harm from chronic disease and injury. Within most developed countries, members of sporting clubs consume alcohol at levels above that of communities generally. Despite the potential benefits of interventions to address alcohol consumption in sporting clubs, there have been no randomised controlled trials to test the effectiveness of these interventions. The aim of this study is to examine the effectiveness of a comprehensive accreditation intervention with community football clubs (Rugby League, Rugby Union, soccer/association football and Australian Rules football) in reducing excessive alcohol consumption by club members.

Methods and analysis

The study will be conducted in New South Wales, Australia, and employ a cluster randomised controlled trial design. Half of the football clubs recruited to the trial will be randomised to receive an intervention implemented over two and a half winter sporting seasons. The intervention is based on social ecology theory and is comprehensive in nature, containing multiple elements designed to decrease supply of alcohol to intoxicated members, cease the provision of cheap and free alcohol, increase availability and cost-attractiveness of non-alcoholic and low-alcoholic beverages, remove high alcohol drinks and cease drinking games. The intervention utilises a three-tiered accreditation framework designed to motivate intervention implementation. Football clubs in the control group will receive printed materials on topics unrelated to alcohol. Outcome data will be collected pre- and post- intervention through cross sectional telephone surveys of club members. The primary outcome measure will be alcohol consumption by club members at the club, assessed using a graduated frequency index and a seven day diary.

Ethics and dissemination

The study was approved by The University of Newcastle Human Research Ethics Committee (reference: H-2008-0432)[see Appendix 5]. Study findings will be disseminated widely through peer-reviewed publications and conference presentations.
Trial registration:

Australian New Zealand Clinical Trials Registry: ACTRN12609000224224.

INTRODUCTION

Alcohol consumption is causally linked with more than 60 types of injury and chronic disease,\(^1,2\) contributing to 3.2% of deaths and 4.0% of disability adjusted life years (DALYs) worldwide.\(^2\) In 2007, 20% of Australian adults reported regular consumption of alcohol at risky levels (7 drinks for males; 5 drinks for females).\(^3\) Excessive alcohol consumption appears to be particularly prevalent among young, male sportspeople,\(^4-6\) and those involved in team and contact sports, such as Rugby League, Rugby Union, soccer/association football and Australian Rules football.\(^4,7\)

Interventions implemented in community sports clubs represent one potential means of reducing excessive alcohol consumption by members of sporting clubs generally, and football clubs in particular. Twenty eight percent of Australians aged 15 years and over report participating in organised sports and 44% report attending at least one sporting match each year.\(^8\) Over one million (1.26 million; 7.4%) report participating in some form of football.\(^9\) Despite the potential of interventions in community sporting clubs to reduce alcohol related harms, the only relevant systematic review that has been conducted\(^10\) failed to identify any randomised intervention trials targeting alcohol use in this setting.

METHODS AND ANALYSIS

Study aim

The aim of this study is to examine the effectiveness of a comprehensive accreditation intervention with community football clubs (Rugby League, Rugby Union, soccer/association football and Australian Rules football) in reducing excessive alcohol consumption by club members.
Study design

The study will be a repeat cross sectional, parallel group cluster randomised controlled trial (see Figure 4.1). A cluster design will be employed as the intervention is implemented at the level of the football club and the main outcome measures are related to alcohol consumption within this setting. Football clubs will be randomised to either a control or intervention group. Primary trial outcomes will be assessed through cross-sectional surveys of club members, pre- and post-intervention. Repeat cross sectional designs have been recommended for trials seeking to assess changes within defined populations and settings (in the case of this study, alcohol consumption among members of sports clubs), and in which loss to follow-up of individual participants is likely to be high. Such designs have been utilised in other public health randomised trials, particularly in workplaces.
Research setting

The research will occur within the Hunter, New England and Sydney regions of New South Wales, Australia. The study area includes major city, inner regional and rural communities that account for approximately 75% of the state population (New South Wales) and 25% of Australia's overall population.¹⁵

Participants and research eligibility

Football clubs

Football clubs will be eligible to participate in the study if they satisfy the following criteria:

- are a community-level, non-professional senior football club
- are an Australian Rules football (AFL), soccer (association football), Rugby Union or Rugby League football club
- have greater than 40 members
- sell alcohol at their sporting fixture.

The football codes to be included in the study (Rugby League, Rugby Union, soccer/association football and Australian Rules Football) are all team-based ball sports predominantly involving male players, which are played at the community and professional level in Australia and internationally.¹⁶ Clubs that hold a registered club or hotel liquor licence will be excluded as the intervention is not suited to the different operational characteristics of such venues.

Football club members

Club members will be eligible to be surveyed if they are at least 18 years of age, speak English and are current members of the club (players, committee members, spectators/fans or coaches).
Recruitment procedures

Football clubs

All clubs within the study area will be approached for eligibility assessment and subsequently invited to participate in the study if eligible. To generate a population of clubs in the study region, lists of community football clubs and contact persons will be obtained from relevant local councils and the peak association for each football code. These lists will be supplemented with clubs identified through telephone directories and web searches.

Procedures for recruiting clubs to the study will be based on strategies previously found to maximise research participation, including pre-notification of the study and opportunity to participate, direct telephone contact with participants to invite participation, multiple contact attempts, access to research staff for further clarification regarding participation, and the use of dedicated research staff to manage the recruitment process. Specifically, a club contact person (club president or other nominated contact such as a club secretary) from each eligible club will be sent a letter inviting their club to participate in the study [see Appendix 6]. Two weeks following the distribution of letters, the contacts of all identified clubs will be telephoned to confirm eligibility based on the above-mentioned criteria and to assess interest in participating in the study. If club representatives do not recall receiving the information letter, address details will be clarified and additional information letters will be sent. Follow-up phone calls will be made until the club representative is able to make an informed decision regarding their club’s participation in the trial. It is envisaged that in some cases this decision will need to be made in consultation with the club’s management committee. Research staff will attend such meetings if required. Following the completion of this process, all consenting clubs will be sent a confirmation letter thanking them for agreeing to participate in the trial. All recruitment procedures will be managed by a dedicated member of the research team.

Football club members

Recruitment strategies of club members will also be based on strategies found to maximise research participation. Study information sheets [see Appendix 7] and consent forms will be printed on institutional letterheads and distributed by clubs representatives to the 25 members of the club with the most recent birthday. Members who agree to participate in the study will be asked to advise the club representative of
their consent to do so. This quasi-randomised sampling procedure will be used to reduce selection bias and provide a representative sample of club members.\textsuperscript{20,21}

To maximise response rates, club representatives will be asked to make follow-up contact with selected members to ask if they consent to participate in the study and to forward the names and contact details of consenting members to the study team.\textsuperscript{18,19} Each participating club will be provided with hard copies and electronic copies of the information and invitation letters to give to their members, as well as a $250 payment to compensate for the club’s involvement in the recruitment of members.\textsuperscript{19} Club representatives will provide the telephone details of consenting members to the project team.

All of the club members who have consented to participate in the study will be telephoned by the research team to formally confirm eligibility and participation in the study.

**Intervention**

**Intervention development**

The intervention is modelled on social ecology theory, which recognises the role of the physical, social and cultural environment in health behaviour and emphasises the importance of multiple levels of human interaction, including that of groups and organisations.\textsuperscript{22,23} As such, the intervention is focussed on sporting clubs as an environment in which excessive alcohol consumption can occur, seeking to reduce the likelihood of excessive alcohol consumption through modifying club responsible service of alcohol and management practices and social situations encouraging excessive alcohol consumption.

The intervention is based on an existing sporting club alcohol accreditation program.\textsuperscript{24} The feasibility of the program has been previously demonstrated by Duff and Munro\textsuperscript{24} and Munro,\textsuperscript{25} who reported that the program was successfully implemented by over 500 clubs across the state of Victoria, Australia. More recently, research evidence has suggested an inverse association between participation in the program and prevalence of risky drinking\textsuperscript{26} and drink driving among club members.\textsuperscript{27} Specifically, clubs not participating in the program were found to have significantly greater levels of risky drinking amongst club members compared to clubs accredited with the program (at Level 2 and Level 3).\textsuperscript{26}
Based on such formative research and parallel evidence from interventions targeting excessive alcohol consumption in other licensed premises such as hotels, an expert advisory group consisting of experienced alcohol researchers, health promotion practitioners and program staff developed the intervention to be tested in this study.

**Intervention content**

The intervention will apply social ecology theory by targeting the physical availability of alcohol through: restrictions on the types of alcoholic beverages sold (no ready to drink products above 5% alcohol/volume, no shots and no double nips of alcohol); mandatory inclusion of relatively inexpensive low-alcohol and non-alcohol beverages (priced lower than full strength alcohol options), prohibiting the sale of alcohol to intoxicated persons; and prohibiting the sale of alcohol by bar servers who have been consuming alcohol. The intervention will also include environmental supports including signage on liquor laws and standard drink measures, and the provision of free water and substantial food when alcohol is sold. The presence of the licensee will be required at all times alcohol is sold. The intervention will target the social and cultural environment of the football club by: prohibiting drinking games and promotions including cheap or discounted drinks, alcohol-only awards or prizes and all you can drink functions; introducing a club based alcohol policy; and routine patrolling of sporting club grounds to monitor and inform spectators of expectations regarding alcohol use and consumption at the venue. The comprehensive, multi-component intervention utilises a three-tiered accreditation framework designed to motivate intervention implementation. Box 1 describes the intervention components by accreditation level.

**Intervention delivery**

Intervention delivery will occur over two and a half successive winter sports seasons. Participating sports clubs will be encouraged to implement the strategies in accordance with three successive levels of accreditation (see Box 4.1). Complete intervention implementation, consistent with Level 3 criteria is expected by the end of the two and a half year intervention period.
BOX 4.1: Intervention strategies by accreditation level

**LEVEL 1 ACCREDITATION**
- Alcohol management action plan developed
- Club has a current liquor licence
- Required liquor licence signage is clearly displayed at the alcohol point-of-sale location
- Alcohol is only served during times specified on the liquor licence and within the designated licensed area of the club
- Licensee (or nominated person) is always present when alcohol is served
- Tap water is provided free of charge
- People aged under 18 years do not serve alcohol
- Identification checks are conducted on people who appear to be under the age of 25 years, and people aged under 18 years are not served alcohol
- All entrances to the club are monitored by staff/volunteers and intoxicated people are not permitted to enter the premises
- Intoxicated people are not served alcohol and are not permitted to remain on the premises
- Alcohol sold at the club is only consumed at the club
- All bar servers have undertaken an accredited responsible service of alcohol (RSA) training course
- The club maintains an RSA training register
- Names of all staff who have been trained in RSA are displayed on a sign near the bar
- Alcoholic drinks are only served in standard drink measures
- Club maintains an up-to-date incident register

**LEVEL 2 ACCREDITATION**
- Bar servers do not consume alcohol while on duty
- Substantial food is provided when alcohol is served
- At least four non-alcoholic and one low-alcoholic drink options are available
- Non-alcoholic and low-alcoholic drink options are at least 10% cheaper than full strength alcoholic drinks
- Club does not serve ‘shots’ of alcohol or double-nips of alcohol
- Club does not sell ready-to-drink products over 5% alcohol/volume
- Club does not conduct drinking games/promotions that can encourage excessive drinking

**LEVEL 3 ACCREDITATION**
- Club has a written alcohol management policy
- Club has a written safe transport policy
Intervention implementation strategies

The New South Wales Health Capacity Building Framework will provide a framework for strategies to support the implementation of the intervention by sporting clubs. This framework acknowledges the importance of the following aspects in supporting change within organisations: organisational development; workforce development; resource allocation; and leadership. Such intervention implementation strategies have been effective in enhancing intervention fidelity in a number of public health intervention trials. These strategies are detailed in Box 4.2.

BOX 4.2: Intervention implementation strategies

1 ORGANISATIONAL DEVELOPMENT

Recognition and reward
Club practices will be recognised and rewarded through the three-level accreditation framework. A certificate of accreditation and merchandise (e.g. bar mats, posters) will be provided at each level of accreditation to recognise and provide reward for intervention implementation [see Appendix 10]. Three times during the intervention period promotion of the accreditation status of all clubs will be undertaken via a program newsletter, allowing for peer recognition [see Appendix 11 for example newsletter].

Performance audit and feedback
Observational audits of clubs during busy football matches will be conducted at each level of accreditation by research staff whom are otherwise independent of intervention implementation [see Appendix 12 for audit tool]. A formal written feedback report outlining the audit results and suggested strategies to improve intervention implementation will be provided to the club [see Appendix 13 for example letter]. A research team member will verbally discuss the report with the club.

2 WORKFORCE DEVELOPMENT

Club staff will be trained in elements of the accreditation program to facilitate club implementation of the intervention. Training will include government-accredited responsible service of alcohol training conducted by accredited training organisations. This package is a mandatory state-wide standard training package for all people serving alcohol. This includes training in: standard drink measures; checking identification; assessing intoxication and taking appropriate actions to cease service of alcohol to intoxicated persons and have them leave the licensed area; and required liquor licensing signage.
3 RESOURCE ALLOCATION

Financial resources
All intervention clubs will be provided with $500 seed funding in each of the two intervention sporting seasons for expenditure on intervention related products. Suggestions will be provided to the clubs on appropriate ways to spend funds.

Human resources
Each club will be allocated a club support officer who will assist the club in implementing required intervention strategies. Assistance will be in the form of face-to-face meetings with the club committee and face-to-face and phone/email contact with individual club representatives.

Physical resources
All clubs will receive a comprehensive hardcopy resource kit and electronic versions of resources to support implementation of required intervention strategies [see Appendix 14]. These resources will include: templates for development of alcohol management policies and required signage, and information on how to contact relevant food and beverage suppliers.

4 LEADERSHIP

Champion/peer opinion leaders
Endorsement will be sought from the sporting association for each participating football code. Letters of endorsement and encouragement will be sent from these associations to clubs as they progress through the accreditation program [see Appendix 15 for example letter].

Management support
The management committee of each club will be briefed on the program at the start of the season and their support gained. Regular updates will be provided to management to maintain support for intervention implementation [see Appendix 13 for PowerPoint presentation].
**Intervention quality assurance**

The following quality assurance processes will be implemented: appointment of club support staff who satisfy standard selection criteria; training sessions with all club support staff; fortnightly meetings between the research team and club support staff; maintenance of meeting logs by club support staff, which will be used to record all of their contact with their allocated clubs; standard club activity reporting sheets for club support staff to record intervention criteria implemented with each club; provision of standardised resources (clubs kits, presentation templates, etc.) to club support staff for provision to clubs; and, observational audits of clubs at each accreditation level to assess the quality of implementation of intervention criteria.

**Control group clubs**

During the intervention period, the control group will receive printed resources on topics unrelated to the trial outcomes such as illicit drug use [see Appendix 17].

**Data collection procedures**

**Outcome data**

At pre- and post-intervention, computer-assisted telephone surveys\(^{38}\) will be conducted with members from clubs in intervention and control groups to assess alcohol consumption at the club [see Appendix 9 for pre-intervention survey script and Appendix 18 for post-intervention survey script]. Survey questions will be developed based on validated measures of alcohol consumption\(^{3,39,40}\) and will be pilot tested. Data from telephone interviews with club members will be automatically transferred into a computerised data set and directly exported into data analysis software. Any open fields will be coded by a trained member of the study team and checked by a second member of the team. Final outcome data will be collected by the end of 2012.

**Intervention implementation data**

Data on intervention implementation will be collected via computer-assisted telephone surveys\(^{38}\) of club members and club representatives (club president or other nominee) to assess the prevalence of intervention-related club policies and practices [see Appendix 8 for pre-intervention club representative survey script and Appendix 19 for post-intervention club representative survey script]. Survey items will be developed by an
expert advisory group of health promotion practitioners and alcohol researchers and will be pilot tested before use in the study. Data from telephone interviews with club representatives will be automatically transferred into a computerised data set and directly exported into data analysis software. Any open fields will be coded by a trained member of the study team and checked by a second member of the team.

Observational audits will be conducted at clubs during football matches as a secondary measure of intervention implementation [see Appendix 12 for audit tool], which will allow measurement triangulation. Each audit will be conducted by two independent observers and clubs will not be advised of the day that observations will be conducted. At least three audits per club will be conducted over the course of the study, with at least one per intervention accreditation level. Data from observations will be automatically transferred into a computerised data set and directly exported into data analysis software. Any open fields will be coded by a trained member of the study team and checked by a second member of the team.

**Process data**

Measurement of intervention inputs and processes will be undertaken through the analysis of routine project management records, including meeting logs, club activity reporting sheets, and observational audit reports. Program acceptability will be measured through items contained in a telephone survey conducted post intervention with representatives of clubs in the intervention group [see Appendix 19 for survey script]. Such items will be based on previous assessments of acceptability of public health interventions and will be piloted before use.

**Club characteristic data**

During surveys with club representatives, questions will be asked to assess club characteristics, such as football code, number of players and teams, club revenue and geographical location [see Appendix 8 for survey script]. Testing and piloting of these questions will be undertaken as described above.
Overall data management

Data management will be primarily the responsibility of a Hunter New England Population Health statistician, otherwise independent of the research team and trial activities. Management of trial data will be in accordance with a data management protocol, which has been developed and approved by the Project Advisory Group. This protocol details requirements regarding data entry, data cleaning, data back-up, secure storage and transport, and analysis. As a requirement of ethics approval granted by The University of Newcastle Human Research Ethics Committee, all data collected for the trial will be securely stored, accessible only to primary researchers and statisticians through the allocation of access rights. Confidential participant data including contact details (eg. phone numbers) will be stored in a secure data set that is not linked to survey response data sets. An independent statistician will be the only person with access to confidential participant data.

Measures

Primary outcome measure: alcohol consumption behaviour at the club

Alcohol consumption of club members at the club will be assessed using a graduated frequency index\(^3,39\) and a seven day diary.\(^40\) Using the graduated frequency index, members will be asked how often they have consumed: 20 or more; 11-19; 7-10; 5-6; 3-4; and 1-2 standard drinks of alcohol at their club over the past three months. They will be asked to report whether the frequency of this consumption was: everyday; 5 to 6 days a week; 3 to 4 days a week; 1 to 2 days a week; 2 to 3 days a month; about 1 day a month; less often; or never. Consumption of five or more drinks about 1 day a month or more often will be used to define risky drinking that places members at risk of immediate harm.\(^44\) Using the 7-day diary, members will be asked how many standard drinks of alcohol they consumed at their club each day for the last 7-days. The average number of drinks consumed by club members at the club during a weekend day (Saturday or Sunday) will be calculated. These dual primary outcome measures will be used to account for limitations inherent in each measure.\(^39,45,46\)
**Intervention implementation measures**

Intervention implementation measures will be based on the accreditation criteria and include: the club’s liquor licence status (yes/no) and type; existence of a written alcohol management policy (yes/no); alcohol-related sponsorship of the club (yes/no); sponsorship through free/discounted alcohol (yes/no); proportion of staff trained in responsible service of alcohol (all/most/some/none); how often staff consume alcohol on duty (never/rarely/sometimes/usually/always); availability of non-alcoholic and low-alcoholic drinks (yes/no); relative pricing of low-alcohol and full-strength alcohol drinks (low-alcohol more expensive/priced the same/full-strength alcohol more expensive); availability of substantial food when alcohol is sold (snacks/light meals/full meals); existence of alcohol promotions: happy hour, all you can drink, discounted drinks, alcohol awards/prizes and drinking vouchers (all yes/no); and, how often alcohol is served to intoxicated people at the club and how often intoxicated people are admitted to the club (never/rarely/sometimes/usually/always).

**Process measures**

Program acceptability will be measured through a series of question regarding the acceptability of intervention content (see Box 4.1) and intervention implementation strategies (see Box 4.2), with participants asked to respond to statements on a four point Likert scale ranging from 'strongly agree' to 'strongly disagree'.

**Measures of club characteristics**

The following data will be collected about participating sporting clubs: club size (number of players and members), football code and postcode of sporting club.

**Sample size and power calculations**

Data previously collected indicate that the average number of drinks consumed by members of a sporting club on a weekend day is 4.7 (standard deviation: 4.2) and the prevalence of at-risk alcohol consumption is approximately 27%. Based on these figures and allowing for intra-class correlations of 0.08 & 0.18, respectively, 35 clubs per experimental group and 19 members per club will provide the study with 80% power to detect a 13% difference in the prevalence of at-risk consumption, and 35 clubs per experimental group and 7 members per club will provide the study with 80% power to...
detect a difference of 1.3 standard drinks in the average number of drinks consumed by members at the club on a weekend day.

**Random allocation and blinding**

Following the completion of pre-intervention data collection from all club members, football clubs will be randomly allocated to intervention or control groups using simple randomisation in a 1:1 ratio. Allocation will be undertaken centrally by an independent statistician using a computerised random number generator in Microsoft Excel. The statistician involved in this randomisation procedure will not have access to club pre-intervention data, nor be involved in intervention implementation or post-intervention data collection. The random allocation of clubs will be stratified by football code and geographic area as evidence suggests that alcohol consumption of club members is associated with these characteristics. Interview staff involved in collecting survey data post-intervention will be blind to the treatment status of the club and not involved in any other aspect of the trial. To assess the effectiveness of blinding, interview staff will be asked to nominate the group allocation of participants following collection of post-intervention data. Due to the difficulty in blinding clubs to group allocation, this will be an open trial with club representatives told of the treatment status of their club following pre-intervention data collection.

**Statistical analysis: primary outcomes**

SAS (version 9.2 or later) will be used for all statistical analyses. Descriptive statistics will be used to describe the demographic and practice characteristics of intervention and control group clubs and their members and to describe intervention implementation, process and acceptability.

To assess intervention efficacy, generalised estimating equations (GEE) analysis will be used to examine between group differences on the primary trial outcomes – using a logistic regression model for the categorical risky drinking outcome and a Poisson regression model for the continuous average number of drinks outcome. The GEE analysis will adjust for the correlation of outcomes between individuals within clubs. Additionally, such analysis will be performed incorporating imputation, whereby pre-intervention
member data will be carried forward in instances where post-intervention data is missing for clubs.

The outcome in the model will be at-risk alcohol consumption or number of drinks consumed over a weekend day. The predictors will include group allocation, an indicator variable for pre- and post-intervention, and the interaction of group and the indicator variable. The p-value from the interaction term will be used to determine if there is a statistically significant difference in the change in the outcome over the treatment period. The alpha value for significance testing will be .05.

As a secondary exploratory analysis, both a per-protocol and subgroup analyses will be performed. A per-protocol analysis will be conducted excluding participants from clubs who had not implemented the intervention as specified in the protocol (did not achieve Level 3 accreditation). Subgroup analyses will also be conducted by football club code and for clubs located in urban (verses non-metropolitan) regions based on the values assigned to the club’s postcode according to the Australian Standard Geographic Classification System. Subgroup analyses will be performed to determine if the intervention may be differentially effective based on clubs with these characteristics.

No interim analyses of the data are planned.

Research trial coordination

A Project Advisory Group has been formed to oversee the conduct of the trial. This group is chaired by one of the chief Investigators of the grant, an employee of The University of Newcastle. The group includes other representatives from The University of Newcastle, as well as Hunter New England Population Health and the Australian Drug Foundation, including investigators on the Australian Research Council grant.

A Project Implementation Team has also been formed to implement the trial in accordance with the trial protocol. This team consists of staff members of The University of Newcastle, Hunter New England Population Health and the Australian Drug Foundation. Project implementation is co-ordinated from offices of Hunter New England Population Health.
Data management is the responsibility of a Hunter New England Population Health statistician, otherwise independent of the research team and trial activities. Management of trial data is in accordance with a data management protocol, developed and approved by the Project Advisory Group.

**Trial discontinuation or modification**

There are no predetermined criteria for discontinuing or modifying the trial. While unintended adverse events to trial participants, researchers or other community members are not anticipated, any such events will be forwarded to The University of Newcastle Human Research Ethics Committee (HREC) in accordance with the conditions of ethics approval. Should the research team or HREC consider it appropriate, trial protocol or procedures may be modified to prevent such harms.

Any protocol modification will be communicated through modification of the trial registration listed in the Australian New Zealand Clinical Trials Registry and through publications disseminating trial results.

**ETHICS AND DISSEMINATION**

The study was approved by the University of Newcastle Human Research Ethics Committee on the 29/1/09 (reference: H-2008-0432) [see Appendix 5]. The findings of this study will be disseminated widely through mechanisms including peer-reviewed publications and conference presentations.

**DISCUSSION**

There is a clear absence of research evidence on the effectiveness of interventions to reduce excessive alcohol consumption in the sporting club setting. This will be the first randomised controlled trial to evaluate such an intervention in not just the community football club setting, but any sporting club setting. The study has a strong design that incorporates computerised random allocation, blinding of data collection staff and the use of dual, validated outcome measures. In addition, the intervention is multifaceted and comprehensive, based on a strong theoretical framework and past research evidence involving both sporting clubs and licensed venues generally. The findings from this study will provide a basis for further research in the field and provide potentially important
findings for both policy makers and those providing health promotion programs to community sporting groups.

**FUNDING STATEMENT**

The trial is funded by the Australian Research Council under the Linkage Projects scheme (grant number LP0989386). Under the conditions of the scheme, a total of $446,964 in funding is provided by the Australian Research Council, and the research partners (Hunter New England Population Health and The Australian Drug Foundation) combined are required to contribute an equal amount through both cash (at least 20%) and in-kind support. The University of Newcastle, the institution administering the grant, will also provide in-kind (staff) support.

The Australian Research Council will not be involved in study design; collection, management analysis or interpretation of data; writing up of the results; or, decision to submit results for publication. Staff and students of the University of Newcastle and staff of Hunter New England Population Health and the Australian Drug Foundation will be involved in study design; collection, analysis and interpretation of data; writing up of results; and decisions to submit results for publication. As outlined in the Australian Research Council grant agreement, The University of Newcastle will have ultimate authority over these activities. Release of study findings will not be censored or controlled by any of the funders or contributing organisations.

**COMPETING INTERESTS**

The authors declare that they have no competing interests.

**ACKNOWLEDGEMENTS**

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REFERENCES


CHAPTER 5

Improving the implementation of responsible alcohol management practices by community sporting clubs: a randomised controlled trial

Published in:
ABSTRACT

Introduction and aims

Despite an increased prevalence of risky alcohol consumption and alcohol related harm amongst members of sporting groups and at sporting venues, sporting clubs frequently fail to implement alcohol management practices consistent with liquor legislation and best practice guidelines. The aim of this study was to assess the impact of a multi-strategy intervention in improving the implementation of responsible alcohol management practices by sports clubs.

Design and methods

A randomised controlled trial was conducted with 87 football clubs, with half randomised to receive a multi-strategy intervention to support clubs to implement responsible alcohol management practices. The two year intervention, which was based on implementation and capacity building theory and frameworks, included project officer support, funding, accreditation rewards, printed resources, observational audit feedback, newsletters, training, and support from state sporting organisations. Interviews were undertaken with club presidents at baseline and post-intervention to assess alcohol management practice implementation.

Results

Post-intervention, 88% of intervention clubs reported implementing ‘13 or more’ of 16 responsible alcohol management practices, which was significantly greater than the proportion of control groups reporting this level of implementation (65%) (OR: 3.7, 95%CI:1.1-13.2; P=0.04). All intervention components were considered highly useful and three-quarters or more of clubs rated the amount of implementation support to be sufficient.

Discussion and conclusions

The multi-strategy intervention was successful in improving alcohol management practices in community sports clubs. Further research is required to better understand implementation barriers and to assess the long-term sustainability of the change in club alcohol management practices.
INTRODUCTION

A number of cross-sectional studies have reported excessive alcohol consumption and alcohol-related problems to be more prevalent amongst players of non-elite and elite sports than non-sportspeople.\(^1\)\(^-\)\(^5\) For instance, studies of college and university students in the United States\(^1\) and Australia\(^2\) found that athletes/sportspeople reported higher rates of binge drinking (US: 57% 5+drinks; Australia:41% 7+ drinks) than non-athletes/sportspeople (US: 49% 5+drinks; Australia: 35% 7+ drinks). Similarly, an Irish study of Gaelic Footballers found that 54% of players reported binge drinking (6+ drinks) at least once a week, compared with 40% of similarly aged males nationally.\(^3\) This study also reported a significant difference between the proportion of players that reported getting in a fight due to their drinking (32%) compared with the national sample (15%).\(^3\) Similar patterns have been found in studies in New Zealand\(^4\) and Brazil.\(^5\) A cross-sectional U.S. study also found spectators drank significantly more drinks on game days (mean:5.6 drinks) compared to other social occasions (mean: 4.86 drinks).\(^6\) Subsequently, intervention to address excessive alcohol use in the sports setting has been identified as a priority strategy in action to reduce alcohol-related harm by governments in developed countries\(^7\) and internationally by the World Health Organisation.\(^8\)

Amateur-level, community sporting clubs have been identified as an opportune setting to modify health risk behaviours, including excessive alcohol consumption.\(^9\)\(^-\)\(^10\) A large number of people participate in organised sport, with an estimated 270 million people across the world actively involved in football (soccer) alone.\(^11\) In Australia, 28% of the adult population are involved in organised, non-elite community sports,\(^12\) with similar rates of organised sport participation (34%) reported for adults in England.\(^13\) An Australian study reported that 75% of organisers of community football believe that their club could benefit from assistance to encourage responsible alcohol consumption at the club.\(^14\)

Three reviews of a range of epidemiological and experimental studies have found that managing the sale, supply, promotion and consumption of alcohol in a way which is consistent with harm minimisation theory\(^15\) and liquor licensing legislation\(^16\) is associated with reduced risky alcohol consumption and harm in licensed drinking venues, such as bars, pubs and taverns.\(^17\)\(^-\)\(^19\) For instance, there is a breadth of research evidence supporting differential pricing and availability of alcoholic drinks based on alcohol
content,\textsuperscript{18, 19} enforcement of responsible alcohol management policies and practices,\textsuperscript{17-19} and restrictions on the hours/days of alcohol sales\textsuperscript{18, 19} in such premises.\textsuperscript{17-19} In addition, specifically within sporting clubs, a number of cross-sectional studies in diverse contexts have shown a range of factors to be associated with lower levels of risky alcohol consumption or harm, such as, prohibiting free or cheap alcohol promotions,\textsuperscript{20, 21} ceasing drinking games,\textsuperscript{22} prohibiting the sale of alcohol via roaming sale in stands,\textsuperscript{23} restricting/ceasing alcohol-related sponsorship.\textsuperscript{24, 25} In addition, studies within Australian community-based clubs have found the implementation of multiple alcohol management strategies (the ‘Good Sports’ program) to be associated with a reduction in risky alcohol consumption and associated harm.\textsuperscript{26, 27} Data from a randomised controlled trial conducted by the research team confirmed these findings, with significant reductions in risky drinking and risk of alcohol-related harm found following the implementation of a multiple-strategy alcohol management intervention.\textsuperscript{28}

Despite such evidence, and statutory liquor licensing requirements aligned to such evidence,\textsuperscript{16, 29, 30} cross-sectional studies from Europe,\textsuperscript{31} the United States\textsuperscript{32} and New Zealand\textsuperscript{33} suggest that sporting clubs and venues fail to implement alcohol management practices comprehensively and consistently. Drygas et al (2013), reported that only 22\% of 88 sports stadiums across 10 European countries had any initiatives to encourage responsible alcohol use\textsuperscript{31} and Lenk et al (2010) reported that only 27\% of 66 professional sports stadiums in the United States implemented ‘11 or more’ of 12 alcohol control policies/practices.\textsuperscript{32} Similarly, Lyne and Galloway (2012) reported a low level of implementation of alcohol management strategies at 13 sporting events in New Zealand, including the promotion of low/non-alcoholic drinks (23\%) and provision of free water (31\%).\textsuperscript{33} Studies in Australia have found that, for amateur clubs, limited resources (staff, money, time),\textsuperscript{9, 14, 34, 35} other priorities,\textsuperscript{9} structural impediments (e.g. contractual obligations or limited facility access)\textsuperscript{9} and limited support from peak sporting associations\textsuperscript{35} are potential barriers to the implementation of such practices.

To our knowledge there have been no controlled trials of interventions which sought to improve the implementation of alcohol management practices at sporting clubs. A number of studies have reported the outcomes of predominantly sponsorship-based implementation interventions designed to improve responsible alcohol management in sporting clubs and venues, however, they have all employed non-controlled and/or non-randomised designs. In one such Australian study, an intervention providing financial
sponsorship to clubs in return for the implementation of safe alcohol practices failed to significantly increase the implementation of these practices by sports clubs after 18 months (40%) compared to retrospectively recalled pre-sponsorship implementation (30.7%)(N=75; p=0.180).36 A larger post-test only study from Victoria, Australia, found that that 70% of sports clubs (N=380) had implemented written policies regarding the responsible service and management of alcohol following receipt of financial sponsorship.37

Despite the lack of empirical evidence in the sporting club setting, theoretical frameworks of capacity building and implementation suggest that a variety of factors including training, recognition and rewards, resource (human, physical and financial) allocation, performance management, peer pressure and external champions may facilitate effective practice implementation in a variety of community settings.38-41 Trials of interventions based on such theories and frameworks have been found to be effective in improving the implementation of health promoting programs in settings such as child care services,42 schools,43 health care settings44 and licensed premises.45

This study aimed to assess the effectiveness of an intervention in increasing the implementation of responsible alcohol management practices by community football clubs. The perceived usefulness of, and satisfaction with, intervention strategies was also assessed.

**METHODS**

**Design and setting**

A randomised controlled trial was conducted with a group of community football clubs located in the Hunter, New England and Sydney regions of the state of New South Wales, Australia.

**Participant eligibility and recruitment**

All community-level, non-elite football clubs (Australian Rules football, soccer/association football, Rugby League and Rugby Union) in the study area were eligible to participate if the club had over 40 members and sold alcohol. Between January-May 2009, representatives (e.g. club presidents or vice presidents) from all clubs in the study area
were telephoned to assess club eligibility and invite clubs to participate in the study [see Appendix 6 for information letter]. There was not any follow-up of clubs that did not wish to take part.

**Random allocation and blinding**

Following baseline data collection, participating clubs were randomly allocated (using Microsoft Excel) to intervention or control conditions using simple randomisation in a 1:1 ratio, stratified by football code and geographic area. Randomisation was performed by an independent statistician not involved in intervention delivery or data collection. Research personnel involved in post-intervention data collection were blind to the group allocation of the participating football clubs.

**Alcohol management practices**

Football clubs allocated to the intervention condition received an intervention to support the implementation of 16 alcohol management practices designed to reduce alcohol-related harm. The 16 practices were based on an existing community sporting club program (Good Sports) and organised as following into a three-tiered accreditation framework:

**Level 1**

- A club management committee member is always present when alcohol is served
- All bar servers have undertaken an accredited responsible service of alcohol training course
- An up-to-date register of alcohol-related incidents is maintained

**Level 2**

- Bar servers do not consume alcohol while on duty
- Substantial food is provided when alcohol is served
- Non-alcoholic drink options are available
- Low-alcoholic drink options are available
- Low-alcoholic drink options are cheaper than full strength alcoholic drinks
- Club does not permit/conduct:
  - happy hour
  - cheap or discounted alcoholic drinks
  - drinking games
  - ‘all you can drink’ promotions
  - free drink vouchers
  - alcohol-only awards and prizes

**Level 3**

- Club has a written alcohol management policy
- Club has a written safe transport policy.

**Implementation intervention**

An implementation intervention was delivered to clubs over a 2-year period (2010 and 2011) to support implementation of the required alcohol management practices (see Table 5.1). The implementation intervention was based on theoretical frameworks for organisational change \(^{40, 41}\) and included strategies reported to be effective in changing practice in other settings.\(^{42-45}\) The implementation intervention consisted of: project officer support,\(^{49}\) implementation cost recovery,\(^{50}\) accreditation and associated merchandise,\(^{51, 52}\) printed resources and newsletters,\(^{49, 53}\) observational audits and feedback,\(^{54}\) online training,\(^{53, 56}\) and letters of support from state sporting organisations.\(^{50}\)

Control group clubs were not provided with any of the implementation strategies outlined in Table 5.1.
### TABLE 5.1: Intervention implementation strategies mapped to key theoretical frameworks

<table>
<thead>
<tr>
<th>STRATEGY</th>
<th>DESCRIPTION</th>
<th>STRATEGY MAPPED TO ACTION AREAS AND ELEMENTS IN THE NSW HEALTH FRAMEWORK FOR BUILDING CAPACITY TO IMPROVE HEALTH 41</th>
<th>STRATEGY MAPPED TO DOMAINS AND CONSTRUCTS IN THE CONSOLIDATED FRAMEWORK FOR IMPLEMENTATION RESEARCH 40</th>
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</thead>
</table>
| Project officer support 49          | Each club was allocated a project officer as a resource to enable the club to execute required alcohol management strategies. Assistance was provided in the form of face-to-face meetings with club leadership/management and face-to-face and phone/email contact with key club champions. During these contacts, the project officers aimed to engage club management/leaders/champions in the implementation process and use specific knowledge about the club to appropriately tailor intervention implementation. | Resource allocation:  
  - human resources  
  Organisational development:  
  - management support | Inner setting:  
  - readiness for intervention (available resources)  
  Inner setting:  
  - networks and communications  
  Inner setting:  
  - readiness for implementation (leadership engagement)  
  Characteristics of individuals:  
  - knowledge and beliefs about the intervention  
  Process:  
  - executing  
  - engaging (formal appointed internal implementation leaders) |
| Implementation cost recovery 50     | All intervention clubs were provided with $500 in each of the two intervention sporting seasons to support the cost of implementing the responsible alcohol strategies. Suggestions were provided to clubs on appropriate ways to spend these financial resources. | Resource allocation:  
  - financial resources | Intervention characteristics:  
  - cost  
  Inner setting:  
  - readiness for intervention (available resources) |
| Accreditation merchandise 51, 52    | Implementation of responsible alcohol management practices were recognised and rewarded through a three-tier accreditation framework, with incentives including a certificate of accreditation and merchandise (e.g., bar mats, posters) provided at each level of accreditation [see Appendix 10]. | Organisational development:  
  - recognition and reward systems | Inner setting:  
  - implementation climate (organisational incentives and rewards)  
  Outer setting:  
  - external policy and incentives |
<table>
<thead>
<tr>
<th>STRATEGY</th>
<th>DESCRIPTION</th>
<th>STRATEGY MAPPED TO ACTION AREAS AND ELEMENTS IN THE NSW HEALTH FRAMEWORK FOR BUILDING CAPACITY TO IMPROVE HEALTH</th>
<th>STRATEGY MAPPED TO DOMAINS AND CONSTRUCTS IN THE CONSOLIDATED FRAMEWORK FOR IMPLEMENTATION RESEARCH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Printed resources (^{49, 53})</td>
<td>All clubs received a comprehensive hardcopy resource kit and electronic versions of resources to support implementation of required alcohol management strategies. Content included: evidence base and external legislative/policy background for responsible alcohol management strategies; advantages to club involvement; decision making tools, case models and simple steps to implement each strategy; outlined of any associated costs (usually zero) [see Appendix 14].</td>
<td>Resource allocation: • physical resources • decision-making tools and models</td>
<td>Intervention characteristics: • relative advantage • evidence, strength and quality • complexity • cost</td>
</tr>
<tr>
<td>Observational audit and feedback (^{54, 55})</td>
<td>Observational performance audits of clubs were conducted during football matches before clubs were awarded each level of accreditation. Audits were conducted by research staff that were otherwise independent of intervention implementation [see Appendix 12 for audit tool]. A formal written audit feedback report reflecting on audit results and suggesting strategies to improve intervention implementation was provided to clubs following each audit [see Appendix 13 for example audit feedback report]. A research team member verbally discussed each report with club representatives.</td>
<td>Workforce development: • performance management systems</td>
<td>Process: • reflecting and evaluating</td>
</tr>
<tr>
<td>STRATEGY</td>
<td>DESCRIPTION</td>
<td>STRATEGY MAPPED TO ACTION AREAS AND ELEMENTS IN THE NSW HEALTH FRAMEWORK FOR BUILDING CAPACITY TO IMPROVE HEALTH</td>
<td>STRATEGY MAPPED TO DOMAINS AND CONSTRUCTS IN THE CONSOLIDATED FRAMEWORK FOR IMPLEMENTATION RESEARCH</td>
</tr>
<tr>
<td>----------</td>
<td>-------------</td>
<td>-----------------------------------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Newsletters&lt;sup&gt;49, 53&lt;/sup&gt;</td>
<td>Promotion of accreditation status was undertaken via a program newsletter that was distributed to all intervention clubs four times during the course of the intervention period. Newsletter content also included: ladder comparing peer accreditation status; messages of support from peers and champions; evidence base and policy base for key responsible alcohol management practices [see Appendix 11 for example newsletter].</td>
<td>Organisational development: • recognition and rewards systems Partnerships: • relationships Resource allocation: • physical resources</td>
<td>Intervention characteristics: • evidence strength and quality Outer setting: • peer pressure • external policy and incentives Process: • engaging (champions)</td>
</tr>
<tr>
<td>Online training&lt;sup&gt;53, 56&lt;/sup&gt;</td>
<td>Club staff were engaged and provided with skills to implement responsible alcohol management strategies, through government-accredited responsible service of alcohol training.</td>
<td>Workforce development: • workforce learning</td>
<td>Process: • engaging</td>
</tr>
<tr>
<td>Sporting organisation letters of support&lt;sup&gt;50&lt;/sup&gt;</td>
<td>Key state sporting associations representing the clubs participating in the study were engaged. Letters of recognition and encouragement were sent from these associations to clubs as they progressed through the accreditation levels [see Appendix 15 for example letter].</td>
<td>Partnerships: • relationships</td>
<td>Outer setting: • cosmopolitanism • external policy and incentives Process: • engaging (external change agents)</td>
</tr>
</tbody>
</table>
Data collection procedures

Baseline (August-October 2009) [see Appendix 8 for survey script] and post-intervention (September-November 2011) [see Appendix 19 for survey script] computer-assisted telephone interview surveys were undertaken by trained telephone interviewers with a club representative (e.g. president) from each intervention and control club (average length: 40 minutes).

Measures

Club implementation of alcohol management practices

Self-reported implementation of alcohol management practices was measured at baseline and post-intervention. High levels of corroboration (90-100%) between self-report and visual observation of such practices have previously been reported for licensed premises. Overall implementation of 80% (13 out of 16) of these practices was used as the primary outcome measure and termed ‘adequate implementation’. This level of implementation is consistent with levels recommended for use in implementation research and recognises that the implementation of multiple strategies targeting different aspects of alcohol management (policy, availability, promotion and service) is more successful in harm minimisation than individual strategies.

Usefulness of and satisfaction with implementation intervention strategies

Respondents were asked to rate the perceived usefulness of the eight individual implementation strategies used in the study (see Table 5.1) (not useful; somewhat useful; very useful) and to rate the amount of implementation support provided by each of these strategies (too little; just right; too much).

Sample size calculations

Assuming 80% power, 50% implementation at baseline and p=0.05, it was calculated that 56 clubs per group would be required to detect a 25% difference in the proportion of clubs reporting adequate implementation.
Statistical analysis

Baseline characteristics and accreditation level

Descriptive statistics were used to describe club characteristics and level of accreditation reached by intervention clubs. Club postcode was used to classify clubs as ‘major city’ or ‘inner/outer regional’ and clubs were classified as ‘small’ (<= 160 players) or ‘large’ (>160 players).

Implementation of alcohol management practices

The following measures of alcohol management practices were dichotomised prior to analysis: proportion of staff trained in responsible service of alcohol (‘all’ or ‘most/some/none’); how often staff consume alcohol on duty (‘never’ or ‘rarely/sometimes/usually/always’); how often committee member present when alcohol sold (‘always’ or ‘never/rarely/sometimes/usually’); relative pricing of low-alcohol and full-strength alcohol drinks (‘full-strength alcohol more expensive’ or ‘low-alcohol more expensive/priced the same’); availability of substantial food when alcohol is sold (‘light meals/full meals’ or ‘snacks’).

The prevalence of alcohol management practice implementation was reported for individual practices and the following practice domains: responsible service of alcohol (RSA) practices; policies and organisational practices; and, alcohol promotions.

Intention-to-treat analyses using all available data was used to examine between-group differences over time in the proportion of clubs reporting adequate implementation of alcohol management practices. Between group differences were assessed through logistic regression analyses using a group and time interaction term. For cases where either 100% or 0% of clubs were undertaking a practice post-intervention, an equivalent exact method of analysis was used. The same method of analysis (using separate logistic regression models) was used to assess whether the results differed by the following subgroups: ‘small clubs’ or ‘large clubs’; ‘major city’ or ‘inner/outer regional’; and ‘lower socio economic classification (SES)’ or ‘higher SES’. As the study was not powered to test any hypotheses relating to such subgroups, these results are provided for descriptive purposes. The α-value for significance testing was set at 0.05 for all analyses.
Usefulness of and satisfaction with implementation intervention strategies

Descriptive statistics were used to assess the reported usefulness of the implementation strategies and the amount of implementation support provided.

SAS (version 9.2, SAS Institute Inc., Cary, NC, USA) was used for all statistical analyses.

Ethics approval

The study was approved by The University of Newcastle Human Research Ethics Committee [see Appendix 5] and conforms to the provisions of the Declaration of Helsinki.

RESULTS

Baseline characteristics and accreditation level

Three hundred and twenty eight clubs were identified in the study area, of which 244 were eligible and invited to participate in the trial. Of these, 87 (36%) consented to participate and provided baseline data (see Figure 5.1). Consenting clubs did not differ significantly from non-consenting clubs in terms of football code ($\chi^2=6.68 \, df=3; \, p=0.0764$) or location (major city; inner regional; outer regional) ($\chi^2=0.20 \, df=1; \, p=0.6559$). These clubs were randomised to intervention (N=42) and control (N=45) conditions. At the time of post-intervention data collection, five intervention group football clubs had been granted Level 3 accreditation, 16 clubs Level 2 accreditation and 13 clubs Level 1 accreditation. The remaining eight had not participated in the intervention as they did not sell alcohol at some point during the intervention period. Five control group clubs were lost to follow-up for the same reason. Post-intervention data were collected from the 34 intervention group and 40 control group clubs who sold alcohol at the time.
CHAPTER 5: Improving the implementation of responsible alcohol management practices by community sporting clubs: a randomised controlled trial

FIGURE 5.1: Participant flow according to CONSORT reporting requirements for randomised trials

There were more Rugby League (Intervention group: 31%; Control group: 33%) and Rugby Union (Intervention group: 33%; Control Group: 27%) clubs in both groups.
compared with Soccer (Intervention group: 19%; Control Group: 24%) and Australian Rules football (Intervention group: 17%; Control Group: 16%). The majority of clubs in both groups were from major city areas (Intervention group: 83%; Control Group: 80%) rather than regional/rural areas. Fifty-eight percent of intervention group clubs and 43% of control clubs were “large clubs” with over 160 players.

**Implementation of alcohol management practices**

Table 5.2 presents the proportion of clubs in the control and intervention groups that had implemented each of the alcohol management practices at baseline and post-intervention, and Table 5.3 reports the proportion of clubs across the two groups that reported adequate implementation of alcohol management practices at these time points. Fifty percent and 40% of intervention and control group clubs reported adequate implementation of alcohol management practices at baseline, respectively.

As shown in Table 5.3, at follow up, a significantly greater proportion of intervention clubs (88%) reported adequate implementation of alcohol management practices compared to clubs in the control group (65%)(p=0.04). A larger intervention effect was found amongst large clubs, with 100% of such intervention clubs implementing at least 13 practices at post-test compared to 52% of large control clubs (p=0.021), and amongst clubs in areas of higher SES classification, with 96% of such intervention clubs implementing at least 13 practices at post-test compared to 58% of high SES control clubs (p=0.019).
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Domain: RSA practices</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provide low alcohol options</td>
<td>95%</td>
<td>93%</td>
<td>100%</td>
<td>98%</td>
</tr>
<tr>
<td>Full strength drinks priced higher than low alcohol drinks</td>
<td>78%</td>
<td>74%</td>
<td>88%</td>
<td>69%</td>
</tr>
<tr>
<td>Substantial food available when alcohol sold</td>
<td>95%</td>
<td>98%</td>
<td>97%</td>
<td>100%</td>
</tr>
<tr>
<td>Non-alcoholic drinks sold</td>
<td>98%</td>
<td>100%</td>
<td>97%</td>
<td>95%</td>
</tr>
<tr>
<td>Implement all practices in domain</td>
<td>71%</td>
<td>69%</td>
<td>82%</td>
<td>68%</td>
</tr>
<tr>
<td>Domain: Policies and organisational practices</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Club has a safe transport policy</td>
<td>5%</td>
<td>2%</td>
<td>32%</td>
<td>0%</td>
</tr>
<tr>
<td>Staff are never allowed to consume alcohol while on duty</td>
<td>73%</td>
<td>57%</td>
<td>91%</td>
<td>73%</td>
</tr>
<tr>
<td>All staff are trained in responsible service of alcohol</td>
<td>67%</td>
<td>69%</td>
<td>82%</td>
<td>80%</td>
</tr>
<tr>
<td>Incident register is maintained</td>
<td>55%</td>
<td>44%</td>
<td>91%</td>
<td>60%</td>
</tr>
<tr>
<td>Club has a written alcohol management policy</td>
<td>43%</td>
<td>44%</td>
<td>74%</td>
<td>43%</td>
</tr>
<tr>
<td>Committee member present when alcohol sold</td>
<td>93%</td>
<td>84%</td>
<td>94%</td>
<td>88%</td>
</tr>
<tr>
<td>Implement all practices in domain</td>
<td>2%</td>
<td>2%</td>
<td>26%</td>
<td>0%</td>
</tr>
<tr>
<td>Domain: promotions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Club does not conduct the following promotions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Happy hour</td>
<td>95%</td>
<td>100%</td>
<td>97%</td>
<td>98%</td>
</tr>
<tr>
<td>Cheap drinks</td>
<td>98%</td>
<td>96%</td>
<td>100%</td>
<td>98%</td>
</tr>
<tr>
<td>Drinking competitions</td>
<td>81%</td>
<td>84%</td>
<td>88%</td>
<td>88%</td>
</tr>
<tr>
<td>All you can drink functions</td>
<td>93%</td>
<td>96%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Alcohol only awards or prizes</td>
<td>88%</td>
<td>73%</td>
<td>97%</td>
<td>88%</td>
</tr>
<tr>
<td>Drinking vouchers</td>
<td>86%</td>
<td>96%</td>
<td>88%</td>
<td>93%</td>
</tr>
<tr>
<td>Do not conduct any promotions</td>
<td>64%</td>
<td>60%</td>
<td>71%</td>
<td>73%</td>
</tr>
</tbody>
</table>

*This question was preceded by a question regarding whether low-alcoholic drinks were sold at the club, and only people who answered yes received this question on the relative pricing of low and full strength alcoholic drinks.
### TABLE 5.3: Change in the proportion of clubs that undertook ‘13 or more’ of the 16 club practices by intervention and control group clubs between baseline and post-intervention – all clubs and by size, region and socio-economic classification

<table>
<thead>
<tr>
<th></th>
<th>BASELINE</th>
<th>POST INTERVENTION</th>
<th>OR (95% CI)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Intervention % (n)</td>
<td>Control % (n)</td>
<td>Intervention % (n)</td>
<td>Control % (n)</td>
</tr>
<tr>
<td>All Clubs</td>
<td>50.0% (21)</td>
<td>40.0% (18)</td>
<td>88.2% (30)</td>
<td>65.0% (26)</td>
</tr>
<tr>
<td>By size</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Small clubs (&lt;=160 players)</td>
<td>41.7% (10)</td>
<td>42.1% (8)</td>
<td>81.0% (17)</td>
<td>82.4% (14)</td>
</tr>
<tr>
<td>Large clubs (&gt;160 players)</td>
<td>61.1% (11)</td>
<td>38.5% (10)</td>
<td>100% (13)</td>
<td>52.2% (12)</td>
</tr>
<tr>
<td>By region</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Major city</td>
<td>51.4% (18)</td>
<td>30.65 (11)</td>
<td>88.9% (24)</td>
<td>57.6% (19)</td>
</tr>
<tr>
<td>Inner/outer regional</td>
<td>42.9% (3)</td>
<td>77.8% (7)</td>
<td>85.7% (6)</td>
<td>100% (7)</td>
</tr>
<tr>
<td>By socio economic classification</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower</td>
<td>42.9% (6)</td>
<td>52.9% (9)</td>
<td>81.8% (9)</td>
<td>80.0% (12)</td>
</tr>
<tr>
<td>Higher</td>
<td>55.6% (15)</td>
<td>33.3% (9)</td>
<td>95.5% (21)</td>
<td>58.3% (14)</td>
</tr>
</tbody>
</table>

\*Exact odds ratio; ¹Exact method of analysis
Usefulness of and satisfaction with implementation intervention strategies

As shown in Table 5.4, post-intervention, all implementation strategies were rated by the majority of intervention group clubs (69%-94%) to be either ‘very’ or ‘somewhat’ useful. Project officer support was rated the most useful and letters of support from state sporting organisations to be the least useful. The amount of each implementation strategy that was provided was rated by the majority of intervention clubs (59%-85%) to be ‘just right’.
TABLE 5.4: Rating of usefulness and amount of implementation intervention strategies provided to intervention group clubs

<table>
<thead>
<tr>
<th>IMPLEMENTATION INTERVENTION STRATEGY (N=34)</th>
<th>% CLUBS WHO RATED STRATEGY ‘VERY’ OR ‘SOMewhat’ USEFUL</th>
<th>% CLUBS WHO RATED AMOUNT OF SUPPORT#</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(N=34)</td>
<td>TOO LITTLE</td>
</tr>
<tr>
<td>Project Officer support</td>
<td>94.1%</td>
<td>2.9%</td>
</tr>
<tr>
<td>Implementation cost recovery</td>
<td>91.2%</td>
<td>26.5%</td>
</tr>
<tr>
<td>Accreditation merchandise</td>
<td>91.2%</td>
<td>17.7%</td>
</tr>
<tr>
<td>Printed resources</td>
<td>88.2%</td>
<td>5.9%</td>
</tr>
<tr>
<td>Observational audit feedback</td>
<td>84.9%</td>
<td>11.8%</td>
</tr>
<tr>
<td>Newsletters</td>
<td>81.8%</td>
<td>2.9%</td>
</tr>
<tr>
<td>Online training (safe food handling)</td>
<td>79.4%</td>
<td>11.8%</td>
</tr>
<tr>
<td>State sporting organisation letters of support</td>
<td>68.8%</td>
<td>23.5%</td>
</tr>
</tbody>
</table>

#Total of three columns may not add to 100 as some club representatives responded with ‘don’t know’.
DISCUSSION

This is the first reported randomised controlled trial of an intervention to improve the implementation of alcohol management practices by community sports clubs. Post-intervention, a significantly greater proportion of intervention group clubs had implemented ‘13 or more’ of the 16 responsible alcohol management strategies than had control group clubs. All intervention components were considered to be highly useful and with the majority of clubs indicated that the amount of implementation support was sufficient. The findings provide a basis for public health and sporting policymakers and administrators to implement alcohol management practices in sports clubs and potentially contribute to a change in alcohol related harm involving players and spectators of community level sport.

The absolute change in the proportion of intervention clubs implementing at least 13 out of 16 responsible alcohol management practices (13% absolute change relative to control) is slightly greater than the 9% (non-statistically significant) increase in the implementation of safe alcohol practices at sporting organisations following the implementation of a sponsorship-based program by Corti and colleagues (1995). Such findings suggest that solely providing financial resources to community sports clubs may have less of an impact on improving club implementation of alcohol management practices compared to the more comprehensive implementation strategies provided in this study. Theoretical approaches to implementation interventions support the need for such a multi-faceted approach and are based on the assumption that an accumulation of quality resources improves performance.

While the improvements in responsible alcohol management practices observed in this study are encouraging, there remains opportunity for further improvement. Twelve percent of all intervention clubs, and almost 20% of small intervention clubs were found to not have implemented ‘13 or more’ of the required 16 practices post-intervention. Practices within the Policies and Organisational Practice domain were most poorly implemented, with only 26% of intervention group clubs reporting all of these practices to be implemented post-intervention. The development of written alcohol and safe transport policies was the most poorly implemented practice by intervention group clubs post-intervention (written alcohol policy: 76% of clubs; written safe transport policy: 32% of
clubs). Such a finding may indicate the need for clubs to be provided with additional policy training and support resources, such as templates and models.

Despite being a legislative requirement, training of staff in responsible service of alcohol was also relatively poorly implemented, with 18% of intervention group clubs failing to implement training with all of their bar staff post intervention. Previously reported barriers to such training including time constraints and distance to training centres may have contributed to this deficit, especially for those clubs in regional and rural areas. The use of different modes and types of training (eg. online, condensed) have been suggested as a means to overcome this barrier.

The intervention appeared to have no impact on drinking games being conducted or the provision of drink vouchers, with the proportion of clubs that were undertaking such practices remaining relatively unchanged. Such activities represent long held traditions of sporting clubs and competitions and have been specifically linked to increased levels of risky drinking within the sports club setting. Implementation theory suggests that such cultural practices are more likely to be changed through the engagement of leaders and champions and through the use of peer pressure strategies designed to modify individual knowledge and perceived behavioural norms. Greater emphasis on such strategies may increase the effectiveness of the intervention in modifying such practices.

The results of the study should be considered in the context of its methodology. The internal validity of the study was strengthened by the random assignment of clubs and the blinding of data collection staff and analysis personnel. Although the use of self-reported outcome measures has inherent limitations, previous research in licenced venues has found self-report of alcohol management practices by licensees to have 90-100% corroboration with visual observation.

Although participating clubs did not differ significantly from non-consenting clubs in terms of football code or location, the relatively low club participation rate suggests that the participating clubs may have differed in terms of their readiness to change, potentially limiting the external validity of the findings. The participation rate in this study may have been affected by the study requirements, such as club representatives being required to take part in a series of telephone surveys, which for volunteer-based clubs may have been a barrier to participation. While clubs may have also had concerns regarding the perceived
negative impact of such interventions on alcohol sales or membership numbers, the Good Sports program (upon which the intervention was based) currently has over 6,500 sporting clubs participants throughout Australia, demonstrating its acceptability to clubs. Nevertheless, a key focus of future research into alcohol management practice implementation should be on effective strategies to recruit clubs into such programs and to maintain their engagement. In addition, while the final sample size was lower than that estimated in the sample size calculations, the proportion of control group clubs adequately implementing alcohol management practices post intervention (65%) was higher than the conservative pre-study estimate of 50%, enabling the trial to detect a similar effect size as had been hypothesised a priori (25%). As the study was confined to non-elite football clubs operating at a community level in Australia, the generalizability of these findings beyond this group is also unknown.

While the intervention was found to successfully increase the implementation of responsible alcohol management practices in sporting clubs, the sustainability of these improvements needs to be assessed. The extent to which individual intervention strategies impacted on the implementation of alcohol management practices is also unknown and needs to be tested in order to better tailor such interventions to the sports club setting.

**ACKNOWLEDGEMENTS**

The research team acknowledges the funding support of the Australian Research Council (grant number LP0989386, http://www.arc.gov.au), Hunter New England Population Health, the Australian Drug Foundation, The University of Newcastle and the Hunter Medical Research Institute. The research team would also like to acknowledge the support of the project staff involved in coordinating and delivering the intervention to participating clubs, in particular Amy Richardson, Marc Glanville and Kylie Young, and the interviewers involved in collecting outcome data from club management representatives. This trial is registered with the Australian New Zealand Clinical Trials Registry: ACTRN12609000224224. The authors declare no conflicts of interest.
CHAPTER 5: Improving the implementation of responsible alcohol management practices by community sporting clubs: a randomised controlled trial

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CHAPTER 6

Tackling risky alcohol consumption in sport: a cluster randomised controlled trial of an alcohol management intervention with community football clubs

Published in:
ABSTRACT

Background

An increased prevalence of risky alcohol consumption and alcohol-related harm has been reported for members of sporting groups and at sporting venues compared with non-sporting populations. While sports clubs and venues represent opportune settings to implement strategies to reduce such risks, no controlled trials have been reported. The purpose of the study was to examine the effectiveness of an alcohol management intervention in reducing risky alcohol consumption and the risk of alcohol-related harm among community football club members.

Method

A cluster randomised controlled trial of an alcohol management intervention was undertaken with non-elite, community football clubs and their members in New South Wales, Australia. Risky alcohol consumption (5+ drinks) at the club and risk of alcohol-related harm using the Alcohol Use Disorders Identification Test (AUDIT) were measured at baseline and post-intervention.

Results

Eighty-eight clubs participated in the trial (n=43, Intervention; n=45, Control) and separate cross-sectional samples of club members completed the baseline (N=1411) and post-intervention (N=1143) surveys. Post-intervention, a significantly lower proportion of intervention club members reported: risky alcohol consumption at the club (Intervention: 19%; Control: 24%; OR: 0.63, 95%CI 0.40-1.00; p=0.05); risk of alcohol-related harm (Intervention: 38%; Control: 45%; OR: 0.58, 95%CI 0.38-0.87; p<0.01); alcohol consumption risk (Intervention: 47%; Control: 55%; OR: 0.60, 95%CI 0.41-0.87; p<0.01) and possible alcohol dependence (Intervention: 1%; Control: 4%; OR: 0.20, 95% CI 0.06-0.65; p<0.01).

Conclusion

With large numbers of people worldwide playing, watching and sports officiating, enhancing club-based alcohol management interventions could make a substantial contribution to reducing the burden of alcohol misuse in communities.
INTRODUCTION

Worldwide, excessive alcohol consumption is responsible for 5.9% of deaths and 5.1% of the global burden of disease. High levels of alcohol-related harm and risky alcohol consumption occur among both male and female fans and players of a range of sports, particularly team and contact sports. In the USA, up to three times the number of alcohol-related arrests are reported to occur on college football game days compared to equivalent non-game days and public holidays, while in Australia, non-elite football players have been reported to consume between 4 and 9 times the recommended level of alcohol per drinking session, with similar findings among footballers in Ireland and Brazil.

With 270 million people globally involved in association football (soccer) alone and large proportions of people (28-36%) involved in organised sports, sporting clubs provide an opportune setting to reduce the risk of alcohol-related harm in the community. Despite a number of sports organisations implementing alcohol management policies to reduce the risk of alcohol-related harm at sporting events, sporting clubs and sport venues have failed to implement evidence-based alcohol management practices comprehensively and consistently. In addition, limited rigorous scientific evidence exists to support the effectiveness of such initiatives. For example, recently published systematic reviews of sport and alcohol-focused controlled trials failed to identify any interventions that sought to modify the alcohol management practices of sports clubs. Nonetheless, a small number of non-controlled trials in this setting have reported promising results. A single group pre-post evaluation of an intervention to introduce light- and mid-strength beer and targeted alcohol bans in an amateur football competition reported reductions in alcohol sales and alcohol-related anti-social behaviour, while a cross-sectional study, involving a range of Australian sporting clubs, reported a significant inverse association between the prevalence of risky alcohol consumption and the implementation of a multi-strategic alcohol management programme. There is also evidence to suggest such alcohol management strategies are acceptable to the sporting club's management.

Prohibiting free or cheap alcohol promotions, ceasing drinking games, prohibiting the sale of alcohol via roaming sale in stands, and restricting/ceasing alcohol-related sponsorship have been identified as potentially effective strategies in reducing risky alcohol consumption and alcohol-related harm in sports clubs. In addition, reviews of
interventions in other premises licensed to sell alcohol, such as clubs, pubs, bars and nightclubs, suggest that alcohol management strategies are effective in reducing risky alcohol consumption and subsequent alcohol-related harm.\textsuperscript{24, 25} Specifically, differential pricing and availability of alcoholic drinks based on alcohol content,\textsuperscript{24, 25} enforcement of responsible service of alcohol policies and practices\textsuperscript{24, 25} and restrictions on the hours/days of alcohol sales\textsuperscript{24, 25} have been found to be effective.

It remains to be established if interventions incorporating alcohol management strategies are effective in reducing risky alcohol consumption and risk of alcohol-related harm among sporting club members. To address this gap in evidence, a study was undertaken to examine the effectiveness of a multi-strategic alcohol management intervention in community football clubs in reducing: (1) risky alcohol consumption at the club, and (2) risk of overall alcohol-related harm among club members.

**METHODS**

**Trial registration and protocol**

Australian New Zealand Clinical Trials Registry, ACTRN12609000224224. Publication of research protocol.\textsuperscript{26}

**Design**

A repeat cross-sectional cluster randomised controlled trial was undertaken with community football clubs (clusters) randomised to either control or intervention groups.

**Setting**

The study was undertaken with community football clubs within the Hunter, New England and Sydney regions of New South Wales, Australia.

**Participant eligibility and recruitment**

**Clubs**

All community level, non-elite ‘football’ clubs (Rugby League, Rugby Union, soccer/association football and Australian Rules football) within the study area were
eligible to participate if they had over 40 members, sold alcohol, and were not participating in an alcohol management improvement programme. A nominated representative (e.g. President) from each club was telephoned to assess club eligibility and invite clubs to participate in the study [see Appendix 6 for information letter].

Club members

A quasi-random process was used to select club members for baseline and post-intervention surveys, with a study invitation provided to the 30 members of each club with the most recent birthdays. Members of clubs (players, spectators/fans, coaches/trainers, committee members or administrators) were eligible to participate in the study if they were 18+ years of age and spoke English. Selected members were telephoned to confirm eligibility and to obtain formal consent [see Appendix 7 for information letter]. Each club was provided AU$500 to reimburse member recruitment costs.

Random allocation and blinding

Following baseline data collection, clubs were randomly allocated (using a Microsoft Excel random-number generator) to intervention or control conditions using simple randomisation in a 1:1 ratio, stratified by football code and geographical area. Randomisation was performed by an independent statistician not involved in intervention delivery or data collection. Research staff involved in post-intervention data collection were blind to the group allocation of clubs. To assess blinding, staff were asked to report which treatment group they believed the club members belonged.

Intervention

The intervention was based on an existing alcohol management intervention (Good Sports) in community sports clubs. To maximise effectiveness, the intervention addressed multiple determinants of risky alcohol consumption including alcohol availability and pricing, free alcohol promotions, drinking games and alcohol-related sponsorship. The alcohol management practices were organised into a three-level accreditation framework, implemented over two and a half sporting seasons (2010-2012)(see Table 6.1).
CHAPTER 6: Tackling risky alcohol consumption in sport: a cluster randomised controlled trial of an alcohol management intervention with community football clubs

Table 6.1: Intervention strategies by accreditation level

<table>
<thead>
<tr>
<th>ACCREDITATION LEVEL</th>
<th>INTERVENTION STRATEGY#</th>
</tr>
</thead>
</table>
| **Level 1**         | • Legislative liquor licencing requirements satisfied in regards to signage, staff training, alcohol-service hours and areas, licensee presence and water provision  
                      • Intoxicated people are not permitted to enter, are not served alcohol and are not permitted to remain in the club  
                      • Alcohol sold at the club is only consumed at the club  
                      • Alcoholic drinks are only served in standard drink measures  
                      • Club maintains a register of alcohol-related incidents |
| **Level 2**         | • Level 1, plus:  
                      • Bar servers do not consume alcohol  
                      • Substantial food is provided when alcohol is served  
                      • Non-alcoholic drinks and low-alcoholic drinks are available and are cheaper than full-strength alcoholic drinks  
                      • Club does not serve ‘shots’ or double-nips of alcohol or sell ready-to-drink products over 5% alcohol/volume  
                      • Club does not conduct drinking games/promotions that encourage risky alcohol consumption or provide cheap drinks |
| **Level 3**         | • Levels 1 and 2, plus:  
                      • Club has developed a written alcohol management policy  
                      • Club has developed a written safe transport policy |

#Further detail regarding the intervention is available in the study protocol26

**Intervention implementation strategies**

Based on a capacity building model,29 the following strategies were utilised to support club implementation of the intervention alcohol management practices: project officer support,30 implementation cost recovery,31 accreditation and merchandise32 [see Appendix 10], printed resources [see Appendix 14] and newsletters30,33 [see Appendix 11 for example newsletter], feedback from observational audits of alcohol management practices at game days34 [see Appendix 12 for audit tool and Appendix 13 for example feedback report], training,32 and letters of support from state sporting organisations31[see Appendix 15 for example letter].
Control group

Control and intervention club members received printed resources on topics unrelated to the trial [see Appendix 17].

Data collection procedures and measures

Computer-assisted telephone surveys were conducted with club members from both groups at baseline (6 months pre-intervention, June-August 2009) [see Appendix 9 for survey script] and immediately post-intervention (July-October 2012) [see Appendix 18 for survey script]. Survey scripts were pilot-tested prior to use.

Primary outcome: risky alcohol consumption at sporting clubs

Alcohol consumption at sporting clubs was assessed using a graduated frequency index, which measured the frequency (everyday; 5-6 days/week; 3-4 days/week; 1-2 days/week; 2-3 days/month; 1 day/month; less often; or never) that a club member reported consuming specified quantities of alcohol (20 or more; 11-19; 7-10; 5-6; 3-4; and 1-2 standard drinks) at their club over the past 3 months. Risky alcohol consumption was defined as consuming five or more drinks on one occasion. The proportion of members who reported risky alcohol consumption at least once a month was reported.

The protocol for the trial proposed the use of a 7-day diary to collect data on alcohol consumption at sporting clubs; however, at baseline, it was apparent that participating members only attended their club once every 2 weeks when the club hosted a ‘home’ game. As a result, such data were missing for a large (~50%) proportion of the sample and consequently, not included in the assessment of study outcomes.

Secondary outcome: risk of overall alcohol-related harm

The Alcohol Use Disorders Identification Test (AUDIT) was used to measure risk of alcohol-related harm. Median AUDIT score was reported and a score of 8 and above was used to categorise members as consuming alcohol at risky or high-risk levels. For the AUDIT subscales, increased risk of alcohol-related harm was defined as: (1) an alcohol consumption score of 6 or more (items 1-3); (2) a dependency score of 4 or more (items 4-6); (3) an alcohol-related problems score of 1 or more (items 7-10).
Club characteristics

Club representatives provided information on club size (number of players and members), football code and postcode. Project data were used to report the level of intervention accreditation reached by each club.

Statistical analysis

Descriptive statistics were used to describe club and member characteristics, with Postcode used to classify clubs as ‘major city’ or ‘inner/outer regional’ (regional/rural). Chi-square analysis was used to assess any differences between consenting and non-consenting clubs; Fisher’s Exact and Wilcoxon tests were used to assess for bias in clubs lost to follow-up across the two treatment groups; and descriptive statistics were used to describe the outcome of blinding research staff.

Intention-to-treat analyses were undertaken using logistic regression for categorical outcomes and linear regression for continuous outcomes. Between-group differences in AUDIT scores (intervention vs control) were assessed through interaction of group and time. Analysis was undertaken at the club member level using a Generalised Estimating Equations framework to adjust for the clustering of members within clubs. The same method of analysis was used to describe the primary outcome intervention effect by football code and club location. A sensitivity analysis was performed to test for any bias due to missing data, with missing post-intervention data imputed by carrying forward data collected for the club at baseline. The results of this analysis are reported when they differed from those of the main analysis. Descriptive statistics are used to report outcome measures for those clubs that implemented the entire intervention according to protocol (achieved Level 3 accreditation).

The α-value for all significance testing was 0.05. SAS (version 9.2) was used for all statistical analysis.
Sample size and power calculations

Data previously collected by the research team indicated that the prevalence of risky alcohol consumption at sporting clubs was 27%. Based on these figures and allowing for an intra-class correlation of 0.18, it was determined that 35 clubs per experimental group (with at least 19 members per club) would provide the study with 80% power to detect a 13% difference in the prevalence of risky consumption. It was also calculated that 35 clubs per group would provide the study with 80% power to detect: a 15% difference in prevalence of total AUDIT scores ≥8; a 14% difference in prevalence of AUDIT consumption subscale scores ≥6; a 5% difference in prevalence of AUDIT dependence subscale scores ≥4; and a 14% difference in prevalence of AUDIT problem subscale scores ≥1.

Ethics approval

The study was approved by the University of Newcastle Human Research Ethics Committee (29 January 2009; no: H-2008-0432) and conforms to the principles embodied in the Declaration of Helsinki.

RESULTS

Participants

Clubs

Of the 328 potentially eligible clubs identified in the study area, 244 were deemed eligible following screening and invited to participate in the trial. [see Figure 6.1] Eighty-eight (36%) consented to participate. Consenting clubs did not differ significantly from non-consenting clubs in terms of football code ($\chi^2=6.68$, df=3; $p=0.08$) or location ($\chi^2=0.20$, df=1; $p=0.66$). Consenting clubs were randomly allocated to control (N=45) and intervention (N=43) conditions.
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FIGURE 6.1: Participant flow according to CONSORT reporting requirements
Club characteristics were similar across control and intervention groups, 80% were located in major city areas (see Table 6.2). Post-intervention, 25 (58%) of the 43 intervention group football clubs had completed the full intervention (Level 3 accreditation). No significant differences were found between the percentage of clubs in the intervention and control groups that were lost to follow-up (5% (n=2) vs 13% (n=6); p=0.16) (see Figure 6.1).

### TABLE 6.2: Baseline characteristics of participating football clubs and club members

<table>
<thead>
<tr>
<th>CHARACTERISTIC</th>
<th>CONTROL</th>
<th>INTERVENTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>N=45</td>
<td>N=42</td>
<td></td>
</tr>
<tr>
<td>Clubs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Football code</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rugby league</td>
<td>33.3%</td>
<td>31.0%</td>
</tr>
<tr>
<td>Rugby union</td>
<td>26.7%</td>
<td>33.3%</td>
</tr>
<tr>
<td>Soccer/association football</td>
<td>24.4%</td>
<td>19.0%</td>
</tr>
<tr>
<td>Australian rules football</td>
<td>15.6%</td>
<td>16.7%</td>
</tr>
<tr>
<td>Geographical region</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Major city</td>
<td>80.0%</td>
<td>83.3%</td>
</tr>
<tr>
<td>Inner/outer regional</td>
<td>20.0%</td>
<td>16.7%</td>
</tr>
<tr>
<td>Club size</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean number of players</td>
<td>272</td>
<td>259</td>
</tr>
<tr>
<td>(SD)</td>
<td>(235)</td>
<td>(360)</td>
</tr>
<tr>
<td>Club members</td>
<td>N=700</td>
<td>N=711</td>
</tr>
<tr>
<td>Players</td>
<td>47.0%</td>
<td>60.1%</td>
</tr>
<tr>
<td>Spectator/other members</td>
<td>18.3%</td>
<td>13.9%</td>
</tr>
<tr>
<td>Club committee members</td>
<td>16.5%</td>
<td>13.9%</td>
</tr>
<tr>
<td>Coaches/umpires/referees</td>
<td>16.5%</td>
<td>13.9%</td>
</tr>
<tr>
<td>Age of members</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>32.7</td>
<td>36.0</td>
</tr>
<tr>
<td>(SD)</td>
<td>(12.0)</td>
<td>(11.9)</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>87.0%</td>
<td>77.4%</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>University educated</td>
<td>23.2%</td>
<td>21.05</td>
</tr>
<tr>
<td>Income</td>
<td></td>
<td></td>
</tr>
<tr>
<td>More than AUS$52,000</td>
<td>48.0%</td>
<td>49.3%</td>
</tr>
</tbody>
</table>

*One club missing due to incomplete club data at baseline

### Club members

Prior to randomisation of clubs, baseline survey data were collected from 1411 club members (82% consent rate) (see Figure 6.1). At baseline, club members were on average 30+ years of age; most were male and most were players (see Table 6.2).
Primary outcome analysis: risky alcohol consumption at sporting clubs

As shown in Table 6.3, at baseline, 27% of intervention club members and 25% of control club members reported consuming alcohol at risky levels at their club. At post-intervention, 19% of intervention club members reported consuming alcohol at such levels compared to 24% of control club members (p=0.05). A sensitivity analysis imputing missing post-intervention data with baseline figures found a similar intervention effect trend (post-intervention: intervention 18% vs control group 22%); however, this was not statistically significant (p=0.10). Participation in risky alcohol consumption by members of Level 3 accredited intervention clubs reduced from 31% at baseline to 20% post-intervention.

Subgroup analyses found a significant intervention effect for clubs in inner/outer regional areas, with risky alcohol consumption reducing from 37% to 20% in such intervention clubs, compared to an increase from 19% to 32% in such control clubs (OR: 0.22, 95% CI 0.09-0.59; p<0.01). In comparison, among the major city subgroups, the OR for the intervention effect was OR=0.74 (95% CI: 0.44 to 1.25; p=0.26). Among football codes, an intervention effect trending towards significance was found for soccer/association football clubs, with risky alcohol consumption reducing from 21% to 12% in such intervention clubs, compared with no change (15%-16%) amongst such control clubs (OR: 0.49, 95% CI 0.23-1.03; p=0.06). Among the other football code subgroups, ORs for intervention effect ranged from OR=0.54 to 0.78 (p>0.05).
### TABLE 6.3: Alcohol outcomes at baseline and post-intervention, by treatment group

<table>
<thead>
<tr>
<th>Graduated frequency index</th>
<th>Control club members</th>
<th>Intervention club members</th>
<th>Control club members</th>
<th>Intervention club members</th>
<th>Adjusted OR (95% CI)</th>
<th>ICC</th>
<th>Adjusted p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>All</td>
<td>Level 3 clubs ‡</td>
<td>All</td>
<td>Level 3 clubs ‡</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>175 (25%)</td>
<td>191 (27%)</td>
<td>120 (31%)</td>
<td>138 (24%)</td>
<td>0.63 (0.40 to 1.00)</td>
<td>0.18</td>
<td>0.05</td>
</tr>
<tr>
<td>Graduated frequency index</td>
<td>Consumption of 5 or more drinks at least once a month at the club</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall AUDIT</td>
<td>Median (min, max)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>7 (0, 26)</td>
<td>8 (0, 28)</td>
<td>8 (0, 28)</td>
<td>7 (0, 25)</td>
<td>0.58 (0.38 to 0.87)</td>
<td>0.17</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td></td>
<td>330 (46%)</td>
<td>374 (54%)</td>
<td>213 (56%)</td>
<td>259 (45%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Score ≥8</td>
<td>330 (46%)</td>
<td>374 (54%)</td>
<td>213 (56%)</td>
<td>259 (45%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AUDIT subscales</td>
<td>Alcohol consumption subscale (score ≥6)</td>
<td>402 (57%)</td>
<td>429 (61%)</td>
<td>240 (63%)</td>
<td>314 (55%)</td>
<td>0.60</td>
<td>0.13</td>
</tr>
<tr>
<td></td>
<td>Alcohol dependence subscale (score ≥4)</td>
<td>19 (3%)</td>
<td>25 (4%)</td>
<td>12 (3%)</td>
<td>22 (4%)</td>
<td>0.20</td>
<td>0.12</td>
</tr>
<tr>
<td></td>
<td>Alcohol-related problems subscale (score≥1)</td>
<td>340 (48%)</td>
<td>378 (54%)</td>
<td>214 (56%)</td>
<td>259 (45%)</td>
<td>0.67</td>
<td>0.12</td>
</tr>
</tbody>
</table>

*a* OR for the interaction term, comparing control group clubs to all intervention group clubs (Levels 1, 2 and 3). ‡Adjusted for clustering at club level. †Members of Level 3 clubs that completed the full intervention.
Secondary outcome analysis: risk of alcohol-related harm

As shown in Table 6.3, at baseline, the median total AUDIT score for intervention and control club members was 8 and 7, respectively. Post-intervention, this score reduced to 6 for intervention club members compared to no change in the control group (p<0.01).

At baseline, 54% of members of intervention group clubs and 46% of members of control group clubs reported a total AUDIT score of ‘8 or more’. Post-intervention, this proportion was significantly lower in the intervention group (38%) compared to the control group (45%; p<0.01). [see Table 6.3]

Statistically significant intervention effects were found for two of the three AUDIT subscales – consumption risk (post-intervention: intervention group 47%; control group 55%; p<0.01) and alcohol dependency risk (post-intervention: intervention group 1%; control group 4%; p<0.01).

Random allocation and blinding

Research staff collecting post-intervention outcome data from club members correctly nominated the treatment status of the member’s club just over half the time (53%).

DISCUSSION

This is the first published randomised trial in any country to investigate the effect of an alcohol management intervention in modifying risky alcohol consumption and risk of alcohol-related harm among sports club members. The intervention resulted in an absolute reduction of 8% in risky alcohol consumption among members of sporting clubs in the intervention group, and a 37% differential reduction in the odds of risky drinking relative to the control group. A 16% absolute reduction in alcohol-related harm was also observed among members of intervention group clubs; a 42% differential reduction in the odds of such harm relative to the control group. Greater effect sizes were found for clubs in regional/rural areas compared to metropolitan areas, for soccer/association football clubs compared to other football codes, and for clubs that completed the full intervention according to protocol. Significant reductions in risk of alcohol dependence were also found. Given high participation rates in non-elite sports in high-income, low-income and middle-income countries \(^7\)-\(^9\) and the prevalence of alcohol misuse by sports people,\(^36, 37\) the
intervention has the potential to contribute to reducing the risk of alcohol-related harm among the large numbers of sports’ players, fans and officials. Such a finding offers a substantial advance in evidence regarding the management of alcohol in public drinking venues and provides a non-enforcement policy option for governments seeking to reduce levels of alcohol-related harm in the community.

The positive study findings are consistent with those of previous non-controlled and cross-sectional studies of similar interventions in sports settings. As the intervention in this study did not involve an enforcement element, to our knowledge, this is the first randomised controlled trial to demonstrate the effectiveness an alcohol management intervention without enforcement. It is possible that the accreditation-based nature of the intervention acted to motivate a change in such practices, substituting the need for formal enforcement. While accreditation-based programmes for licensed premises have been operating for some time, such as Best Bar None in the UK, no controlled trials of such initiatives have been reported.

The observed reductions in overall risk of alcohol-related harm among club members (AUDIT measure) may indicate that a large proportion of risky alcohol consumption undertaken by members occurs within the club setting. If this is the case, then a reduction in drinking at the club, even without a reduction in drinking in other locations outside of the club, may reduce consumption and overall risk from drinking. Alternatively, the intervention may have independently influenced a change in members’ alcohol use norms and behaviours outside of the sporting club setting. A further possible explanation is that the intervention may have persuaded members who were at-risk drinkers to leave the club or may have discouraged at-risk drinkers from joining the club. However, such displacement is considered less likely in sporting clubs than other licensed premises given that the primary and initial purpose of sports club attendance is to play or watch sport.

The results of the study should be considered in the context of its methodology. The internal validity of the study was strengthened by random assignment of clubs, blinding of data collection staff and analysis personnel and use of validated alcohol consumption outcome measures. The consent rate of 36% has the potential to limit the external validity of the findings; however, the likelihood of this is mitigated by the absence of differences between consenting and non-consenting clubs in terms of football code or location, and the consistently positive intervention effects across subgroups according to club type and
location. A previous non-controlled study of the intervention with sports, including cricket, was also suggestive of a positive effect. In addition, over 6500 sports clubs across Australia have adopted the Good Sports programme, suggesting that a significant number of clubs are willing to adopt alcohol management practice interventions. While the results of the sensitivity analysis, which adopted a conservative imputation approach, also trended toward a positive intervention effect for risky drinking, this finding was not statistically significant (p=0.1) and further studies are required to confirm these findings.

It would be of benefit for further research to assess the impact of the intervention on club revenue and membership given these are priority outcomes for community sporting clubs; so would be the collection of data on additional measures of alcohol-related harm such as drink driving and violence. Investigation into the mediators of intervention effectiveness may also help identify the elements of the intervention that had the most influence on changing drinking behaviours and this will assist in streamlining the intervention for future adoption by sports clubs.

FUNDING SOURCE DECLARATION

The trial was funded by the Australian Research Council under the Linkage Projects scheme (grant number LP0989386, http://www.arc.gov.au). The funder had no role in study design, data collection and analysis, decision to publish, or preparation of the manuscript. All authors are independent from this funder.

COMPETING INTEREST

No declared.

ACKNOWLEDGEMENTS

The research team would like to acknowledge the support of the project staff involved in coordinating and delivering the intervention to participating clubs, in particular Amy Richardson, Marc Glanville and Kylie Young, and the interviewers involved in collecting outcome data from club management representatives and club members.
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**CHAPTER 6: Tackling risky alcohol consumption in sport: a cluster randomised controlled trial of an alcohol management intervention with community football clubs**


39. Best Bar None UK [http://www.bbnuk.com/].
CHAPTER 7

Interventions in sports settings to reduce alcohol consumption and alcohol related harm: a systematic review protocol

Published in:
ABSTRACT

Introduction

Alcohol consumption is a primary cause of physical, psychological and social harm to both the user and to others. At both the professional and non-professional level, sports players and fans report consuming alcohol at greater levels than people not involved in sports. Limited systematic reviews have been conducted assessing interventions targeting alcohol consumption behaviour and related harms in the sporting context.

Methods and analysis

The review aims to determine if interventions implemented in the sport setting decrease alcohol consumption and related harms. Participants may include all persons regardless of age or other characteristics. Studies will be included which have implemented interventions within the sport setting and have either measured: alcohol consumption, excessive alcohol consumption or intoxication, or alcohol-related injury or violence. Randomised controlled trials, staggered enrolment trials, stepped-wedged trials, quasi-randomised trials, quasi-experimental trials and natural experiments will be included. Studies without a parallel comparison group will be excluded. Data will be sourced from a range of electronic databases and sources of grey-literature. Two authors will independently screen all titles and abstracts of papers identified through the search strategy. Two authors will independently examine the full text of all remaining papers to determine eligibility. Two authors will independently extract data from eligible studies and independently assess risk of bias by assessing the adequacy of study characteristics. Where studies are sufficiently homogeneous, trial results will be synthesised using a fixed-effects meta-analysis. Standardised mean differences will be used for continuous outcomes and risk ratios will be used for binary outcomes.

Dissemination

The findings of this study will be disseminated widely through mechanisms including peer-reviewed publications and conference presentations.
INTRODUCTION

Rationale

Alcohol consumption is a primary cause of physical, psychological and social harm to both the user and to others.\textsuperscript{1,2} Alcohol consumption that is linked to short term harm most frequently occurs in licensed venues (such as clubs and bars),\textsuperscript{3,6} in workplaces\textsuperscript{7} and in private homes\textsuperscript{3-5} and occurs with greater prevalence amongst particular population groups, including people involved in sports. At both the professional (or elite) level and non-professional level, both sports players and fans have reported consuming alcohol at greater levels than people not involved in sports.\textsuperscript{8-14} For instance, studies of college athletes in the United States have found significantly higher levels of binge drinking amongst male (61%) and female (50%) college athletes compared to male (43%) and females (36%) not involved in college athletics.\textsuperscript{14} Similarly, research in New Zealand has documented rates of binge drinking amongst elite (56-59%) and non-elite sports people (51%) that are considerably higher than non-sportspeople (31%),\textsuperscript{13} and non-elite sportspeople in Australia have reported higher rates of risky drinking (35%) compared to the general population (26%).\textsuperscript{8} Rates of binge drinking amongst sports fans (males: 53%; females: 53%) have also been reported to be significantly higher than amongst non-fans (males: 41%; females: 37%).\textsuperscript{12}

A settings-based approach to health promotion\textsuperscript{15} has been widely used to target alcohol consumption behaviour in licensed premises.\textsuperscript{16-18} Such approaches have a basis in ecological and social ecological theories of health promotion,\textsuperscript{19-21} which recognise the importance of the physical, social and cultural environment in health risk behaviours such as alcohol consumption. Given the prevalence of at risk consumption among sports players and fans, interventions targeting alcohol consumption at sporting settings may represent an effective strategy in mitigating the adverse effects of excessive alcohol consumption. Such interventions may include the sale of low-alcohol and non-alcohol beverages\textsuperscript{22} and the prohibition of drinking games and promotions including cheap or discounted drinks\textsuperscript{23} and alcohol-only awards or prizes.\textsuperscript{24}

To our knowledge, to date, only one systematic review has been conducted assessing interventions targeting health behaviour change in the sporting context.\textsuperscript{25} However, this
review only examined policy interventions and focussed on alcohol consumption behaviour, rather than including broader alcohol-related harms such as violence.

**Objectives**

To determine if interventions implemented in the sport setting are effective relative to a comparison group in:

1. reducing alcohol consumption at the sporting venue and/or overall alcohol consumption; or
2. reducing excessive alcohol consumption or intoxication at the sporting venue and/or overall excessive alcohol consumption or intoxication; or
3. reducing alcohol-related violence or injury at the sporting venue and/or overall alcohol related violence or injury.

**METHODS AND ANALYSIS**

**Eligibility criteria**

**Study characteristics**

**Participants**

Participants may include people of all ages and may include, but are not limited to: players; fans/spectators; coaches/trainers; sporting club, venue or team management; and sporting club or venue staff or volunteers. There will be no exclusion criteria for participants.

**Interventions**

Interventions will be included that are implemented in a sporting setting and that aim to modify at least one of the following: alcohol consumption behaviour; alcohol-related intoxication; or alcohol-related violence or injury. These could include health promotion, health education (e.g. targeting the skills, knowledge, attitudes or beliefs of sports players, club members or spectators), regulatory (e.g. enforcement of legislation regarding the sale or supply of alcohol) and environmental (e.g. serving alcohol in plastic containers, or the provision of safe transport options of club patrons) initiatives. Interventions that aim to address such outcomes, but also aim to modify other health risk behaviours will also be included. Interventions with a treatment focus, such as those aiming to treat alcohol addiction, will be excluded. For the purposes of the review, sport settings will be defined
as settings where an organised sporting event or activity occurs, whether it is a competition game or event, a training session or another type of club or team event at a professional (elite) or non-professional (amateur/community) level. Terms used to refer to such settings may include arenas, stadiums, grounds, complexes or ovals, as used by a particular sport or for general sports use.

Comparisons
Comparisons will be included that are no intervention controls, attention controls or waitlist controls, or that are alternative interventions.

Primary outcomes
Studies with the following primary outcome measures will be included:

- alcohol consumption, such as number of drinks consumed or alcohol consumed at excessive/risky levels, as assessed via survey or direct observation;
- alcohol-related intoxication, such as proportion of people intoxicated or average level of intoxication, measured by surveys, observations or biochemical measures; and
- alcohol-related violence or injury, such as number of incidents of alcohol-related assault or number of alcohol-related injuries, measured by surveys, observations, or records kept by police, medical facilities or sporting facilities, which may include incidents that are either self-reported or witnessed.

Study design
Studies with the following study designs will be included:

- randomised controlled trials, including cluster randomised controlled trials;
- staggered enrolment trials or stepped-wedged trials;
- quasi-randomised trials, where group allocation is not purely random, but may be determined by a factor such as birth date;
- quasi-experimental trials with comparison/control groups, including non-randomised pre-post (before-after) trials with one or more intervention and control groups, time-series/interrupted time-series trials (including multiple baseline trials) with independent control groups, preference trials and regression discontinuity trials;
- natural experiment studies that have a comparison group.
Any trials without parallel comparison or control groups will be excluded.

**Length of follow-up**
There will be no eligibility criteria based on length of follow-up.

**Publication characteristics**
There will be no eligibility criteria based on year of study publication or language.

**Information sources**

**Electronic databases**
The following electronic databases will be searched: the Cochrane Central Registry of Controlled Trials (CENTRAL, The Cochrane Library); MEDLINE; EMBASE; PsychINFO; SPORTDiscus; Dissertations and Theses; ERIC; and PsycEXTRA.

**Other sources**
Studies will also be obtained from the following sources:

- Reference lists of included studies.
- Hand searching of three relevant journals in the field (volumes from the past 5 years).
- Internet searches engines, such as Google Scholar.
- Corresponding authors of all included trials.
**Search strategy**

The search strategy for MEDLINE is in Appendix 20. This strategy will be applied to the other electronic databases where relevant, with any modifications reported in the review manuscript. Authors will be contacted via email to obtain any studies that are identified through searching other sources.

**Study selection**

Two review authors will independently screen all titles and abstracts of papers identified as a result of the search documented above. Endnote (version X4.02) will be used for the screening process, with review authors employing a standardised, pre-piloted screening tool to assess study eligibility. The abstracts of papers that are in a language other than English will be translated using Google Translate and, if considered eligible or eligibility is unclear, professional translation of the full paper will be undertaken. Based on an assessment of paper title and abstract, papers will be excluded which do not meet the eligibility criteria of the review. Two review authors will independently examine the full text of all remaining papers to determine study eligibility. Reasons for study ineligibility will be recorded for all full-text articles and this information will be documented in a table accompanying the published review. For papers where there is insufficient information to determine eligibility, the study authors will be contacted for clarification. If following this process there is still insufficient information to determine trial eligibility, the trial will be excluded from the review, with the reasons for exclusion documented in the published review. Disagreement regarding study eligibility will be attempted to be resolved through discussion between the two reviewers responsible for trial screening. The decision of a third reviewer will determine study eligibility in instances where consensus cannot be reached. Review authors will not be blind to the name or institution of study authors or to journal titles.

**Data extraction**

Two review authors will independently extract data from eligible studies. A pre-piloted form designed specifically for this review will be used to extract data from eligible studies for assessment of study quality and evidence synthesis. Disagreement regarding data extraction will be attempted to be resolved through discussion between the two reviewers. A third review author will review any papers on which consensus cannot be
reached. One review author will transcribe data from data extraction forms into the systematic review software Review Manager (RevMan) and the second review author will check this process. In instances where data are unclear or is not available from the published manuscript, attempt will be made to contact study authors. Review authors will not be blind to the name or institution of study authors or to journal titles.

**Data items**

Extracted information will include: authors; study funding and/or other sources of conflicts of interest; study setting (including country, type of sport and level of professionalism); study population and participants demographics (including age, gender and role, such as player or spectator/fan); study design; intervention and control conditions (including number of conditions, content, duration and intensity); trial outcomes and results (including study consent rates and attrition, sample size, number of participants per experimental condition and per cluster if relevant, inter-class coefficients if relevant and results of the primary outcomes described above); and information for assessment of study bias (see below).

Attempts will be made to contact the corresponding authors of included trials in instances where data are unavailable in the published manuscript. Any assumptions or simplifications made in the data extraction or management process due to unavailable information will be documented in the final manuscript.

**Assessment of risk of bias**

Two review authors will independently assess risk of bias in eligible studies by assessing the adequacy of the following study characteristics, as outlined in the Cochrane Handbook for Systematic Reviews of Interventions: sequence generation; concealment of treatment allocation from participants and research personnel at time of study enrolment; blinding of research personnel (including data collection and analysis personnel) throughout the trial; completeness of outcome data (including treatment of exclusions, attrition and incomplete data); selective outcome reporting; and any other potential sources of bias.32

For any non-randomised trials included in the review, the authors will assess any selection bias that may have led to confounding of the outcome of interest and the appropriateness of any statistical methods used to adjust for such confounding. Additional biases specific to
individual study designs will be assessed on a case-by-case basis and in consultation with relevant methodological experts and noted in a supplementary risk of bias table.\textsuperscript{32}

Disagreement regarding assessment of risk of bias will be attempted to be resolved through discussion between the two reviewers. A third review author will be consulted in cases in which consensus cannot be reached. The level of risk of bias for each of the above-mentioned study characteristics will be presented separately for each study in a table accompanying the published review.

**Data analysis**

**Summary measures**

Internationally, there is considerable inter-country variability in the amount of alcohol that defines a standard drink,\textsuperscript{33} in guidelines regarding safe levels of alcohol consumption and in the definition of ‘at risk’ drinking.\textsuperscript{33,34} There is also no standard, recognised definition of intoxication\textsuperscript{16} and jurisdictional variability in the classification, measurement and recording of incidents of alcohol-related violence and injury.\textsuperscript{35} Furthermore, there are a variety of commonly used survey tools,\textsuperscript{36,37} and observational and biological approaches to the assessment of alcohol consumption and intoxication.\textsuperscript{38} As such, it is anticipated that there will be a range of different outcome measures reported across included studies, which may preclude meta-analytical synthesis of the data from these trials.

Nonetheless, outcome data will be included in meta-analyses if appropriate. For assessment of alcohol consumption, attempts will first be made to standardise outcomes reported in included trials to a continuous measure of grams of alcohol consumed, and intervention effect reported in meta-analyses as a mean difference with 95% confidence intervals. Alternatively, if continuous measures are not able to be standardised to the common metric of grams of alcohol consumed, attempts will be made to pool trials and report intervention effect as a standardised mean difference with 95% confidence intervals. Where possible, risk ratios will be used to measure intervention effect for binary outcomes.

Given the limitations outlined above, it is likely that some outcome measures will not be able to be combined in the meta-analysis given a lack of standard definitions. Intervention effect for studies reporting such data will be described narratively.
Data synthesis and analysis
Where studies are sufficiently homogeneous and report the same outcome measure, Review Manager (RevMan) will be used to synthesise trial results using a fixed-effects model. Meta-analyses will be performed in strata based on study design. If there is unexplained statistical heterogeneity, a random effects model will be utilised. For trials with multiple post intervention follow-up points, data from the most recent follow-up data collection (furthest follow-up point from recruitment) will be utilised. Similarly, intention to treat trial outcome data will be used in preference to data included in less conservative analyses. Attempts will be made to contact authors of trials with any missing data.

Where appropriate, sensitivity analysis will be performed with trials that are judged to represent an overall high risk of bias based on the risk of bias assessment tool. Where trial outcome data cannot be combined, or significant heterogeneity exists, findings of included trials will be described narratively according to the review objectives.

Issues of clustering
In cluster randomised controlled trials where the effects of clustering have not been adjusted for, adjustments will be made to the standard deviations for the design effect, using either intra-class coefficients provided in study reports (or by contacting authors) or estimates from similar studies.

Assessment of study heterogeneity
Heterogeneity between studies will be assessed using both visual inspection of forest plots and the $I^2$ statistic. An $I^2$ value greater than 50% will be considered indicative of substantial heterogeneity and careful consideration will be given to the appropriateness of meta-analysis. In order to identify possible sources of heterogeneity, subgroup analyses will be conducted based on participants, design, interventions, outcomes and study quality (including risk of bias and level of participant drop-out).

Assessment of reporting bias
Funnel plots of eligible studies will be examined to assess any bias that may arise through selective reporting within studies.
CHAPTER 7: Interventions in sports settings to reduce alcohol consumption and alcohol related harm: a systematic review protocol

Additional analyses

If appropriate, the following exploratory subgroup analyses will be conducted:

1. Interventions targeting different sports.
2. Interventions targeting the different groups of people attending sporting settings (such as players and fans/spectators).

Categorical comparisons for subgroup analyses will be developed following inspection of the study characteristics and outcomes reported in the included trials.

ETHICS AND DISSEMINATION

Ethics is not required given this protocol is for a systematic review. The findings of this study will be disseminated widely through mechanisms including peer-reviewed publications and conference presentations.

DISCUSSION

This systematic review will provide a detailed summary of the current state of evidence for the effectiveness of interventions in sports settings that are aimed at reducing alcohol consumption and related harms. Such a review will be of benefit to researchers and policy makers with an interest in reducing alcohol-related problems associated with the sports setting.

FUNDING STATEMENT

No external sources of funding support.

COMPETING INTERESTS

The authors are currently undertaking a randomised controlled trial of an intervention to decrease excessive alcohol consumption at community sports clubs which may be included in this review. The authors have not received any benefit, in cash or in kind, any hospitality or any subsidy from the alcohol industry or any other source perceived to have an interest in the outcome of this review.
ACKNOWLEDGMENTS

In developing this protocol, the authors would like to acknowledge the contribution of Debbie Booth from The University of Newcastle who provided guidance regarding the search strategy and to The University of Newcastle, the New South Wales Cancer Institute and Hunter New England Population Health for supporting author salaries.

REFERENCES


CHAPTER 8

Interventions in sports settings to reduce risky alcohol consumption and alcohol-related harm: a systematic review

Published in:
ABSTRACT

Background

Elevated levels of risky alcohol consumption and alcohol-related harm have been reported for sportspeople and supporters compared to non-sporting populations. Limited systematic reviews have been conducted to assess the effect of interventions targeting such behaviours.

Methods

A review was undertaken to determine if interventions implemented in sport settings decreased alcohol consumption and related harms. Studies were included that: implemented interventions within a sports settings; measured alcohol consumption or alcohol-related injury or violence; and were either randomised controlled trials, staggered enrolment trials, stepped-wedged trials, quasi-randomised trials, quasi-experimental trials or natural experiments. Studies without a parallel comparison group were excluded. Studies from both published and grey-literature were included. Two authors independently screened potential studies against the eligibility criteria and two authors independently extracted data from included studies and assessed risk of bias. The results of included studies were synthesised narratively.

Results

The title and abstract of 6382 papers and the full text of 45 of these papers were screened for eligibility. Three studies met the inclusion criteria for the review. One of the included studies was a randomised controlled trial (RCT) of a cognitive-behavioural intervention with athletes within an Olympic training facility in the United States. The study reported a significant change in alcohol use between pre-test and follow-up between intervention and control groups. The other two studies were RCTs in community sports clubs in Ireland and Australia. The Australian study found a significant intervention effect for both risky alcohol consumption at sports clubs and overall risk of alcohol-related harm. The Irish study found no significant intervention effect.
Conclusions

A limited number of studies have been conducted to assess the effect of interventions implemented in sport settings on alcohol consumption and related harms. While two of the three studies found significant intervention effects, it is difficult to determine the extent to which such effects are generalisable. Further controlled trials are required in this setting.

Systematic review registration

PROSPERO CRD42014001739.

BACKGROUND

Alcohol consumption is a causal component of more than 200 diseases, injuries and other health conditions. The diseases and conditions to which alcohol contributes are diverse due to multiple mechanisms of effect including the toxic effects on tissues and organs; dependence and subsequent lack of self-control over drinking behaviour; and intoxication, whereby physical coordination, perception, cognition, consciousness and behaviour are impaired. Worldwide, excessive alcohol consumption is responsible for 5.9% of deaths and 5.1% of the global burden of disease (as measured in disability adjusted life years (DALYs)). In 2012, this equated to approximately 3.3 million deaths and 139 million DALYs. Such alcohol-related harm not only affects the user, but other people who have contact with the user such as family, friends and co-workers, and society at large.

For most alcohol related harms there is a dose-response relationship between the amount (volume) of alcohol consumed and the risk of harm. Consistent with such evidence, governments around the world have issued guidelines on the maximum amount of alcohol that is recommended to be consumed in order to reduce the harmful effects of alcohol in both the short (e.g. injury when intoxicated) and longer term (e.g. liver cirrhosis due to alcohol toxicity).

People who engage in sport, either as players or fans are more likely to consume alcohol at levels that put them at risk of short and long term harm compared to people not involved in sport. For instance, Weschler et al 1997, found that in the United States frequent heavy episodic drinking (≥3 heavy drinking episodes in the past 2 weeks) was more common
amongst college student athletes (males: 29%; females: 24%) than students who were not athletes (males: 18%; females: 15%). Nelson et al (2001) also found that a significantly higher proportion of United States college athletes (57%) reported binge drinking (≥5 drinks) compared to students who were not athletes (49%). Similar high levels of risky consumption have been found more recently amongst amateur and professional sports people in countries including Australia, Ireland, New Zealand and Brazil. For instance, in New Zealand, O'Brien et al 2005 found greater rates of binge drinking (≥6 drinks at least weekly) amongst sportspeople at the international/country elite level (59%), provincial elite level (56%), and non-elite level (51%) compared to non-sportspeople (31%). Similarly, a survey of Australian Football League (AFL) players by Dietze et al (2008), found that the proportion of players that reported risky/high risk drinking for short-term harm (≥7 drinks on any one day on a monthly basis) ranged from between 51% during the playing season to 88% at the end of the playing season, a proportion significantly greater than that for males in the general population (44%).

Higher levels of alcohol consumption have also been reported among spectators/fans when they are at games compared to when not at games and compared to non-spectator populations.

Such heavy episodic drinking by sports people and fans has resulted in increased levels of alcohol-related harm amongst these population groups. In a recent systematic review of 11 included studies found higher rates of alcohol-related aggression and violence in sporting populations compared to non-sporting populations. Increased levels of aggression or violence among sports players and spectators was reported among middle/high school students, college/university students, current/former athletes, and general adult populations at both elite and non-elite levels. For instance, in a study by O’Brien et al (2012) university sportspeople in Australia were over one and half times more likely than non-sportspeople to display aggressive behaviours such as verbal insults or assaults when intoxicated (OR 1.65; 95% CI: 1.19, 2.28) and almost twice as likely to damage property (OR 1.98; 95% CI: 1.38, 2.84). Similarly, in a study of amateur players of Gaelic football and hurling in Ireland, a significantly greater proportion of players reported getting in a fight due to their drinking (32%) compared with a national sample of men of similar age (15%).

Given the disproportionate amount of alcohol-related harm experienced by people involved with sports, interventions to address excessive alcohol use within the sports
setting have been recommended to reduce alcohol-related harm internationally by the World Health Organisation,\textsuperscript{23} governments,\textsuperscript{24} and experts.\textsuperscript{25}

To our knowledge, only two systematic reviews have been conducted assessing interventions targeting alcohol consumption and related harms in the sports setting.\textsuperscript{26,27} The first of these sought to review controlled trials of policy-based interventions in sporting organisations,\textsuperscript{26} but did not find any studies that met the inclusion criteria. The review included studies up until May 2007, those with a policy-focused intervention and an alcohol consumption outcome.\textsuperscript{26} The second review,\textsuperscript{27} of alcohol-harm reduction interventions in sports settings included five studies, all which were cross sectional studies of the same multiple-component alcohol management intervention in community sporting clubs within Australia. The included studies reported significant improvements in alcohol consumption,\textsuperscript{28,29} drink-driving,\textsuperscript{30,31} and club revenue.\textsuperscript{32} The review was limited to papers that were published in English and published in peer-reviewed journals, potentially excluding studies included in theses and dissertations, and other grey literature, such as government reports and unreported findings from studies reported in trial registries. The review was also limited to interventions that targeted adult populations of workplace employees or athletes, potentially excluding studies with adolescent populations and other people attending sporting venues, such as fans. Finally, the review did not conduct any assessment of the methodological quality of the included studies.\textsuperscript{33}

**Objectives**

This review sought to determine if interventions implemented in the sport setting are effective relative to a comparison group in:

1. reducing alcohol consumption at the sporting venue and/or overall alcohol consumption;
2. reducing excessive alcohol consumption or intoxication at the sporting venue and/or overall excessive alcohol consumption or intoxication;
3. reducing alcohol-related violence or injury at the sporting venue and/or overall alcohol related violence or injury.
CHAPTER 8: Interventions in sports settings to reduce risky alcohol consumption and alcohol-related harm: a systematic review

METHODS

The review was undertaken according to the methods prescribed in the Cochrane Handbook for Systematic Reviews of Interventions and is reported according to the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA). A full report of the methods is available in the published review protocol.

Eligibility criteria for included studies

Interventions

Studies were eligible to be included in the review if the intervention was implemented in a sporting setting and aimed to modify alcohol consumption behaviour and/or alcohol-related intoxication and/or alcohol-related violence or injury. Interventions that aimed to address such outcomes, but also aimed to modify one or more additional health risk behaviour/s were also eligible. Interventions could include, but were not limited to, health promotion, health education, regulatory, or environmental initiatives. Interventions with a treatment focus were excluded. Sport settings were defined as settings (eg. arenas, stadiums, grounds, complexes or ovals) where an organised sporting event or activity occurred either at a professional (elite) or non-professional (amateur/community) level, including competition games, training sessions or other club or team events.

Comparisons

Studies were eligible for inclusion in the review if they included a no intervention, attention or waitlist control group, or an alternative intervention.

Primary outcomes

Studies with the following primary outcome measures were eligible for inclusion in the review: 1) alcohol consumption, such as number of drinks consumed or alcohol consumed at excessive/risky levels; 2) alcohol-related intoxication; or, 3) alcohol-related violence or injury. These measures could be assessed by any method, including surveys, observations, biochemical measures, or police or medical records.
CHAPTER 8: Interventions in sports settings to reduce risky alcohol consumption and alcohol-related harm: a systematic review

Study design

Studies with the following study designs were eligible to be included in the review: randomised controlled trials, including cluster randomised controlled trials; staggered enrolment trials or stepped-wedged trials; quasi-randomised trials, where group allocation is not purely random; quasi-experimental trials with comparison/control groups, including non-randomised pre-post (before-after) trials with one or more intervention and control groups, time-series/interrupted time-series trials (including multiple baseline trials) with independent control groups, preference trials and regression discontinuity trials; and, natural experiment studies that have a comparison group. Any trials without parallel comparison or control groups were excluded.

There was no eligibility criteria based on length of follow-up, year of study publication, language, study publication status or study source (e.g. grey literature).

Information sources and search strategy

Based on the abovementioned study eligibility criteria, a search strategy was developed and executed across the following electronic databases on the 20th August 2015: the Cochrane Central Registry of Controlled Trials (CENTRAL)(1974-); The Cochrane Library (1992-); MEDLINE(1946-); EMBASE(1947-); PsychINFO(1806-); SPORTDiscus(1985-); Dissertations and Theses(1743-); ERIC(1966-); PsycEXTRA(1908-); and CINAHL(1937-) [See Appendix 21 for full search strategy].

The following sources were also searched (completed on 27th August 2015):

1. the contents of the peer reviewed journals 'Addiction', 'Journal of Studies on Alcohol and Drugs' and 'Medicine and Science in Sports and Exercise' for the period May 2009-August 2015;
2. the first 200 citations from a Google Scholar search using search terms 'alcohol' AND 'sport' AND 'program/programme OR intervention OR strategy';
3. the results of searches of trial registries and the following topic relevant internet databases using the search terms 'alcohol' AND 'sport' AND 'program/programme OR intervention OR strategy'- Alcohol and Alcohol Problems Science Database [http://etoh.niaaa.nih.gov/]; BiblioMap [http://eppi.ioe.ac.uk/webdatabases/Intro.aspx?ID=7]; Lifestyle Information Network [http://lin.ca/recreation-database]; SportScan Article Database
The authors of included trials were also contacted via email and asked to nominate any relevant trials.

**Study selection/screening**

Following the removal of duplicate papers, two review authors independently screened the titles and abstracts of all papers identified through the search described above, assessing study eligibility using a standardised, pre-piloted screening tool and Endnote (version X7.0). Papers that did not meet the eligibility criteria were excluded. The same two reviewers independently examined the full text of all papers that were either deemed eligible or for which eligibility was uncertain. Any differences between reviewers in determining study eligibility were resolved by consensus and consultation with a third reviewer. Reasons for study ineligibility were recorded for all full-text papers and described in Table 8.1. For papers where there was insufficient information to determine eligibility, the study authors were contacted for clarification. Review authors were not blinded to the name or institution of study authors or to journal titles.

**Data extraction**

Two review authors independently extracted data from eligible studies. A pre-piloted form based on the data extraction form in the Cochrane Handbook for Systematic Reviews of Interventions was used to extract data for both evidence synthesis and assessment of study quality. Extracted information included: authors; study setting (including country, type of sport and level of professionalism); study population and participants demographics (including age, gender and role, such as player or spectator/fan); study design; intervention and control conditions; trial outcomes and results; and information for assessment of study bias. As per the review protocol, it was anticipated that there may be a range of outcome measures across studies due to wide variation in measures of alcohol consumption, intoxication and harm. As such, no specific outcome measures were pre-specified. Where there were multiple papers reporting on the one study, the papers were grouped together and relevant information from across the papers used to complete
the one data extraction form. Disagreement regarding data extraction was resolved through discussion between the two reviewers and, if required, consultation with a third reviewer. Study authors were contacted for data that were not available from the paper. Review authors that were extracting data were not blinded to the name or institution of study authors or to journal titles.

Upon finalisation of the data extraction process, one review author transferred study information into the included studies tables (Table 8.2 and Table 8.4) and a second review author checked the data.

**Assessment of risk of bias**

Two review authors independently assessed risk of bias in eligible studies by assessing the adequacy of study characteristics as outlined in the Cochrane Handbook for Systematic Reviews of Interventions. Disagreement regarding assessment of risk of bias was resolved through discussion between the two reviewers and, if required, consultation with a third reviewer.

For any non-randomised trials the authors planned to assess selection bias that may have led to confounding of the outcome of interest and the appropriateness of any statistical methods used to adjust for such confounding. Additional biases specific to individual study designs were planned to be assessed on a case-by-case basis and in consultation with relevant methodological experts and noted in a supplementary risk of bias table.

**Data synthesis and analysis**

Intervention effects for the relevant outcomes of all included studies were described narratively. It was planned that Review Manager (RevMan Review Manager (RevMan) [Computer program] Version 5.2. Copenhagen: The Nordic Cochrane Centre, The Cochrane Collaboration, 2012) be used to undertake meta-analyses using a random effects model where outcome data reported by included trials enabled pooling and where trials were sufficiently homogeneous in terms of participants, interventions and outcome characteristics. For cluster RCTs meta-analyses were planned to be performed using adjusted effect size estimates and standard errors using the generic inverse variance method in Revman. For cluster trials where suitable adjusted effects were not reported, an
effective sample size was planned to be calculated using the intra-class correlations provided in study reports.

Assessment of study heterogeneity

It was planned that heterogeneity between studies be assessed using both visual inspection of forest plots and the I² statistic. An I² value greater than 50% was planned to be considered indicative of substantial heterogeneity.

RESULTS

Results of the search

The searches generated 6382 papers (following duplicate removal). Screening of titles and abstracts identified 45 papers for full text review (see Figure 8.1). Of these, three trials (Carr 1992; O'Farrell 2010; Kingsland et al 2015) met the inclusion criteria.

Excluded studies

Of the 45 papers for which the full text was examined, 37 were deemed ineligible. [See Figure 8.1] Six were deemed ineligible based on participants, four based on outcome, 10 based on having no parallel comparator, 15 based on intervention and two based on study design (Table 8.1).
FIGURE 8.1: PRISMA flowchart
<table>
<thead>
<tr>
<th>STUDY (First author, Year)</th>
<th>REASON FOR EXCLUSION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bagnardi et al, 2011&lt;sup&gt;45&lt;/sup&gt;</td>
<td>Intervention is not in a sport setting</td>
</tr>
<tr>
<td>Blaszczynski, 2011&lt;sup&gt;46&lt;/sup&gt;</td>
<td>No participants (commentary)</td>
</tr>
<tr>
<td>Bormann and Stone, 2001&lt;sup&gt;47&lt;/sup&gt;</td>
<td>No comparison group</td>
</tr>
<tr>
<td>Caetano et al, 2012&lt;sup&gt;48&lt;/sup&gt;</td>
<td>No participants (editorial)</td>
</tr>
<tr>
<td>Casswell and Gilmore, 1989&lt;sup&gt;49&lt;/sup&gt;</td>
<td>Intervention is not in a sport setting</td>
</tr>
<tr>
<td>Clarkson et al, 2002&lt;sup&gt;50&lt;/sup&gt;</td>
<td>No comparison group</td>
</tr>
<tr>
<td>Donohue et al, 2013&lt;sup&gt;51&lt;/sup&gt;</td>
<td>No participants (review paper)</td>
</tr>
<tr>
<td>Duff and Munroe, 2007&lt;sup&gt;52&lt;/sup&gt;</td>
<td>Does not report an outcome of interest</td>
</tr>
<tr>
<td>Finch and Donaldson, 2010&lt;sup&gt;53&lt;/sup&gt;</td>
<td>No participants (framework development)</td>
</tr>
<tr>
<td>Fromme et al, 1994&lt;sup&gt;54&lt;/sup&gt;</td>
<td>Intervention is not in a sport setting</td>
</tr>
<tr>
<td>Gregory, 2001&lt;sup&gt;55&lt;/sup&gt;</td>
<td>Intervention is not in a sport setting</td>
</tr>
<tr>
<td>Holder and Wagenaar, 1994&lt;sup&gt;56&lt;/sup&gt;</td>
<td>Intervention is not in a sport setting</td>
</tr>
<tr>
<td>Kelly, 2011&lt;sup&gt;57&lt;/sup&gt;</td>
<td>Does not report an outcome of interest</td>
</tr>
<tr>
<td>Kingsland et al, 2015&lt;sup&gt;58&lt;/sup&gt;</td>
<td>Does not report an outcome of interest</td>
</tr>
<tr>
<td>Maclean and Bonington, 2008&lt;sup&gt;59&lt;/sup&gt;</td>
<td>No participants (commentary)</td>
</tr>
<tr>
<td>Mann and Wickens, 2012&lt;sup&gt;60&lt;/sup&gt;</td>
<td>No participants (commentary)</td>
</tr>
<tr>
<td>Marcello et al, 1989&lt;sup&gt;61&lt;/sup&gt;</td>
<td>Intervention is not in a sport setting</td>
</tr>
<tr>
<td>Mentha and Waterman, 2009&lt;sup&gt;62&lt;/sup&gt;</td>
<td>No comparison group</td>
</tr>
<tr>
<td>O’Farrell et al, 2010&lt;sup&gt;63&lt;/sup&gt;</td>
<td>No comparison group</td>
</tr>
<tr>
<td>Pridemore et al, 2013&lt;sup&gt;64&lt;/sup&gt;</td>
<td>No comparison group</td>
</tr>
<tr>
<td>Reboussin et al, 2012&lt;sup&gt;65&lt;/sup&gt;</td>
<td>No comparison group</td>
</tr>
<tr>
<td>Rooney, 1984&lt;sup&gt;66&lt;/sup&gt;</td>
<td>No comparison group</td>
</tr>
<tr>
<td>Rossow and Norstrom, 2012&lt;sup&gt;67&lt;/sup&gt;</td>
<td>Intervention is not in a sport setting</td>
</tr>
<tr>
<td>Rowland et al, 2012a&lt;sup&gt;68&lt;/sup&gt;</td>
<td>No comparison group</td>
</tr>
<tr>
<td>Rowland et al, 2012b&lt;sup&gt;69&lt;/sup&gt;</td>
<td>No comparison group</td>
</tr>
<tr>
<td>Rowland et al, 2012c&lt;sup&gt;70&lt;/sup&gt;</td>
<td>Cross-sectional study design</td>
</tr>
<tr>
<td>Rowland et al, 2012d&lt;sup&gt;71&lt;/sup&gt;</td>
<td>Cross-sectional study design</td>
</tr>
<tr>
<td>Schewe et al, 1984&lt;sup&gt;72&lt;/sup&gt;</td>
<td>Does not report an outcome of interest</td>
</tr>
<tr>
<td>Shakeshaft et al, 2014&lt;sup&gt;73&lt;/sup&gt;</td>
<td>Intervention is not solely in a sport setting</td>
</tr>
<tr>
<td>Stuart et al, 2013&lt;sup&gt;74&lt;/sup&gt;</td>
<td>Intervention is not in a sport setting</td>
</tr>
<tr>
<td>Thoms, 2002&lt;sup&gt;75&lt;/sup&gt;</td>
<td>Intervention is not in a sport setting</td>
</tr>
<tr>
<td><strong>Table 8.1 continued</strong></td>
<td></td>
</tr>
<tr>
<td>Tricker, 1996&lt;sup&gt;76&lt;/sup&gt;</td>
<td>Intervention is not in a sport setting</td>
</tr>
<tr>
<td>Trolldal et al, 2013&lt;sup&gt;77&lt;/sup&gt;</td>
<td>No comparison group</td>
</tr>
</tbody>
</table>
CHAPTER 8: Interventions in sports settings to reduce risky alcohol consumption and alcohol-related harm: a systematic review

<table>
<thead>
<tr>
<th>STUDY (First author, Year)</th>
<th>REASON FOR EXCLUSION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wagenaar et al, 200073</td>
<td>Community-wide intervention not specifically in a sports setting</td>
</tr>
<tr>
<td>Warpenius et al, 201074</td>
<td>Community-wide intervention not specifically in a sports setting</td>
</tr>
<tr>
<td>Watten, 199575</td>
<td>Intervention is not in a sport setting</td>
</tr>
<tr>
<td>Yoruk, 201476</td>
<td>Intervention is not in a sport setting</td>
</tr>
</tbody>
</table>

Characteristics of included studies

A description of the included trials is presented in Table 8.2. In the Carr 1992 trial, individual athletes residing at a training facility in the United States were randomised to control (n=23) and intervention (n=30) groups. The trial intervention was based on a cognitive-behavioural model and was delivered in three separate sections: 1) an education component on the effects of substance misuse (2.5 hours); 2) a decision-making/coping skills component (3 hours); and 3) a social skills/self-esteem component (2.5 hours). Each component included lecture presentations, group discussion, role-play exercises and written materials. The control group received no intervention during the trial period. Trial outcomes were assessed pre-intervention, immediately post-intervention and at a seven-week post-intervention follow-up via self-administered questionnaires and included a measure of how often alcohol was used in the last month.

The study by Kingsland et al (2015) was a cluster randomised controlled trial, with 42 community-level, non-elite football (Australian Rules, Soccer/Association Football, Rugby League and Rugby Union) clubs randomly allocated to the intervention group and 45 such clubs allocated to the control group. The 2.5 year intervention involved the participating clubs implementing responsible alcohol management strategies, including reduced pricing of low and non-alcoholic drinks, responsible service of alcohol training of staff and restrictions on drinking games and promotion that encourage rapid intoxication. The control clubs received written materials unrelated to the outcome measures. Repeat cross-sectional surveys of players, supporters and officials were employed at pre- and post-intervention to measure trial outcomes. The trial outcomes included risky alcohol consumption (≥5 drinks on the one occasion) at least once a month at the sports club, and the following measures of overall alcohol consumption risk: median total Alcohol Use Disorders Identification Test (AUDIT) score; total AUDIT score of ≥8; AUDIT alcohol
consumption/hazardous use subscale score of ≥6; AUDIT dependence subscale score of ≥4; AUDIT alcohol-related problems/harmful use subscale score of ≥1. Data were collected from 1,411 participants pre-intervention and 1,144 participants post-intervention.44

The study by O’Farrell (2010) involved a cluster-controlled trial in Gaelic Football and hurling clubs. All sports clubs in one county within Ireland acted as control clubs (n=29) and randomly selected clubs within another county participated in the trial as intervention clubs (n=12).43 The two participating counties were selected on a convenience basis. Intervention strategies were implemented over a four month period and involved strategies at the community level (eg. media campaign) club level (eg. responsible alcohol service practices) and player level (eg. education). Repeat cross-sectional surveys were used at pre- and immediately post-intervention to measure trial outcomes. Trial outcomes included yearly alcohol consumption (litres of pure alcohol); consumption of ≥21 standard alcoholic drinks per week; binge drinking (≥6 standard alcoholic drinks in one sitting); mean total AUDIT score; total AUDIT score of ≥8; AUDIT alcohol consumption/hazardous use subscale score of ≥6; AUDIT dependence subscale score of ≥4; and AUDIT alcohol-related problems/harmful use subscale score of ≥1. The study also included a mean alcohol-related harms score as a measure of overall alcohol-related violence or injury. Data were collected from 960 players pre-intervention and 659 post-intervention.43

For all trials, alcohol harm reduction was the primary aim and focus of the intervention.
### TABLE 8.2: Characteristics of included studies

<table>
<thead>
<tr>
<th>Study</th>
<th>Study Design/Setting</th>
<th>Participants</th>
<th>Intervention and Control Conditions</th>
<th>Outcomes of interest to the review</th>
</tr>
</thead>
</table>
| Carr 1992^2^   | Individually randomised trial Olympic Training Centre (OTC) in Colorado Springs, Colorado, USA. | Eight resident teams of elite athletes representing archery, gymnastics, shooting, table tennis and handball. | Intervention condition: Multimodal substance abuse program based on a cognitive-behavioural model, which included:  
  - education component (2.5 hours)  
  - decision-making/coping skills component (3 hours)  
  - social skills/self-esteem component (2.5 hours).  
  Each component included lecture presentations, group discussions, role-play exercises, and written materials.  
Control condition: No intervention. Intervention offered after trial period. | All outcomes were assessed at pre-test, post-test and at the end of a 7-week follow-up period via self-completed questionnaires.  
  - Frequency of use of alcohol in the last month  
  - Change score for frequency of use in alcohol in the last month from pre-test to follow-up, coded as:  
    1=decrease in use  
    2=no change  
    3=increase |
| Kingsland et al 2015^4^ | Cluster randomised controlled trial Non-elite, community football clubs within the Hunter, New England and Sydney regions of New South Wales, Australia | Eighty-eight football clubs (rugby league, rugby union, soccer/association football and Australian rules football) and club members. | Intervention condition: 2.5 year accreditation program which included:  
  - Adherence to liquor licence requirement in terms of signage and alcohol-service hours and areas  
  - Staff trained in responsible service of alcohol  
  - Water and substantial food is provided  
  - Intoxicated people not permitted to enter, not served alcohol and not permitted to remain at the club  
  - Alcoholic drinks are only served in standard drink measures | All outcomes were assessed at pre-and post-intervention using self-reported measures collected via telephone survey.  
  - Risky alcohol consumption defined as ≥5 standard drinks on the one occasion  
  - Alcohol Use Disorders Identification Test (AUDIT):  
    - median total AUDIT score  
    - Total AUDIT score of ≥8 (indicative of hazardous consumption) |
<table>
<thead>
<tr>
<th>STUDY</th>
<th>STUDY DESIGN/SETTING</th>
<th>PARTICIPANTS</th>
<th>INTERVENTION AND CONTROL CONDITIONS</th>
<th>OUTCOMES OF INTEREST TO THE REVIEW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kingsland et al 2015</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Members pre-intervention:**
**Age:** Average 30years+
**Gender:**
Intervention group 77.4% male; Control group 87% male
**Role:**
Intervention group 60% players, 26% members/ supporters, 14% officials; Control group 47% players, 36% members/ supporters, 17% officials.

**Inclusion criteria:**
Clubs: community level, non-elite football clubs who had over 40 members, sold alcohol, and were not participating in an alcohol management improvement program.

**Members:**
Club member who were 18+ years and spoke English

- Club maintains a register of alcohol-related
- Bar servers do not consume alcohol
- Non-alcoholic drinks and low-alcoholic drinks are available and are cheaper than full-strength alcoholic drinks
- Club does not serve ‘shots’ or double-nips of alcohol or ready-to-drink products over 5% alcohol/volume
- Club does not conduct drinking games/promotions that encourage risky alcohol consumption
- Club has some sponsorship that is not from the alcohol industry
- Club has developed a written alcohol management policy and distributed it to members.

**Implementation supports:** Based on theoretical frameworks for organisational change and consisted of: project officer support, implementation cost recovery, accreditation and associated merchandise, printed resources and newsletters, observational audits and feedback online training, and letters of support from state sporting organisation.

**Control condition:** control (and intervention) clubs were given printed resources on topics unrelated to the trial outcomes.

- alcohol consumption subscale (score ≥6 for items 1-3)
- dependency subscale (score of ≥4 for items 4-6)
- alcohol-related problems subscale (score ≥1 for items 7-10).

All outcome analyses adjusted for clustering and pre-intervention values.
<table>
<thead>
<tr>
<th>Study</th>
<th>Study Design/Setting</th>
<th>Participants</th>
<th>Intervention and Control Conditions</th>
<th>Outcomes of Interest to the Review</th>
</tr>
</thead>
<tbody>
<tr>
<td>O’Farrell 2010</td>
<td>Cluster randomised controlled trial Gaelic Athletic Association (GAA) amateur sporting clubs in the Republic of Ireland.</td>
<td>Forty-one hurling, Gaelic football and handball clubs within two counties in Ireland and club players. <strong>Intervention group:</strong> 12 clubs; 332 members at pre-intervention; 218 members post-intervention. <strong>Control group:</strong> 29 clubs; 628 members pre-intervention; 441 members post-intervention. <strong>Players pre-intervention:</strong> Mean age: 24 years Gender: All male <strong>Inclusion criteria:</strong> Clubs: within two study counties in Ireland <strong>Players:</strong> Uninjured GAA male club players aged 16 years and above.</td>
<td><strong>Intervention condition:</strong> Community mobilisation approach targeting the club environment and individual player behaviour implemented over four months. Intervention included: - alcohol education for the players (1x50mins) - alcohol education for coaches (1x40mins) - alcohol policy training for club managers and coaches (1x40mins) - alcohol information media campaign <strong>Implementation supports:</strong> Health promotion staff, presentation materials, handouts and advertising materials. <strong>Control condition:</strong> Control (and intervention clubs) received an education session on sports nutrition.</td>
<td>All outcomes were assessed at pre- and post-intervention using self-reported measures via paper questionnaires: - Alcohol use disorder identification test (AUDIT):  - Mean total AUDIT score  - Total AUDIT score of ≥ 8  - AUDIT hazardous alcohol use subscale (score ≥6 for items 1-3)  - AUDIT dependency subscale (score ≥4 for items 4-6)  - AUDIT harmful alcohol use subscale (score ≥1 for items 7-10). - Yearly alcohol consumption (litres of pure alcohol) - ≥ 21 standard drinks per week - Binge drinking (≥6 drinks one sitting) - Mean alcohol-related harms score (of total of 13)</td>
</tr>
</tbody>
</table>
Risk of bias in included studies

The level of risk of bias is presented separately for each study in Figure 8.2 and as a combined study assessment of risk of bias in Figure 8.3. Table 8.3 contains justification for each risk assessment.

FIGURE 8.2: Risk of bias summary: review authors’ judgements about each risk of bias item for each included study

FIGURE 8.3: Risk of bias graph: review authors’ judgements about each risk of bias item presented as percentages across all included studies
<table>
<thead>
<tr>
<th>RISK OF BIAS</th>
<th>DESCRIPTION</th>
<th>JUDGEMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Carr 1992 (Overall risk of bias: HIGH)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sequence generation (Selection bias)</td>
<td>The procedure for generating the randomisation sequence is not described.</td>
<td>Unclear</td>
</tr>
<tr>
<td>Allocation concealment (Selection bias)</td>
<td>No information is reported on whether there was potential for prior knowledge of upcoming allocation.</td>
<td>Unclear</td>
</tr>
<tr>
<td>Blinding of participants and personnel (Performance bias)</td>
<td>Not possible to blind participants or personnel due to nature of the intervention. Each team was contacted and athletes told of their condition assignment prior to pre-test.</td>
<td>High</td>
</tr>
<tr>
<td>Blinding of outcome assessor (Self-reported outcomes)</td>
<td>Self-reported outcomes collected via self-administered questionnaires and therefore not possible to blind outcome assessors.</td>
<td>High</td>
</tr>
<tr>
<td>Incomplete outcome data (Self-reported outcomes)</td>
<td>17 of 70 participants did not complete post-intervention or the follow-up assessments. They were not included in the analysis.</td>
<td>High</td>
</tr>
<tr>
<td>Selective reporting bias</td>
<td>While not all outcome data were fully reported (missing frequency counts), provision of the results of the outcome analysis suggests that there is unlikely to be bias due to selective reporting.</td>
<td>Low</td>
</tr>
<tr>
<td>Other sources of bias</td>
<td>None identified.</td>
<td>Low</td>
</tr>
</tbody>
</table>

<p>| <strong>Kingsland et al 2015 (Overall risk of bias: LOW)</strong> |                                                                             |           |
| Sequence generation (Selection bias)             | Microsoft Excel random-number generator using simple randomisation 1:1 ratio.  | Low       |
| Allocation concealment (Selection bias)          | Central, computerised allocation was undertaken for all participants at once. Allocation was carried out by an independent statistician. | Low       |
| Blinding of participants and personnel (Performance bias) | Study personnel were not blind to allocation. Not possible to blind participating clubs or club members to allocation. | High      |
| Blinding of outcome assessor (Self-reported outcomes) | Research personnel involved in post-intervention data collection (telephone survey) and analysis were blind to allocation. While club members who self-reported study outcomes were not intentionally blinded from knowing which group their club was allocated to, their knowledge of this is unknown. | Unclear   |
| Incomplete outcome data (Self-reported outcomes)  | All data were accounted for in the analysis. Intention to treat analysis was undertaken. | Low       |</p>
<table>
<thead>
<tr>
<th>RISK OF BIAS</th>
<th>DESCRIPTION</th>
<th>JUDGEMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Table 8.3 continued</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Selective reporting bias</td>
<td>All pre-specified study outcomes as outlined in the study protocol were reported and explanation was provided for an outcome (7-day diary) that was not reported (found to be unsuitable for study context due to members not consuming alcohol at their club on a weekly basis).</td>
<td>Low</td>
</tr>
<tr>
<td>Other sources of bias (participant selection in a cluster trial)</td>
<td>Participants for both groups were selected based on a quasi-random procedure based on birth date.</td>
<td>Low</td>
</tr>
<tr>
<td><strong>O’Farrell 2010 (Overall risk of bias: HIGH)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sequence generation (Selection bias)</td>
<td>No sequence generation - closest county was selected for intervention.</td>
<td>High</td>
</tr>
<tr>
<td>Allocation concealment (Selection bias)</td>
<td>Unconcealed procedure as selection of control and intervention sites was based on convenience.</td>
<td>High</td>
</tr>
<tr>
<td>Blinding of participants and personnel (Performance bias)</td>
<td>Study personnel were not blind to allocation. Not possible to blind participating clubs or players to allocation.</td>
<td>High</td>
</tr>
<tr>
<td>Blinding of outcome assessor (Self-reported outcomes)</td>
<td>Players who self-reported study outcomes (via self-administered questionnaires) were aware of their club’s allocation.</td>
<td>High</td>
</tr>
<tr>
<td>Incomplete outcome data (Self-reported outcomes)</td>
<td>The study did not address this issue.</td>
<td>Unclear</td>
</tr>
<tr>
<td>Selective reporting bias</td>
<td>There is no indication that any relevant outcomes were not reported.</td>
<td>Low</td>
</tr>
<tr>
<td>Other sources of bias (participant selection in a cluster trial)</td>
<td>For both groups, all eligible club members were invited to participate. There was no selection process.</td>
<td>Low</td>
</tr>
</tbody>
</table>
Risk of selection bias differed across studies. Only Kingsland et al 2015\(^44\) reported appropriate random sequence generation and club allocation concealment methods and, therefore, was assessed as having a low risk of selection bias. All included studies were public health interventions in which it was not possible for participants or study personnel to be blind to group allocation and, therefore, risk of performance bias was deemed to be high for all studies. For all studies, all outcome measures were self-reported by participants and subsequently detection bias was deemed to be high for two out of three studies. For Kingsland et al 2015\(^44\) such risk was deemed to be unknown because, while club members who self-reported study outcomes were not intentionally blinded from knowing which group their club was allocated to, their knowledge of this is unknown and the research personnel collecting outcome data by telephone surveys were blind to group allocation. Risk of attrition bias differed across studies. Only Kingsland et al 2015\(^44\) reported undertaking intention-to-treat analysis and therefore scored low in regard to risk of attrition bias. For all studies, risk of reporting bias was deemed to be low as either all planned outcomes were reported or explanation provided as to why this was not the case. For the two cluster trials\(^43,44\) the potential risk of bias due to sports club member/player selection was assessed. For both studies, risk of such selection bias was deemed to be low due to the use of either a quasi-random or census approach.

**Effect of intervention**

The intervention effects of individual studies are summarised in Table 8.4.
TABLE 8.4: Intervention effects of included studies

<table>
<thead>
<tr>
<th>STUDY</th>
<th>INTERVENTION EFFECTS ON OUTCOMES OF INTEREST TO THE REVIEW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carr 1992</td>
<td>• Frequency of alcohol use</td>
</tr>
<tr>
<td></td>
<td>No significant difference was reported between the groups at pre-test ($X^2=5.94, p=0.20$), post-test ($X^2=5.48, p=0.24$) or follow-up ($X^2=5.96, p=0.20$).</td>
</tr>
<tr>
<td></td>
<td>• Change score</td>
</tr>
<tr>
<td></td>
<td>Significant difference between the treatment and control group at follow-up ($X^2=6.42, p&lt;0.05$). In the treatment group 3.6% reported decreased use, 89.3% no change and 7.1% increased use. In the control group 21.1% reported decreased use, 57.9% no change and 21.1% increased use.</td>
</tr>
<tr>
<td>Kingsland et al 2015</td>
<td>• Risky alcohol consumption</td>
</tr>
<tr>
<td></td>
<td>At baseline 27% of intervention club and 25% of control club members reported risky alcohol consumption. Post-intervention, 19% of intervention club members reported risky alcohol consumption compared to 24% of control club members (OR=0.63 95% CI 0.40-1.00, p=0.05).</td>
</tr>
<tr>
<td></td>
<td>• Median total AUDIT score (min, max)</td>
</tr>
<tr>
<td></td>
<td>Pre-intervention: Control 7 (0, 26), Intervention 8 (0, 28); Post-intervention: Control 7 (0, 25), Intervention 6 (0, 26)(p&lt;0.01).</td>
</tr>
<tr>
<td></td>
<td>• Total AUDIT score ≥8</td>
</tr>
<tr>
<td></td>
<td>Pre-intervention: Control 46%, Intervention 54%; Post-intervention: Control 45%, Intervention 38% (OR= 0.58 (95% CI 0.38-0.87, p&lt;0.01).</td>
</tr>
<tr>
<td></td>
<td>• AUDIT Alcohol consumption subscale</td>
</tr>
<tr>
<td></td>
<td>Pre-intervention: Control 57%, Intervention 61%; Post-intervention: Control 55%, Intervention 47% (OR= 0.60 95% CI 0.41-0.87, p&lt;0.01).</td>
</tr>
<tr>
<td></td>
<td>• AUDIT Alcohol dependence subscale</td>
</tr>
<tr>
<td></td>
<td>Pre-intervention: Control 3%, Intervention 4%; Post-intervention: Control 4%, Intervention 1% (OR= 0.20 95% CI 0.06-0.65, p&lt;0.01).</td>
</tr>
<tr>
<td></td>
<td>• Alcohol-related problems subscale</td>
</tr>
<tr>
<td></td>
<td>Pre-intervention: Control 48%, Intervention 56%; Post-intervention: Control 45%; Intervention 41% (OR= 0.67 95% CI 0.43-1.03, p=0.03).</td>
</tr>
<tr>
<td>Study</td>
<td>Intervention Effects on Outcomes of Interest to the Review</td>
</tr>
<tr>
<td>---------------</td>
<td>------------------------------------------------------------</td>
</tr>
<tr>
<td>O’Farrell 2010</td>
<td>• Mean total AUDIT score</td>
</tr>
<tr>
<td></td>
<td>Post-intervention: Control 11.0 (95% CI 10.4-11.7);</td>
</tr>
<tr>
<td></td>
<td>Intervention 11.0 (95% CI 10.0-11.4); p=0.94.</td>
</tr>
<tr>
<td></td>
<td>• Total AUDIT score ≥8</td>
</tr>
<tr>
<td></td>
<td>Post-intervention: Control 69.9% (95% CI 64.1-76.8);</td>
</tr>
<tr>
<td></td>
<td>Intervention: 72.2 (95% CI 63.7-80.6); p=0.66.</td>
</tr>
<tr>
<td></td>
<td>• AUDIT Hazardous alcohol use subscale</td>
</tr>
<tr>
<td></td>
<td>Post-intervention: Control 95.1% (95% CI 92.6-97.6);</td>
</tr>
<tr>
<td></td>
<td>Intervention 95.0% (95% CI 91.5-98.6); p=0.97.</td>
</tr>
<tr>
<td></td>
<td>• AUDIT dependency subscale</td>
</tr>
<tr>
<td></td>
<td>Post-intervention: Control 60.5% (95% CI 53.2-67.8);</td>
</tr>
<tr>
<td></td>
<td>Intervention 59.7% (95% CI 49.2-70.1); p=0.90.</td>
</tr>
<tr>
<td></td>
<td>• Harmful alcohol use subscale</td>
</tr>
<tr>
<td></td>
<td>Post-intervention: Control 68.5% (95% CI 63.1-73.8);</td>
</tr>
<tr>
<td></td>
<td>Intervention 74.8% (95% CI 67.1-85.6); p=0.17.</td>
</tr>
<tr>
<td></td>
<td>• Mean yearly consumption</td>
</tr>
<tr>
<td></td>
<td>Post-intervention: Control 11.6L (95% CI 9.2-14.2),</td>
</tr>
<tr>
<td></td>
<td>Intervention 8.8L (95% CI 5.6-12.1); p=0.17.</td>
</tr>
<tr>
<td></td>
<td>• ≥21 standard drinks per week</td>
</tr>
<tr>
<td></td>
<td>Post-intervention: Control 28.5% (95% CI 21.4-35.7),</td>
</tr>
<tr>
<td></td>
<td>Intervention 20.1% (95% CI 10.6-29.5); p=0.15.</td>
</tr>
<tr>
<td></td>
<td>• Binge drinking</td>
</tr>
<tr>
<td></td>
<td>Post-intervention: Control 43.5% (95% CI 35.2-51.8),</td>
</tr>
<tr>
<td></td>
<td>Intervention 49.1% (95% CI 37.8-60.3); p=0.42.</td>
</tr>
<tr>
<td></td>
<td>• Mean alcohol harm score</td>
</tr>
<tr>
<td></td>
<td>Post-intervention: Control 3.0 (95% CI 2.5-3.6), Intervention 2.5 (95% CI 1.7-3.3); p=0.26.</td>
</tr>
</tbody>
</table>
Reducing alcohol consumption at the sporting venue and/or overall alcohol consumption

Carr 1992 reported a significant association between treatment group and in change in alcohol use frequency between pre-test and follow-up ($X^2=6.42$, p<0.05). In the intervention group, 3.6% reported decreased use, 89.3% no change and 7.1% increased use and, in the control group, 21.1% reported decreased use, 57.9% no change and 21.1% increased use. There was no significant association in frequency of alcohol use in the last month and group allocation at pre-test ($X^2=5.94$, p=0.20), post-test ($X^2=5.48$, p=0.24) or follow-up ($X^2=5.96$, p=0.20).

In the cluster RCT by O'Farrell (2010) there was no significant difference in mean yearly overall alcohol consumption (in any setting) at post-intervention between control (11.6L; 95% CI 9.2, 14.2) and intervention groups (8.8L; 95% CI 5.6, 12.1, p=0.17). Kingsland et al (2015) did not report any such overall measures of alcohol consumption volume.

Reducing excessive alcohol consumption or intoxication at the sporting venue and/or overall excessive alcohol consumption or intoxication

Kingsland et al 2015 was the only trial that reported an outcome related to excessive alcohol consumption at a sporting venue. At baseline, 27% of intervention club and 25% of control club members reported consuming alcohol at risky levels (≥5 drinks) at their sports club. Post-intervention, a significantly smaller proportion of intervention club members (19%) reported such a level of alcohol consumption at their sports club compared to control club members (24%) (OR=0.63; 95% CI 0.40-1.00, p=0.05).

Kingsland et al 2015 and O'Farrell 2010 were the only studies that reported data measuring the impact of interventions on overall excessive alcohol consumption in any setting. Both studies used the same measures of alcohol-related harm (overall AUDIT score and AUDIT subscale scores) and these data were pooled. However, statistically heterogeneity was high ($I^2$:76%-87%).

Kingsland et al 2015 found a that significantly lower proportion of intervention group club members (38%) reported AUDIT scores above eight compared to control group club members (45%), post intervention (OR= 0.58; 95% CI 0.38-0.87, p<0.01), whereas, O'Farrell did not find any significant difference between treatment groups for this
Kingsland et al (2015) reported significant intervention effect in respect to the AUDIT alcohol consumption subscale (post-intervention: Control 55%, Intervention 47% (OR=0.60; 95% CI 0.41-0.87, p<0.01)) and the AUDIT alcohol dependence subscale (post-intervention: Control 4%, Intervention 1% (OR= 0.20; 95% CI 0.06-0.65, p<0.01)). In contrast, O’Farrell found no such effects (AUDIT alcohol consumption subscale, post-intervention (Control: 95.1%; 95% CI 92.6-97.6)(Intervention: 95.0%; 95% CI 91.5-98.6, p=0.97)); AUDIT dependency subscale: post-intervention (Control: 60.5%; 95% CI 53.2-67.8)(Intervention 59.7%; 95% CI 49.2-70.1, p=0.90)).

Neither Kingsland et al (2015) nor O’Farrell (2010) found a significant intervention effect in respect to the AUDIT alcohol-related problems subscale (post-intervention (Control 68.5%; 95% CI 63.1-73.8)(Intervention 74.8%; 95% CI 67.1-85.6, p=0.17)).

Kingsland et al 2015 found a significant difference in median AUDIT score between members of control and intervention group sports clubs post-intervention (Control: 7 (range=0, 25); Intervention: 6 (range=0, 26) (p<0.01)). O’Farrell 2010 did not find any significant difference between intervention and to control groups in: the proportion of players reporting consumption of 21 or more standard drinks per week (post-intervention (Control 28.5%; 95% CI 21.4-35.7)(Intervention 20.1%; 95% CI 10.6-29.5, p=0.15)), the proportion of players reporting consumption of six or more drinks in one setting (‘binge drinking’) (post-intervention (Control 43.5%; 95% CI 35.2-51.8)(Intervention 49.1%; 95% CI 37.8-60.3, p=0.42)), mean total AUDIT score (post-intervention (Control 11.0; 95% CI 10.4-11.7)(Intervention 11.0; 95% CI 10.0-11.4, p=0.94)), or mean alcohol harm score (post-intervention (Control 3.0; 95% CI 2.5-3.6)(Intervention 2.5; 95% CI 1.7-3.3, p=0.26)).

Reducing alcohol-related violence or injury at the sporting venue and/or overall alcohol related violence or injury

No included studies reported separate, discrete measures of alcohol-related violence or injury.
Due to the heterogeneity of included studies, no quantitative data synthesis was undertaken.

**DISCUSSION**

Despite evidence demonstrating elevated levels of risky alcohol consumption and alcohol-related harm amongst people involved in sports and recommendations for the development of interventions to address this risk, the review identified only three controlled trials of relevant interventions within the sports setting. Two of the included studies reported a positive effect on one or more alcohol consumption or alcohol-related harm outcome either within the sports setting or overall.\(^{42,44}\) As none of the included trials reported discrete alcohol-related violence or injury outcomes, the impact of such interventions on injury or violence in sporting club contexts is unknown.

The findings of the study by Carr (1992) were equivocal as they indicate that while 7.1% of the intervention group reported increased alcohol use compared with 21.1% of the control group, 3.6% of the intervention group reported decreased use of alcohol, compared with 21.1% of the control group.\(^{42}\) As such, it is unclear whether the cognitive-behavioural intervention targeting substance use by athletes in training settings was effective in reducing alcohol misuse and related harms. The findings should also be considered in the context of a rating of high risk of performance bias, detection bias and attrition bias, which further supports the equivocal nature of the reported findings. Findings of reviews of similar interventions (social norm, motivational interviewing) in young adults in college/university and non-college settings have found no meaningful benefits associated with such interventions for the prevention of alcohol misuse.\(^{77,78}\)

The two included randomised controlled trials that tested the impact of multi-component alcohol harm reduction interventions in community sports clubs reported mixed results. The intervention reported by Kingsland et al 2015 was effective in reducing risky alcohol consumption by club members within the community football club setting and the risk of alcohol-related harm to club members as measured by AUDIT,\(^{44}\) whereas the O'Farrell 2010 study found no intervention effect across all related outcomes.\(^{43}\) These two studies differed in a number of ways. For example, the intervention in the Kingsland et al (2015) trial\(^{44}\) was implemented over 2.5 years whereas the O'Farrell (2010) trial\(^{43}\) was implemented for four months. A longer implementation period potentially afforded the
Kingsland et al (2015) trial both more time for the intervention to change alcohol-related harm outcomes, as well as a greater dose of intervention, both of which have been found to be associated with intervention effectiveness. These findings should also be considered in the context of the risk of bias assessment. The O’Farrell (2010) study was considered to have a potentially high risk of bias across four (selection bias x 2; performance bias; detection bias) of the seven items, whereas, the study by Kingsland et al (2015) was rated as high risk of bias for only performance bias. As such, the findings from the Kingsland et al (2015) study are potentially more reliable than those of O’Farrell (2010).

No studies were found that examined the effectiveness of interventions in reducing alcohol consumption or alcohol-related harm by players or spectators in large sporting venues, such as arenas and stadia. This is despite evidence from Europe, the USA and New Zealand that suggests that sporting clubs and venues fail to implement alcohol management practices comprehensively and consistently. For instance, Drygas et al. reported that only 22% of 88 sports stadiums across 10 European countries implemented initiatives to encourage responsible alcohol use and Lenk et al. found that only 27% of 66 professional sports stadiums in the USA implemented ‘11 or more’ of 12 alcohol control policies/practices. The findings are also limited in their generalisability beyond the countries in which they were conducted, where the sporting venues, populations and cultures may differ. For instance, despite emerging data from countries including Brazil and Japan regarding elevated levels of alcohol-related harm amongst sporting populations, the potential to generalise the findings of studies from Ireland and Australia to such countries is unknown.

Compared to previous systematic reviews of interventions to reduce alcohol-related harm in the sports setting, this review included three controlled trials that had not been reported in previous reviews, primarily due to the date range of the search and the inclusion of grey literature. The review conducted by Kolar et al (2015) included five cross-sectional studies on the same intervention, which was also the same intervention trialled by Kingsland et al (2015) in the study included in this review. As reported by Kolar et al (2015), these five studies reported significant intervention effects in alcohol consumption, drink-driving and club revenue and, as such, further support the findings of Kingsland et al (2015).
A number of potential methodological limitations of the review need to be noted. First, a design filter was used to manage the search, as is suggested for complex reviews of public health and health promotion interventions. As such, the review needs to be considered in this context as, while it is considered unlikely, the inclusion of a design filter may have resulted in potentially eligible studies being missed. Second, some studies may have been missed through limitations of the databases searched and non-publication of studies with negative results.

Given the paucity of controlled trials of interventions in the sports setting that aim to reduce risky alcohol consumption and alcohol related harm, and the variable quality and findings of those that have been conducted, further high quality trials are required in order to determine if such interventions are broadly effective and should be further adopted by policy makers and sports administrators.

**CONCLUSIONS**

A limited number of studies have been conducted to assess the effect of interventions implemented in sport settings on alcohol consumption and related harms. While two of the three studies found significant intervention effects, it is difficult to determine the extent to which such effects are generalisable. Further controlled trials are required in this setting that adhere to high standards of trial methodology, particularly in professional sports settings where there is currently an absence of such research trials.

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Authors MK, LW and JW authored one of the studies included in this review. They were not involved in the bias assessment stage of the review. The authors have not received any benefit, in cash or in kind, any hospitality or any subsidy from the alcohol industry or any other source perceived to have an interest in the outcome of this review.

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CHAPTER 9

Thesis findings and implications for future research and practice
The aims of this thesis were: to identify the characteristics and practices of community football clubs that are associated with risky alcohol consumption; to assess attitudes of football club management regarding alcohol use at sports clubs and alcohol harm reduction strategies; to develop and evaluate the effectiveness of interventions to improve the implementation of alcohol management practices at community sports clubs and to reduce risky alcohol consumption and alcohol-related harm among community sports club members; and to systematically review and synthesise current evidence of the effectiveness of interventions to reduce risky drinking and alcohol-related harm in sports settings generally.

This chapter provides a summary of the findings of studies that addressed these aims and discusses the implications of such findings for further research and practice.

**THESIS FINDINGS**

**Alcohol-related harm, prevalence of risky alcohol consumption and harm reduction interventions within the general community and sports contexts**

Chapter 1 outlined the extensive harms caused by alcohol misuse to both the user and to others, and the burden associated with such misuse. A higher prevalence of risky alcohol consumption amongst sports people and spectators/fans compared to the general population was identified as warranting further policy and practice response. Given an absence of evidence for interventions to reduce risky alcohol consumption and alcohol-related harm in the sports setting, potential strategies for reducing such harm were identified from trials in other settings licensed to sell alcohol (e.g. bars, pubs). In addition, the practices of sports clubs shown through cross-sectional studies to be associated with higher levels of risky drinking or alcohol-related harm were outlined. Such studies were limited in number, with only one study identified that examined such practices in the Australian community sports club setting. Practices identified as being associated with increased alcohol misuse and/or harm in the sports setting were: prohibiting price discounts and promotions of alcoholic drinks; and restricting/ceasing alcohol-related sponsorship. Given the absence of evidence relating to the effectiveness of interventions in the sports setting in reducing risky alcohol consumption and related harms, the chapter
highlighted the need for further research to identify effective interventions for reducing risky alcohol consumption and associated harm in this setting.

**Alcohol consumption and sport: a cross-sectional study of alcohol management practices associated with at-risk alcohol consumption at community football clubs**

Given the limitations of past studies in the sports setting, a study was undertaken (Chapter 2) to identify modifiable club practices that are associated with risky alcohol consumption in non-elite, community sports clubs. The cross-sectional study examined the association between the alcohol management practices and characteristics of 72 community football clubs and risky levels of alcohol consumption by 1428 club members (players, spectators and officials). The study found that members of clubs that served alcohol to intoxicated people (OR: 2.23, 95%CI 1.26-3.93; p=0.0074), conducted 'happy hour' promotions (OR: 2.84, 95%CI 1.84-4.38; p<0.0001) or provided alcohol-only awards and prizes (OR: 1.80, 95%CI 1.16-2.80; p=0.0084) were at significantly greater odds of consuming alcohol at risky levels within the club setting than members of clubs that did not. A non-significant positive association between alcohol sponsorship and at-risk alcohol consumption was also found. The finding that some practices were associated with elevated levels of risky alcohol consumption was consistent with previous studies conducted in the sports setting and licensed premises setting generally. These results provided additional evidence for the development of interventions to reduce risky alcohol consumption in the sports club setting.

**Addressing alcohol use in community sports clubs: attitudes of club representatives**

A further cross-sectional study (Chapter 3) was undertaken to assess the attitudes and beliefs of sports club management/administrators to alcohol use at their club, and the acceptability of implementing alcohol management practices to address risky alcohol use in sports clubs. Sports clubs management representatives from 101 community sporting clubs participated in the study. Over half of club representatives indicated that players often consumed too much alcohol (55%) and 99% agreed that it was important that clubs ensure alcohol is served responsibly, and that doing so was a responsibility of the club. Ninety-five per cent of clubs reported that they would find it difficult to survive without revenue from alcohol sponsorship and 75% of club representatives believed that their
club could benefit from assistance to encourage responsible alcohol consumption by members. This finding is consistent with the majority of community sports clubs in Australia being small, volunteer run organisations, with limited resources (staff, money, time) for the modification and implementation of alcohol management practices. The findings suggest that interventions in this setting should be designed with consideration of these barriers.

**A cluster randomised controlled trial of a comprehensive accreditation intervention to reduce alcohol consumption at community sports clubs: study protocol**

The fourth thesis chapter outlined the study methods of a trial of a responsible alcohol management intervention in community football clubs. The cluster randomised controlled trial involved clubs being randomly allocated to either a control group or an intervention group. Intervention group clubs received a two and a half year intervention that aimed to reduce risky drinking by football club members. The intervention was based on an existing program (*Good Sports*), which sought to improve the alcohol management practices of community sports clubs in the following ways: differential pricing and availability of alcoholic drinks based on alcohol content; enforcement of liquor licensing and responsible alcohol management policies and practices; prohibiting sale of alcohol to persons under a minimum legal purchase age; prohibiting price discounts and promotions of alcoholic drinks, such as happy hour promotions; and prohibiting drinking games or competitions. The intervention utilised a three-tiered accreditation framework and a suite of organisational change strategies to support club implementation of the alcohol management practices. The support strategies were: project officer support; funding; accreditation rewards; staff training; and observational audit feedback of club implementation of alcohol management practices - strategies that were designed to address the barriers identified in Chapter 3. Outcome data were collected by cross-sectional telephone surveys of club members and club representatives. The primary outcome measure - risky alcohol consumption by club members at the club, was assessed by member report of alcohol consumption using a graduated frequency index. The impact of the intervention on club alcohol management practices as reported by club representatives after 2 years of intervention was reported in Chapter 5. The impact of the intervention on risky alcohol consumption by club members was reported in Chapter 6.
Improving the implementation of responsible alcohol management practices by community sporting clubs: a randomised controlled trial

Chapter 5 reported the conduct and findings of the trial described in Chapter 4 with regards to the impact of the intervention on club implementation of responsible alcohol management practices. Eighty-seven community football clubs participated in the trial. After 2 years of intervention, 88% of intervention clubs reported implementation of ‘13 or more’ of 16 responsible alcohol management practices, significantly greater than the proportion of control group clubs (65%) (OR: 3.7, 95% CI: 1.1-13.2; p=0.04). Practices within the Policies and Organisational Practice domain were most poorly implemented, with only 26% of intervention group clubs reporting all of these practices to be implemented post-intervention. Future versions of the intervention may therefore need to include additional policy training and support resources, such as templates and models.

A 13% absolute difference in the proportion of intervention group clubs that implemented ‘13 or more’ of 16 alcohol management practices compared to control group clubs, represents significant potential practical benefit when these findings are extrapolated to the population of sports clubs throughout Australia. Given the predicted 35,000 sports clubs across Australia (unpublished data), these results translate to improved practices amongst 4,550 sports clubs, with potentially over 1.1 million members (based on a conservative average estimate of 250 members per club) (unpublished data).

Given these positive intervention effects on club implementation of alcohol management practices, further research is required to assess the long-term sustainability of such improvements. Prior to the trial, 75% of clubs believed that their club would benefit from assistance to encourage responsible alcohol consumption by members (Chapter 3), however, it is unknown to what extent and what types of assistance are required to sustain such practices over time.

Tackling risky alcohol consumption in sport: a cluster randomised controlled trial of an alcohol management intervention with community football clubs

Chapter 6 reported the conduct and findings of the cluster randomised controlled trial with regards to the impact of an intervention (Good Sports) on risky alcohol consumption and risk of alcohol-related harm amongst community football club members. Cross-
sectional samples of club members completed pre- (N=1411) and post-intervention (N=1143) surveys reporting on their consumption of alcohol at the club, and their overall level of risk of alcohol-related harm via the Alcohol Use Disorders Identification Test. Post-intervention, a significantly lower proportion of intervention club members reported: risky alcohol consumption at the club (Intervention: 19%; Control: 24%; OR: 0.63, 95% CI 0.40-1.00; p=0.05); risk of alcohol-related harm (Intervention: 38%; Control: 45%; OR: 0.58, 95% CI 0.38-0.87; p<0.01); alcohol consumption risk (Intervention: 47%; Control: 55%; OR: 0.60, 95% CI 0.41-0.87; p<0.01) and possible alcohol dependence (Intervention: 1%; Control: 4%; OR: 0.20, 95% CI 0.06-0.65; p<0.01) compared to members of control group clubs.

In addition, unpublished data on the cost benefit of the Good Sports program has indicated that for every one dollar ($AU) spent on program implementation, three dollars ($AU) in benefit is gained through savings due to reductions in alcohol-related harm. Such data demonstrate the practical and clinical significance of the findings.

The generalisability of these findings to other sports codes and sports clubs in other geographic areas needs to be further tested, as does the impact of the intervention on risky drinking and alcohol-related harm amongst people who attend sports clubs who are not classified as club members, such as supporters of the away or opposition team.

The findings suggest that a multi-component alcohol management intervention can reduce risky drinking by community football club members within the club setting as well as their overall risk of alcohol-related harm. However, despite this effect, there is need to identify strategies to further enhance the intervention effect given that 19% of members of intervention clubs still reported risky drinking at their club post-intervention. Such findings suggest a need for identifying ways of further strengthening the impact of the intervention, such as through the addition of further strategies. Future research could also utilise police crime data linking police attending incidents to specific sports clubs in order to further broaden the measures of alcohol-related harm examined.
Interventions in sports settings to reduce risky alcohol consumption and alcohol-related harm: a systematic review (including protocol)

Given the positive effect of the community sports club trial outlined in Chapter 6, a need existed for the findings to be synthesized with evidence from other studies in the sports settings to determine the generalisability of the observed findings. As such, Chapter 7 described the methods and Chapter 8 the results of a systematic review of evidence regarding the effectiveness of interventions in decreasing alcohol consumption and related harms. Studies were included that had implemented interventions within a sport setting and either measured alcohol consumption, risky alcohol consumption or intoxication or alcohol-related injury or violence as outcome measures. Randomised controlled trials and other experimental controlled trials (e.g. staggered enrolment trials and quasi-randomised trials) were included. Data were sourced from both electronic databases and grey literature, and both published and unpublished reports were included. Using the procedures and tools outlined in the Cochrane Handbook for Systematic Reviews, two authors independently extracted data from studies that were deemed eligible for inclusion in the review and assessed their risk of bias.

Three studies were included in the review. One of the included studies was a randomised controlled trial of a cognitive-behavioural intervention with athletes within an Olympic training facility in the United States. The study reported a significant change in alcohol use between pre-test and follow-up between intervention and control groups. The other two studies were cluster randomised controlled trials conducted in community sports clubs in Ireland and Australia. The Australian study was reported in Chapter 6 of this thesis. The Irish study found no significant intervention effect for any of the outcomes assessed. The interventions of the two cluster trials differed in a number of ways, which may have accounted for the different results. For example, the intervention in Australian trial was implemented over 2.5 years whereas the Irish trial was implemented for four months. A longer implementation period potentially afforded the Australian trial both more time for the intervention to change alcohol-related harm outcomes, as well as a greater dose of intervention, both of which have been found to be associated with intervention impact. Due to the heterogeneity of included studies, no quantitative data synthesis was undertaken.
With only three studies identified, the review highlighted the limited availability of rigorous experimental evidence regarding interventions to reduce alcohol consumption and alcohol-related harms in the sports setting. While a number of ineligible non-controlled, non-randomised trials and epidemiological studies have shown promising findings in terms of alcohol-related harm reduction, replication of the trials included in this review is required, particularly in other jurisdictions, sports codes, and levels of professionalism.

**IMPLICATIONS FOR FUTURE RESEARCH AND PRACTICE**

The preceding chapters of this thesis demonstrated that initiatives to modify the alcohol management practices of community sports clubs are needed, are acceptable to sporting club administrators and can be effective in improving alcohol management practices and in reducing member risky alcohol consumption and harm. However, the systematic review presented in Chapter 8 found that the effects of interventions conducted in this setting are equivocal. Based on the findings of the studies undertaken for this thesis, the following sections will explore two key issues for further advancing policy and research in this area: 1) potential enhancement of intervention effectiveness; and, 2) sustaining effective in alcohol management practices of sports clubs.

**Potential enhancement of intervention effectiveness**

While there were significant reductions in risky drinking among members of intervention group clubs in the trial reported in Chapter 6, 19% of intervention club members still reported consumption of alcohol at risky levels after club completion of the 2.5-year intervention. Such findings suggest a need to identify ways of strengthening the impact of the intervention such that a lower proportion of community sports club members consume alcohol at risky levels. One potential opportunity to enhance intervention effectiveness could be through the use of additional intervention strategies.

As described in Chapter 1, the key evidence-based strategies for reducing alcohol-related harm in the licensed premises context more broadly and, in the sporting context specifically, are: differential pricing and availability of alcoholic drinks based on alcohol content;\(^6,7\) enforcement of liquor licensing and responsible alcohol management policies and practices;\(^6-8\) prohibiting sale of alcohol to persons under a minimum legal purchase
age;\textsuperscript{6,9} prohibiting price discounts and promotions of alcoholic drinks, such as happy hour promotions;\textsuperscript{6,8,10} prohibiting drinking games or competitions;\textsuperscript{11,12} and restricting/ceasing alcohol-related sponsorship.\textsuperscript{13-15} The intervention implemented in the trial reported in Chapters 4, 5 and 6 addressed all such strategies apart from restricting/ceasing alcohol-related sponsorship. While the intervention required that intervention clubs seek additional non-alcohol industry sponsorship, it did not prohibit alcohol industry sponsorship of clubs. The potential additional benefit of strengthening the intervention by more actively discouraging or prohibiting club acceptance of alcohol industry sponsorship is outlined in the following four sections, which describe: 1) evidence of the association between alcohol sponsorship of sport and alcohol-related harms; 2) the extent of alcohol industry sponsorship of sport; 3) support for addressing alcohol sponsorship of sport; and 4) removing alcohol industry sponsorship of sport through sponsorship substitution.

**Association between alcohol industry sponsorship and alcohol-related harms**

The alcohol industry depends heavily on marketing, with alcohol companies being among the world’s leading advertisers.\textsuperscript{16} Such marketing involves a diversity of strategies including advertising (print, television, radio and electronic media), product design, point-of-sale promotions, price promotion, and sponsorship of sport and cultural events.\textsuperscript{6,17-19} As Jernigan (2010) describes, the aim of such marketing is to embed the product in “...the lives and lifestyles of the target consumers, positioning them as an integral part of cultural and sporting events, as well as cultures, lifestyles, and even value systems”.\textsuperscript{16}

Marketing of alcohol has been linked to increased drinking and initiation of alcohol use.\textsuperscript{20,21} For instance, a systematic review of 13 longitudinal studies (total N=38,000) that assessed the impact of alcohol advertising on adolescent alcohol use found that exposure to media and commercial communications regarding alcohol was associated with increased likelihood that adolescents initiated the consumption of alcohol and increased drinking amongst those who were already consuming alcohol.\textsuperscript{20} A further systematic review of seven cohort studies (13,000 young people aged 10 to 26 years) similarly found that baseline non-drinkers with greater exposure to alcohol advertisements were significantly more likely to have become a drinker at follow-up.\textsuperscript{21} In studies that included drinkers and non-drinkers, increased exposure to advertisements led to significant increased risk of drinking.\textsuperscript{21}
Studies in sports settings in Australia, New Zealand and the United Kingdom have similarly reported associations between alcohol sponsorship and risky levels of alcohol consumption and/or measures of alcohol-related harm specifically amongst sportspeople. Such alcohol industry sponsorship includes payments for sports naming and badging/logo rights as well as requirements for players to attending sponsors establishments (e.g. hotels and bars) after games and training sessions. Dietze and colleagues (2008) found that professional Australian Rules Football players who reported receiving a drink card were significantly more likely (OR 1.68; 95% CI: 1.11, 2.55) to report risky drinking (≥7 drinks on one occasion) than those who did not. Similarly, studies by O’Brien of Australian university sportspeople found that receiving sponsorship from the alcohol industry was predictive of higher AUDIT scores (βadj=1.67, 95%CI 0.56, 2.78) and that university sportspeople receiving alcohol industry sponsorship were more likely to report having been the victim of aggression (OR 2.62, 95% CI 1.22, 5.64) than participants who did not receive sponsorship. Such findings are consistent with those of studies conducted in non-Australian settings. For instance, O’Brien and Kypri (2008) found that New Zealand sportspeople receiving alcohol industry sponsorship at the individual, team and club level had AUDIT scores that were over 2.4 points higher on average than sportspeople those who received no sponsorship. Receiving free and/or discounted alcohol and feeling that they should go to the sponsor’s pub/club to drink were also significantly associated with higher AUDIT scores.

While the mechanisms through which sponsorship of sport is associated with risky alcohol consumption and alcohol-related harms amongst sportspeople have not yet been specifically empirically investigated, it is possible that such sponsorship acts directly on the individual as well as via the club environment. For instance, at the individual level, sponsorship may act to modify alcohol consumption behaviour through changing attitudes and perceived norms regarding alcohol consumption amongst sporting club participants. On the other hand, it is possible that sponsorship negatively impacts on the effective implementation of responsible alcohol management practices by the sports clubs, which in turn impacts on risky drinking and alcohol-related harms among club members. It is also likely that members of sports clubs sponsored by a licensed premises are encouraged to consume alcohol at that premises through alcohol promotions, which in turn has been shown to be associated with elevated risk of alcohol-related harm. Such hypothesised mechanisms are based on both the direct effect of sponsorship on exposed
individuals, as well as the indirect effect on social norms in decreasing the acceptability of policies and practices aimed at reducing harm from excessive consumption.\textsuperscript{26}

**Extent of alcohol industry sponsorship of sport**

Research evidence, both internationally and in Australia, has reported the extent of alcohol industry sponsorship of sport, from the community to the elite level.\textsuperscript{14,15,23} For instance, it has been estimated that alcohol companies sponsor sport in Australia to the value of $50 million each year\textsuperscript{27} and that in the United States the 12 leading alcohol companies spend approximately $510 million on sports and other public event sponsorships annually.\textsuperscript{28} Further, a study in the United States of sponsorship of organizations and events by 75 leading alcohol brands from 2010 to 2013 found that 28% of 945 identified sponsorships involved sponsorship of sport, making sports the leading beneficiary of alcohol industry sponsorship.\textsuperscript{29} Alcohol sponsorship of sport has been reported to vary from formal contractual arrangements\textsuperscript{30} to informal ties between clubs and/or players and the alcohol industry, such as the provision of free licensed venue entry and free drinks after games.\textsuperscript{23}

In Australia, Dietze and colleagues (2008) found that 18% of professional-level Australian Football League players received formal sponsorship from the alcohol industry, 50% received free venue entry, 53% drink cards, 27% free drinks and 13% discounted alcohol.\textsuperscript{23} In another Australian study, O’Brien and colleagues (2011) found that 29% of university sportspeople (club and elite level) received some form of sponsorship from the alcohol industry.\textsuperscript{13} Such findings are consistent with emerging evidence from other countries, including New Zealand\textsuperscript{15} and the United Kingdom.\textsuperscript{22} For instance, in a survey of 1,279 New Zealand sportspeople, O’Brien and Kypri (2008) found that 48% of respondents received some form of alcohol industry sponsorship,\textsuperscript{15} and a survey of 2,048 university sportspeople in the United Kingdom found that 36% received some form of alcohol industry sponsorship.\textsuperscript{22}

In an additional study conducted in association with this thesis\textsuperscript{31} [see Appendix I for copy of paper], 88% of 101 community football clubs in Australia reported having received some form of sponsorship from the alcohol industry, with 82% of such clubs being sponsored by a licensed premises, such as a hotel or club. A large proportion (78%) of the clubs reported receiving money as part of their sponsorship and 20% reported receiving
free or discounted alcohol. Smaller clubs (28%) were significantly more likely to receive sponsorship in the form of free or discounted alcohol than larger clubs (13%) \( (p=0.05) \).

**Support for addressing alcohol sponsorship of sport**

In response to findings that link alcohol industry sponsorship of sport to alcohol-related harms, governments and policy interest groups have called for reductions or bans on such sponsorship, including the World Health Organisation (2010) calling for increased regulation on alcohol sponsorship of sport. In Ireland, the Department of Health has recommended a ban on alcohol sponsorship of big sporting events be in place by 2020 and, in Australia, in 2009, the Government’s National Preventative Health Taskforce recommended curbing alcohol industry sponsorship of cultural and sporting events.

Such calls for action have been mirrored by high levels of community support for the removal of alcohol sponsorship of sport. For instance, a study involving a random survey of 1,500 adults in the state of Victoria, Australia, found 55.1% (52.4–57.8 95% CI) of respondents were opposed to community sports clubs receiving alcohol sponsorship. The survey also found that 82.9% (80.7–84.9 95% CI) of respondents supported the removal of alcohol sponsorship in such sports clubs if revenue from lost sponsorship could be replaced. Support for banning alcohol sponsorship of sporting events in Australia has increased over recent years, with 54% of respondents to the 2013 National Drug Strategy Household Survey (23,855 people aged 12 or older) reporting such support, compared to 46% and 48% of respondents in 2004 and 2010 respectively.

Despite the existence of recommendations and widespread community support for restrictions on alcohol sponsorship of sport, findings from the study reported in Chapter 3 of this thesis indicated that a large majority (95%) of representatives from community football clubs believed it would be difficult for their club to survive without revenue from such sponsorship. The potential success of strategies to reduce or cease alcohol industry sponsorship of sport may therefore be dependent on such concerns being addressed.

**Removing alcohol industry sponsorship of sport through sponsorship substitution**

Mindful of concerns regarding club viability if alcohol industry sponsorship was removed, a number of national and state based sponsorship substitution schemes have been implemented in Australia, modelled on successful initiatives to remove tobacco industry...
sponsoring sport. Such schemes have aimed to either cease or reduce the involvement of alcohol industry sponsors in community sports clubs. For instance, in 2010, the Australian Government established a $25 million Community Sponsorship Fund to replace alcohol industry sponsorship of community sports clubs across a variety of sports codes, implemented in partnership with 16 national sporting organisations. The impact of the scheme on replacing alcohol industry sponsorship and reducing alcohol-related harm has not been evaluated. A similar sponsorship replacement scheme is currently operating in the state of Western Australia. The scheme places restrictions on the type of alcohol industry sponsorship that clubs sponsored through the scheme can hold, such as prohibiting the promotion of alcohol products through logos, branded merchandise, product tastings, competitions and advertising. However, similar to the national initiative, no data are available regarding the effectiveness of the scheme in reducing risky alcohol consumption or alcohol-related harms.

Given the emerging cross-sectional evidence linking alcohol industry sponsorship with alcohol-related harm, the high prevalence of alcohol industry sponsorship of sports, global, national and community level support for the removal of such sponsorship, and an absence of evidence of the impact of such a strategy on risky alcohol consumption and harms, there is a need for well-designed trials to assess the incremental benefit of including such a strategy as part of the existing Good Sports multi-component alcohol management intervention. A comparative effectiveness cluster randomised trial that involves both a sponsorship substitution scheme intervention and the multi-component Good Sports intervention reported in this thesis (Chapter 6) would provide such an assessment.

**Sustaining effective alcohol management practices of sports clubs**

As reported in Chapters 5 and 6, the Good Sports intervention was successful in increasing the implementation of alcohol management practices by sports clubs and in reducing risky drinking and alcohol-related harm amongst sports club members. However, despite the success of the intervention, without ongoing implementation support, such improvements in alcohol management may attenuate over time. If the benefits of the intervention to the community are to be maintained, strategies to maximise the sustainability of program implementation at a population level are required. To address this need, the following sections: i) elaborate on the need to identify strategies that sustain implementation of
effective health promotion practices, in general and in sports clubs specifically; ii) describe theories, models and empirical evidence for sustaining effective health promotion practices; and iii) describe the potential use of web-based programs to support the population-wide sustainability of effective alcohol management practices in sports clubs.

The need to identify strategies that sustain implementation of effective health promotion practices

It is uncommon for the effect of health promotion interventions that aim to change organisational or service practices to be sustained past the initial implementation stage.\textsuperscript{41,42} For instance, a systematic review of 17 studies of primarily community-based health-related programs in the United States and Canada found that only approximately 29% (n=5) achieved sustainability of implementation of at least one organisational practice component post-intervention in at least 80% of intervention sites.\textsuperscript{41} A more recent systematic review of studies of medical, public health, behavioural and educational initiatives reported similar findings.\textsuperscript{42} Of 56 studies included in the review that reported on program implementation, 64% (n=36) reported a decrease in implementation of one or more intervention or program components post the initial implementation period, or after funding had ended (6% <12 months; 16% 12 months; 12% 12-24 months; and 64% 2+ years post initial implementation).\textsuperscript{42} No studies included in either of these reviews were conducted in sports clubs or analogous settings (e.g. licensed premises).

Unpublished data of a sample of 35 community football clubs collected in association with this thesis suggests that sustainability of community sports club implementation of responsible alcohol management practices may similarly be an issue in this setting. The unpublished data indicate that 16-27% of the 35 clubs were unable to maintain the implementation of key alcohol management practices over a two-year period. For example, over this period, the proportion of clubs with all bar staff trained in responsible service of alcohol fell from 100% to 84%, the proportion where bar staff refrained from consuming alcohol on duty fell from 100% to 83%, and the proportion with an incident register dropped from 100% to 73%. Consistent with the conclusions of the abovementioned systematic reviews, such findings suggest that support strategies may be required to assist sports clubs to sustain the implementation of alcohol management practices beyond the initial implementation phase.
Theories, models and empirical evidence for sustaining effective health promotion practices

A number of models and frameworks have been developed to guide the development of strategies to sustain organisational practice/program sustainability. These models and frameworks address factors concerned with innovation/intervention design and development, and factors related to ongoing implementation support. Given that the main trial reported in this thesis (Chapter 6) demonstrated the effectiveness of the intervention, the following sections focus on those factors concerned with ongoing sustainability of intervention implementation. One model of intervention sustainability is Shediac-Rizkallah and Bone’s (1998) Conceptual framework for sustainability. The framework identifies two types of factors suggested to be associated with practice/program sustainability: i) organizational setting factors (e.g. institutional strength; integration with existing services; champions/leaders); and ii) community environment factors (e.g. political considerations; community participation). More recently, Schell and colleagues (2011) have proposed a further conceptual framework for public health program sustainability, subsequently operationalised as a sustainability assessment tool by Luke and colleagues (2014). Based on a review of 85 studies of program sustainability in public health, the framework consists of nine domains that are suggested to affect a program’s capacity for sustainability. Of these, the following are identified as being particularly relevant to ongoing implementation support of an effective intervention: political support, funding stability, partnerships, organizational capacity, program adaptation and communications.

Empirical evidence supports the importance of such strategies in improving practice/program sustainability. For example, a systematic review by Scheirer (2005) reported the following factors to be related to sustainability of community-based health-related programs (n=17): low-cost ways of delivering services (such as with volunteers and low compliance cost of service delivery)(n=5); program champions (n=13); fit of the program with existing organisational mission (n=12); support from external organisations (n=12); and funding from multiple sources (n=9). Similarly, a later review by Wiltsey and colleagues (2012) reported the following potential influences on program sustainability: organisational context (notably leadership and setting structures and policies); internal and external capacity (notably funding, workforce, stakeholder support and champions); and processes (notably compliance with, and integration of, procedures, policies and partnership).
Broadly summarised, the abovementioned theories and empirical evidence suggest that the following are important elements of program sustainability that should be considered in maintaining the positive effects of the alcohol management program (Good Sports) reported in this thesis, particularly when considering the low revenue/volunteer based organisational model of community sports clubs in Australia: 1) organisational setting/considerations (including: champions; organisational strength; leadership); 2) community/external considerations (including: political context; community involvement; partnerships); 3) low direct and indirect (compliance) cost of initial and sustained program implementation. Such theory and evidence suggest that, for example, club management needs to be supportive of the program; the program needs to be championed by a respected member of the club; the relationship of the club to the broader sporting community (e.g. sporting organisations/leagues) needs to be considered and used to support ongoing program implementation; and ongoing implementation costs to sports clubs need to be low. A randomised controlled trial with sports clubs randomised to either receive a “sustainability” intervention based on these factors or no intervention would enable assessment of the effectiveness of such strategies in supporting clubs to maintain the implementation of responsible alcohol management practices.

**Use of web-based programs to support the population-wide sustainability of effective alcohol management practices in sports clubs**

Currently, the providers of the Good Sports program (Australian Drug Foundation) have approximately 7,000 clubs engaged in the program throughout Australia, over 2,600 of which are at the highest level of program accreditation (Level 3) (unpublished correspondence: Australian Drug Foundation, December 2015). Clubs in this phase of the program are supported through a maintenance strategy that involves an annual visit by a project officer in which the club’s adherence to program accreditation criteria is assessed.46 As it is predicted that the number of Level 3 clubs will increase by 20-30% each year over the next 5 years (unpublished correspondence: Australian Drug Foundation, December 2015), there is a need for an effective and efficient mechanism for both the program and clubs themselves to sustain program implementation.

A self-completed web-based maintenance program for Level 3 clubs may represent a feasible and cost-efficient means of ensuring sustainability of program implementation. Known advantages of web-based solutions include: a reduction in administrative
overheads required for program delivery and therefore lowering of cost, tailoring of program content, and facilitation of alternate modes of communication between program stakeholders, such as live messaging and interaction with social media. Web-based and other computerized programs have been successfully used in improving individual-level health behaviours, promoting clinician delivery of best-practice care, and for providing ongoing education of healthcare worker.

In addition to being relatively low cost to the program administrators and the sports clubs, a web-based solution would also allow for the incorporation of the other key elements of sustainable program implementation listed above. For instance, an electronic web-based platform would integrate with the current administration and communication systems of clubs, would allow for a club champion to be widely promoted as a driver of the program, and enable efficient and effective program communication internally to club management and club members as well as externally to club partners.

Unpublished data collected from two surveys in association with this thesis suggest that such a web-based program is acceptable to sports clubs. The first survey, which was of 92 management representatives of community sports clubs that were accredited at the highest level of the Good Sports program found that over 85% would use a web-based maintenance program, and that 65% thought that a web-based method of sustainability support would improve their ability to sustain required program practices. The second survey, which was of 34 representatives of Level 3 accredited football clubs, found that 91% were interested in receiving ongoing support to sustain alcohol management practices, and web-based support was nominated as the second most popular support modality behind face-to-face support. In addition, web and electronic modalities were rated as the most desirable means of communication to receive information, compared to printed posters and pamphlets, seminars, conferences, and meetings.

The effectiveness of the application of a web-based solution in supporting the sustainability of health promotion practices within community organisations, in particular sports clubs, has not been reported. Given the demonstrated feasibility and acceptability of web-based programs and the ability of such programs to be delivered efficiently and at relatively low cost to large numbers of clubs, a trial testing the ability of such a program to support program sustainability is warranted. A three-armed randomised controlled trial comparing ‘web-based sustainability support’ to ‘no support’ and ‘face-to-face support’
would be ideal. The interventions for such a trial (that is, the web-based support program and the face-to-face support) should be based on a recognised model of sustainability (see above section) and include the key elements contained in such models and highlighted in the empirical evidence base. The independent and dependent variables included in the trial analysis should be based on suggestions offered by Scheirer and Dearing (2011)\textsuperscript{53} and validated observational methods should be used for data collection.\textsuperscript{41,42,53} Such a study should examine the acceptability of ongoing practice implementation to club administrators and club members and integrate feedback from these key stakeholders into intervention design.

**CONCLUSIONS**

The findings of this thesis support the findings of earlier non-controlled studies and provide the first randomised controlled trial evidence showing that extended interventions with community sports clubs can improve alcohol management practices and reduce risky alcohol consumption and alcohol-related harm among club members. Such interventions were also found to be acceptable to sports club administrators. However, as found in the systematic review, the generalisability of these findings to other countries, other sports and other levels of professionalism is unknown. The potential for greater intervention effects through addressing alcohol industry sponsorship of sport needs to be further investigated, as do mechanisms for supporting sports clubs to sustain the implementation of alcohol management practices over time.

**REFERENCES**


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APPENDIX 1

Alcohol sponsorship of community football clubs: the current situation


Introduction
The viability of community sports clubs are dependent, in part, on support through sponsorship. While a variety of individuals, local businesses and organisations provide sponsorship, a common source of sponsorship for clubs is from entities involved in the sale or supply of alcohol. Like alcohol advertising, alcohol industry sponsorship of sports clubs through cash contributions, naming rights or advertising space at venues or on player uniforms has been consistently found to be associated with increased alcohol consumption and related harms. This association is evident for both individual player and club level sponsorship, as well as sponsorship among amateur and elite athletes. As such, the Australian Government has recently announced an initiative to reduce community sports club dependency on alcohol sponsorship.

While there is accumulating evidence demonstrating a positive association between alcohol industry sponsorship and alcohol-related harm, little is known about the extent of alcohol industry sponsorship of community sport clubs in Australia. Given a high prevalence of excessive alcohol consumption among contact team sports participants and among young male sports people, and the access such settings provide to large numbers of adults (approximately 4.5 million adult Australians each year), community sporting clubs are recognised as a promising setting for the implementation of health promotion initiatives to reduce excessive alcohol consumption. Identifying the characteristics of clubs associated with alcohol sponsorship will assist health promotion practitioners to develop targeted interventions to reduce club reliance on such sponsorship and its influence on the alcohol consumption of club members. The aim of this study was to explore the association between community football club characteristics (based on football code, size, location and socioeconomic descriptors) and (i) alcohol industry sponsorship, and (ii) type of alcohol sponsorship (money or free or discounted alcohol).

Methods
Design and setting:
A cross-sectional survey of community football clubs was conducted in the state of New South Wales, Australia, as a component of an intervention study in this setting. The study area comprised the Hunter, New England and Sydney Metropolitan regions.

Abstract
Issue addressed: There is accumulating evidence supporting a link between alcohol industry sponsorship and alcohol-related problems in both community and elite-level sports. Little is known, however, about the current status of such sponsorship, particularly of community sport. This study aimed to assess associations between alcohol industry sponsorship and different community football clubs in Australia.

Methods: The study involved 101 community football clubs across New South Wales, Australia. One representative from each club took part in a cross-sectional telephone survey designed to assess club (football code, number of players, socioeconomic and geographic descriptors) and alcohol industry sponsorship (money, equipment, free alcohol or discounted alcohol) characteristics. Chi-square analysis was used to test associations between club characteristics, and (i) any alcohol industry sponsorship, and (ii) type of sponsorship.

Results: Eighty-eight per cent of clubs reported receiving sponsorship from the alcohol industry, and most clubs (82%) were sponsored by a licensed premises. There were no significant associations between club characteristics and source of alcohol industry sponsorship. However, small clubs were found to be significantly more likely to receive free or discounted alcohol sponsorship than larger clubs (p=0.05).

Conclusions: This exploratory study suggests a significant presence of alcohol industry sponsorship among community football clubs in Australia.

Key words: sport, sports club, sponsorship, healthy environments, alcohol consumption

Health Promotion Journal of Australia 2012; 23: 70-2

So what?
Forgoing alcohol industry sponsorship is likely to present a considerable challenge to community sports clubs given the existing level of support. Health promotion practitioners and policy makers need to ensure that any interventions to reduce such sponsorship consider issues of club viability.

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Health Promotion Journal of Australia 2012; 23(1)
Sample and procedures
Community non-elite football clubs from the four main football codes in Australia (Rugby League, Rugby Union, Soccer or Australian rules football) were identified from a database compiled from sports associations, local government websites and web searches. Football codes were selected, given the particular high prevalence of excessive alcohol consumption among participants and members of such clubs.14,15 The study utilises baseline data collected from a larger randomised trial.16 Consistent with this trial, clubs were eligible for the study if they: had players 18 years of age or over; had more than 40 members; sold or supplied alcohol; did not hold a registered club or hotel liquor licence; and were not involved in an existing program to reduce alcohol-related harm. All clubs included in the database were contacted by mail and telephone to confirm eligibility and were subsequently invited to participate in the intervention study. Computer-assisted telephone surveys17 were conducted with the club president or a nominated representative by trained interviewers during the 2009 playing season (May – September).

Measures
Club characteristics:
The football code of each club was obtained from the relevant association website. During the survey, club respondents were asked to report the number of registered players and the postcode of the clubs' sports fixture.

Alcohol industry sponsorship:
Club respondents were asked if their club received sponsorship from the alcohol industry (yes/no) and, if yes, the specific source of such sponsorship (e.g. hotel/pub, brewer or liquor store), and type of sponsorship received (e.g. money, equipment, free alcohol or discounted alcohol). The value of cash sponsorship was also assessed. Hotels/pubs, registered clubs and nightclubs were defined as off-licensed premises.

Statistical analyses
SAS version 9.2 was used for all analyses. Based on postcode, the location of clubs was scored on the Accessibility/Remoteness Index of Australia scale (ARIA) and classified as 'major city' or 'regional', as well as on the Socio-Economic Indexes for Areas scale (SEIFA) and dichotomised as either high or low socioeconomic status based on the median score on the index for the state (NSW). Chi-square tests were generated to check for statistically significant associations between sponsorship practices and club characteristics.

Results
Sample
Three hundred and twenty-eight football clubs were contacted, 100 were considered ineligible (14 had too few members, 85 did not sell alcohol and one was a junior club), and 101 (44%) agreed to participate. One third of participating clubs were rugby league clubs (33%), approximately half had 150 or more players (55%), the majority of clubs were located in a major city (79%) and almost two-thirds were in areas of high socioeconomic status (61%). Conscientious clubs did not differ significantly from non-consenting clubs in terms of football code (p=0.08), geographic location (p=0.66) or socioeconomic area of club location (p=0.32).

Alcohol industry sponsorship
Eighty-four per cent of all clubs reported receiving sponsorship from the alcohol industry and most clubs (82%) were sponsored by an on-licensed premises. There were no significant differences in whether clubs received alcohol industry sponsorship between clubs of different sizes, ownership, location, socioeconomic area (p=0.067–0.26). Seventy-eight per cent of clubs indicated that at least part of the support they received from an alcohol industry sponsor was in a monetary form and 20% of clubs reported that they received free or discounted alcohol as part of a sponsorship deal. The median total value of alcohol industry sponsorship was $7,000. There was some variance in receiving free/discounted alcohol by sporting code, with only 8% of soccer clubs receiving this form of sponsorship compared to 43% of AFL clubs (Table 1). However, this result was not statistically significant. A significant association (p=0.05) between club size and receiving free/discounted alcohol was found, with small clubs (clubs with fewer than 150 players) significantly more likely to receive this form of sponsorship than larger clubs (Table 1).

| Table 1: Type of community football club sponsorship by club characteristics. |
|---------------------------------|----------------|----------------|----------------|
| Predictor variable             | Clubs receiving money as part of their sponsorship agreement (n=83) n (%) | Chi square p value | Clubs receiving free or discounted alcohol as part of their sponsorship agreement (n=20) n (%) | Chi square p value |
|--------------------------------|----------------|----------------|----------------|
| Football code                  |                |                |                |
| AFL                            | 14 (100%)      | 0.17           | 5 (60%)        | 0.07           |
| Rugby Union                    | 21 (79%)       |                | 7 (71%)        |                |
| Rugby League                   | 24 (73%)       |                | 2 (29%)        |                |
| Soccer                         | 18 (72%)       |                | 2 (29%)        |                |
| Number of players              |                |                |                |
| Less than 150                  | 34 (78%)       | 0.09           | 13 (68%)       | 0.05*          |
| 150 or more                    | 45 (78%)       |                | 7 (13%)        |                |
| Geographical location          |                |                |                |
| Regional                       | 18 (88%)       | 0.15           | 7 (33%)        | 0.12           |
| Major cities                   | 61 (76%)       |                | 13 (19%)       |                |
| Socio-economic status          |                |                |                |
| Lower                          | 32 (96%)       | 0.11           | 6 (19%)        | 0.045          |
| Higher                         | 45 (72%)       |                | 14 (22%)       |                |

*p<0.05
Discussion

This exploratory study suggests a significant presence of alcohol industry sponsorship in community sports clubs in Australia. The increased risk of alcohol-related harm when sport is sponsored by the alcohol industry, addressing such a presence represents a potential opportunity to reduce the prevalence of risky alcohol consumption in the community. Significant differences in the presence of sponsorship were not found across a number of club characteristics, providing little basis for prioritising health promotion efforts to reduce club reliance on alcohol industry support. Some football codes (AFL) and smaller clubs, however, appeared more likely to receive sponsorship in the form of free or discounted alcohol. As alcohol discounting, and pricing generally, is associated with the risk of alcohol-related harm, discouraging free or discounted alcohol as a form of sponsorship may represent one means of reducing alcohol-related harm, particularly among members of such clubs.

Forgoing alcohol sponsorship is likely to represent a considerable challenge for community sports clubs. A Commonwealth government initiative to provide community sports clubs and cultural organisations with alternatives to alcohol sponsorship may represent an effective strategy in the short term. Alcohol sponsorship, however, represents only one form of possible revenue for clubs. Evaluation of the Good Sports program, which aims to create family-friendly sports environments through responsible alcohol management policies and practices of sports clubs (including reducing alcohol sponsorship), suggest that such changes in clubs can increase the value of non-alcohol sponsorship and enhance club revenue through increasing spectators and gate takings. Health promotion practitioners could therefore consider providing similar support to clubs as a means of reducing excessive alcohol consumption and ensuring more long-term club viability.

A number of limitations of the study warrant mention. The study sample was relatively small, the eligibility criteria based on entry to a randomised intervention trial, and measures of alcohol sponsorship were based on the report of club representatives. Such limitations are likely to compromise the internal and external validity of the study findings. Further research addressing such limitations and extending the scope of the investigation across a broader range of sporting codes and clubs, including both junior and senior teams, is therefore warranted. Notwithstanding these limitations, the study provides useful information for health promotion policy makers and practitioners regarding alcohol sponsorship of Australian community sports clubs.

References


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APPENDICES
The impact of a hypothetical designated driver program on intended alcohol-related behavior: an RCT

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SUMMARY

This study was aimed to assess, using vignettes, the impact of a hypothetical ‘designated driver’ (DD) initiative on level of intended alcohol consumption. A secondary aim was to assess whether using any form of transport where someone else drove was associated with level of intended consumption. A total of 390 individual sports club members from 72 clubs in New South Wales, Australia, completed a telephone survey. Individuals were randomized into one of two groups: one receiving a hypothetical vignette where the sports club members drank in a setting that provided a DD program; and the other receiving a vignette where the setting in which sports club members drank did not have a DD program. Individuals in both groups were asked to estimate the amount of alcohol they would be likely to consume and the time over which they would consume alcohol, and to indicate the likely means of traveling home afterwards. No difference in the amount of alcohol intended to be consumed between those in the DD and the non-DD group was identified. However, secondary analysis identified that, after controlling for group allocation, greater alcohol consumption was reported by individuals who used transport that relied on someone else to drive them home. DD programs implemented in community sports clubs may not affect intended alcohol consumption by club members. However, using someone else to drive home was associated with greater alcohol consumption. To mitigate against this risk, licensed premises that implement safe transport strategies should consider the use of additional strategies to moderate alcohol consumption that may be inadvertently encouraged. (Australian Clinical Trials Registry) ACTRN12611000839877.

Key words: alcohol consumption; designated driver programs; intention; community sports clubs

INTRODUCTION

Throughout the world, a considerable cause of alcohol-related harm is alcohol-impaired driving of a vehicle, often referred to as drink-driving (WHO, 2007). Designated driver (DD) programs are one commonly applied strategy aimed at assisting individuals not to drive when alcohol impaired, or be an occupant of a car driven by an alcohol-impaired driver (Ditter et al., 2005; Martineau et al., 2013). Such programs usually require an individual within a group to abstain from alcohol and drive other group members home after a drinking episode. The so-called ‘designated driver’ is assigned the role before any alcohol consumption occurs (Winsten, 1994; Fell et al., 1997).

DD initiatives are often supported by licensed premises through the provision of free non-alcoholic beverages or food for the DD (Loxley...
et al., 2004). Such initiatives hold wide appeal and have become increasingly popular for both licensees and patrons of drinking establishments as they are a cheap and easy strategy to implement and demonstrate pro-social concern by all parties (DeJong, 1992; Loxley et al., 2004). DD programs have been supported by the alcohol industry (DeJong, 1992), the media (Winsten, 1994), advocacy groups (MADD, 2011), community sports clubs (Rowland et al., 2012c) and local government authorities (BCC, 2006).

Despite their broad appeal, systematic reviews have indicated that there is insufficient evidence that DD programs reduce the prevalence of alcohol-impaired driving (Ditter et al., 2005; Martinneau et al., 2013). Furthermore, data from a number of representative community surveys from the USA suggest that DD programs may increase overall levels of alcohol consumption by intended passengers of a DD (Austin, 2012).

In contrast, other studies of college students (Gieck, 2010; Raimondo, 1998), patrons drinking in bars (Harding et al., 2001) and passengers traveling in cars following a drinking session (Lange et al., 2006) suggest that consumption does not increase for intended passengers of a DD. Another study found that DD programs (referred to as safe rides) were associated with increased drinking for high-risk drinkers (Caudill et al., 2000).

Several methodological shortcomings associated with the previously cited studies limit the ability to ascertain whether DD initiatives contribute to harm by increasing the amount of alcohol consumed by passengers of a DD. First, the previous studies have relied on retrospective self-report behavior to determine the amount of alcohol consumed and modes of transport used, possibly limiting the accuracy of the recalled data. Second, most of the reported studies involved cross-sectional (non-experimental) descriptive surveys limiting the capacity for causal attribution between participation in DD programs and level of alcohol consumption. Third, the ability to overcome the latter shortcomings through the use of conventional randomized controlled trial designs is constrained by ethical concerns associated with the allocation of individuals to participate in a behavior that is potentially injurious (NHMRC, 2007).

The use of hypothetical vignettes has been suggested to be one method of overcoming the limitations of studies that examine potentially harmful behaviors or rare events where assignment to an intervention is unethical or unfeasible; such as behaviors like drink-driving, which may cause injury, harm or possibly death of self and/or others (Hughes and Huby, 2002). Vignettes simulate key elements of a real-life behavior and require the individual to imagine themselves in a situation where the behavior being researched is likely to take place and are then asked to indicate what their likely behavioral response to the hypothesized situation would be. Such research assesses behavioral intention, an accepted measure of behavior in its own right (Godin and Kok, 1996; Kasprzyk and Montano, 2007). Vignette-based studies lend themselves to the conduct of fully controlled designs with random allocation, thus providing a means of drawing conclusions about cause and effect of DD programs on behavioral intentions (McKeganey et al., 1995; Hughes and Huby, 2002).

Settings in which DD studies have been conducted in the past include licensed bars (Harding et al., 2001). In a number of countries, sports clubs and events have been associated with high levels of alcohol consumption by members and spectators (Duff et al., 2005; Poortinga, 2007; Rowland et al., 2012a). As individuals commonly travel to and from such clubs in cars, a need and an opportunity exist to reduce drink-driving and associated injuries and loss of life associated with this setting (Rowland et al., 2012b; Snow and Munro, 2000). No previously reported studies have examined the effect of DD programs on the intended or actual alcohol consumption of sports club members or spectators.

To address limitations of past research, a randomized controlled trial was undertaken to assess using vignettes, the impact of a hypothetical ‘designated driver’ initiative on level of intended alcohol consumption. A secondary aim was to assess whether using any form of transport where someone else drove was associated with level of intended consumption.

METHODS

The trial was prospectively registered with the Australian and New Zealand Clinical Trial Registry (ACTRN12611000831987) and was approved by the University of Newcastle Human Research Ethics Committee (H-2008-0432).

Design and setting

A randomized control trial (RCT) was conducted with 387 individuals who belonged to 72
community sports clubs. Figure 1, identifies the ‘participant flow’ and randomization process.

Club recruitment
Lists of clubs were obtained from sporting associations, local councils, web searches and telephone directories. Clubs were located in the Hunter New England and Sydney regions of the state of New South Wales, Australia. The study area included major cities and rural communities encompassing approximately 75% of the population of New South Wales and 25% of Australia’s overall population (ABS, 2006, 2005).

Member recruitment
A quasi-randomized procedure was used to select club members to participate in the study. Eligible and consenting clubs were asked to provide a list of up to 20 members who had most recently celebrated a birthday. Sporting club members were eligible to participate in the study if they satisfied the following criteria: (1) were over 18 years of age and (2) had been a member of a community sporting club between the period 2009 and 2011. Participating members may have had various roles at their clubs, such as players, coaches, club committee members, club volunteers and spectators. Respondents provided information through a computer-assisted telephone interview (CATI). When providing consent, respondents provided a telephone number and a time that was convenient to call them. The CATI was conducted by trained telephone interviewers.

Randomization and concealment
The study was part of a broader study; half were randomized into this study (n = 394), and half (n = 412) into another focusing on social capital in community sports clubs. Participants assigned to this study were then further randomized into two groups—half were randomized to a scenario that included a DD program, and the other half randomized to a scenario that did not. Randomization

![Diagram of participant flow subject selection and allocation procedure.](image-url)
was done via a computer program, and data collectors were not blind to the group to which participants had been allocated. However, participants were unaware as to which group they were allocated, and therefore, were blind to allocation.

Vignettes
Participants in Group 1 were asked to imagine themselves drinking alcohol after playing a sports game with their community sports club. The following was read to them:

I would like you to imagine that your sporting team has just played and won a competition game. After the game you and other club members decide to celebrate at a local licensed venue. The venue has live music, and sells meals but is not within walking distance from where you live. A fellow member of the club agrees to be designated driver.

Participants in Group 2 were asked to also imagine him or herself in the same scenario, but were not told that a member of the club agreed to be a DD. Following the hypothetical scenario, participants in each group were asked if they would consume alcohol. Participants reporting that they would consume alcohol were then asked: (i) how much alcohol they intended to drink, (2) over what period of time they intended to drink alcohol and (3) their intended method of transport home/away after they had consumed alcohol there. Respondents were not given prompts around the type of transport they may use to get home.

Measures
For the preceding questions on alcohol, respondents were given examples of an Australian Standard drink. The following was read out to each respondent:

When we are asking questions about the number of drinks, we are referring to ‘standard drinks’. A standard drink is equal to:

- 1 midy of full strength beer
- 1 schooner of light beer
- 1 small (100 ml) glass of wine
- 1 pub-sized nip of spirits (30 ml)

How much alcohol respondents intended to consume was measured with the following question:

‘Over this period, how many standard alcoholic drinks do you think you would consume?’

How long respondents intended to consume alcohol was measured with the following question:

‘How long do you think that you would celebrate with your team? Please estimate units of hours, e.g. 0.25, 1, 2, 3.’

How respondents intended to get home was measured with the following question:

How do you think you would get home from this celebration?

(i) Drive myself
(ii) With the designated driver (mentioned in the scenario)
(iii) Lift from member/friend/relative who may have drunk alcohol
(iv) Lift from member/friend/relative who had not drunk alcohol
(v) Use a taxi
(vi) Walk
(vii) Use public transport
(viii) Ride a push bike
(ix) Other
(x) Don’t know
(xi) Refused

Primary outcome analysis
As presented on the Australian Clinical Trials Registry (ACTRN12611000831987), the primary trial outcome was the amount of alcohol respondents intended to consume (as measured in Australian standard drinks).

Secondary analysis
A secondary analysis was undertaken to examine whether mode of transport home was associated with intended alcohol consumption and intended time to consume alcohol. A variable called ‘transport home with someone else driving’ (THSED) was created by merging the following response categories: ‘Lift from member/friend/relative who had not drunk alcohol’, ‘use a taxi’ or ‘use public transport’. All secondary analysis controlled for group allocation (control or intervention), age, gender and whether a respondent was a player at the sports club.

Chi-square tests were used to compare demographic differences between the groups, and differences in the primary and secondary measures. Multivariate regression was used to assess whether the availability of a DD program or other modes of transport home was predictive of intended consumption and intended time to consume alcohol. All analyses were done using Stata, version 12.
Sample size

Based on previous work done with community sports clubs (Rowland et al., 2012b), it was determined that the study would require approximately 150 individuals per group to have 80% power to detect a difference of 1.2 standard drinks between the groups, at an α level of 0.05.

RESULTS

Participants

A total of 390 participants participated in the study; 170 (43.59%) were in the DD group, and 220 (56.41%) were in the non-DD group (see Figure 1). Four respondents were excluded as they could not be contacted. Table 1 outlines the statistical distribution of the variables; none of the demographic variables differed significantly between the two groups. The majority of the sample was male (81%) \(\chi^2(1, n = 390) = 1.48; p > 0.05\); and close to half (47%) were players of the sport with which the club was associated \(\chi^2(1, n = 390) = 0.30; p > 0.05\). The age range for the sample was 18–79 years, with a mean age of 36.29 years \((t = -0.43; p > 0.05)\). There was a similar proportion of individuals with an annual income greater than $AUS 31 200 \(\chi^2(11, n = 380) = 8.94; p > 0.05\). The level of education attainment was similar for both groups \(\chi^2(5, n = 390) = 1.89; p > 0.05\).

Aim 1: amount of alcohol intended to be consumed

The mean number of intended standard drinks for those in the DD group was 5.81, and the mean number of intended standard drinks for those in the non-designated driver (NDD) group was 5.98. However, the difference in the mean number of intended drinks between the two groups was not significantly different \((t = -0.73; p > 0.05)\) (Table 2).

Table 1: Demographic distribution of sample

<table>
<thead>
<tr>
<th>Variable (male): % (n)</th>
<th>No DD program</th>
<th>DD program</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender (male): % (n)</td>
<td>78.64 (173)</td>
<td>85.53 (142)</td>
<td>80.77 (315)</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Range</td>
<td>18–79</td>
<td>18–69</td>
<td>18–79</td>
</tr>
<tr>
<td>Mean</td>
<td>36.63</td>
<td>37.17</td>
<td>36.87</td>
</tr>
<tr>
<td>SD</td>
<td>12.23</td>
<td>12.11</td>
<td>12.16</td>
</tr>
<tr>
<td>Annual individual income (gross): % (n)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$ 83,200 or more</td>
<td>29.77 (66)</td>
<td>32.72 (54)</td>
<td>31.05 (108)</td>
</tr>
<tr>
<td>$ 52,000–$ 83,199</td>
<td>29.30 (63)</td>
<td>31.52 (52)</td>
<td>30.20 (115)</td>
</tr>
<tr>
<td>$ 31,200–$ 51,999</td>
<td>20.93 (45)</td>
<td>18.18 (30)</td>
<td>19.74 (75)</td>
</tr>
<tr>
<td>$1–$31 199</td>
<td>16.28 (35)</td>
<td>13.34 (21)</td>
<td>13.01 (38)</td>
</tr>
<tr>
<td>Nil or do not know</td>
<td>3.73 (8)</td>
<td>4.24 (6)</td>
<td>3.95 (15)</td>
</tr>
<tr>
<td>Educational attainment: % (n)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year 9 or less</td>
<td>2.27 (5)</td>
<td>1.76 (3)</td>
<td>2.05 (8)</td>
</tr>
<tr>
<td>Year 10</td>
<td>10.00 (22)</td>
<td>11.76 (20)</td>
<td>10.77 (42)</td>
</tr>
<tr>
<td>Year 11/12</td>
<td>20.91 (46)</td>
<td>17.06 (29)</td>
<td>19.23 (75)</td>
</tr>
<tr>
<td>TAFE</td>
<td>35.91 (79)</td>
<td>37.65 (64)</td>
<td>36.67 (143)</td>
</tr>
<tr>
<td>Uni. undergraduate</td>
<td>30.91 (68)</td>
<td>31.76 (54)</td>
<td>31.28 (122)</td>
</tr>
<tr>
<td>Player % (n)</td>
<td>45.45 (100)</td>
<td>48.24 (82)</td>
<td>46.67</td>
</tr>
</tbody>
</table>

TAFE, tertiary and further education (not university level, but higher than secondary school).

Table 2: Outcome measures for the DD and NDD group

<table>
<thead>
<tr>
<th>Outcome measures</th>
<th>No DD program, M (SD)</th>
<th>DD program, M (SD)</th>
<th>Total, M (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean alcohol consumption (standard drinks)</td>
<td>5.98 (4.84)</td>
<td>5.81 (4.53)</td>
<td>5.91 (4.71)</td>
</tr>
<tr>
<td>Mean time consumed alcohol (hours)</td>
<td>3.45 (2.16)</td>
<td>3.41 (2.17)</td>
<td>3.43 (2.16)</td>
</tr>
</tbody>
</table>
Aim 2: intended consumption using any form of ‘transport home with someone else driving’

Table 3 outlines the modes of transport that respondents from both groups reported that they would intend to use. Close to half (44%) of the respondents from the DD group reported that they would use the DD as a means of getting home. A total of 37% of the DD group indicated that they would intend to either obtain a lift with someone else who had not consumed alcohol (16%) or take a taxi home (21%). For the NDD group, the greatest proportion, 42%, reported that they would take a taxi home.

When all forms of THSED were combined, a significantly greater proportion of individuals in the DD program group (82.11%) intended to use THSED compared with individuals in the NDD program (75.11%) $\chi^2(1, n = 386) = 3.87; p < 0.05$ (Table 3).

Table 4 outlines the results of the regression analysis. Controlling for potential confounders and group allocation (DD program), THSED was associated with increased intended consumption by 2.34 drinks and reduced intended length of time of consumption by 0.58 h. Age ($B = -0.09$) was significantly associated with intended consumption. Being female was associated with lower intended consumption by approximately two standard drinks ($B = -2.17$), but was not significantly associated with intended time over which alcohol was consumed. Whether a respondent was a player or not was not significantly associated with intended consumption or intended time over which alcohol would be consumed (Table 4).

**DISCUSSION**

This is the first experimental study to examine whether a hypothetical DD program has impact on intention to consume alcohol. In keeping with previous systematic reviews (Ditter et al., 2005; Martineau et al., 2013), we did not find evidence which indicated that having a DD program increased intended consumption. However, we did identify that using a strategy which promotes someone else driving home may be associated with increased amounts of alcohol consumed by passengers. To mitigate against this risk, licensed premises that implement safe transport strategies

---

**Table 3: Responses for both groups for hypothetical vignettes**

<table>
<thead>
<tr>
<th>Mode of transport</th>
<th>Total % (n)</th>
<th>No DD program % (n)</th>
<th>DD program % (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>With DD</td>
<td>25.06 (97)</td>
<td>N/A</td>
<td>44.29 (97)</td>
</tr>
<tr>
<td>Drive myself</td>
<td>16.02 (62)</td>
<td>18.45 (31)</td>
<td>14.16 (31)</td>
</tr>
<tr>
<td>Lift other drinker</td>
<td>0.78 (3)</td>
<td>1.19 (2)</td>
<td>0.46 (1)</td>
</tr>
<tr>
<td>Lift other (not drink)</td>
<td>22.48 (87)</td>
<td>30.26 (51)</td>
<td>16.44 (36)</td>
</tr>
<tr>
<td>Taxi</td>
<td>30.23 (117)</td>
<td>42.26 (71)</td>
<td>21.00 (46)</td>
</tr>
<tr>
<td>Walk</td>
<td>2.58 (10)</td>
<td>3.57 (6)</td>
<td>1.83 (4)</td>
</tr>
<tr>
<td>Public transport</td>
<td>0.52 (2)</td>
<td>1.19 (2)</td>
<td>0.00 (0)</td>
</tr>
<tr>
<td>Ride push bike</td>
<td>0.20 (1)</td>
<td>0.00 (0)</td>
<td>0.46 (1)</td>
</tr>
<tr>
<td>Other</td>
<td>1.81 (7)</td>
<td>2.98 (5)</td>
<td>0.91 (2)</td>
</tr>
<tr>
<td>Do not know</td>
<td>0.26 (1)</td>
<td>0.00 (0)</td>
<td>0.46 (1)</td>
</tr>
<tr>
<td>THSED</td>
<td></td>
<td>73.81 (124)</td>
<td>82.11 (179)</td>
</tr>
</tbody>
</table>

**Table 4: Regression model predicting whether THSED is associated with intended consumption and intended time over which alcohol is consumed**

<table>
<thead>
<tr>
<th></th>
<th>Intended consumption $\beta$ (95% CI)</th>
<th>Intended time consumed alcohol $\beta$ (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>THSED</td>
<td>2.34 (1.44, 3.25)**</td>
<td>0.58 (0.15, 1.01)**</td>
</tr>
<tr>
<td>DD program</td>
<td>-1.05 (-1.96, -0.15)*</td>
<td>-0.21 (-0.64, 0.21)</td>
</tr>
<tr>
<td>Age</td>
<td>-0.09 (-0.14, -0.04)**</td>
<td>-0.05 (-0.08, -0.03)**</td>
</tr>
<tr>
<td>Female</td>
<td>-2.17 (-3.33, -1.00)**</td>
<td>-0.17 (-0.72, 0.39)</td>
</tr>
<tr>
<td>Player</td>
<td>-0.91 (-0.40, 2.23)</td>
<td>0.44 (-0.18, 1.06)</td>
</tr>
<tr>
<td>Constant</td>
<td>11.64 (8.39, 14.89)**</td>
<td>5.24 (3.80, 6.88)**</td>
</tr>
</tbody>
</table>

*p < 0.05, **p < 0.01, ***p < 0.001.
should consider the use of additional strategies to moderate alcohol consumption that may have been inadvertently encouraged.

The findings of this study support the notion that having a DD program may reinforce social norms directed against alcohol-impaired driving (Ditter et al., 2005). It is possible that individuals in the DD group may have had a greater awareness of the need to use a mode of transport home that enabled them to arrive home safely, compared with individuals in the NDD group. It is also possible that a DD strategy may not change alcohol consumption; however, it may be helpful in creating a culture that promotes a social norm aimed at reducing alcohol-impaired driving.

In the light of this interpretation, settings where DD strategies are promoted may need to offset them with practices that also reduce the alcohol consumption of passengers, as a means of ensuring one risky behavior (drink-driving) is not replaced with another (high-risk drinking by others). Such responsible service of alcohol strategies could include ensuring that bar staff are trained in responsible service of alcohol (RSA), and RSA practices are enforced (Bryant and Williams, 2000; Ker and Chinnock, 2010), restricting the times and periods alcohol is sold (Durrani et al., 2007), selling drinks with lower alcohol content cheaper than full strength drinks and having substantial food available when selling alcohol (Fogarty, 2006; Gallet, 2007; Booth et al., 2008). This latter suggestion is made because food other than snacks, when eaten while consuming alcohol, can slow down the metabolism of alcohol and therefore the amount of alcohol absorbed into the blood; it can also slow down the rate at which alcohol is consumed (Loxley et al., 2004).

While this study is novel, its primary limitation is that it has used intention as an indicator of real world behavior. While intention is a strong predictor of behavior, environmental influences, habits and the prevalence of competing or opposite behaviors will moderate the extent to which intention predicts behavior (Kasprzyk and Montano, 2007). This study has demonstrated that there are associations between hypothetical intention and hypothetical consumption, and intended modes of transport home and consumption in the community sports club context. It is possible that different outcomes could be identified if the vignette used a different setting in the study such as, for example, a community festival. An RCT using a variety of hypothetical scenarios may help in better understanding the influence of different settings on behavior and is worthy of exploration.

Further limitations of the study also need to be considered. Theoretically, those who belonged to the DD group made alcohol choices in the context of a ‘safe’ form of transport being available. Those in the NDD group only made their choice of transport after they had indicated how many drinks they had intended to consume. Thus, it is possible that intended consumption was affected by the mode of transport home for the NDD group. In contrast, for the DD group, the mode of transport home was associated with intended consumption. It is also possible that those in the DD group responded in a more socially desirable manner and chose ‘safe rides’ as a mode of transport home as it had already been suggested to them.

Future research should look at alternative manipulations of the vignette content that is presented to the respondents. One method of achieving this would be to have a vignette where the DD option is suggested, another vignette where it is suggested that the only mode of transport home is ‘driving yourself’ and a third option where no form of transport home is suggested. The sampling procedure for this study did not confirm whether respondents had a driver’s license. It is possible that intention to drink affects only those who have a current driver’s license and therefore using only respondents who have current driver’s license may enhance the validity of the findings. Future research should give priority to assessing the impact of interventions that broadly promote safe transport strategies, not just those which promote DDs. To help validate the findings of this study, future research should explore how intentions compare with consumption and transport home last time they actually were at their club.

In conclusion, this is the first experimental study to have found that having a potential DD program in place is not associated with proxy measures of increased intended alcohol consumption. Further, we have identified that the intention of using transport where someone else drove an individual home was associated with greater intended consumption of alcohol by that individual (passenger). While the study has used a proxy for behavior, the findings provide a closer insight into the relationship between having a DD program and consumption. While DD programs in isolation may not reduce impaired driving,
settings such as community sports clubs that prevent individuals from driving home after consuming alcohol need to consider the use of additional strategies to moderate consumption that may be inadvertently encouraged.

ACKNOWLEDGEMENTS

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REFERENCES


APPENDIX 3

ALCOHOL

Is alcohol and community sport a good mix? Alcohol management, consumption and social capital in community sports clubs

Bosco C. Rowland, Luke Wolfenden, Karen Gilham, Melanie Kingsland, Ben Richardson, John Wiggers

Abstract

Objective: Community sports clubs provide an important contribution to the health and wellbeing of individuals and the community; however, they have also been associated with risky alcohol consumption. This study assessed whether a club's alcohol management strategies were related to risky alcohol consumption by members and levels of social capital, as measured in terms of participation in and perceived safety of the club.

Method: A total of 723 sports club members from 33 community football clubs in New South Wales, Australia, completed a computer assisted telephone interview (CATI) and a management representative from each club also completed a CATI. The club representative reported on the club's implementation of alcohol management practices, while club members reported their alcohol consumption and perceived levels of safety at the club and participation in the club.

Results: A structural equation model identified having the bar open for more than four hours; having alcohol promotions; and serving intoxicated patrons were associated with increased risky alcohol consumption while at the club; which in turn was associated with lower levels of perceived club safety and member participation.

Conclusion and Implications: The positive contribution of community sports clubs to the community may be diminished by specific inadequate alcohol management practices. Changing alcohol management practices can reduce alcohol consumption, and possibly increase perceived aspects of social capital, such as safety and participation.

Key words: risky alcohol consumption, community sports clubs, social capital


APPENDICES

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both public health dialogue and among policy makers. This seems to be largely due to evidence that suggests individuals in communities characterised by high levels of social capital are healthier. For example, communities high in social capital tend to have lower rates of mortality and morbidity, and better rates of mental and physical health. Social capital is also said to foster communication, thus allowing dilemmas requiring community action to be more readily resolved. There is also evidence indicating that communities high in social capital are often more sustainable and have lower rates of alcohol abuse.

Community sports clubs are places that should have high levels of social capital. First, because they are dependent on volunteers to generate funds and manage the club. Second, they also require a degree of commonness and appeal if they are to attract and keep members. However, community sports clubs are often settings where high levels of risky alcohol consumption occur. Such settings can be associated with violence, and subsequently reduced levels of perceived safety – characteristics linked to poor levels of social capital.

Given this association, it is possible that community sports clubs with poor alcohol management practices and high levels of alcohol consumption are associated with lower levels of social capital. Reducing high-risk alcohol consumption by members of sporting clubs may represent an effective strategy by which the positive contribution of community sports clubs to wellbeing can be maximised. To our knowledge, the relationship of alcohol management practices at sporting clubs to both alcohol consumption at the clubs and social capital has not been previously investigated.

To address this gap, a study was undertaken to determine: (1) whether responsible alcohol management practices were directly related to risky consumption by club members while at the club (path a in Fig. 1); (2) whether risky consumption at the club was directly associated with social capital, as measured by member reported participation in and perceived safety at the club (path b in Fig. 1); (3) the extent that club alcohol management practices were indirectly associated with reported participation and safety, mediated through risky drinking at the club (path a and b in Fig. 1); and (4) after adjusting for risky consumption at the club, whether alcohol management practices were directly related to members reported participation in and safety at the club (path c in Fig. 1).

Method

The study was part of a broader study examining alcohol management intervention in community sports clubs. The dominant sports played during the winter season (i.e. various football codes) were approached, as this aligned with the funding period for the study. The data was collected as part of the baseline data collection.

Design

A cross-sectional survey of community sports clubs (rugby league, rugby union, Australian Football League (AFL) and soccer) was undertaken in the state of New South Wales (NSW), Australia. Clubs were recruited from the Hunter, New England and Sydney Metropolitan Regions of NSW, and included clubs from major city, inner regional and rural communities. Data were collected at a club level and an individual level.

Participants: Club-level data

Clubs in each sporting code were identified from regional sporting association websites and local councils. All clubs were contacted and their eligibility for the study was assessed. Only clubs that had senior players, were not an elite sporting club, had more than 40 members, sold or supplied alcohol and did not hold a registered club or hotel liquor licence were eligible to participate. An invitation letter was sent to all eligible clubs (to the club president or secretary) then followed up with a phone call to confirm eligibility and assess consent to participate. After club consent was obtained, a club president or other relevant nominee completed a 40-minute computer assisted telephone interview (CATI) on club characteristics and alcohol management practices.

Participants: Individual-level data

A quasi-randomised selection procedure was used to select club members for participation in a club member telephone survey. Club delegates of consenting clubs were asked to randomly select 25 adult members who had most recently celebrated a birthday. The clubs provided an invitation letter to selected members, assessed their interest in participating and provided the research team with the contact details of consenting members. Consenting members were then contacted and completed a 20-minute CATI at a time they nominated was convenient. Each respondent was asked questions about their alcohol consumption at the club (see measures below); half of the sample was randomly selected to answer questions on social capital and the other half to answer questions on mental health. Ethics approval for the study was obtained from the University of Newcastle Human Research Ethics Committee. In keeping with ethical principles, club representatives and individuals were told that no individual or club would be identified.

Measures

Club characteristics

Socio-demographics

Post-codes (zip codes) were collected in order to determine socioeconomic status (SES) of club location and whether clubs were located beyond city centres.

Alcohol management practices at the club

Items regarding club alcohol management practices were based on the 2007 NSW Liquor Act guidelines that seek to reduce...
have consumed five or more drinks at least once a month while at the club, in the last 3 months. A definition of an Australian standard drink preceded all questions on alcohol consumption.

**Alcohol management practices at the club, reported by club members**

Club members were also asked whether their club allowed intoxicated individuals to enter the premises (yes/no), and whether their club served intoxicated individuals (yes/no). Overall, 11 alcohol management practices were assessed, nine at club level and two at individual level.

**Member-perceived participation and safety**

Club participants were asked a series of six questions drawn from the “trust and safety” and “participation” scales of the Oxyx and Bullen social capital instrument, applied to and phrased for the community sports club context (Table 2). The two subscales were selected on the basis of relevance to the consumption of alcohol in community sports clubs. The Cronbach alpha for the Oxyx and Bullen participation scale is 0.85; the Cronbach Alpha for the trust and safety items is 0.98. All six items were pilot tested as part of another study in community sports clubs. Responses to each of the six questions were made using a four-point Likert scale, where one indicated strong agreement, and four = strong disagreement.

**Statistical analysis**

First, based on the six social capital items, a confirmatory factor analysis (CFA) was undertaken to form and determine the construct validity of “club participation” and “club safety” as latent variables. Following this, a path model was developed and a mediational analysis undertaken to address the study aims. The path model included paths from all 11 alcohol management practices to risky drinking at the club; paths for the variables age and gender to risky drinking at the club were also included to allow for any confounding effects. Separate paths from risky drinking to the latent variables of participation safety were included in the model. For the CFA and path analyses robust standard error estimation was used to adjust for clustering at the community football club level. After fitting the model, non-significant (p > 0.05) paths were removed and modification statistics were used to assess whether other possible changes could be made to the model to obtain a better fit. For the factor analysis and path modelling, fit was assessed with the Comparative Fit Index (CFI). For the path analysis, mediated effects were estimated and tested for significance. As categorical endogenous variables were part of the modelling (risky consumption), the WLSMV estimator and Theta parameterization were used. Factor analysis and structural equation modelling was done using Mplus V7.1; mediation estimates were derived using the “indirect” command. Descriptive analysis was undertaken with Stata version 12.

**Results**

**Club characteristics**

A total of 328 football clubs were approached; 70% were eligible to participate and 52% of all eligible clubs participated in the study. Half were randomised into this study, and half into another study. Members of 33 clubs participated in the CATI for the present study. The number of consenting and non-consenting clubs did not differ significantly by football code ($\chi^2=6.68$ (1); $p=0.008$), or geographical region ($\chi^2=2.0$ (1); $p=0.66$). Table 1 below outlines the demographic details of the clubs. Club delegates that completed the club survey were most frequently club presidents (56%; n=36) or club secretaries (32%; n=22).

**Member Characteristics**

An average of 10 club members completed the survey from each club. Table 1 outlines the demographics of the individuals in the sample. The total number of individuals who participated was 723. The majority of the sample was male (79%), and the greater proportion were players (48%). The age of respondents ranged between 18 and 80 years. About 46% of respondents were 30 years or older. All respondents. Risks of alcohol-related injury arising from that occasion.

**Risky alcohol consumption of individuals while at the club**

As assessed by the GI, over the three-month period just over one-quarter of participants (26%) consumed alcohol at a level that placed them at short-term risk at least every month.

**Construct validity of participation and safety latent variables**

The items used to measure participation and safety are presented in Table 2. Pearson
correlations between the participation variables were 0.34 (soc1 with soc2), 0.58 (soc1 with soc3) and 0.44 (soc2 with soc3); correlations between the safety variables were 0.42 (soc1 with soc9), 0.35 (soc8 with soc10) and 0.46 (soc9 with soc10). All three items measuring safety significantly loaded on the latent variable “safety”. Similarly, all three items measuring participation loaded significantly on the latent variable “participation”. The two latent variables demonstrated a very good fit for the data (CFI=0.990). The standardised item loadings on the two latent variables are presented in Figure 2.

**Association between management practices, risky drinking and member ‘participation’ and ‘safety’**

Tetraehoric correlations between the binary alcohol management practice variables ranged between zero (serving intoxicated individuals and low alcohol cheaper than full strength), and 0.78 (serving intoxicated individuals and allowing intoxicated individuals to enter). Tolerance and Variance Inflation Statistics (VIF) indicated that multicollinearity was not a concern; all tolerance statistics were well above the recommended 0.1 (min=0.74 [bar staff RSA-trained]), max 0.96 [low alcohol cheaper than full strength]). Subsequently, VIF statistics ranged between 1.04 (low alcohol cheaper than full strength) and 1.46 (bar staff RSA-trained).

Only three alcohol management practices were significant predictors of risky drinking at the club. These practices were: 1) having the bar open for four or more hours; 2) not serving intoxicated individuals; and 3) having at least one alcohol promotion. Modification indices recommended that a path between age and safety would improve the model fit, including this path, and removing the non-significant paths between alcohol management practices and risky consumption at the club, the model represented a good fit for the data (CFI=0.956). The final model is presented with standardised coefficients in Figure 3.

The final model indicated that belonging to a club that had a bar that remained open for more than four hours (b=0.19), or belonging to a club that had at least one alcohol promotion (b=0.21) was associated with increased likelihood of drinking at risky levels. In contrast, individuals who reported that their club did not serve intoxicated individuals were less likely to drink at risky levels. Risky drinking at the club was associated with lower levels of perceived safety (b=-0.268) and participation (b=-0.136).

The results of the mediation analyses are presented in Table 3. Risky drinking at the club significantly mediated the relationship between three alcohol management practices and levels of perceived safety.

**Table 2: Alcohol management practices and participation and safety measures.**

<table>
<thead>
<tr>
<th>Alcohol Management Practices</th>
<th>N (%)</th>
<th>Odds Ratio (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. All staff RSA trained</td>
<td>45 (61.4)</td>
<td>1.00 (0.99-1.01)</td>
</tr>
<tr>
<td>2. Never serves intoxicated individuals*</td>
<td>454 (71.2)</td>
<td>1.00 (0.99-1.01)</td>
</tr>
<tr>
<td>3. Never allows intoxicated individuals to enter*</td>
<td>454 (71.2)</td>
<td>1.00 (0.99-1.01)</td>
</tr>
<tr>
<td>4. Bar open for 4+ hours</td>
<td>41 (51.9)</td>
<td>1.00 (0.99-1.01)</td>
</tr>
<tr>
<td>5. Bar staff do not consume alcohol</td>
<td>43 (59.7)</td>
<td>1.00 (0.99-1.01)</td>
</tr>
<tr>
<td>6. Serves (substantial) food with alcohol</td>
<td>6 (8.3)</td>
<td>1.00 (0.99-1.01)</td>
</tr>
<tr>
<td>7. Changes menu for full-strength drinks</td>
<td>52 (71.4)</td>
<td>1.00 (0.99-1.01)</td>
</tr>
<tr>
<td>8. Has a suite or an enclosed function room</td>
<td>31 (41.5)</td>
<td>1.00 (0.99-1.01)</td>
</tr>
<tr>
<td>9. Has an area for low-strength drinks</td>
<td>4 (5.3)</td>
<td>1.00 (0.99-1.01)</td>
</tr>
<tr>
<td>10. All you can drink function</td>
<td>4 (5.3)</td>
<td>1.00 (0.99-1.01)</td>
</tr>
<tr>
<td>11. Alcohol is free from purchase</td>
<td>4 (5.3)</td>
<td>1.00 (0.99-1.01)</td>
</tr>
<tr>
<td>12. Allows easy access to drinking areas</td>
<td>4 (5.3)</td>
<td>1.00 (0.99-1.01)</td>
</tr>
<tr>
<td>13. Has a suite or an enclosed function room</td>
<td>31 (41.5)</td>
<td>1.00 (0.99-1.01)</td>
</tr>
</tbody>
</table>

**Figure 2: Standardised Participation and Safety Model.**

*Globally, do you help out at the club? 1.00 (0.99-1.01)*

**Table 1: Club and individual demographics.**

<table>
<thead>
<tr>
<th>Club Variables (N=33)</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australian Football League (AFL)</td>
<td>5</td>
</tr>
<tr>
<td>Rugby league</td>
<td>14</td>
</tr>
<tr>
<td>Rugby union</td>
<td>9</td>
</tr>
<tr>
<td>Soccer</td>
<td>5</td>
</tr>
<tr>
<td>Location</td>
<td>10</td>
</tr>
<tr>
<td>Metropolitan</td>
<td>9</td>
</tr>
<tr>
<td>Rural/Remote</td>
<td>21</td>
</tr>
<tr>
<td>Mean SDS advantage/disadvantage</td>
<td>0.87 (0.67-1.22)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Individual Variables (N=728)</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender (male)</td>
<td>78.60</td>
</tr>
<tr>
<td>Age</td>
<td>35.36</td>
</tr>
<tr>
<td>Mean</td>
<td>11.26</td>
</tr>
<tr>
<td>Annual Individual Income (gross)</td>
<td>23.22</td>
</tr>
<tr>
<td>$58,200 and over</td>
<td>23.22</td>
</tr>
<tr>
<td>$35,000 to $58,200</td>
<td>23.22</td>
</tr>
<tr>
<td>$19,000 to $35,000</td>
<td>23.22</td>
</tr>
<tr>
<td>$10,000 to $19,000</td>
<td>23.22</td>
</tr>
<tr>
<td>$0 or not known</td>
<td>2.38</td>
</tr>
<tr>
<td>Educational attainment (%)</td>
<td>18.33</td>
</tr>
<tr>
<td>Year 9 or less</td>
<td>18.33</td>
</tr>
<tr>
<td>Year 10</td>
<td>17.00</td>
</tr>
<tr>
<td>Year 11/12</td>
<td>24.96</td>
</tr>
<tr>
<td>TAFE</td>
<td>24.96</td>
</tr>
<tr>
<td>Uni Undergraduate</td>
<td>31.45</td>
</tr>
<tr>
<td>Current occupation (%)</td>
<td>32.17</td>
</tr>
<tr>
<td>Manager/Administrator</td>
<td>32.17</td>
</tr>
<tr>
<td>Trade/Researcher</td>
<td>32.17</td>
</tr>
<tr>
<td>Clerical</td>
<td>16.18</td>
</tr>
<tr>
<td>Retail in workforce</td>
<td>14.98</td>
</tr>
<tr>
<td>Main Club Involvement (%)</td>
<td>48.09</td>
</tr>
<tr>
<td>Player</td>
<td>48.09</td>
</tr>
<tr>
<td>Supporter/non player</td>
<td>10.98</td>
</tr>
<tr>
<td>Coach</td>
<td>18.54</td>
</tr>
<tr>
<td>Sponsor/Retrieve</td>
<td>0.17</td>
</tr>
<tr>
<td>Committee member</td>
<td>17.30</td>
</tr>
<tr>
<td>Other</td>
<td>5.32</td>
</tr>
</tbody>
</table>
Having the bar open for more than four hours was associated with lower levels of safety (β = -0.051; p = 0.002). Belonging to a club that had alcohol promotions was associated with lower levels of perceived safety (β = -0.055; p = 0.010). In contrast, not serving intoxicated individuals was associated with increased levels of perceived safety (β = 0.049; p = 0.043).

Similarly, belonging to a club that had the bar open for more than four hours was associated with lower levels of participation (β = -0.026; p = 0.019). Belonging to a club that had at least one alcohol promotion was also associated with lower levels of club participation (β = -0.028; p = 0.054). Serving alcohol to intoxicated individuals was not mediated through risky drinking onto perceived levels of participation.

As there was an uneven proportion of individuals belonging to the different types of sports clubs (e.g., AFL, rugby union, rugby league and soccer), a sub-group analysis of the final model was not undertaken.

Discussion

This is the first study to identify that alcohol management practices and risky drinking are associated with lower levels of social capital (as measured by participation and safety) in community sports clubs. Three alcohol management practices (having the bar open for more than four hours, having at least one alcohol promotion and serving alcohol to intoxicated individuals) were associated with risky drinking at the club, which were in turn associated with lower levels of perceived safety and participation. These findings suggest that poor alcohol management practices by community sports clubs, through facilitation of risky alcohol consumption, may undermine a primary objective of such clubs, which is to build and promote healthy communities and individuals.

The findings are consistent with previous research that has demonstrated that in general communities, lower levels of risky alcohol consumption are associated with higher levels of measures of social capital. This suggests that if clubs can more effectively manage alcohol consumption by members and reduce risky consumption by members at the club, they may increase the extent to which individuals feel safe at, and participate in, their clubs. Such findings are strengthened by the findings of research undertaken in licensed premises (bars, taverns, pubs), that suggest the responsible service of alcohol is positively associated with perceptions of safety and amenity by patrons, and, if enforced, reduces the risk of alcohol-related harms.

The three alcohol management practices that were associated with both risky alcohol consumption and member participation in and perceived safety at community sports clubs have previously been shown to be associated with risky alcohol consumption in licensed premises generally. As a consequence, responsible service guidelines and regulations in a number of jurisdictions commonly recommend the discontinuation or prohibition of such practices. That risky consumption at the club mediated the association between alcohol management practices and both perceived safety at and participation in community sports clubs, suggests that an alcohol management program focusing on these practices may serve to improve the broader health and wellbeing of community sports club members, as well as reducing the risk of risky alcohol consumption and associated harms.

There is evidence that alcohol management programs can reduce alcohol consumption in community sports clubs. For example, the Good Sports program (https://goodsports.com.au) involves supporting sports clubs through a three-stage accreditation process to implement a range of alcohol management strategies, including those identified in this study. Randomised controlled trial evidence demonstrates that the program is effective in reducing risky alcohol consumption by club members both within the club and overall. The findings of this study suggest that such a program could also improve the overall wellbeing and sustainability of community sports clubs through increasing member-perceived safety and participation in clubs, which is likely to have an impact on membership and the degree of involvement individual have with their community sports club.

No association was found with the sponsorship variables; however, this does not rule out any association between these two variables. It is possible that the relationship between alcohol management practices and alcohol consumption may be non-linear. For example, sponsorship may only have an effect on consumption at a particular level, or the relationship may change in strength after a particular level. This possibility should be explored in future research.

Future research should also examine latent variable modelling of the collective effect of alcohol management practices on alcohol consumption and perceived levels of safety and participation.

The results of this study should be considered in the context of a number of its design characteristics. First, although

---

Table 2: Standardised indirect effects for final model.

<table>
<thead>
<tr>
<th>Path</th>
<th>Indirect Effects</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bar open</td>
<td>-0.051</td>
<td>0.002</td>
</tr>
<tr>
<td>Serving</td>
<td>0.049</td>
<td>0.043</td>
</tr>
<tr>
<td>Promote</td>
<td>-0.055</td>
<td>0.010</td>
</tr>
<tr>
<td>Participation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bar open</td>
<td>-0.026</td>
<td>0.019</td>
</tr>
<tr>
<td>Serving</td>
<td>0.028</td>
<td>0.079</td>
</tr>
<tr>
<td>Promote</td>
<td>-0.004</td>
<td>0.544</td>
</tr>
</tbody>
</table>
clear associations were found in this study, causality between the independent and dependent variables cannot be inferred, due to the use of a non-controlled cross-sectional study design. Second, the presence of alcohol management practices in clubs was based on the self-report of club practices, and hence may be an overestimate of the actual prevalence of such practices. Although studies of such self-report has been reported, previous studies conducted in licensed premises have reported acceptable validity for licensees reporting of alcohol management practices. 

In summary, the findings of this study suggest that improved alcohol management strategies in community sports clubs may help to reduce the burden of alcohol-related injury, illness and disease of community sports club members, which in turn, is likely to increase the level of social capital in community sports clubs, as measured by safety and participation. Future research should explore more precisely how such alcohol management practices are linked to these and other measures of social capital in community sports clubs.

References


APPENDIX 4

Accepted for Publication in the Health Promotion Journal of Australia (27/11/2015)

TITLE: The impact of implementing alcohol management practices on sports club membership and revenue: Findings from a randomised controlled trial.

AUTHORS
Wolfenden L 1,2, PhD, Kingsland M 1,2, MMedSci, Rowland B 3, PhD, Dodds P 1, PhD, Sidey M BSW 4, Sherker S 4, PhD, Wiggers J 1,2, PhD.

AFFILIATIONS
1 School of Medicine and Public Health, The University of Newcastle, Callaghan, New South Wales, 2308, Australia. Postal Address: c/o Hunter New England Population Health, Locked Bag 10, Wallsend, New South Wales, 2287, Australia
3 Deakin University, Burwood, Victoria, 3125, Australia. Postal Address: School of Psychology, Deakin University, 22 Burwood Highway, Victoria, Australia, 3125
4 Australian Drug Foundation, Melbourne, Victoria, 3000, Australia. Postal Address: PO Box 818 North Melbourne, Victoria, 3051

ACKNOWLEDGEMENTS
The trial was funded by the Australian Research Council under the Linkage Projects scheme (grant number LP0989386).

ABSTRACT
Issue addressed: The aim of this study was to assess the impact of an alcohol management intervention on community sporting club revenue (total annual income) and membership (number of club players, teams and spectators).

Methods: The study employed a cluster randomised controlled trial design where clubs were allocated to receive an alcohol accreditation intervention or a control condition. Club representatives completed a scripted telephone survey at baseline and
approximately 3 years following. Demographic information about clubs was collected, along with information about club income.

**Results:** Number of players and senior teams were not significantly different between treatment groups following the intervention. The intervention group however, showed a significantly higher mean number of spectators. There was no significant difference in revenue, as assessed by estimates annual club income between groups at follow-up.

**Conclusions:** This study found no evidence to suggest that efforts to reduce alcohol related harm in community sporting clubs will compromise club revenue and membership.

**So what?** These findings suggest that implementation of intervention to improve alcohol management of sporting clubs may not have the unintended consequence of harming club viability.

**RCT registration number:** ACTRN12609000224224

**INTRODUCTION**

Excessive alcohol consumption is common among sporting club members and spectators and is particularly prevalent among young male players and players of contact team sports.\(^1\) Strategies to regulate the availability and service of alcohol at public drinking venues have been found to reduce alcohol consumption and alcohol related harm.\(^2\) As venues licensed to sell alcohol, non-elite community sporting clubs represent an attractive opportunity to address alcohol use and harm, particularly given their access to large numbers of community members.\(^3\)

Across jurisdictions, a number of programs in Australia have been delivered to reduce excessive alcohol use in community sporting clubs. However, there is some evidence to suggest that health promotion initiatives to reduce alcohol related harm in this setting may compromise the financial viability of community sports clubs and negatively impact on opportunity or community participation in organised sports. For example, a survey of representatives from football codes in Australia found that 51% believed that
it would be difficult for their club to survive without revenue from the sale of alcohol and 95% would be concerned about club viability if their club was not to receive alcohol sponsorship. Further, 15% believed that players would not want to be a part of a club with strict alcohol management practices at clubs venues and events. Such perceptions may represent a key barrier to sporting club engagement and participation in health promotion initiatives to reduce alcohol misuse.

In contrast, however, a recent study of 657 sports clubs enrolled in a national alcohol management program found an increase in overall club income, as well as a decrease in dependence on income from alcohol funding sources following participation in the program. Significant increases in membership were also reported, particularly amongst females, young people and non-players. Given the lack of controlled trials investigating the impact of alcohol management on measures of sporting club viability, and the equivocal finings of past studies on this issue, the aim of this study was to assess the impact of an alcohol management intervention on community sporting club revenue and membership using a randomised, experimental study design.

**METHODS**

The study was approved and by the University of Newcastle Human Research Ethics Committee (H-2008-0432) and was prospectively registered (ACTRN12609000224224).

**Study design**

The study reports secondary outcomes of a randomised controlled trial of an alcohol accreditation intervention in community sporting clubs that was effective in reducing alcohol related harm. The study employed a prospective, repeat cross-sectional, cluster randomised controlled trial design where clubs were allocated to receive an alcohol accreditation intervention or a control. Data collectors, but not clubs or club members, were blind to group allocation.
Sample and recruitment

Football clubs

Sporting clubs were eligible to enrol in the trial if they were a community-level, non-professional football club (rugby league, rugby union, soccer or AFL), had > 40 members, and had a licenced to sell alcohol at their sporting fixture. Potentially eligible clubs were identified through searches of club lists provided by local councils, sporting associations, telephone directories and web-searches and invited to participate.

Intervention

A full description of the intervention has been provided elsewhere. The intervention sought to improve alcohol management at participating sports clubs through a variety of strategies surrounding the sale of alcohol and associated policies. The alcohol management practices included (but were not limited to) prohibiting alcohol being served by or to people aged under 18 years; monitoring club entrances for, and not permitting intoxicated people from entering premises; not selling alcohol to, or permitting intoxicated people to remain on premises; ensuring all bar servers are trained in responsible service of alcohol; service of drinks in standard measures; ensuring the availability of tap water, non-alcoholic and low alcoholic drinks; pricing such drinks at least 10% cheaper than full strength alcoholic drinks; prohibiting drinking games and promotions; attempting to source non-alcohol related sponsorship, development of an alcohol policy, and display of appropriate signage. Clubs were also provided $1000 seed funding.

Control

Control clubs received printed resources on topics unrelated to the trial outcomes.

Data collection and measures

A nominated club representative (club president or their delegate) completed a scripted telephone survey, administered using computer assisted telephone interviewing (CATI) technology by a trained research assistant at baseline (June-August 2009) and approximately 3 years following baseline data collection (July-October 2012).
Characteristics of participating clubs
Club representatives were asked to report the football code of their club (rugby league, rugby union, AFL or soccer) and the postcode of their club fixture.

Outcome measures: club membership and revenue
To assess club membership, club representatives was asked to report the number of current clubs players, number of current senior teams and usual number of spectators attending senior home games. To assess club revenue, representatives were asked to report their clubs approximate total income over the past year.

Analysis
Data were analysed using SAS version 9.3 (SAS Institute, Cary, North Carolina, USA). Descriptive statistics were used to describe the study sample. The Australian Standard Geographical Classification system was used to classify clubs based on their geographic locality as Major Cities or Inner/Outer Regional cities. Linear regression models, adjusting for baseline values of the study outcomes (measures of membership and revenue) were used to assess the impact of the intervention on club membership and revenue.

RESULTS
A total of 87 clubs provided data at baseline, 42 were allocated to the intervention and 45 to the control condition. Of participating clubs, 9 clubs were lost to follow up (3 intervention and 6 control clubs). Overall, 16% of clubs were from the Australian Football League (AFL), 30% were rugby union clubs, 32% were rugby league clubs, and 22% were soccer clubs. Fifty two percent of clubs had greater than 180 members, and, 82% were located in major cities. Club characteristics were similar between groups. The characteristics of clubs that did and did not provide follow-up data were similar (p>.05).
Table 1 Club membership and income by group (baseline=2009; follow-up=2012)

<table>
<thead>
<tr>
<th>Membership</th>
<th>INTERVENTION</th>
<th>CONTROL</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N Baseline</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>P value</td>
<td></td>
</tr>
<tr>
<td>Players</td>
<td>42</td>
<td>259 (360)</td>
<td>39</td>
<td>258 (321)</td>
<td>45</td>
<td>272 (235)</td>
<td>39</td>
<td>296 (278)</td>
</tr>
<tr>
<td>Spectators</td>
<td>42</td>
<td>468 (604)</td>
<td>39</td>
<td>516 (629)</td>
<td>45</td>
<td>519 (687)</td>
<td>39</td>
<td>348 (411)</td>
</tr>
<tr>
<td>Teams &gt;18</td>
<td>42</td>
<td>5 (6)</td>
<td>39</td>
<td>5 (8)</td>
<td>45</td>
<td>6 (14)</td>
<td>39</td>
<td>5 (5)</td>
</tr>
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</table>

Revenue

<table>
<thead>
<tr>
<th>Income ($AUS)</th>
<th>INTERVENTION</th>
<th>CONTROL</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th>P value</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>N Baseline</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
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<td></td>
<td>37</td>
<td>11131 (107148)</td>
<td>33</td>
<td>130667 (103429)</td>
<td>41</td>
<td>128307 (164113)</td>
<td>33</td>
<td>170924 (184733)</td>
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</tbody>
</table>

*P value shows results from linear regression, controlling for baseline values of each variable.

Club membership and income

At follow-up, the number of players or senior teams was not significantly different between groups (Table 1). The intervention group however, showed a significantly higher mean number of spectators at follow-up than the control group. Overall income was not significantly different between groups at follow-up.

DISCUSSION

This is the first randomised trial assessing potential adverse consequences on club viability after implementing a comprehensive alcohol management intervention. Contrary to concerns raised by club representatives, this study found no evidence to suggest that efforts to reduce alcohol related harm in community sporting clubs will compromise club revenue and membership, or thereby other important health benefits that such organisations provide to the community. Conversely, clubs allocated to the intervention group reported significantly greater increases in club spectators at follow-up relative to the control.

The findings contrast those of Mentha and colleagues, who reported declining revenue and spectators following the introduction of alcohol management strategies in sports clubs in Alice Springs. Unlike the Alice Springs initiative where alcohol bans were put in place, the intervention trialled in this study improved alcohol management, rather than prohibited alcohol use. Crundall suggested that improved alcohol management may in fact enhance club viability and increase club membership by creating more safe and family friendly environments, an assertion which is, in part, is supported by this
findings of this study of greater number of spectator attending games of intervention clubs at follow-up. Policy-makers may need to weigh the potentially greater reductions in alcohol related harm that could be achieved through alcohol bans at sporting clubs, with the potential adverse effects this may have on sporting clubs financial capacity to operate and offer an opportunity for community participation in organised sport.

The findings of the study should be considered in the context of a number of study methods. Strengths of the study was the use of a randomised design, and low rate of attrition. The primary limitation of the trail was the reliance on self-reported measures of club revenue, spectators and teams. However, any inaccuracies in reporting of these outcomes are likely to be evenly distributed between groups.

CONCLUSION

Notwithstanding the study limitations, the study provides no evidence to suggest that improving alcohol management at community sporting clubs will adversely impact on club viability or community participation in organised sport through reductions in club membership or revenue. Health promotion efforts to reduce alcohol misuse in these settings through improved alcohol management are therefore warranted.

REFERENCES


APPENDIX 5

Ethics approval

HUMAN RESEARCH ETHICS COMMITTEE

Notification of Expedited Approval

To Chief Investigator or Project Supervisor: Associate Professor John Wiggers
Cc Co-investigators / Research Students: Ms Karen Gillham
Dr Luke Wolfenden
Mr Michael Livingston
Dr Robin Room
Conjoint Associate Professor Patrick McElduff
Mr Bosco Rowland
Dr Jane Mallick
Conjoint Assoc Professor Colin Bell

Re Protocol: Reducing excessive alcohol consumption in community sports clubs: efficacy of a comprehensive accreditation intervention

Date: 29-Jan-2009
Reference No: H-2008-0432

Thank you for your Initial Application submission to the Human Research Ethics Committee (HREC) seeking approval in relation to the above protocol.

Your submission was considered under L2 Low Risk Research Expedited review by the HREC Panel.

(Sincere apologies for the time it has taken for this application to be reviewed. One nominated reviewer was away and did not notify the office. This is not, however, an adequate excuse as the office should have identified the problem and acted more promptly. Thank you for your forbearance.

Good luck with the project. What an excellent idea.)

For noting:

Attachment A
Typo – ‘actor acting intoxication’ should read ‘actor acting intoxicated’

I am pleased to advise that the decision on your submission is Approved effective 29-Jan-2009.

The full Committee will be asked to ratify this decision at its next scheduled meeting. A formal Certificate of Approval will be available upon request. Your approval number is H-2008-0432.

If the research requires the use of an Information Statement, ensure this number is inserted at the relevant point in the Complaints paragraph prior to distribution to potential participants

You may then proceed with the research. Best wishes for a successful project.
Professor Val Robertson  
Chair, Human Research Ethics Committee

For communications and enquiries:  
**Human Research Ethics Administration**

Research Services  
Research Office  
The University of Newcastle  
Callaghan NSW 2308  
T +61 2 492 19999  
F +61 2 492 17164  
Human-Ethics@newcastle.edu.au

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**Funding Details**

<table>
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<th>Administration institution</th>
<th>Unit of Term C Reference</th>
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<td>Australian Research Council</td>
<td>Reducing excessive alcohol...</td>
<td>Dr John Wiggers</td>
<td>University of Newcastle</td>
<td>G0139163</td>
</tr>
</tbody>
</table>
APPENDIX 6

Information letter for club representatives

Phone: (02) 4924 6247 Fax: (02) 4924 6028
Email: John.Wiggins@hneh.health.nsw.gov.au

Dear <insert club contact name>

Information statement for research project:
HEALTHY BEHAVIOURS IN SPORTING CLUBS PROJECT
Version 3; 5/3/09

Your sports club is invited to take part in a project aimed at promoting and increasing healthy behaviours in community sporting clubs. The collaborative project is being conducted by Hunter New England Population Health, the Australian Drug Foundation (ADF), Turning Point Drug and Alcohol Centre and the University of Newcastle.

Why is the research being done?
The aims of this project include the following:

1. Increasing the community’s participation in sporting clubs;
2. Increasing participation and membership numbers of clubs;
3. Increased revenue for clubs;
4. Providing a family friendly environment for members and their families;
5. Assisting sporting clubs in serving alcohol responsibly;
6. Reducing excessive alcohol consumption by club members;
7. Reducing the harm associated with excessive alcohol consumption; and
8. Assisting sporting clubs in providing safe and healthy food choices.

Who can participate in the research?
In total, approximately 100 clubs (Rugby League, Rugby Union, AFL and soccer) in the Hunter New England and Sydney areas are being invited to participate in the program.

What will you be asked to do?
All clubs that are eligible and agree to participate will be allocated to either an intervention (Group 1) or a control group (Group 2). A Project Officer will work with each participating intervention club (Group 1) to help them progress through 3 levels of a comprehensive accreditation program over a period of 2 years. The strategies included in the program are:

1. Development of management policies;
2. Healthy food options;
3. Ensuring clubs have an appropriate liquor licence;
4. RSA training for all staff;
5. Compliance with liquor laws;
6. Provision of low and non alcoholic drink;
7. Provision of safe transport options; and
8. Safe fundraising, end-of-season activities and other functions.

Participation in the program is free, and Group 1 clubs (intervention) will be provided with $500 per year to assist them to progress through the accreditation program. Group 1 clubs will also receive approximately 20 hours of face-to-face contact with a project officer each year, to assist their club in progressing through the program. The clubs allocated to
Group 2 will receive printed resources and will be eligible for the intervention after 3 years.

Club members over the age of 18 years will be invited to participate in a telephone survey on 2 occasions. This survey will take up to 30 minutes, and will include questions on participation in the club, alcohol consumption and food choices. Clubs that agree to participate will be asked to send a letter (provided by the research team) to their members explaining the purpose of the survey and letting them know that they may be contacted to participate in the survey. With the support of the research team, clubs will select members for the survey (about 20) and provide the contact details of interested members. Members can choose not to participate at the time of the survey and can withdraw from the study at any time.

To reimburse clubs for the costs of mailing letters and member time in participating in surveys, both Group 1 and Group 2 clubs will receive a payment of $250. As club members will be asked to participate twice in a survey, over 3 years, each club will receive a total of $500.

What choice do you have?
Your sports club’s participation in the study is entirely your choice, so you do not have to take part if you don’t want to. Whether or not your club decides to participate, your decision will not disadvantage you in any way. If you do decide to participate, you may withdraw from the project at any time without giving a reason, by contacting Bosco Rowland on (03) 9278 8110 at the ADF.

What do you need to do to participate?
Please read this Information Statement and be sure you understand its contents before you consent to participate. If there is anything you do not understand, or you have questions, please contact Bosco Rowland.

In approximately 2 weeks, an interviewer will be contacting you to assess your clubs eligibility to participate, gain consent or non-consent, and ask some questions about current practices in your club in regards to the Responsible Service of Alcohol and healthy food choices. You will then receive a confirmation letter confirming your eligibility and consent to participate in the project.

How will your privacy be protected?
- All of your responses and data will be treated in strict confidence.
- All data will be entered into a computer, analysed, and stored securely at the Hunter New England Population Health for at least 5 years.
- Your name, sporting clubs name and contact details will be stored separately from your observation data.
- Only the Research Team identified at the bottom of this letter will have access to the data.
- With regards to storage and disposal of confidential information, we follow the principles of the Privacy of Information Act, in addition to the National Health and Medical Research Council and the University of Newcastle ethics regulations.

How will the information collected be used?
- The information you provide will assist us in helping to develop a sustainable effective intervention to create more sustainable community sports clubs, reduce alcohol-related harm and provide healthier food choices in this setting.
- The data will be presented in a final report, and may be published in a scientific journal.
- The reports of our findings will include group results only. Individual participants will not be identifiable in any reports arising from the project.
Further information about the Project
If you would like further information please contact (add contact name) on (add contact phone number).

Thank you for considering this invitation.

A/Prof John Wiggers
Director, Hunter New England Population Health

Complaints about this research
This project has been approved by the University’s Human Research Ethics Committee, Approval No. H-2008-0432.

Should you have concerns about your rights as a participant in this research, or you have a complaint about the manner in which the research is conducted, it may be given to the researcher, or, if an independent person is preferred, to the Human Research Ethics Officer, Research Office, The Chancellery, The University of Newcastle, University Drive, Callaghan NSW 2308, Australia, telephone (02) 49216333, email Human-Ethics@newcastle.edu.au.

The Research Team
A/Prof John Wiggers, Hunter New England Population Health and The University of Newcastle
Prof Robin Room, The University of Melbourne
Dr Patrick McElduff, The University of Newcastle
Mr Bosco Rowland, The Australian Drug Foundation
Dr Jane Mallick, The Australian Drug Foundation
Dr Colin Bell, Hunter New England Population Health and The University of Newcastle
Dr Luke Wolfenden, Hunter New England Population Health
Mr Michael Livingston, Turning Point Alcohol and Drug Centre
Ms Karen Gillham, Hunter New England Population Health
APPENDIX 7

Information letter for club members

Dear club member,

Information statement for research project:
HEALTHY BEHAVIOURS IN SPORTING CLUBS PROJECT
Version 2: 5/3/09

As a member of your local football club (league/union/soccer/AFL), you are invited to participate in a brief telephone survey. A representative of your club has agreed for your club to participate in a project aimed at strengthening community sporting clubs and improving the well-being of club members, and has sent you this letter. The collaborative project is being conducted by Hunter New England Population Health (HNEPH), The Australian Drug Foundation (ADF), Turning Point Drug and Alcohol Centre, the University of Newcastle and the University of Melbourne.

Why is the research being done?
The aims of this project include:
1. Increasing the community’s participation in sporting clubs;
2. Increasing participation and membership numbers of your club;
3. Increasing revenue for your club;
4. Providing a family friendly environment for members and their families;
5. Assisting sporting clubs in serving alcohol responsibly;
6. Reducing excessive alcohol consumption by club members;
7. Reducing the harm associated with excessive alcohol consumption; and,
8. Assisting sporting clubs in providing safe and healthy food choices.

Who can participate in the research?
Club members over the age of 18 years who are a current member of the club are eligible to participate in the survey. You have been randomly selected and invited to participate in the survey.

What will you be asked to do?
To gather some information, club members are asked to complete a telephone survey. It is anticipated that the survey will take less than ½ an hour to complete. The survey will include questions on your association with the club (e.g., grade), participation in the club, food choices and alcohol consumption whilst at your club, alcohol consumption in general, and simple demographic questions such as age, profession and income level. The information collected will be strictly confidential. It is important for selected members to participate in the survey, as this will assist the research team in evaluating the project's effectiveness and the development of an effective longer-term project.

What choice do you have?
Participation in the study is entirely your choice - you do not have to take part if you don’t want to. Whether or not you decide to participate, your decision will not disadvantage you in any way. If you do decide to participate, you may withdraw from the project at any time without giving a reason, by contacting Jenny Tindall (Project Officer, HNEPH) on (02) 4922 3566.

What do you need to do to participate?
If you do not wish to be considered for participation in the survey, please contact your club or Jenny Tindall (Project Officer, HNEPH) on (02) 4922 3566 as soon as possible and you will not be contacted by the project. A club representative may contact you on behalf of the club shortly to see if you want to participate in the survey. If you would like to participate, but it is...
an inconvenient time, you can arrange a time to be called back when the program staff contact you.

**How will your privacy be protected?**
- All of your responses and data will be treated in strict confidence. All data will be entered into a computer, analysed, and stored securely at HNEPH for at least 5 years.
- Your name and contact details will be stored separately from your data.
- Only the Research Team members identified at the bottom of this letter will have access to the data.
- With regards to storage and disposal of confidential information, we follow the principles of the Privacy of Information Act, in addition to the National Health and Medical Research Council and the University of Newcastle ethics regulations.

**How will the information collected be used?**
- The information you provide will assist the research team in helping to develop an effective intervention to create more sustainable community sports clubs and reduce alcohol-related harm in this setting.
- The data will be presented in a final report, and may be published in a scientific journal.
- The reports of their findings will include group results only. Individual participants will not be identifiable in any reports arising from the project.

**Further information about the Project**
If you would like further information please contact Bosco Rowland (ADF) on (03) 9278 8110.

Thank you for considering this invitation.

Yours sincerely

A/prof John Wiggers  
Director, Hunter New England Population Health

**Complaints about this research**
This project has been approved by the University's Human Research Ethics Committee, Approval No. (H-2008-0432). Should you have concerns about your rights as a participant in this research, or you have a complaint about the manner in which the research is conducted, it may be given to the researcher, or, if an independent person is preferred, to the Human Research Ethics Officer, Research Office, The Chancellery, The University of Newcastle, University Drive, Callaghan NSW 2308, Australia, telephone (02) 49216333, email Human-Ethics@newcastle.edu.au.

**The Research Team**
A/prof John Wiggers, Hunter New England Population Health and The University of Newcastle  
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Club representative computer assisted telephone interview (CATI) survey script (2009)

Hello, my name is ^_INTVR_^ and I'm calling on behalf of the Australian Drug Foundation. You would have received a letter from us in the last week or so letting you know that we will be calling you. We are conducting a project examining the effects of a healthy behaviours project in sporting clubs. You should have received a letter from us in the last week or so informing you that we will be calling you to discuss your club's participation in a project promoting healthy behaviours in sporting groups—otherwise known as the Goods Sports program. Your association has been notified that we will be contacting you.

The letter explained that we are inviting sports clubs to participate in a project aimed at creating a safe and healthy club culture and increasing the membership and revenue of clubs. All clubs in the project will receive $250 this season and another $250 in 2 years' time for their participation. Participating clubs will then be randomly allocated to two groups. Group 1 or intervention clubs will be provided with support, financial assistance and resources from project staff to ensure that clubs serve alcohol responsibly, provide some healthy food options to players and encourage members to join their club. Clubs in group 2 or control clubs will be provided with written materials and offered similar support to group 1 clubs in two years time.

Firstly, I need to ask you a few questions to assess your club's eligibility to participate in the project.

How many members does your club have? (Please include juniors and seniors, and playing and non-playing members).
1  0 to 39
2  40 or Above
.R  Refused

Does your club sell alcohol at your sporting fixtures? By sporting fixtures, we mean a club house or ground. This can include both training sessions, on game days or at functions. This does not include sales at a registered club or hotel.
1  Yes
2  No
.R  Refused

Does your club have both junior and senior members? Please include junior members who play for your club but are not members. By junior we mean under the age of 18.
1  Yes, both junior and senior members
2  No, only junior members
3  No, only senior members
.R  Refused

Based on your responses, your club is eligible to participate in this project. All clubs regardless of their group will be provided with $500.

Does your club consent to participating in the project?
1  Yes
2  No
3  Still to discuss with committee - call back
4  Unsure at the moment - call back
Thank you for agreeing to participate in the project. However, prior to starting, we need to ask all consenting clubs a number of questions relating to the project. Do you have 20 minutes to spare at the moment?

1. Yes
2. No

We would like to start with asking a few questions about yourself and your association with the club.

What is your gender?
1. Male
2. Female

What is your date of birth?

What is your current position with the club? You can select more than one option.
1. President
2. Vice president
3. Secretary
4. Treasurer
5. Coach
6. Committee member
7. Other
8. Refused

What other position?

How many years has this been your position at the club?

In total, how many years have you been associated with the club? This includes playing and non-playing time.

We would like to ask some questions about your club. If you are unable to answer with accurate figures, please provide your best estimate.

What is the approximate number of registered players?

What is the approximate number of players under the age of 18?

What is the estimated number of spectators at your clubs home venue on an average competition day?

Approximately, how many teams are fielded in the 'under 18s' each week?

Approximately, how many teams are fielded in the 'over 18s' each week?

What would you say would have been your clubs approximate total income over the past year?

Considering this figure, approximately what is your clubs total income from alcohol sales?

Considering this figure, approximately what is your clubs total income from non alcoholic drink and food sales?
Is your club sponsored by an individual, a business, a company or other organisation? eg. a local hotel or registered club, a retail outlet, a fast food chain.
1  Yes
2  No
.R  Refused

Do any of your sponsors make, distribute or sell alcohol or represent any such groups? This includes brewers, licensed venues or associations.
1  Yes
2  No
.R  Refused

What type of sponsors are they?
1  Hotel/Pub
2  Registered club
3  Nightclub
4  Liquor store
5  Licensed restaurant or cafe
6  Brewer or wine maker
7  Alcohol association
8  Other

What other type of sponsors?

What do they provide as part of this sponsors sponsorship deal? You can select more than one option.
1  Money
2  Clothing (eg. jerseys)
3  Free alcohol
4  Free food
5  Discounted alcohol
6  Discounted food
7  Sporting equipment
8  Other

What other items are provided as part of the sponsorship deal?

What is the approximate monetary value of their contribution to your club?

Do any of your sponsors primarily manufacture or sell food or non-alcoholic drinks?
1  Yes
2  No
.R  Refused

What type of sponsors are they?
1  Fast food chain (eg. McDonald’s, Hungry Jacks)
2  Local restaurant/cafe
3  Local food retailer (eg. bakery, butcher)
4  Local takeaway shop
5  Primary producer (eg. sheep farm)
6  Local manufacturing company
7  Organisation representing a food industry
8  Other

What other type of sponsors?
What do they provide as part of their sponsorship deal?
1  Money
2  Clothing (eg jerseys)
3  Free food/drink
4  Discounted food/drink
5  Sporting equipment
6  Other
-1  None of the above

What other items are provided as part of the sponsorship deal?

What is the approximate monetary value of their contribution to your club?

I would now like to ask you some questions about alcohol at your club. These relate to the service of alcohol at the clubhouse or sporting ground, not any registered club or hotel.

Does your sporting club have a current liquor licence? This does not include a hotel or registered clubs licence.
1  Yes
2  No
3  Sell alcohol using sponsoring hotel/club licence  .R  Refused

What type of liquor licence does your club have?
1  Limited licence- single function
2  Limited licence- multiple functions
3  Function license
4  Don’t know
5  Other (please specify)  .R  Refused

What other type of liquor licence does your sporting club have?

During which of the following club events would alcohol usually be served by your sporting club? You can select more than one option.
1  Formal club events (eg. end of season presentation night)
2  Training sessions (before, during or after)
3  Usual club round games-Senior games only
4  Usual club round games- both junior and senior games
5  Club finals games
6  Other off season events
7  Other events

What other events do you serve alcohol?

Thinking of these occasions, overall during the winter sporting season, how many days per week would alcohol ‘usually’ be served by your club?
1  Less than once a week
2  Once a week
3  Twice a week
4  3 times a week
5  4 times a week
6  5 times a week
7  6 times a week
8  Everyday
9  Don’t know
Responsible Service of Alcohol Training, sometimes referred to as RSA training, trains bar-staff in developing the skills and the knowledge required to comply with the NSW Liquor Act 2007. It covers items such as legislative requirements and RSA strategies by licensed premises.

How many bar servers are trained in RSA by an accredited trainer? These include both paid staff and volunteers.
1. All
2. Most
3. Some
4. None
5. Don't know
.R. Refused

Please indicate how often bar servers are allowed to consume alcohol whilst on duty?
1. Never
2. Rarely
3. Sometimes
4. Usually
5. Always
.R. Refused

Does your club provide non-alcoholic drink options?
1. Yes
2. No
3. Don't know
.R. Refused

Which of the following non-alcoholic drink options does your club provide?
You can select more than one option.
1. Regular soft drinks (eg. coke, lemonade)
2. Diet soft drinks (eg. diet coke)
3. Juices (eg. fruit juice, apple juice)
4. Bottled/Mineral water
5. Free water
6. Plain milk
7. Flavoured milks
8. Sports drinks (eg. staminade, gatorade)
9. Hot drinks (eg. tea, coffee, hot choc)
10. Other

What other non-alcoholic drinks are provided?

Does your club provide any low-alcoholic drinks? (E.g. low-alcohol beer).
1. Yes
2. No

Which of the following low-alcoholic drink options does your club provide?
You can select more than one option.
1. Low-alcohol beer
2. Low-alcohol wine
3. Low-alcohol mixed drinks (eg. shandy)
4. Other

What other low-alcoholic drink options are provided?
Which is more expensive, full strength or low-alcohol drinks?
1 Full-strength alcohol drinks
2 Low-alcohol drinks
3 Priced the same
4 Don’t know
.R Refused

Does your club conduct any of the following drink promotions? You can select more than one option.
1 Happy hour
2 Cheap drink promotions
3 Drinking competitions eg. boatrace
4 ‘All you can drink’ functions
5 ‘Alcohol only’ player awards or raffle prizes
6 Drink vouchers
7 Other promotions
-8 None of the above
.R Refused

What other drink promotions does your club conduct?

How often are committee members present during the times when alcohol is available?
1 Never
2 Rarely
3 Sometimes
4 Usually
5 Always

Does your club maintain an up-to-date incident register? This records the details of all incidents such as staff refusing service or asking members to leave, or violent incidents.
1 Yes
2 No
3 Don’t Know
.R Refused

On a typical playing week, what is the longest period of time the club bar would be open for people to purchase alcohol?
1 1 hour
2 2 hours
3 3 hours
4 4 or more hours
5 Anytime
6 Don’t know
.R Refused

Approximately, on average, how many people would be present when alcohol is sold on these occasions? This includes all areas where alcohol sold by your club is allowed to be consumed.

Does your club sell or provide food when alcohol is being served?
1 Yes
2 No
3 Don’t know
.R Refused
What type of foods do you sell/provide?
1  Snacks (eg. packets of chips, peanuts, confectionary)
2  Light meals (eg. pies, hot chips, sandwiches or salads)
3  Full meals (eg. steak and vegies)
4  Other
5  Don't know

What other types of food do you sell/provide?

Does your club have a written alcohol management policy? An alcohol management provides a basis for the responsible management and service of alcohol.
1  Yes
2  No
.R  Refused

Does your club promote the availability of any of the following safe transport options? You can select more that one option.
1  Designated driver program
2  Key register
3  Taxi vouchers as prizes
4  Taxi numbers clearly displayed
5  Free call service for taxis
6  Free club transport
7  Free non-alcoholic drinks for designated drivers
8  Free bar snack for designated drivers
9  Free non-alcoholic drinks for bar servers
10  Free bar snacks for bar servers
11  Other options
-1  None of the above

What other safe transport options does your club provide?

Does your club have a written Safe Transport Policy?
1  Yes
2  No
3  Don’t know
.R  Refused

This final section is on the acceptability of the project concepts. I will read out a statement and the responses to the questions are: Strongly agree, agree, neutral, disagree, or strongly disagree.

Sporting groups play an important role in promoting healthy lifestyles to their club members.
1  Strongly agree
2  Agree
3  Neutral
4  Disagree
5  Strongly disagree

It is acceptable for the ADF and other organisations to provide programs and support sporting clubs in healthy lifestyle promotion.
1  Strongly agree
2  Agree
3  Neutral
4  Disagree
5  Strongly disagree
Club players and members often consume too much alcohol at sporting venues and events.
1  Strongly agree
2  Agree
3  Neutral
4  Disagree
5  Strongly disagree

It is important for sporting clubs to ensure that alcohol is served responsibly.
1  Strongly agree
2  Agree
3  Neutral
4  Disagree
5  Strongly disagree

Our club could benefit from assistance to encourage responsible alcohol consumption at club venues.
1  Strongly agree
2  Agree
3  Neutral
4  Disagree
5  Strongly disagree

Our club is responsible for ensuring players and spectators do not consume too much alcohol at club venues and events.
1  Strongly agree
2  Agree
3  Neutral
4  Disagree
5  Strongly disagree

Individual players and spectators are responsible for ensuring that they do not consume too much alcohol at sporting venues and events.
1  Strongly agree
2  Agree
3  Neutral
4  Disagree
5  Strongly disagree

Players would not want to be part of a club that had strict rules around alcohol consumption at club venues and club event e.g. Banning skulking games
1  Strongly agree
2  Agree
3  Neutral
4  Disagree
5  Strongly disagree

What things would make it difficult for clubs to ensure that alcohol is consumed safely within their club venues? You can select more than one option.
1  Staff can’t monitor all patrons
2  Staff not adequately trained for difficult situations
3  Lack of security
4  Lack of patron responsibility
5  Intoxicated or underage patrons get others to buy alcohol
6  Members/spectators expect to drink as much as they want
7  Other
-1  Don’t know
-2  There would be no difficulties
What else would make it difficult?

It would be difficult for our club to survive without revenue from the sale of alcohol.
1. Strongly agree
2. Agree
3. Neutral
4. Disagree
5. Strongly disagree
6. No revenue from alcohol sales

It would be difficult for our club to survive without revenue from sponsorship.
1. Strongly agree
2. Agree
3. Neutral
4. Disagree
5. Strongly disagree
6. No revenue from sponsorship

I believe that the provision of a healthy and safe environment within a Sporting club will help encourage members to join clubs.
1. Strongly agree
2. Agree
3. Neutral
4. Disagree
5. Strongly disagree

Thank you so much for agreeing for your club to participate in the Good Sports Program, and for completing the survey today. In the next few days, we will send you a confirmation email (if you have an email address) followed by a confirmation letter in the mail. These will confirm your clubs participation in the project, and outline the next steps of the project.

In brief, the next step for the project is for us to contact 25 club members from each participating club to complete a telephone survey on their involvement with the club, food choices, alcohol consumption and project acceptability. This survey will provide us with valuable information to assess the impact of the project on member’s behaviours.

This will involve your club sending a letter to 25 of your members with the most recent birthdays indicating that they may be contacted to participate in a brief telephone survey. We will provide the letters and postage paid envelopes, so you will just need to address and post them. Alternatively, we can email the confirmation letter and a copy of the member letter for you to provide to the selected members (either by email or hand-out).

All instructions for this step will be provided in the confirmation email and letter.

Thanks so much for your time today.
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Club member computer assisted telephone interview (CATI) survey script (2009)

Hello, my name is _INTVR_ and I am calling on behalf of the Australian Drug Foundation.

You would have received a letter from your club president or delegate recently letting you know they have agreed to participate in a project aimed at strengthening community sporting groups and improving the wellbeing of members, otherwise known as the Good Sports Program.

As part of this project we are doing telephone surveys of members. This will include questions on demographics, participation in the club, alcohol consumption, health and wellbeing.

By taking part in the survey you will assist us in assessing the effect of the Good Sports Program. All information collected is strictly confidential.

Would you be interested in participating in a quick telephone survey?
1 Yes
2 No

That's great. I am going to ask you a series of questions about yourself and your sporting club. The information you provide will be used by us to offer support to sporting clubs to help them improve club viability and create healthy club cultures for their members and supporters. Please be honest in your responses as there are no right or wrong answers. All answers are strictly confidential.

Before we start, can I please have your date of birth?
1 Yes
2 No
.R Refused

What is your date of birth?

Are you male or female? (ONLY ASK IF UNSURE)
1 Male
2 Female

What is the postcode of your current residence?

Which of the following BEST describes your CURRENT involvement with your sporting club?
1 Player
2 Non playing member (supporter)
3 Coach
4 Umpire/referee
5 Club committee member
6 Other
.R Refused

What other way are you involved with your club?

I am now going to ask you some questions about your general alcohol consumption and your consumption of alcohol AT YOUR SPORTING CLUB. Your individual responses to these questions will be kept confidential and will help us to better support clubs to support its members.
Alcoholic drinks are measured in terms of a standard drink.

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A standard drink is equal to one midy of beer, one schooner of light beer, one small glass of wine or one pub-sized nip of spirits.

How often do you have a drink containing alcohol? This refers to ANY TIME, that is, not just at your sporting club.
1  Never
2  Monthly or less
3  2 to 4 times a month
4  2 to 3 times a week
5  4 or more times a week
.R  Refused

Whilst AT YOUR SPORTING CLUB, how often in the last 3 months have you had 20 or more standard drinks in a day?
1  Everyday
2  5 to 6 days a week
3  3 to 4 days a week
4  1 to 2 days a week
5  2 to 3 days a month
6  About 1 day a month
7  Less often
8  Never
.R  Refused

Whilst AT YOUR SPORTING CLUB, how often in the last 3 months have you had between 11 to 19 standard drinks in a day?
1  Everyday
2  5 to 6 days a week
3  3 to 4 days a week
4  1 to 2 days a week
5  2 to 3 days a month
6  About 1 day a month
7  Less often
8  Never
.R  Refused

Whilst AT YOUR SPORTING CLUB, how often in the last 3 months have you had between 7 to 10 standard drinks in a day?
1  Everyday
2  5 to 6 days a week
3  3 to 4 days a week
4  1 to 2 days a week
5  2 to 3 days a month
6  About 1 day a month
7  Less often
8  Never
.R  Refused

Whilst AT YOUR CLUB, how often in the last 3 months have you had between 5 and 6 standard drinks in a day?
1  Everyday
2  5 to 6 days a week
3  3 to 4 days a week
4  1 to 2 days a week
5  2 to 3 days a month
6  About 1 day a month
7  Less often
8  Never
.R  Refused
Whilst AT YOUR CLUB, how often in the last 3 months have you had between 3 and 4 standard drinks in a day?
1  Everyday
2  5 to 6 days a week
3  3 to 4 days a week
4  1 to 2 days a week
5  2 to 3 days a month
6  About 1 day a month
7  Less often
8  Never
  .R  Refused

Whilst AT YOUR CLUB, how often in the last 3 months have you had between 1 and 2 standard drinks in a day?
1  Everyday
2  5 to 6 days a week
3  3 to 4 days a week
4  1 to 2 days a week
5  2 to 3 days a month
6  About 1 day a month
7  Less often
8  Never
  .R  Refused

Whilst AT YOUR CLUB, how often in the last 3 months have you had less than one standard drink in a day? (e.g. drank half a beer or wine)
1  Everyday
2  5 to 6 days a week
3  3 to 4 days a week
4  1 to 2 days a week
5  2 to 3 days a month
6  About 1 day a month
7  Less often
8  Never
  .R  Refused

Whilst AT YOUR CLUB, how often in the last 3 months have you had no standard drinks in a day? (i.e. been at the sporting club when alcohol is available but not consumed alcohol)
1  Everyday
2  5 to 6 days a week
3  3 to 4 days a week
4  1 to 2 days a week
5  2 to 3 days a month
6  About 1 day a month
7  Less often
8  Never
  .R  Refused

I am now going to ask you a few questions on your general alcohol consumption. That is, drinking at any time not just at your club.

How many STANDARD DRINKS do you have on a typical day when you are drinking?
1  1-2
2  3-4
3  5-6
4  7-9
5  10 or more

APPENDICES
How often do you have 6 or more drinks in one occasion?
1. Never
2. Less than monthly
3. Monthly
4. Weekly
5. Daily or almost daily

How often in the last year have you found that you were not able to stop drinking once you had started?
1. Never
2. Less than monthly
3. Monthly
4. Weekly
5. Daily or almost daily

How often during the last year have you failed to do what was normally expected of you because of your drinking?
1. Never
2. Less than monthly
3. Monthly
4. Weekly
5. Daily or almost daily

How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?
1. Never
2. Less than monthly
3. Monthly
4. Weekly
5. Daily or almost daily

How often during the last year have you had a feeling of guilt or remorse after drinking?
1. Never
2. Less than monthly
3. Monthly
4. Weekly
5. Daily or almost daily

How often during the last year have you been unable to remember what happened the night before because you had been drinking?
1. Never
2. Less than monthly
3. Monthly
4. Weekly
5. Daily or almost daily

Have you or someone else been injured because of your drinking?
1. No
2. Yes, but not in the last year
3. Yes, during the last year

Has a relative, friend, doctor or other health care worker been concerned about your drinking or suggested you cut down?
1. No
2. Yes, but not in the last year
3. Yes, during the last year

In this section, we will be asking you some questions about the alcohol serving practices of your SPORTING CLUB. We are asking you to express an
opinion or answer a question to the best of your knowledge. Remember that individual responses will remain strictly confidential and that this information will be used to offer clubs support.

During this season, how often have you seen staff allow people to ENTER the premises/club house when they have, in your opinion, been drunk or intoxicated?
1 Never
2 Rarely
3 Sometimes
4 Frequently
5 Always
6 Don't know
.R Refused

During this season, how often have you seen bar staff SERVE alcohol to patrons who, in your opinion, have been drunk or intoxicated?
1 Never
2 Rarely
3 Sometimes
4 Frequently
5 Always
6 Don't know
.R Refused

During this season, how often have you seen staff ask patrons who are, in your opinion, drunk or intoxicated people to leave the premises?
1 Never
2 Rarely
3 Sometimes
4 Frequently
5 Always
6 Don't know
.R Refused

Lastly, I would like to ask you a few questions about yourself?

Which of the following best describes your current employment status?
1 Self employed
2 Employed for wages, salary or payment in-kind
3 Unemployed and looking for work
4 Engaged in home duties
5 A student
6 Retired or on a pension
7 Unable to work
8 Other
.R Refused

How else would you describe your current employment status?

What is the highest educational qualification you have completed?
1 Completed primary school
2 Completed years 7 to 9
3 School Certificate (Intermediate, Year 10, 4th Form)
4 Higher School Certificate (Leaving, Year 12, 6th Form)
5 TAFE certificate or diploma
6 University degree, College of Advanced Education, etc.
7 Other
8 Don't know
.R Refused
Which of the following groups would represent your annual income BEFORE tax? (Including all government pensions and benefits)

1  $104,000 or more ($2,000 or more/week)
2  $83,200 to $103,999 ($1,600 to $1,999/week)
3  $67,600 to $83,199 ($1,300 to $1,599/week)
4  $52,000 to $67,599 ($1,000 to $1,299/week)
5  $41,600 to $51,999 ($800 to $999/week)
6  $31,200 to $41,599 ($600 to $799/week)
7  $20,800 to $31,199 ($400 to $599/week)
8  $13,000 to $20,799 ($250 to $399/week)
9  $7,800 to $12,999 ($150 to $249/week)
10 $1 to $7,799 ($1 to $149/week)
11 Nil income
12 Negative income
13 Don't know
.R  Refused

We are now at the end of the survey. Thank you so much for your time today. We appreciate your effort in helping this exciting research project improve the viability of local sporting clubs.

Goodbye.
APPENDIX 10

Examples of Good Sports merchandise

Bar sign

Bar runner

Sticker

Level 1 certificate
REDUCING RISKY DRINKING & ALCOHOL-RELATED HARM IN THE SPORTS SETTING

Volume 3: Appendices 11-14

Melanie Kingsland

Submitted for the Degree of Doctor of Philosophy

School of Medicine and Public Health
Faculty of Health and Medicine
The University of Newcastle

January 2016
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APPENDIX 11

Example of newsletter distributed to sports clubs

Newsletter
End of season 2010

Congratulations on your club’s achievements in your first year of Good Sports!

Your club is working on becoming safer, healthier and more family-friendly, a real role model for other clubs and their communities.

Your commitment to the Good Sports ARC trial is also a commitment to the future of community sporting clubs. By participating in Good Sports ARC trial surveys from time to time, your club is contributing to the betterment of sporting club practices and culture.

In this newsletter we share the successes of one club, provide some tips for clubs on alcohol management and we look ahead to what clubs can expect during Level 2 of the program. We welcome your feedback about this newsletter and any success stories or tips you would like to share with other clubs.

We look forward to your club’s ongoing participation in Good Sports.

Kind regards,

Melanie Kingsland
Program Manager
Good Sports ARC trial

Good Sports club profile...
- Club name: Lake Macquarie City Football Club
- Code: Football
- Project Officer: Kylie Young
- Accreditation level: Level 1

![Photo: Lake Macquarie City FC Senior Vice President George Cotrell and President Jeff Jones (left to right).]

Newly accredited, and proud Level 1 Good Sports club, Lake Macquarie City FC is setting a fine example amongst clubs participating in the Good Sports program.

Lake Macquarie City FC has taken a proactive approach to Good Sports by implementing some fantastic initiatives as part of the program.

The club monitors the ground entrance thoroughly, with two volunteers remaining on the gate at all times. Due to the nature of the ground, where cars can be driven in, two duty officers (clearly identifiable in yellow coats) walk around monitoring for any alcohol brought in by spectators, underage drinking and intoxication levels.

The club makes regular announcements before, during, and after the main game, reinforcing licensing laws and behaviours that are unacceptable.

Jeff Jones, President of Lake Macquarie City FC, says that participating in Good Sports will bring many benefits to the club, club members and the community.

“We are delighted to be part of the Good Sports program. We take the health and wellbeing of our members and supporters very seriously, and want to make sure we do everything possible to provide a safe, responsible and friendly environment.”

Good Sports ARC trial participating clubs
- Argenton United Soccer club
- Australis Holy Family College RUFC
- Blue Mountains RUFC
- Broadmeadow Magic Soccer club
- Chatswood RUFC
- Como Jannali Crocodiles RLFC
- Cranmer Kingsholmes RLFC
- Dudley Redhead United Soccer club
- Dunbar Valley Vikings RUFC
- East Coast Eagles AFL
- Forest RUFC
- Footy Golden Hawks RLFC
- Gordon RUFC
- Gunnedah RLFC
- Gunnedah RUFC
- Guyra RUFC
- Inverell Highlanders RUFC
- Lake Macquarie City Football club
- Lakes United RUFC
- Liverpool RUFC
- Lower Blue Mountains RLFC
- Narrabri RLFC
- Nelson Bay Senior AFL
- Newport RUFC
- Maitland Lions RLFC
- Memorial District RUFC
- Menai Hawks Football club
- Penrith AFL
- Penrith RUFC
- Southern Power AFL
- Sydney Harlequins RUFC
- Waratahs RUFC
- Western Suburbs AFL
- Western Suburbs RLFC
- West Wallsend Soccer club
- Windsor RLFC
Current news

Given that community sports clubs are often run by volunteers, it can be difficult for club members, staff and volunteers to keep up-to-date with the latest liquor laws.

Good Sports aims to increase sporting clubs’ awareness of important responsibilities with regard to liquor legislation. By doing so it helps clubs to avoid hefty fines and to ensure the health and safety of their members. This will help your club to avoid being in the same situation as the clubs in the newspaper article (below). If you have any questions about liquor laws please ask your Project Officer.

Did you know?
Sports clubs can face court fines of up to $11,000 and $1,100 penalty notices, if they:

- Operate without a liquor licence
- Do not provide tap water free of charge
- Allow intoxicated patrons to enter (and/or remain) on the premises
- Sell alcohol outside the licensed area
- Serve alcohol to minors
- Allow alcohol sold at the club to be taken away by patrons

Booze fine for footy clubs

“Booze fines for Newcastle footy clubs
THE NEWCASTLE HERALD
BY JOANNE MCCARTHY
03 June, 2010
POLICE have fined a Shortland football club selling alcohol from the back of a ute in a crackdown on sports codes using alcohol sales to boost revenue.
Shortland Rugby League Football Club was entitled to sell alcohol from the ute at Tuford Park, but was fined $1100 for failing to comply with other licensing requirements including signage, not producing Responsible Service of Alcohol (RSA) certificates for people serving alcohol and serving unopened alcohol.
Merewether Carlton Rugby Club was fined $1100 and issued cautions at its Lunch on the Green season launch at Towson Oval over an RSA certificate issue, signage and drinking outside the licensed area.
Newcastle City LAC licensing supervisor Sergeant Wayne Buck said up to eight league and union clubs were visited in the first of what would be continuing compliance checks by licensing police. Two were fined and all were issued with breach notices or cautions. In a letter to the codes several weeks ago after the first checks, Sergeant Buck noted a “disappointing trend” in non-compliance issues and warned of further enforcement.
“We basically told the codes they needed to let their clubs know they had to get their houses in order,” he said. “Over the last few years, our main focus has been on hotels and clubs with alcohol and violence.
“Now we’ve got them marching the same way, we’ve had time to look at other licence holders.” Police audits of surf clubs found no compliance issues and a number were in the process of applying for permanent licences.
Police have also held meetings with Newcastle restaurant owners holding limited licences and warned of compliance crackdowns.
Newcastle Rugby League chief executive Steve Fleming supported police enforcement, but said it was “each club’s responsibility to ensure they comply with the law”.
”
**Match-day visits**

Tips from the field

During the season we conducted match-day visits at participating clubs.

Match-day visits involved two Good Sports staff visiting each club, meeting with a club contact and recording what they observed in relation to level 1 criteria.

Thank you to all clubs for being so hospitable and congratulations to those who achieved their level 1 accreditation!

---

**Toughest Good Sports criteria to tackle...**

9. All entrances to the club are monitored by staff/volunteers and intoxicated people are not permitted to enter the premises.

10. Intoxicated people are not served alcohol and are not permitted to remain on the premises.

11. Alcohol sold at the club is only consumed at the club (not taken away).

15. Alcoholic drinks are only served in standard drink measures.

---

**Tip: Effective monitoring**

- Assign one or two volunteers to be ‘duty officers’ - i.e. responsible for walking around the ground monitoring for intoxicated people and for people bringing their own alcohol to the ground.
- Ensure duty officers are easy to identify (e.g. yellow vests).
- Ensure ground entrances/boundaries are monitored the ENTIRE time alcohol is being served and games are being played.
- Phone the police if any volunteers/staff/patrons feel threatened.

**Tip supports Good Sports criteria:** 9. 10. 11.

---

**Tip: Announcements**

Support duty officers by making regular announcements so patrons are aware of club requirements:

- “intoxicated people are not allowed into the premises”
- “intoxicated people will not be served alcohol and will be asked to leave the premises”
- “patrons are not permitted to BYO alcohol to the ground”
- “alcohol purchased at the club must be consumed at the club/ground—drinks cannot be taken outside the ground”.

**Tip supports Good Sports criteria:** 9. 10. 11.

---

**Tip: Drink measures**

Ensure bar staff serve non-packaged alcohol using standard drink measures:

- Purchase plastic glasses that are equal to or less than the standard drink measure.
- E.g. for wine 100mL.
- E.g. for spirits 30mL.

**Tip supports Good Sports criteria:**

15.

---

**criteria reminders...**

3. Required liquor licence signage is clearly displayed at the alcohol point-of-sale location.

8. ID checks are conducted on people who appear to be under the age of 25 years, and people aged under 18 years are not served alcohol.

14. Names of all staff who have been trained in RSA are displayed on a sign near the bar.

---

**don’t forget...**

...to clearly display the official OLGR liquor licence signage at ALL places alcohol is sold.

...to check ID of ALL people who attempt to purchase alcohol if they appear under the age of 25 years (and are not already known by the club).

...to clearly display a sign with the names of ALL RSA trained staff near ALL places where alcohol is sold.
APPENDIX 12

Example match day visit audit tool

LEVEL 1: Match-day visit assessment form

<table>
<thead>
<tr>
<th>OFFICE USE ONLY</th>
</tr>
</thead>
<tbody>
<tr>
<td>ID [club]:</td>
</tr>
<tr>
<td>ObsID [observer ID]:</td>
</tr>
<tr>
<td>Survey time [1, 2 or 3]:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RESEARCH ASSISTANT TO COMPLETE:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date [of observation]:</td>
</tr>
<tr>
<td>Club name:</td>
</tr>
<tr>
<td>Observer name:</td>
</tr>
<tr>
<td>Start [observation start time – once you arrive at the club]:</td>
</tr>
<tr>
<td>Finish [observation finish time – when you finish at the club]:</td>
</tr>
<tr>
<td>Alcohol service: If the club ceased selling alcohol prior to you leaving the ground, what time was this?</td>
</tr>
</tbody>
</table>

Good SPORTS
Healthy clubs. Strong communities.
Assessment instructions

You will need to complete the match-day visit during a day when alcohol is being served - this will usually be during and/or after the main senior game. The Project Officer responsible for each club will be responsible for letting the ARC Team know the dates of the home games, the time that the main senior games starts, and whether alcohol is served during the main senior game.

If alcohol is served during the main senior game, you will need to arrive at the club prior to the start of the main senior game, and remain at the club for the entire game plus at least 60 minutes following the game (if spectators, members or players remain at the club after the game). Thus, you will be required to observe the club for approximately 3½ hours.

If alcohol is not served during the game, but is served after the game, you will need to arrive towards the end of the game and stay for at least 60 minutes following the game. If all members/spectators leave the club prior to 60 minutes, you can also leave.

On arrival at the club, you will need to:

1. Enter the club grounds – you may be required to pay a minimal entry fee.

2. For the 30 mins prior to the game and the first ‘half’ of the game, assess as much as you can - try and answer as much as you can before making contact with the club representative, however, you can answer any question at any time during your visit. Your cheat sheet provides guidance on when to try and answer each question, but this is only a guide.

3. During the half-time break, ask the canteen/bar staff where you can find the club representative. The ARC team will have provided you with the name of the club representative, along with a match-day club clearance form that the club representative has signed, stating that they are happy for the assessment to occur. Should anyone ask you what you are doing at the club, please show them this form. If the club representative is unavailable, please ask to talk to another appropriate person (e.g. the licensee, club president or club secretary).

4. Identify yourself to the club representative (or alternative person). Let them know that you will walk around and fill out what you can, but that you’ll need to get their assistance with some questions. It is important to remember that the club representative will probably be busy on the match day, thus it is important to limit the amount of their time you take up. Arrange a time during or after the match to meet up with them to run through questions you’ll need their assistance with (i.e. these are questions that cannot be easily observed such as who the licensee or nominated person is).

5. Ask the club representative the questions that cannot be easily assessed (questions marked CONTACT CLUB).

6. Find a suitable area to sit (somewhere in full view of the bar and designated drinking area where you can observe the purchasing and consumption of alcohol by club members and spectators) and complete the cheat sheet. If possible complete the assessment form once you leave the ground (you have spare copies of the assessment form in your pack if required).
   - Circle the NUMBER next to the responses clearly
   - Write neatly
   - Follow the flow of the assessment

   e.g.

   Was the licensee or nominated person on-site during the visit?

   1. Yes
   2. No (if no, go to Q6a)
GUIDE TO USING THIS FORM

- Please complete the assessment forms according to what happens during the entire visit.

- Where possible, answer some questions prior to making contact with the club representative, however, this is only a guide and you can answer any question at any time during the visit.

- Any question marked CONTACT CLUB and the colour of the question is blue – you will need to identify yourself to the club representative. Some of these questions will need to be answered by the club representative or you can answer once you have permission to enter the bar service area and/or canteen.

- Where possible, use your cheat sheet to guide you through the questions and complete the assessment form at the end of the MDV. If you answer a question on your assessment form and something happens which would result in your response changing, please change your response on the assessment form (there is a spare copy of the assessment form in your pack if required).

IMPORTANT INFORMATION

- Do not complete any ‘office only’ identified rows or items – ARC staff will review each assessment and decide on the club’s achievement of the criteria.

- Please remember that each observer is to complete their own match-day visit form, without comparing answers with the other member of your team.

- Answers are to be compared at the end of the match-day visit, with the consensus form used to note any differences and whether consensus was reached. DO NOT modify your own form – please use the consensus form if required.
LEVEL 1: Match-day visit assessment form

<table>
<thead>
<tr>
<th>Criterion number</th>
<th>Assessment results</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Alcohol-management</strong></td>
<td></td>
</tr>
<tr>
<td>3. Q3 Did the club clearly display the sign stating that it is illegal to sell or supply alcohol to, or on behalf of, a person under the age of 18 years, at the place/s alcohol was served? Was the sign clearly visible and not obstructed in any way? Refer to the sign in your resource kit.</td>
<td></td>
</tr>
<tr>
<td>1 Sign clearly displayed at all places alcohol was served</td>
<td></td>
</tr>
<tr>
<td>2 Sign displayed at all places alcohol was served, but not always clearly</td>
<td></td>
</tr>
<tr>
<td>3 Sign clearly displayed at some places alcohol was served</td>
<td></td>
</tr>
<tr>
<td>4 Sign displayed at some places alcohol was served, but not always clearly</td>
<td></td>
</tr>
<tr>
<td>5 No sign/s displayed</td>
<td></td>
</tr>
</tbody>
</table>

OFFICE USE ONLY Assessment outcome 3asses Yes ☐ NA ☐ No ☐ Assessor initials:

| 4. Q4a Where was alcohol served from? (circle only one response) |
| 1 One permanent fixture, i.e. club canteen, bar area, kiosk |
| 2 Multiple permanent fixtures, i.e. club canteen, bar area, kiosks around the ground |
| 3 Only non-permanent fixtures, i.e. back of a ute, eskies, roped-off serving area |
| 4 Combination of permanent and non-permanent fixtures around the ground, i.e. club canteen and eskies |
| 5 None of the above |
| 6 Other, please specify Q4aoth ____________________________ |

OFFICE USE ONLY Assessment outcome 4asses Yes ☐ NA ☐ No ☐ Assessor initials:

| 5. CONTACT CLUB |
| Q5a Was the licensee or nominated person on-site during the visit? |
| 1 Yes |
| 2 No (if no, go to Q5a) |
| 3 Don’t know, could not determine (if don’t know, go to Q5a) |

Please record the name of the licensee/nominated person who was on site during the visit.

Name: ____________________________
### LEVEL 1: Match-day visit assessment form

<table>
<thead>
<tr>
<th>Criterion number</th>
<th>Assessment results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q5b</td>
<td>Are they the licensee or nominated person? (circle only one response)</td>
</tr>
<tr>
<td></td>
<td>1 Licensee</td>
</tr>
<tr>
<td></td>
<td>2 Nominated person</td>
</tr>
</tbody>
</table>

**OFFICE USE ONLY Assessment outcome**

<table>
<thead>
<tr>
<th>Sassess</th>
<th>Yes</th>
<th>NA</th>
<th>No</th>
</tr>
</thead>
</table>

**Assessor initials:**

<table>
<thead>
<tr>
<th>Q6</th>
<th>Was water available free-of-charge? e.g. tap water, jugs of water, water dispensers. You may have to ask at the bar.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Yes</td>
</tr>
<tr>
<td>2</td>
<td>No</td>
</tr>
</tbody>
</table>

**OFFICE USE ONLY Assessment outcome**

<table>
<thead>
<tr>
<th>Sassess</th>
<th>Yes</th>
<th>NA</th>
<th>No</th>
</tr>
</thead>
</table>

**Assessor initials:**

<table>
<thead>
<tr>
<th>Q8</th>
<th>How often was ID being checked for people who appeared under the age of 25 years who attempted to purchase alcohol? (circle only one response)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Everyone was being checked</td>
</tr>
<tr>
<td>2</td>
<td>Some people were being checked</td>
</tr>
<tr>
<td>3</td>
<td>Not being checked</td>
</tr>
<tr>
<td>4</td>
<td>NA, no-one who appeared under the age of 25 years attempted to purchase alcohol</td>
</tr>
</tbody>
</table>

**OFFICE USE ONLY Assessment outcome**

<table>
<thead>
<tr>
<th>Sassess</th>
<th>Yes</th>
<th>NA</th>
<th>No</th>
</tr>
</thead>
</table>

**Assessor initials:**

<table>
<thead>
<tr>
<th>Q9a</th>
<th>Where were people drinking alcohol? (circle only one response)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Only in a club house or clearly defined designated alcohol area (go to Q9b)</td>
</tr>
<tr>
<td>2</td>
<td>Within the entire ground (go to Q9g)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q9b</th>
<th>You have said that people were only drinking alcohol in a club house or designated alcohol area. How many entrances to this area were there? (circle only one response)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1 entrance</td>
</tr>
<tr>
<td>2</td>
<td>2 entrances</td>
</tr>
<tr>
<td>3</td>
<td>3 or more entrances</td>
</tr>
<tr>
<td>4</td>
<td>Other, please specify Q9both</td>
</tr>
</tbody>
</table>

**Q9c** Are all entrances to the club house or designated alcohol area monitored by staff or volunteers all of the time? They don't have to have someone standing at the entrance/s but someone should be in clear view and obviously monitoring the entrance/s. |

| 1       | Yes                                                                                                               |
| 2       | No (if no, go to Q9e)                                                                                              |
**LEVEL 1: Match-day visit assessment form**

<table>
<thead>
<tr>
<th>Criterion number</th>
<th>Assessment results</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Q9d</strong></td>
<td>If yes, how were the entrances to the club house or designated alcohol area monitored? (circle only one response)</td>
</tr>
<tr>
<td>1</td>
<td>One person was in charge of monitoring the entrances (e.g. the licensee or one of the bar staff)</td>
</tr>
<tr>
<td>2</td>
<td>A number of people were in charge of monitoring the entrances (e.g. bar staff and the licensee)</td>
</tr>
<tr>
<td>3</td>
<td>Other, please specify Q9d0th</td>
</tr>
<tr>
<td><strong>Q9e</strong></td>
<td>Did you see any people showing signs of intoxication being allowed to enter the club house or designated alcohol area? Refer to the 'signs of intoxication' in your resource kit.</td>
</tr>
<tr>
<td>1</td>
<td>Yes</td>
</tr>
<tr>
<td>2</td>
<td>No</td>
</tr>
<tr>
<td><strong>Q9f</strong></td>
<td>Did you see any people bring alcohol in to the club house or designated alcohol area that was not purchased from the club?</td>
</tr>
<tr>
<td>1</td>
<td>Yes</td>
</tr>
<tr>
<td>2</td>
<td>No</td>
</tr>
<tr>
<td><strong>Now go to Q9k (do not answer Q9g – Q9j)</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Q9g</strong></td>
<td>You have said that people were consuming alcohol within the entire ground. How many entrances to the ground were there? (circle only one response)</td>
</tr>
<tr>
<td>1</td>
<td>1 entrance to the ground</td>
</tr>
<tr>
<td>2</td>
<td>2 entrances to the ground</td>
</tr>
<tr>
<td>3</td>
<td>3 or more entrances to the ground</td>
</tr>
<tr>
<td>4</td>
<td>Open with no fence, can enter at any point</td>
</tr>
<tr>
<td>5</td>
<td>Other, please specify Q9g0th</td>
</tr>
<tr>
<td><strong>Q9h</strong></td>
<td>Were all entrances to the ground monitored by staff or volunteers all of the time? They don't have to have someone standing at the entrance/s to the ground, but someone should be in clear view of the entrance/s and obviously monitoring the entrance/s.</td>
</tr>
<tr>
<td>1</td>
<td>Yes</td>
</tr>
<tr>
<td>2</td>
<td>No (if no, go to Q9j)</td>
</tr>
<tr>
<td><strong>Q9i</strong></td>
<td>If yes, how were the entrances to the ground monitored? (circle only one response)</td>
</tr>
<tr>
<td>1</td>
<td>One person was in charge of monitoring the entrances (e.g. the licensee or one of the bar staff)</td>
</tr>
<tr>
<td>2</td>
<td>A number of people were in charge of monitoring the entrances (e.g. bar staff and the licensee)</td>
</tr>
<tr>
<td>3</td>
<td>Other, please specify Q9i0th</td>
</tr>
</tbody>
</table>
## LEVEL 1: Match-day visit assessment form

<table>
<thead>
<tr>
<th>Criterion number</th>
<th>Assessment results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q9j</td>
<td>Did you see any people showing signs of intoxication being allowed to enter the ground? Refer to the ‘signs of intoxication’ in your resource kit.</td>
</tr>
<tr>
<td></td>
<td>1 Yes</td>
</tr>
<tr>
<td></td>
<td>2 No</td>
</tr>
<tr>
<td>Q9k</td>
<td>Did you see any people bring alcohol in to the ground that was not purchased from the club?</td>
</tr>
<tr>
<td></td>
<td>1 Yes</td>
</tr>
<tr>
<td></td>
<td>2 No</td>
</tr>
</tbody>
</table>

### OFFICE USE ONLY

<table>
<thead>
<tr>
<th>Assessment outcome</th>
<th>9assess</th>
<th>Yes</th>
<th>NA</th>
<th>No</th>
</tr>
</thead>
</table>

| Assessor initials |

### 10.

Please refer to the ‘signs of intoxication’ in your resource kit to help answer the questions in this section.

- **Q10a** During the entire time you were conducting the assessment, did you see anyone who was showing signs of intoxication?
  - 1 Yes
  - 2 No (if no, go to M11)

- **Q10b** When the most amount of people were present at the game, what percentage of adults were showing any signs of intoxication? (circle only one response)
  - 1 1-10%
  - 2 11-20%
  - 3 21-30%
  - 4 31-40%
  - 5 41-50%
  - 6 51-60%
  - 7 61-70%
  - 8 71-80%
  - 9 81-90%
  - 10 91-100%

- **Q10c** During the entire time you were conducting the assessment, did you see any person who was showing signs of intoxication being served alcohol? (circle only one response)
  - 1 Yes
  - 2 No
  - 3 Didn’t see any intoxicated people attempt to buy alcohol
### LEVEL 1: Match-day visit assessment form

<table>
<thead>
<tr>
<th>Criterion number</th>
<th>Assessment results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q10d</td>
<td>During the entire time you were conducting the assessment, did you see any person who was showing signs of intoxication refused service of alcohol? (circle only one response)</td>
</tr>
<tr>
<td></td>
<td>1 Yes</td>
</tr>
<tr>
<td></td>
<td>2 No</td>
</tr>
<tr>
<td></td>
<td>3 Didn’t see any intoxicated people attempt to buy alcohol</td>
</tr>
<tr>
<td>Q10e</td>
<td>During the entire time you were conducting the assessment, did you see any person who was showing signs of intoxication being asked to leave? (circle only one response)</td>
</tr>
<tr>
<td></td>
<td>1 Yes – asked to leave the club house or designated alcohol area</td>
</tr>
<tr>
<td></td>
<td>2 Yes – asked to leave the entire ground</td>
</tr>
<tr>
<td></td>
<td>3 No</td>
</tr>
</tbody>
</table>

- The following questions relate to observing intoxicated people at the club and the actions of the club staff toward these intoxicated people.
- To ensure quality data we ask that Research Assistants answer at least one of the ‘ATTEMPTS’ and answer an additional two ‘ATTEMPTS’ if possible (i.e. if there are three separate intoxicated people attempting to buy drinks).
- Research Assistants need to observe the selected intoxicated person for a period of 45 minutes.

**ATTEMPT 1: (please start attempt 1 before half-time, if possible)**

| Q10f             | Both Research Assistants need to, together, randomly select one person who is showing signs of intoxication. You must select the same person. Did you witness this intoxicated person attempting to buy drinks? |
|                  | 1 Yes               |
|                  | 2 No (if no, go to Q10h) |

| Q10g             | Did staff take any of the following actions with this person? (circle only one response) |
|                  | 1 Refused service and asked to leave the club house or designated alcohol area |
|                  | 2 Refused service and asked to leave the ground |
|                  | 3 Refused service but allowed to remain |
|                  | 4 No actions —served them |

<p>| Q10h             | Please rate the intoxication level of this person from 1 – 10 (10 being most affected) (circle only one response) |
|                  | 1 2 3 4 5 6 7 8 9 10 |</p>
<table>
<thead>
<tr>
<th>Criterion number</th>
<th>Assessment results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q10i</td>
<td>Were you able to observe this intoxicated person for a full 45 minutes?</td>
</tr>
<tr>
<td></td>
<td>1 Yes</td>
</tr>
<tr>
<td></td>
<td>2 No</td>
</tr>
</tbody>
</table>

**ATTEMPT 2:**

<table>
<thead>
<tr>
<th>Q10j</th>
<th>Both Research Assistants need to, together, randomly select one person who is showing signs of intoxication. You must select the same person.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Did you witness this intoxicated person attempting to buy drinks?</td>
</tr>
<tr>
<td></td>
<td>1 Yes</td>
</tr>
<tr>
<td></td>
<td>2 No (if no, go to Q10i)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q10k</th>
<th>Did staff take any of the following actions with this person? (circle only one response)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 Refused service and asked to leave the club house or designated alcohol area</td>
</tr>
<tr>
<td></td>
<td>2 Refused service and asked to leave the ground</td>
</tr>
<tr>
<td></td>
<td>3 Refused service but allowed to remain</td>
</tr>
<tr>
<td></td>
<td>4 No actions — served them</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q10l</th>
<th>Please rate the intoxication level of this person from 1 – 10 (10 being most affected) (circle only one response)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 2 3 4 5 6 7 8 9 10</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q10m</th>
<th>Were you able to observe this intoxicated person for a full 45 minutes?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 Yes</td>
</tr>
<tr>
<td></td>
<td>2 No</td>
</tr>
</tbody>
</table>

**ATTEMPT 3:**

<table>
<thead>
<tr>
<th>Q10n</th>
<th>Both Research Assistants need to, together, randomly select one person who is showing signs of intoxication. You must select the same person.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Did you witness this intoxicated person attempting to buy drinks?</td>
</tr>
<tr>
<td></td>
<td>1 Yes</td>
</tr>
<tr>
<td></td>
<td>2 No (if no, go to Q10p)</td>
</tr>
</tbody>
</table>
### APPENDICES

#### LEVEL 1: Match-day visit assessment form

<table>
<thead>
<tr>
<th>Criterion number</th>
<th>Assessment results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q10o</td>
<td>Did staff take any of the following actions with this person? (circle only one response)</td>
</tr>
<tr>
<td></td>
<td>1 Refused service and asked to leave the club house or designated alcohol area</td>
</tr>
<tr>
<td></td>
<td>2 Refused service and asked to leave the ground</td>
</tr>
<tr>
<td></td>
<td>3 Refused service but allowed to remain</td>
</tr>
<tr>
<td></td>
<td>4 No actions – served them</td>
</tr>
<tr>
<td>Q10p</td>
<td>Please rate the intoxication level of this person from 1 – 10 (10 being most affected) (circle only one response)</td>
</tr>
<tr>
<td></td>
<td>1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>Q10q</td>
<td>Were you able to observe this intoxicated person for a full 45 minutes?</td>
</tr>
<tr>
<td></td>
<td>1 Yes</td>
</tr>
<tr>
<td></td>
<td>2 No</td>
</tr>
</tbody>
</table>

**OFFICE USE ONLY**

| Assessment outcome | 10assess Yes ☐ NA ☐ No ☐ Assessor initials: |

<table>
<thead>
<tr>
<th>11.</th>
<th>M11 Where were people consuming alcohol that was purchased at the club? (tick all that applies)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Q11a ☐ Only in the club house or designated alcohol area</td>
</tr>
<tr>
<td></td>
<td>Q11b ☐ Within the whole ground</td>
</tr>
<tr>
<td></td>
<td>Q11c ☐ Alcohol was able to be taken outside the grounds</td>
</tr>
</tbody>
</table>

**OFFICE USE ONLY**

| Assessment outcome | 11assess Yes ☐ NA ☐ No ☐ Assessor initials: |
## LEVEL 1: Match-day visit assessment form

### 12. CONTACT CLUB

**Please list the names of the staff, who are clearly serving alcohol, and indicate whether or not you saw a copy of their RSA certificates in an RSA register (this is a folder somewhere near the bar). You may need to ask the club rep or licensee to help you record bar staff names and you will need to ask the rep/licensee to view the RSA register.**

<table>
<thead>
<tr>
<th>Bar staff name</th>
<th>Please enter full name</th>
<th>Saw staff RSA certificate</th>
<th>Saw staff member’s name listed on a sign near all places alcohol was served?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>(Q12 1)</td>
<td>(Q12 2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Please circle response</td>
<td>Please circle response</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Q12a</td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Q12b</td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Q12c</td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Q12d</td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Q12e</td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Q12f</td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Q12g</td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Q12h</td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Q12i</td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Q12j</td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

### 14. Was there a sign clearly displayed near all places alcohol was served that listed the names of RSA trained staff? (circle only one response) **Was the sign clearly visible and not obstructed in anyway?**

1. Sign clearly displayed at all places alcohol was served
2. Sign displayed at all places alcohol was served, but not always clearly
3. Sign clearly displayed at some places alcohol was served
4. Sign displayed at some places alcohol was served, but not always clearly
5. No sign/s displayed

### 15. How was non-packaged alcohol served? e.g. wine (circle only one response) **Please refer to standard drink measures in your resource kit.**

1. It was served using standard drink measures
2. It was served using non-standard drink measures
3. NA (no non-packaged alcohol was observed being served)
### APPENDICES

#### LEVEL 1: Match-day visit assessment form

<table>
<thead>
<tr>
<th>Criterion number</th>
<th>Assessment results</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Smoke-free environment</strong></td>
<td></td>
</tr>
<tr>
<td><strong>30.</strong> Q30a Did you see anyone smoking inside the club?</td>
<td></td>
</tr>
<tr>
<td>1 Yes</td>
<td></td>
</tr>
<tr>
<td>2 No</td>
<td></td>
</tr>
<tr>
<td>3 NA, no enclosed areas <em>(survey finish)</em></td>
<td></td>
</tr>
<tr>
<td>Q30b Did you see any ashtrays present inside the club?</td>
<td></td>
</tr>
<tr>
<td>1 Yes</td>
<td></td>
</tr>
<tr>
<td>2 No</td>
<td></td>
</tr>
<tr>
<td><strong>OFFICE USE ONLY Assessment outcome</strong></td>
<td><strong>30assess</strong> Yes ☐ NA ☐ No ☐</td>
</tr>
</tbody>
</table>

| **31.** Q31 Was the smoke-free signage in smoke-free areas clearly displayed? Was the sign clearly visible and not obstructed in any way? Refer to the sign in your resource kit. | |
| 1 Sign clearly displayed | |
| 2 Sign displayed, but not clearly | |
| 3 No sign displayed | |
| **OFFICE USE ONLY Assessment outcome** | **31assess** Yes ☐ NA ☐ No ☐ | **Assessor initials:** |

#### Club contact details

| Name: | |
| Position: | |
| Name: | |
| Position: | |
| Name: | |
| Position: | |
APPENDIX 13

Example match day visit feedback report

<Date>

<Club Name>
<Club Address>

Dear <Club Representative>,

Application for Level 3 Good Sports accreditation

Thank you for your club's effort in working towards Level 3 of the Good Sports program, which also includes maintaining and satisfying all Level 1 and Level 2 criteria.

We have assessed your club's application to be a Level 3 Good Sports club. Some criteria were assessed by your Project Officer and some were assessed by other Good Sports staff who visited your club with your permission on <Date of Visit>.

We are pleased to inform you that your club has satisfied the following criteria:

<table>
<thead>
<tr>
<th>Level 1 Good Sports criteria</th>
<th>Satisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol management action plan drafted and provided to the club committee and staff/volunteers</td>
<td>✓</td>
</tr>
<tr>
<td>Club has a current liquor licence</td>
<td>✓</td>
</tr>
<tr>
<td>Required liquor licence signage is clearly displayed at the alcohol point-of-sale location</td>
<td>✓</td>
</tr>
<tr>
<td>Alcohol is only served during times specified on the liquor licence and within the designated licensed area of the club</td>
<td>✓</td>
</tr>
<tr>
<td>Licensee (or nominated person) is always present when alcohol is served</td>
<td>✓</td>
</tr>
<tr>
<td>Tap water is provided free of charge</td>
<td>✓</td>
</tr>
<tr>
<td>People aged under 18 years do not serve alcohol</td>
<td>✓</td>
</tr>
<tr>
<td>ID checks are conducted on people who appear to be under the age of 25 years, and people aged under 18 years are not served alcohol</td>
<td>✓</td>
</tr>
<tr>
<td>Intoxicated people are not served alcohol and are not permitted to remain on the premises (after appropriate safe transport options are offered)</td>
<td>✓</td>
</tr>
<tr>
<td>Alcohol sold at the club is only consumed at the club (not taken away)</td>
<td>✓</td>
</tr>
<tr>
<td>All bar servers have undertaken an accredited responsible service of alcohol (RSA) training course</td>
<td>✓</td>
</tr>
<tr>
<td>The club maintains an RSA register</td>
<td>✓</td>
</tr>
<tr>
<td>Names of all staff who have been trained in RSA are displayed on a sign near the bar</td>
<td>✓</td>
</tr>
<tr>
<td>Alcoholic drinks are only served in standard drink measures</td>
<td>✓</td>
</tr>
<tr>
<td>Information on club involvement in Good Sports is provided to members, players and staff after the first committee meeting</td>
<td>✓</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Level 2 Good Sports criteria</th>
<th>Satisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bar servers do not consume alcohol while on duty</td>
<td>✓</td>
</tr>
<tr>
<td>Club maintains an up-to-date incident register</td>
<td>✓</td>
</tr>
<tr>
<td>Substantial food is provided when the bar is open for more than 90 minutes and more than 15 people are present</td>
<td>✓</td>
</tr>
</tbody>
</table>
### APPENDICES

<table>
<thead>
<tr>
<th>Good Sports criteria to tackle</th>
<th>What was observed by Good Sport staff during the visit</th>
<th>What your club needs to do</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Level 1</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All entrances to the club are monitored by staff/volunteers and intoxicated people are not permitted to enter the premises</td>
<td>Good Sports staff did not observe any volunteers/staff monitoring the ground, which they noted was open with no fence. - Your Project Officer advised that Executive Committee members wear lanyards identifying themselves as club officials monitoring patron alcohol consumption, and that a groundsman wearing a bright yellow vest monitors for BYO alcohol. - Good Sports staff did not observe any intoxicated people entering the ground.</td>
<td>Ensure that the ground is always monitored by Executive Committee members and groundsman, by regularly walking around the ground for the entire time alcohol is served. Ensure all staff/volunteers are aware of this process.</td>
</tr>
<tr>
<td><strong>Level 2</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Non-alcoholic and low-alcoholic drink options are at least 10% cheaper than full strength alcoholic drinks | Good Sports staff collected information on the pricing of beverages. A standard alcoholic drink of wine and champagne (100mL for $3.00) were reported to be the same prices as the club’s low alcoholic option (Hahn Premium Light for $3.00). | Ensure that full-strength wine is at least 10% more expensive than low-strength alcoholic drinks. E.g. sell a glass of wine or champagne for $3.30.
We are confident that satisfying these criteria will not be an issue for your club. **Your Project Officer will award you with your Level 3 Good Sports accreditation as soon as you have done these things.** At this time they will also provide you with Level 3 Good Sports merchandise and other resources to help you communicate your accreditation to your members and the wider community.

Please remember that to be part of the Good Sports program your club is to maintain all of these practices on an ongoing basis.

We look forward to your club’s ongoing participation in Good Sports and thank you for your commitment to the program.

Kind regards,

Melanie Kingsland  
Project Manager  
Good Sports ARC Trial  
Phone: (02) 4924 6380  
Fax: (02) 4924 6215  
Email: melanie.kingsland@hnehealth.nsw.gov.au

The Good Sports Australian Research Council (ARC) trial is a partnership project between Hunter New England Health, the Australian Drug Foundation and the Turning Point Alcohol and Drug Centre. It is also supported by the University of Newcastle.
APPENDIX 14

Sports club information kit

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Why tackle drug use? 6
Why tackle unhealthy eating? 6
Why tackle smokey environments? 6

What do clubs and their members think? 7

What is Good Sports? 8
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Your club’s involvement in Good Sports 11
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Good Sports Info-sheets and resources 20
Level 1 Info-sheets and resources
Level 2 Info-sheets and resources
Level 3 Info-sheets and resources

Being a Good Sports club is GOOD for your club, GOOD for your community

Good Sports clubs are:
- role models for other clubs and within their communities
- safer, healthier and more family-friendly
- more attractive to sponsors
- more attractive to members, volunteers and players
- involved in fewer alcohol-related problems such as binge drinking and underage drinking

As a Good Sports club you will be involved in:
- a two-year Good Sports accreditation program that tackles:
  - risky drinking
  - drug use
  - unhealthy eating
  - smokey environments

As a participating club you will receive:
- dedicated support from a Good Sports Project Officer
- a comprehensive kit of resources
- $300 to kickstart your Good Sports accreditation journey
- staff training opportunities
- Good Sports promotional merchandise at levels 1, 2 and 3.
The issues we need to tackle

Healthy clubs, strong communities: With around 4.5 million Australians involved in sport as players, officials, members and spectators, sporting clubs have both an opportunity and a responsibility to promote healthy behaviours.[1]

Why tackle risky drinking?
- Alcohol is a major cause of death, injury and illness in Australia. There are over 3000 alcohol-related deaths each year.[2]
- Sport is often linked with risky drinking. Many sports including football, cricket, netball, golf, cricket and tennis have been linked to higher levels of risky drinking than the overall population.[3,4]
- A total of 44% of players who took part in the 2009 Good Sports survey of junior rugby league teams were drinking at levels that put them at risk of long-term health problems such as liver cirrhosis, cancer and heart disease.[5]
- A total of 25% of members surveyed were drinking at levels that put them at risk of long-term health problems such as liver cirrhosis, cancer and heart disease.[3,4]

Why tackle drink-driving?
- For Australian men, 33% of motor vehicle deaths and 35% of motor vehicle injuries are linked to alcohol. For women these figures are both around 11%.[6]
- Drinking and driving is a high-risk setting for drink-driving. A total of 33% of members in one study reported that they drove home when they were predicted to be over the legal limit.[7]

Why tackle unhealthy eating?
- An obesity epidemic has been declared in many countries.[7,10]
- Unhealthy food is a major cause of obesity and people becoming overweight.[11]
- A total of 72% of members who took part in the 2009 Good Sports survey of junior rugby league teams were drinking at levels that put them at risk of long-term health problems such as liver cirrhosis, cancer and heart disease.[5]
- A total of 35% of club members surveyed reported that they usually bought pies, pasties, sausage rolls, or egg and bacon sandwiches, and 10% bought soft drinks that were high in sugar.
- Overweight and obese club members will not be at their best on the field.

Why tackle smoking environments?
- Smoking is the greatest single cause of premature death in Australia.[12]
- Non-smokers can also be adversely affected by exposure to environmental tobacco smoke (ETS).[12]
- In children, breathing ETS can lead to illnesses including bronchitis and asthma. In adults, breathing ETS can increase the risk of heart disease, stroke and lung cancer.[12]
- The chemicals in ETS can irritate people’s eyes, nose, throat and sinuses.[10]
- It is illegal to allow smoking in enclosed public spaces such as sports clubs.[13]
- Club members who smoke or are exposed to ETS will not be at their best on the field.

What do clubs and their members think?

In 2009, community sporting club representatives and members from across the Hunter, New England and Hunter regions participated in a Good Sports telephone survey.

Between 95-99% of club representatives either agreed or strongly agreed that:
- sporting clubs play an important role in promoting healthy lifestyles to their members
- it is acceptable for the Australian Drug Foundation and other organisations to provide programs and support clubs in healthy lifestyle promotion
- it is important for sporting clubs to ensure that alcohol is served responsibly
- their club should be responsible for ensuring players and spectators do not consume too much alcohol at club venues and events.

76% of club members ‘agreed’ or ‘strongly agreed’ that there should be a greater variety of healthy foods available from club cantoons.

What is Good Sports?

Good Sports, an initiative of the Australian Drug Foundation, has been working with community sporting clubs since 2001. Since this time, Good Sports has been helping community sporting clubs become safer, healthier and more family-friendly.

More than 5500 Australian community sporting clubs are participating in Good Sports across Australia. These clubs progress through the Good Sports accreditation program over a three-year period.

Good Sports benefits:
- reduce drinking and alcohol-related violence
- close-drinking
- unhealthy food consumption
- exposure to passive smoking

The Good Sports logo sends important messages to club members and the broader community about your club culture and attitude to unhealthy and unsafe behaviour.
**Success stories: Being a Good Sports club works**

**A Good Sports success story**

**AFL Football and netball club, Victoria**

**What were the problems?**
- For three consecutive years the club hadn’t won a game
- Uncertainty of the future for achieving their best performance
- The club had a bad reputation for excessive drinking
- Wrong beliefs about the club's efforts to attract new sponsors

**How did Good Sports help the club?**
- The club became a Level 3 Good Sports club in three years and put in place positive actions to ensure responsible alcohol sales
- The club room was reconfigured to take the emphasis away from the bar
- The club now runs family-friendly functions

**Club achievements**
- The football team won two games in the last season
- There are more families attending the club
- There has been a reduction in alcohol-related incidents
- The club now has a good community reputation and a positive image
- The club now has more than 500 members

---

**A Good Sports success story**

**Cricket club, Central Coast, NSW**

**What were the problems?**
- The club was seen as a place for drinking
- Very few women and children participated in after match functions

**How did Good Sports help the club?**
- The club became a Level 3 Good Sports club and put in place positive actions to ensure responsible alcohol sales
- Steps were put in place so the premises could get home sales

**Club achievements**
- Awarded Good Sports club of the year
- A large number of women and children now attend games and after match functions
- The club now has a ‘family-friendly’ reputation

---

**Your club’s involvement in Good Sports**

Your club has chosen to participate in Good Sports and will be involved in the Good Sports Australian Research Council (ARC) trial. The trial offers a number of additional benefits:

- **Fairer accreditation:** The trial is an accelerated version of Good Sports. Your club can be awarded Level 3 accreditation within two years (the usual Good Sports program takes four years).
- **More support:** The trial provides more Project Officer support than the usual Good Sports program, with more resources and funding.
- **Ongoing feedback:** As the trial is an official evaluation of how effective the Good Sports program is in creating healthy and safe club environments, your club will get important feedback on how Good Sports clubs compare to clubs that are not participating in the Good Sports program.

There are two groups of clubs involved in the Good Sports ARC trial:

- **clubs that are participating in the Good Sports program (Group 1)**
- **clubs that are not participating in the Good Sports program (Group 2)**

Your club is in **Group 1** and will participate in the Good Sports accreditation program.

Clubs in **Group 2** will not participate in any version of the Good Sports program until after 2012.

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**Good Sports accreditation program—the three levels**

Good Sports is a three-level accreditation program. To progress through the levels, your club must meet a range of criteria over two years.

**Level 1** focuses on things your club will already be doing, including compliance with the laws; health, nutrition and safety measures; and ensuring a safe environment.

**Level 2** focuses on responsible management of alcohol, sale transport options and healthy food choices.

**Level 3** involves clubs developing specific policies to support the changes that have been made in levels 1 and 2.

Before awarding each level of accreditation, the Good Sports team will assess that your club meets the criteria specified at each level. The team will do this in two ways:

- visiting your club on a regular basis
- sending your club a request and viewing any required documents.
APPENDICES

**Level 1 Info-sheet**

**Alcohol management #1**

<table>
<thead>
<tr>
<th>What</th>
<th>When</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early 2014</td>
<td>Late 2015</td>
</tr>
</tbody>
</table>

1. Alcohol management action plan drafted and provided to the club committee and staff/volunteers

Why is this important for our club?

Action plans help to plan what needs to be done, who will do it, and by when.

What do we have to do?

- Draft an alcohol management action plan.
- Review the action plan at a club committee meeting.
- Provide a copy of the action plan to all club committee members and staff/volunteers.

How will our Project Officer help us?

Your Project Officer will use a standard template and work in partnership with your club's representative to develop an alcohol management action plan.

What resources do we get to help us?

1.1 Alcohol management action plan template.

How will Good Sports check that we have done it?

- You will need to provide your Project Officer with a copy of your action plan.
- You will need to report how and when you provided the action plan to committee members and staff/volunteers.

How much will it cost?

No.

**Level 1 Info-sheet**

**Alcohol management #2**

<table>
<thead>
<tr>
<th>What</th>
<th>When</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early 2014</td>
<td>Late 2015</td>
</tr>
</tbody>
</table>

2. Club has a current liquor licence

Why is this important for our club?

The NSW Liquor Act 2007 requires all clubs that serve alcohol at their sporting facilities (e.g., club hotel or ground) to have a current liquor licence.

What do we have to do?

- Complete an application form for a liquor licence and pay a minimal fee.
- There are different types of liquor licences available but a limited licence—multi-function generally meets the needs of most community sporting clubs.
- This licence allows non-profit organisations (non-proprietary associations) to sell liquor at up to 52 functions during a 12-month period. If your club wishes to hold more than 52 functions a year, you can apply for a licence for additional functions.

A few important points:

- The applicant must have completed an accredited responsible service of alcohol course.
- An application must be lodged with the Casino Liquor & Gaming Control Authority at least 60 days prior to the first function date.
- Immediately before, or within two working days of lodging the application, the applicant must notify the following requirements:
  - Lodge page 2 of the application with the local council or other consent authority (and any other local council or consent authority within 300 metres of the premises), and the Minister of Land if the premises is on Crown land.
  - Lodge page 10 of the application with the local police station.
  - The application can be lodged via post, fax, courier or email.
- The ‘limited licence’ will cover club functions, however, if other people wish to use the club house for private functions (where alcohol will be served), then an ‘on-premises licence’ is required. Ask your Project Officer about the ‘on-premises licence’.

How will our Project Officer help us?

Your Project Officer will help you complete and submit your liquor licence application.

What resources do we get to help us?

2.1 Limited licence—multi-function application form (also available online at: www.pol.nsw.gov.au/pubs/fa, LILMF.pdf)
2.2 NSW Office of Liquor, Gaming and Racing (OLGR) fact sheet on ‘Limited licence—multi-function’
2.3 Limited licence—multi-function additional functions application form (also available online at: www.pol.nsw.gov.au/pubs/fa, LILMF supplies electronic completion possible).

For additional help contact OLGR:
Phone: 02 9290 0894
Email: plan@corrections.nsw.gov.au

How will Good Sports check that we have done it?

Your Project Officer will need to sight a copy of your liquor licence.

How much will it cost?

$300 (limited licence—multi function). Consider using your $500 funding.
## Level 1 Info-sheet
### Alcohol management #3

<table>
<thead>
<tr>
<th>What</th>
<th>When</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. Required liquor licence signage is clearly displayed at the alcohol point-of-sale location</td>
<td>Early 2010</td>
</tr>
</tbody>
</table>

**Why is this important for our club?**

If you have a liquor licence you are legally required to display a sign produced by the NSW Office of Liquor, Gaming and Racing stating that alcohol will not be served to people under the age of 18 years. If your club is caught not clearly displaying this sign, you can receive a fine.

**What do we have to do?**

Obtain and display the required NSW Office of Liquor, Gaming and Racing sign on refusal of service to people under the age of 18 years.

**How will our Project Officer help us?**

Your Project Officer will help you secure and clearly display the required sign.

**What resources do we get to help us?**

3.1 OLGAR sign and resources order form (also available online at: www.olgac.wa.gov.au/pdfs/locator_form.pdf)

**How will Good Sports check that we have done it?**

During a match day visit a Project Officer will need to see the displayed sign.

**How much will it cost?**

$10 per sign if ordered through OLGAR. Consider using your $500 funding.

### Level 1 Info-sheet
### Alcohol management #4

<table>
<thead>
<tr>
<th>What</th>
<th>When</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. Alcohol is only served during times specified on the liquor licence and within the designated licensed area of the club</td>
<td>Early 2010</td>
</tr>
</tbody>
</table>

**Why is this important for our club?**

By law, you may only serve alcohol during the times specified on your liquor licence, and only within a designated area. If your club is caught serving alcohol outside of these specified times and areas, you can receive a fine.

**What do we have to do?**

- Confirm the times and areas specified on your liquor licence.
- Communicate this information to all staff/volunteers. You might want to display a sign stating the hours and areas where alcohol is sold.

**How will our Project Officer help us?**

Your Project Officer will help you confirm licence times/areas, communicate this to all staff/volunteers, and if you wish, produce and display signs.

**What resources do we get to help us?**

4.1 Sample sign displaying serving times as specified on the liquor licence.
4.2 Sample sign indicating the designated licensed area.
4.3 Sample sign indicating an alcohol-free area of the club.

**How will Good Sports check that we have done it?**

- You will need to tell your Project Officer the hours of alcohol service.
- During a match day visit a Project Officer will need to see that alcohol is only being served in licensed areas.

### Level 1 Info-sheet
### Alcohol management #5

<table>
<thead>
<tr>
<th>What</th>
<th>When</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. Licensee (or nominated person) is always present when alcohol is served</td>
<td>Early 2010</td>
</tr>
</tbody>
</table>

**Why is this important for our club?**

By law, your licensee (or a nominated person) must be present at all times when alcohol is served. If your club is caught without the licensee/nominated person present, you can receive a fine. The licensee (or nominated person) is also legally responsible if an incident occurs at the club and must be aware of the conduct of club members when alcohol is consumed, and of serving practices of club staff/volunteers.

Having the licensee present sends a message to members and visitors about the club’s commitment to good alcohol management, and helps to support staff in the responsible service of alcohol.

**What do we have to do?**

Develop a roster of all events to which alcohol will be served and have the licensee sign that they will attend. If the licensee is unable to attend, have them nominate another responsible club member who is trained in RSA to attend in their place. The licensee and nominated person must both sign the event roster, formalising the arrangement. Your club should keep a copy of the events roster on file.

**How will our Project Officer help us?**

Your Project Officer will help you develop an event roster.

**What resources do we get to help us?**

5.1 Sample licensee attendance of events roster.
### Level 1 Info-sheet
#### Alcohol management #6

**What**

<table>
<thead>
<tr>
<th></th>
<th>Early 2010</th>
<th>Late 2010</th>
<th>Early 2011</th>
<th>Mid-late 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. Tap water is provided free of charge</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Why is this important for our club?**

By law, you are required to provide free tap water to all players, spectators and members. This is an important step in serving alcohol responsibly. If your club is caught not providing free tap water, you can receive a fine.

**What do we have to do?**

Provide free water. It is recommended that your club do this by providing self-serve water such as a jug of water and glasses on the bar counter or a shared water cooler. You might want to display signs around the club stating that water is free of charge.

**How will our Project Officer help us?**

Your Project Officer will help you make any changes needed to provide free water, including sourcing self-serve water dispensers. They will also help you create and display appropriate signs.

**What resources do we get to help us?**

6.1 OLG Information Sheet: ‘Providing water is mandatory’
6.2 Sample sign displaying ‘free water’
6.3 Information on self-serve water dispensers.

**How will Good Sports check that we have done it?**

During a match-day visit a Project Officer will need to confirm the availability of free water.

**How much will it cost?**

Nil or cost of self-serve water dispenser. Consider using your $500 funding.

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### Level 1 Info-sheet
#### Alcohol management #7

**What**

<table>
<thead>
<tr>
<th></th>
<th>Early 2010</th>
<th>Late 2010</th>
<th>Early 2011</th>
<th>Mid-late 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>7. People aged under 18 years do not serve alcohol</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Why is this important for our club?**

By law, all bar servers must be over the age of 18 years. If your club is caught allowing people aged under 18 years to serve alcohol, you can receive a fine.

**What do we have to do?**

Confirm and record the age of all current and potential bar servers. The only acceptable forms of identification are:
- Driver’s licence from NSW Roads and Traffic Authority (or equivalent authority in another Australian state/territory)
- NSW Photo Card issued by the NSW Roads and Traffic Authority
- Proof of Age card issued by a public authority of the Commonwealth or state/territory
- Australian or foreign passport.

**How will our Project Officer help us?**

Your Project Officer will answer any questions relating to this item.

**What resources do we get to help us?**

Please let your Project Officer know if you need any specific resources for this item.

**How will Good Sports check that we have done it?**

Your Project Officer will ask the club representative about the age of bar staff.

**How much will it cost?**

Nil.

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### Level 1 Info-sheet
#### Alcohol management #8

**What**

<table>
<thead>
<tr>
<th></th>
<th>Early 2010</th>
<th>Late 2010</th>
<th>Early 2011</th>
<th>Mid-late 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>8. ID checks are conducted on people who appear to be under the age of 25 years, and people aged under 18 years are not served alcohol</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Why is this important for our club?**

By law, people aged under 18 years must not be served alcohol. If your club is caught serving alcohol to people aged under 18 years, you can receive a fine. To ensure that this does not happen, it is recommended that anyone who appears to be under 25 years of age be asked for identification.

**What do we have to do?**

- Staff/volunteers to ask for ‘proof of age’ from all members and visitors who appear to be under 25 years of age.
- The only acceptable forms of identification are:
  - Driver’s licence from NSW Roads and Traffic Authority (or equivalent authority in another Australian state/territory)
  - NSW Photo Card issued by the NSW Roads and Traffic Authority
  - Proof of Age card issued by a public authority of the Commonwealth or state/territory
  - Australian or foreign passport.
- If a person is found to be aged under 18 years, they must not be served alcohol and must be asked to leave the licensed area immediately.
- If, when asked, a person does not have an acceptable form of identification, they must not be served alcohol and must be asked to leave the licensed area immediately.
- If it is suspected that a person is ‘proof of age’ is altered or false, the licence/licensee must be informed and the police contacted immediately. Please note, that licensees do not have confiscation powers. Clearly display the OLG ‘proof of age’ sign.

**How will our Project Officer help us?**

Your Project Officer will answer any questions about this item and provide guidance on dealing with people aged under 18 years and people who altered identification.

**What resources do we get to help us?**

8.1 List of legally acceptable IDs.
8.2 OLG tips for checking proof of age.
3.1 OLG signs and resources order form (also available online at: www.dfp.nsw.gov.au/olgr/order_form.pdf)

**How will Good Sports check that we have done it?**

During a match-day visit a Project Officer will check that identification checks are being undertaken and that people aged under 18 years are not being served alcohol.

**How much will it cost?**

$10 per sign when ordered from OLG. Consider using your $500 funding.
APPENDICES

Level 1 Info-sheet
Alcohol management #9

<table>
<thead>
<tr>
<th>What</th>
<th>When</th>
</tr>
</thead>
<tbody>
<tr>
<td>9. All entrances to the club are monitored by staff/volunteers.</td>
<td>Early 2010, Late 2010, Early 2011, Mid-late 2011</td>
</tr>
</tbody>
</table>

Why is this important for our club?
By law, intoxication is not permitted on licensed premises. It is well known that a person who is intoxicated is more likely to become aggressive or violent or be injured. Monitoring club entrances and stopping intoxicated people from entering is a key step in avoiding the law, and is much easier to try to get intoxicated people to leave once they are in the club.

If your club is caught serving intoxicated people, or allowing intoxicated people to remain on the premises, you can receive a fine.

What do we have to do?
- Develop a process for monitoring club entrances and dealing with intoxicated people who try to enter the club. It is suggested that one staff/volunteer be given primary responsibility for this task.
- Ensure all staff/volunteers are aware of this process. You might find it useful to record the person responsible for monitoring club entrances for each function.
- Ensure that staff/volunteers monitoring entry doors have completed an accredited RSA course. This will provide them with the skills to identify intoxication and deal with the situation.
- Display signs of OGLR "No entry!" at club entrances informing members and visitors that intoxicated people are not allowed to enter.
- If an intoxicated person tries to enter the club, staff/volunteers must not allow the person to enter and inform them that this is because they are intoxicated.

How will our Project Officer help us?
Your Project Officer will help you develop a process for monitoring club entrances and refusing entry of intoxicated people. They will also assist you in developing and displaying appropriate signs.

Level 1 Info-sheet
Alcohol management #10

<table>
<thead>
<tr>
<th>What</th>
<th>When</th>
</tr>
</thead>
<tbody>
<tr>
<td>10. Intoxicated people are not served alcohol and are not permitted to remain on the premises (after appropriate safe transport options are offered).</td>
<td>Early 2010, Late 2010, Early 2011, Mid-late 2011</td>
</tr>
</tbody>
</table>

Why is this important for our club?
By law, a person who is intoxicated cannot be sold or supplied alcohol at your club. It is also a legal requirement that intoxicated people are asked to leave your club.

Having intoxicated people at your club can also damage your club’s reputation and deter new members and visitors, especially families.

If your club is caught serving intoxicated people, or allowing intoxicated people to remain on the premises, you can receive a fine.

What do we have to do?
- Develop clear processes for identifying and dealing with intoxicated people at your club. These need to include processes for refusing service to intoxicated persons, asking them to leave the premises, and calling the police if they refuse to leave.
- Ensure all staff/volunteers are aware of these processes.
- Display signs of OGLR "No entry!" at the bar and around the club informing members and visitors that intoxicated people will be refused service and asked to leave.
- If an intoxicated person is identified, staff/volunteers must not serve them and must ask them to leave. Police should be called if they refuse to leave.
### Level 1 Info-sheet
#### Alcohol management #11

<table>
<thead>
<tr>
<th>What</th>
<th>When</th>
</tr>
</thead>
<tbody>
<tr>
<td>11. Alcohol sold at the club is only consumed at the club (not</td>
<td>Early 2010</td>
</tr>
<tr>
<td>taken away)</td>
<td>Late 2010</td>
</tr>
<tr>
<td></td>
<td>Early 2011</td>
</tr>
<tr>
<td></td>
<td>Mid-late 2011</td>
</tr>
</tbody>
</table>

**Why is this important for our club?**

A club with a ‘limited licence’ must not allow drinks to be taken away from the premises. All drinks purchased at the club must be consumed at the club.

Having people drinking alcohol outside your club, or in the nearby streets, can disturb your club’s neighbours and its reputation.

If you are caught allowing take-away alcohol, you can receive a fine.

**What do we have to do?**

- Refuse the purchase of take-away alcohol.
- Only sell alcohol in open can or bottle or other types of open containers.
- Monitor club exits to check that alcohol is not being taken outside the premises.
- Ensure that all club staff/volunteers are aware of these processes.

**How will our Project Officer help us?**

Your Project Officer will help you develop any processes for this item.

**What resources do we get to help us?**

Please let your Project Officer know if you need any specific resources for this item.

**How will Good Sports check that we have done it?**

During a match-day visit a Project Officer will check that alcohol is not being taken away from the premises.

---

### Level 1 Info-sheet
#### Alcohol management #12

<table>
<thead>
<tr>
<th>What</th>
<th>When</th>
</tr>
</thead>
<tbody>
<tr>
<td>12. All bar servers have undertaken an accredited responsible</td>
<td>Early 2010</td>
</tr>
<tr>
<td>service of alcohol (RSA) training course</td>
<td>Late 2010</td>
</tr>
<tr>
<td></td>
<td>Early 2011</td>
</tr>
<tr>
<td></td>
<td>Mid-late 2011</td>
</tr>
</tbody>
</table>

**Why is this important for our club?**

By law, all servers (both staff and volunteers) must be trained in RSA by an accredited trainer.

This training helps servers:

- Understand their legal and duty of care responsibilities
- Develop the skills needed to identify and deal with people who are intoxicated and underage
- Develop the confidence and skills to deal with difficult situations.

**What do we have to do?**

- Organise for all current bar servers (staff and volunteers) to be trained in an accredited RSA course.
- When selecting future bar servers (staff and volunteers), look for people who have completed an accredited RSA course, or put them through a course before they commence.

Note: training may be able to be held at your club house or in conjunction with nearby sporting clubs to save costs.

**How will our Project Officer help us?**

Your Project Officer will help you organise RSA training. They can suggest RSA trainers that your club may wish to access, and can look into joint training with another club, which can reduce your costs.

**What resources do we get to help us?**

12.1 OLG/Approved RSA training providers.

---

**How much will it cost?**

Nil.

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**How will Good Sports check that we have done it?**

During a match-day visit a Project Officer will check that serving staff/volunteers have undertaken accredited RSA training.

**How much will it cost?**

The cost of RSA training is approximately $75 per person. Consider using your $1000 funding.


APPENDICES

Level 1 Info-sheet
Alcohol management #13

<table>
<thead>
<tr>
<th>What</th>
<th>When</th>
</tr>
</thead>
<tbody>
<tr>
<td>13. The club maintains an RSA Register</td>
<td>Early 2010, Late 2010, Early 2011, Mid-late 2011</td>
</tr>
</tbody>
</table>

Why is this important for our club?

By law, your club is required to maintain an RSA register. This is a folder that includes certified copies of RSA certificates for all employees (past and present).

What do we have to do?

Order your RSA register and file your certificates.

How will our Project Officer help us?

Your Project Officer will help you order an OLSR RSA register.

What resources do we get to help us?

2.1 OLGDF signs and resources order form (also available online at: www.sgr.nsw.gov.au/dfs/order_form.pdf).

How will Good Sports check that we have done it?

Your Project Officer will need to sight your up-to-date register during a routine meeting.

How much will it cost?

RSA Registers can be purchased from OLGDF for $20. Consider using your $500 funding.

Level 1 Info-sheet
Alcohol management #14

<table>
<thead>
<tr>
<th>What</th>
<th>When</th>
</tr>
</thead>
<tbody>
<tr>
<td>14. Names of all staff who have been trained in RSA are displayed on a sign near the bar</td>
<td>Early 2010, Late 2010, Early 2011, Mid-late 2011</td>
</tr>
</tbody>
</table>

Why is this important for our club?

Displaying a sign that lists all RSA-trained staff/volunteers demonstrates the club’s professionalism and commitment to good alcohol management. It also helps members and visitors identify people they can approach if needed.

What do we have to do?

Display a sign near the bar with the names of all RSA-trained staff.

How will our Project Officer help us?

Your Project Officer will help you develop a sign for your club.

What resources do we get to help us?

14.1 Sample RSA-trained staff sign.

How will Good Sports check that we have done it?

During a match-day visit a Project Officer will need to see that your sign is correctly displayed and ask those staff/volunteers who are serving on the day if their names are listed on the sign.

How much will it cost?

Nil.

Level 1 Info-sheet
Alcohol management #15

<table>
<thead>
<tr>
<th>What</th>
<th>When</th>
</tr>
</thead>
<tbody>
<tr>
<td>15. Alcoholic drinks are only served in standard drink measures</td>
<td>Early 2010, Late 2010, Early 2011, Mid-late 2011</td>
</tr>
</tbody>
</table>

Why is this important for our club?

By law, you must serve all alcoholic drinks in standard drink measures. This is important to ensure that your members and visitors can monitor how much they consume, and help avoid the rapid consumption of alcohol and avoid drink-driving.

What do we have to do?

1. Ensure all bar servers are familiar with standard drink measures.
2. Ensure that the necessary bar equipment is available, for example, 30 ml spirit measures and marked wine glasses.

How will our Project Officer help us?

Your Project Officer will provide you with information on standard drink measures.

What resources do we get to help us?


How will Good Sports check that we have done it?

During a match-day visit a Project Officer will check that all non-packaged alcohol is served using standard drink measures.

How much will it cost?

Your club may have to purchase spirit measures and marked wine glasses. Consider your $500 funding.
### Level 2 Info-sheet
#### Alcohol management #16

<table>
<thead>
<tr>
<th>What</th>
<th>When</th>
<th>Early 2010</th>
<th>Late 2010</th>
<th>Early 2011</th>
<th>Mid-late 2011</th>
</tr>
</thead>
</table>
| 16. Bar servers do not consume alcohol while on duty | Why is this important for our club? | It is important that bar servers do not consume alcohol while they’re working because it may:  
- affect their judgment in regards to RSA practices  
- reduce their ability and credibility when dealing with certain situations, for example, asking an intoxicated person to leave. |
|      | What do we have to do? | Let all bar servers (staff, volunteers and committee members) know that consuming alcohol on duty is not permitted.  
- Monitor alcohol consumption by servers and address any issues of non-compliance. |
|      | How will our Project Officer help us? | Your Project Officer will help you identify the most appropriate method of communicating this message to your club’s staff and volunteers. |
|      | What resources do we get to help us? | Please let your Project Officer know if you need any specific resources for this item. |
|      | How will Good Sports check that we have done it? | During a match day visit a Project Officer will check that your bar service staff are not consuming alcohol on duty. |
|      | How much will it cost? | Nil. |

#### Level 2 Info-sheet
#### Alcohol management #17

<table>
<thead>
<tr>
<th>What</th>
<th>When</th>
<th>Early 2010</th>
<th>Late 2010</th>
<th>Early 2011</th>
<th>Mid-late 2011</th>
</tr>
</thead>
</table>
| 17. Club maintains an up-to-date incident register | Why is this important for our club? | An incident register can:  
- help the club committee, police, local council and others keep track of any incidents that occur at the club  
- assist the club monitor incident trends and develop solutions  
- The recording of incidents also demonstrates to your members that the club is serious about maintaining order and creating a safe club environment. |
|      | What do we have to do? | Good Sports recommend that clubs use the official OLGIR incident register. This can be ordered through OLGIR. |
|      | How will our Project Officer help us? | Your Project Officer can help you order an incident register. |
|      | What resources do we get to help us? | 17.1 OLGIR incident register frequently asked questions (also available online at: http://www.die.gov.au/sgps/incident.register.asp)  
- OLGIR sign and resources order form (also available online at: www.die.gov.au/sgps/order_form.pdf) |
|      | How will Good Sports check that we have done it? | Your Project Officer will need to sight the register at a routine meeting. |
|      | How much will it cost? | Nil. |

### Level 2 Info-sheet
#### Alcohol management #18

<table>
<thead>
<tr>
<th>What</th>
<th>When</th>
<th>Early 2010</th>
<th>Late 2010</th>
<th>Early 2011</th>
<th>Mid-late 2011</th>
</tr>
</thead>
</table>
| 18. Club is registered as a food business with the NSW Food Authority or local council | Why is this important for our club? | Providing food when alcohol is served is a key RSA practice.  
To sell food (even by volunteers), your club must register as a food business with the NSW Food Authority or your local council.  
As a registered food business you will be kept up to date with any changes to food legislation. |
|      | What do we have to do? | You can register as a food business by going to www.foodsafety.nsw.gov.au and following the instructions. You will get an instant notice of confirmation print this and keep it safe. Your reference number is on this print out. You will need these to update the NSW Food Authority website if there are any changes to your business notification. |
|      | How will our Project Officer help us? | Your Project Officer can help with the registration process. |
|      | What resources do we get to help us? | Food Safety Standards can be viewed online, in particular you might find standards 3.2.2, 3.3.3 and 3.3.1 useful. Go to www.foodstandards.gov.au/foodstandards/foodstandardsaustralia.html  
Information about registering as a food business can be viewed online at: www.foodsafety.nsw.gov.au/sets/products/general_info.vic.htm |
|      | How much will it cost? | Nil. |

If further assistance is required visit www.foodsafety.nsw.gov.au or phone 1300 552 406.
APPENDICES

Level 2 Info-sheet
Alcohol management #19

<table>
<thead>
<tr>
<th>What</th>
<th>When</th>
</tr>
</thead>
<tbody>
<tr>
<td>19. Safe food handling signage is displayed in the club canteen</td>
<td>Early 2010</td>
</tr>
</tbody>
</table>

Why is this important for our club?

Providing food when alcohol is served is a key RSA practice.

Displaying safe food handling signage in your food handling areas (canteen and/or kitchen) will help to remind your staff about their responsibilities and recommended safe food handling techniques.

What do we have to do?

Ensure that the appropriate signage is displayed in the food handling areas (canteen and/or kitchen).

How will our Project Officer help us?

Your Project Officer can help you display the required sign.

What resources do we get to help us?

19.1 NSW Food Authority safe food handling info-sheet. Your Project Officer will provide you with an up-to-date safe food handling sign.

How will Good Sports check that we have done it?

During a match-day visit a Project Officer will check for this sign.

How much will it cost?

NIL.

Level 2 Info-sheet
Alcohol management #20

<table>
<thead>
<tr>
<th>What</th>
<th>When</th>
</tr>
</thead>
<tbody>
<tr>
<td>20. Substantial food is provided when the bar is open for more than 60 minutes and more than 15 people are present</td>
<td>Early 2010</td>
</tr>
</tbody>
</table>

Why is this important for our club?

Providing substantial food when selling alcohol reduces the chance of intoxication in two ways:

- People are less likely to drink less alcohol
- Eating food reduces the rate at which alcohol is absorbed into the bloodstream.

Providing meals after training or games can also be a good revenue source for clubs, and can assist in building club spirit by providing an opportunity for members to socialise.

What do we have to do?

- Arrange for substantial food at the time when the bar is open for more than 90 minutes and more than 15 people are present.
- Ensure that all bar servers and club committee members are aware of the requirement to serve substantial food at these times.

Substantial food:

- Hot food such as soups, toasted sandwiches, pizzas, pastas, or a barbecue
- Cold food such as sandwiches, bread rolls or platters of cold meat, cheese/biscuits and fruit.

How will our Project Officer help us?

Your Project Officer can help you:

- Assist in the food you currently serve
- Determine what substantial food your club can easily serve
- Make any modifications required to help you serve these options.

What resources do we get to help us?

42.1 ‘Good Sports Healthier Choices’. During a match-day visit a Project Officer will check your food options.

How much will it cost?

If you have any costs, consider using your 2020 funding.
**APPENDICES**

## Level 2 Info-sheet
**Alcohol management #21**

<table>
<thead>
<tr>
<th>What</th>
<th>When</th>
</tr>
</thead>
<tbody>
<tr>
<td>21. At least four non-alcoholic and one low-alcoholic drink options are available</td>
<td>Early 2010 Late 2010 Early 2011 Mid-late 2011</td>
</tr>
</tbody>
</table>

**Why is this important for our club?**

Providing non-alcoholic and low-alcoholic drink options encourages people to think about their best drinking option. It also sends a positive message to members that the club is supportive of people choosing to drink non or low alcoholic drinks.

**What do we have to do?**

Find and negotiate with suppliers of non-alcoholic and low-alcoholic drinks. Your current supplier may already supply the necessary options.

**How will our Project Officer help us?**

Your Project Officer can help you find and negotiate with local suppliers of non-alcoholic and low-alcoholic drinks.

**What resources do we get to help us?**

21.1 ‘Alcoholic sodas and pre-mix drinks’.  
21.2 ‘Examples of low-alcoholic and non-alcoholic drinks’.

**How will Good Sports check that we have done it?**

During a match-day visit a Project Officer will check for these drink options.

**How much will it cost?**

Nil.

## Level 2 Info-sheet
**Alcohol management #22**

<table>
<thead>
<tr>
<th>What</th>
<th>When</th>
</tr>
</thead>
<tbody>
<tr>
<td>22. Non-alcoholic and low-alcoholic drink options are at least 10% cheaper than full strength alcoholic drinks</td>
<td>Early 2010 Late 2010 Early 2011 Mid-late 2011</td>
</tr>
</tbody>
</table>

**Why is this important for our club?**

Having non-alcoholic and low-alcoholic drinks 10% cheaper than full strength alcoholic drinks makes them more attractive and accessible to club members and visitors. The positive outcomes of this practice can be a reduction in intoxication and alcohol-related problems.

**What do we have to do?**

Calculate reasonable prices for non-alcoholic and low-alcoholic drinks, ensuring they are at least 10% cheaper than full strength alcoholic drinks. You might want to display a sign showing the prices of non-alcoholic and low-alcoholic drinks.

**How will our Project Officer help us?**

Your Project Officer can provide you with advice about pricing.

**What resources do we get to help us?**

Please let your Project Officer know if you need any specific resources for this item.

**How will Good Sports check that we have done it?**

During a match-day visit a Project Officer will check drink pricing.

**How much will it cost?**

Nil.

## Level 2 Info-sheet
**Alcohol management #23**

<table>
<thead>
<tr>
<th>What</th>
<th>When</th>
</tr>
</thead>
<tbody>
<tr>
<td>23. Club does not serve ‘shots’ of alcohol or double-nips of alcohol</td>
<td>Early 2010 Late 2010 Early 2011 Mid-late 2011</td>
</tr>
</tbody>
</table>

**Why is this important for our club?**

The consumption of ‘shots’ of alcohol and double-nips of alcohol has been linked to rapid consumption of alcohol and associated harm. By not serving ‘shots’ or double-nips of alcohol your club is helping to avoid these consequences.

Reducing the sale of ‘shots’ of alcohol or double-nips of alcohol sends a message to members and visitors about the club’s commitment to good alcohol management, and helps to support staff in the responsible service of alcohol.

**What do we have to do?**

- Do not serve ‘shots’ of alcohol or double-nips of alcohol.  
- Ensure that all club staff/volunteers are aware of this practice.

**How will our Project Officer help us?**

Your Project Officer will help you develop any processes for this practice.

**What resources do we get to help us?**

Please let your Project Officer know if you need any specific resources for this item.

**How will Good Sports check that we have done it?**

During a match-day visit a Project Officer will check that ‘shots’ of alcohol or double-nips of alcohol are not being served.

**How much will it cost?**

Nil.

## Level 2 Info-sheet
**Alcohol management #24**

<table>
<thead>
<tr>
<th>What</th>
<th>When</th>
</tr>
</thead>
<tbody>
<tr>
<td>24. Club does not sell ready-to-drink (RTD) products over 5% alcohol/volume</td>
<td>Early 2010 Late 2010 Early 2011 Mid-late 2011</td>
</tr>
</tbody>
</table>

**Why is this important for our club?**

The consumption of RTDs with more than 5% alcohol/volume (alcohol/volume) has been linked to rapid consumption of alcohol and associated harm. By not selling RTDs over 5% alcohol/volume, your club is sending a message to members and visitors about the club’s commitment to good alcohol management, and helping to support staff in the responsible service of alcohol.

**What do we have to do?**

- Do not sell RTDs with more than 5% alcohol/volume.  
- Ensure that any person responsible for purchasing alcoholic drinks for the club is aware that RTDs over 5% alcohol/volume are not to be sold at your club.  
- Ensure that all club staff/volunteers are aware that RTDs over 5% alcohol/volume are not sold at the club.

**How will our Project Officer help us?**

Your Project Officer will help you develop any processes for this practice.

**What resources do we get to help us?**

24.1 ‘Alcoholic sodas and pre-mix drinks’.

**How will Good Sports check that we have done it?**

During a match-day visit a Project Officer will check that RTDs over 5% alcohol/volume are not served.

**How much will it cost?**

Nil.
### Level 2 Info-sheet

**Alcohol management #25**

<table>
<thead>
<tr>
<th>What</th>
<th>When</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Early 2010</td>
</tr>
<tr>
<td>25. Club does not conduct drinking games/promotions that can encourage excessive drinking</td>
<td></td>
</tr>
</tbody>
</table>

**Why is this important for our club?**

The Director of Liquor and Gaming has issued a list of drink promotions that should be restricted or prohibited. The Director can give notice to any premises conducting promotions with an unacceptable risk, to cease promotions. You should be familiar with the guidelines.

- Drink promotions and drinking games can:
  - encourage people to drink at high-risk levels
  - increase the chance of alcohol-related problems
  - send a message that heavy drinking is tolerated
  - discourage people from attending your club, especially families.

**What do we have to do?**

- Censor all drink promotions that can encourage excessive drinking, such as:
  - happy hours
  - cheap drink promotions
  - drinking competitions
  - all-you-can-drink functions
  - alcohol-only player awards/merchandise
  - giving away alcohol vouchers/cards.

You might want to display a sign promoting that such promotions/games will not be conducted at the club.

**How will our Project Officer help us?**

Your Project Officer will assist you to:
- develop alternate non-alcohol based awards
- develop alternate promotions and function formats that will also raise revenue for your club.

### Level 3 Info-sheet

**Alcohol management #26**

<table>
<thead>
<tr>
<th>What</th>
<th>When</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Early 2010</td>
</tr>
<tr>
<td>26. Where club has sponsors that primarily manufacture or sell alcohol, club attempts to source additional sponsorship</td>
<td></td>
</tr>
</tbody>
</table>

**Why is this important for our club?**

Sponsors are critical to the functioning and sustainability of sporting clubs. As sponsors contribute to your club’s public image, it is important that your sponsorships are from a variety of sources, not just the alcohol industry.

**What do we have to do?**

- Try to pair additional sponsors from non-alcohol related sources. Start by sending out a letter to prospective sponsors which details:
  - the club's stance on various issues
  - where the club sits within the competition ladder/team results
  - club demographics
  - what the club wants (e.g. money, free products in exchange for advertising at games or training nights)
  - what the club can give sponsors (e.g. exposure to a fan base, logos on shirts, advertising or an agreed number of times club members come to the facility).

**How will our Project Officer help us?**

Your Project Officer can work in partnership with your club to:
- identify prospective sponsors
- develop a sponsorship letter and circulate to suitable businesses.

**What resources do we get to help us?**

- Your Project Officer can help your club create a letter to send to sponsors or discuss other ideas of how to source additional sponsorship.
**Level 3 Info-sheet**

**Alcohol management policy #27**  
**Smoke-free policy #33**  
**Safe transport policy #38**  
**Food and nutrition policy #52**

<table>
<thead>
<tr>
<th>What</th>
<th>Early 2010</th>
<th>Late 2010</th>
<th>Early 2011</th>
<th>Mid Jan 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>27. Club has a written alcohol management policy approved by the club committee and Good Sports</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>33. Club has a written smoke-free policy approved by the club committee and Good Sports</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>38. Club has a written safe transport policy approved by the club committee and Good Sports</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>52. Club has a written food and nutrition policy approved by the club committee and Good Sports</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

**Why is this important for our club?**

The development of alcohol management, smoke-free, safe transport and food and nutrition policies will contribute, support and sustain all of the practices that your club has implemented over the previous levels.

**What do we have to do?**

- Draft your policies.
- Have your draft policies reviewed and approved by the club committee.

---

**How will our Project Officer help us?**

Your Project Officer will work with your club to develop your four Good Sports policies.

**What resources do we get to help us?**

27. | Sample alcohol management policy.  
27.1 | Drug Info Delaware fact sheet: End of season events: Reducing the risks for sporting clubs.  
33. | Sample smoke-free policy.  
38. | Sample safe transport policy.  
52. | Sample food and nutrition policy.

**How will Good Sports check that we have done it?**

Provide your Project Officer with a copy of approved policies.

**How much will it cost?**

Nil.
REDUCING RISKY DRINKING & ALCOHOL-RELATED HARM IN THE SPORTS SETTING

Volume 4: Appendices 15-21

Melanie Kingsland

Submitted for the Degree of Doctor of Philosophy

School of Medicine and Public Health
Faculty of Health and Medicine
The University of Newcastle

January 2016
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<td>Full database search strategy</td>
<td>23</td>
</tr>
</tbody>
</table>
APPENDIX 15

Example state sporting organisation letter of support

Dear <CLUB REPRESENTATIVE>,

Congratulations on achieving the highest level of Good Sports accreditation – Level 3

Further to a letter sent to your club last year, I’m writing on behalf of Country Rugby League of NSW to congratulate <CLUB NAME> on successfully completing all three levels of the Good Sports program. This is an outstanding display of commitment to the health of your club on and off the field.

We understand that you have put numerous measures in place to reduce risky drinking and promote safe transport options. We have no doubt that your club’s hard work will contribute to positive health benefits for your members and supporters and that your club will be a role model for other clubs within your code and the broader sporting community.

We also commend your club on its contribution to the Australian Research Council Good Sports Trial. This Trial will inform the development of Good Sports across the nation and its findings will be disseminated internationally. It is a very important project that would not be possible without your club’s involvement and commitment.

We congratulate you once again on your Level 3 Good Sports accreditation. We wish your club well in maintaining the healthy policies you have put in place as part of the Good Sports program.

Yours sincerely,

Terry Quinn
Chief Executive Officer
Country Rugby League of NSW
APPENDIX 16

Presentation to sports club committees

The presentation

- What is Good Sports?
- What clubs told us in the 2009 survey
- Why join? Benefits to your club
- Case study – where it worked
- Questions

2009 survey of club members

- 48% drinking at levels linked with injury
- 25% drinking at levels linked with long-term harm

2009 survey of club members

95%-99% of members agreed that...
- Sporting clubs play an important role in promoting healthy lifestyles
- Clubs should be responsible for ensuring members and spectators don’t drink too much

Benefits of being a Good Sports club

*Good Sports clubs are...*
- Role models for other clubs and within their community
- Safer, healthier and more family friendly
- More attractive to sponsors
- More attractive to members, volunteers and players
- Involved in less alcohol-related problems
- In positive relationships with community partners
What is Good Sports?

A free 2 year accreditation program that tackles...

- Risky drinking
- Drink-driving

Accreditation program

**Level 1**
- NSW Liquor Licensing laws

**Level 2**
- Responsible management of alcohol
- Safe transport options

**Level 3**
- Supportive club policies
- Attracting additional sponsors

The Good Sports Support package

- Dedicated support from a Project Officer
- A comprehensive kit of resources
- $500 per season in 2010 and 2011
- Staff/volunteer training opportunities
- Good Sports promotional merchandise

Club case study

Pambula Panthers AFL

**How it was?**
- Social behaviour of players unacceptable
- Lots of drinking, lots of language, loutish behaviour
- Trouble getting sponsors
- Spectators badly behaved
- Bad reputation with umpires & other clubs
- Frustrated players who wanted to enjoy footy
- Couldn’t get mums and dads involved
- No water people, no canteen servers, few volunteers
- Uncontrolled bar

Club case study

Pambula Panthers AFL

**What they did**
- Joined Good Sports
- Public meeting
- “weed” out some players & some committee people
- Family orientated
- “Grub” night on Thursday - good meals, social get-together and filled rosters

Club case study

Pambula Panthers AFL

**The results**
- Full rosters
- Canteen earns money
- Greater volunteer base
- Sponsors have responded
- Players have responded – now winning games
- Player behaving well
- Families getting involved
- Much greater enthusiasm
Good Sports Australian Research Council (ARC) trial is a partnership project between Hunter New England Health, the Australian Drug Foundation and the Turning Point Alcohol and Drug centre. It is also supported by the University of Newcastle.
APPENDIX 17

Example control club materials (pamphlets on illicit drugs)
APPENDIX 18

Club member computer assisted telephone interview (CATI) survey script 2012

Hello, my name is \_INVR\_ and I'm calling on behalf of the Australian Drug Foundation.

You would have received a letter recently about a survey for your sports club "Clubname". The survey was to do with the Good Sports Program.

As part of this project we are doing telephone surveys of members. This will include questions on demographics, participation in the club, alcohol consumption, health and wellbeing.

Are you a current member of "Clubname"?
1 Yes
2 No
.R. Refused

By taking part in the survey you will assist us in assessing the effectiveness of the Good Sports Program. All information collected is strictly confidential.

Would you be interested in participating in the telephone survey?
1 Yes
2 No

Thank you for agreeing to participate. Would now be a good time to go through the survey?
1 Yes
2 No

That's great. I am going to ask you a series of questions about yourself and your sporting club. Please be honest in your responses as there are no right or wrong answers. All answers are strictly confidential.

Which of the following BEST describes your CURRENT involvement with the "Clubname"?
*** If they have multiple roles please select option 6 and provide details in next question***
1 Player
2 Non playing member (supporter)
3 Coach
4 Umpire/referee
5 Club committee member
6 I am involved in other ways
.R. Refused

What other way are you involved with your club?

I am now going to ask you some questions about your general alcohol consumption and your consumption of alcohol AT YOUR SPORTING CLUB. Your individual responses to these questions will be kept confidential and will help us to better support clubs to support its members.

Alcoholic drinks are measured in terms of a standard drink.

A standard drink is equal to one middy of beer, one schooner of light beer, one small glass of wine or one pub-sized nip of spirits.

How often do you have a drink containing alcohol? This refers to ANY TIME, that is, not just at your sporting club.
1 Never
2 Monthly or less
3 2 to 4 times a month
4 2 to 3 times a week
5 4 or more times a week
.R. Refused
### APPENDICES

<table>
<thead>
<tr>
<th>Question</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whilst AT YOUR SPORTING CLUB, how often in the last 3 months have you</td>
<td>Everyday 5 to 6 days a week 3 to 4 days a</td>
</tr>
<tr>
<td>had 20 or more standard drinks in a day?</td>
<td>week 1 to 2 days a week 2 to 3 days a month</td>
</tr>
<tr>
<td></td>
<td>About 1 day a month Less often Never</td>
</tr>
<tr>
<td></td>
<td>.R Refused</td>
</tr>
<tr>
<td>Whilst AT YOUR SPORTING CLUB, how often in the last 3 months have you</td>
<td>Everyday 5 to 6 days a week 3 to 4 days a</td>
</tr>
<tr>
<td>had between 11 to 19 standard drinks in a day?</td>
<td>week 1 to 2 days a week 2 to 3 days a month</td>
</tr>
<tr>
<td></td>
<td>About 1 day a month Less often Never</td>
</tr>
<tr>
<td></td>
<td>.R Refused</td>
</tr>
<tr>
<td>Whilst AT YOUR SPORTING CLUB, how often in the last 3 months have you</td>
<td>Everyday 5 to 6 days a week 3 to 4 days a</td>
</tr>
<tr>
<td>had between 7 to 10 standard drinks in a day?</td>
<td>week 1 to 2 days a week 2 to 3 days a month</td>
</tr>
<tr>
<td></td>
<td>About 1 day a month Less often Never</td>
</tr>
<tr>
<td></td>
<td>.R Refused</td>
</tr>
<tr>
<td>Whilst AT YOUR CLUB, how often in the last 3 months have you had between</td>
<td>Everyday 5 to 6 days a week 3 to 4 days a</td>
</tr>
<tr>
<td>5 and 6 standard drinks in a day?</td>
<td>week 1 to 2 days a week 2 to 3 days a month</td>
</tr>
<tr>
<td></td>
<td>About 1 day a month Less often Never</td>
</tr>
<tr>
<td></td>
<td>.R Refused</td>
</tr>
<tr>
<td>Whilst AT YOUR CLUB, how often in the last 3 months have you had between</td>
<td>Everyday 5 to 6 days a week 3 to 4 days a</td>
</tr>
<tr>
<td>3 and 4 standard drinks in a day?</td>
<td>week 1 to 2 days a week 2 to 3 days a month</td>
</tr>
<tr>
<td></td>
<td>About 1 day a month Less often Never</td>
</tr>
<tr>
<td></td>
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</tr>
<tr>
<td>Whilst AT YOUR CLUB, how often in the last 3 months have you had between</td>
<td>Everyday 5 to 6 days a week 3 to 4 days a</td>
</tr>
<tr>
<td>1 and 2 standard drinks in a day?</td>
<td>week 1 to 2 days a week 2 to 3 days a month</td>
</tr>
<tr>
<td></td>
<td>About 1 day a month</td>
</tr>
</tbody>
</table>
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7 Less often
8 Never
.R Refused

Whilst AT YOUR CLUB, how often in the last 3 months have you had a drink but this has been less than one standard drink in a day? (e.g. drank half a beer or wine)
1 Everyday
2 5 to 6 days a week
3 3 to 4 days a week
4 1 to 2 days a week
5 2 to 3 days a month
6 About 1 day a month
7 Less often
8 Never
.R Refused

Whilst AT YOUR CLUB, how often in the last 3 months have you had no standard drinks in a day? (i.e. been at the sporting club when alcohol is available but not consumed alcohol)
1 Everyday
2 5 to 6 days a week
3 3 to 4 days a week
4 1 to 2 days a week
5 2 to 3 days a month
6 About 1 day a month
7 Less often
8 Never
.R Refused

I am now going to ask you a few questions on your general alcohol consumption. That is, drinking at any time not just at your club.

How many STANDARD DRINKS do you have on a typical day when you are drinking?
1 1-2
2 3-4
3 5-6
4 7-9
5 10 or more

How many drinks consumed typically

How often do you have 6 or more drinks in one occasion?
1 Never
2 Less than monthly
3 Monthly
4 Weekly
5 Daily or almost daily

How often in the last year have you found that you were not able to stop drinking once you had started?
1 Never
2 Less than monthly
3 Monthly
4 Weekly
5 Daily or almost daily

How often during the last year have you failed to do what was normally expected of you because of your drinking?
1 Never
2 Less than monthly
3 Monthly
4 Weekly
5 Daily or almost daily

How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?
1 Never
2 Less than monthly
3 Monthly
How often during the last year have you had a feeling of guilt or remorse after drinking?
1. Never
2. Less than monthly
3. Monthly
4. Weekly
5. Daily or almost daily

How often during the last year have you been unable to remember what happened the night before because you had been drinking?
1. Never
2. Less than monthly
3. Monthly
4. Weekly
5. Daily or almost daily

Have you or someone else been injured because of your drinking?
1. No
2. Yes, but not in the last year
3. Yes, during the last year

Has a relative, friend, doctor or other health care worker been concerned about your drinking or suggested you cut down?
1. No
2. Yes, but not in the last year
3. Yes, during the last year

What is the postcode of your current residence?

Which of the following best describes your current marital status?
1. Never married
2. Widowed
3. Divorced
4. Separated but not divorced
5. Married (including de facto and living with life partner)
.R. Refused

Which of the following best describes your current employment status?
1. Self employed
2. Employed for wages, salary or payment in-kind
3. Unemployed and looking for work
4. Engaged in home duties
5. A student
6. Retired or on a pension
7. Unable to work
8. Other
.R. Refused

What is the highest educational qualification you have completed?
1. Completed primary school
2. Completed years 7 to 9
3. School Certificate (Intermediate, Year 10, 4th Form)
**APPENDICES**

4. Higher School Certificate (Leaving, Year 12, 6th Form)
5. TAFE certificate or diploma
6. University degree, College of Advanced Education, etc.
7. Other
8. Don't know
.R    Refused

Which of the following groups would represent your annual individual income BEFORE tax? (Including all government pensions and benefits)

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$104,000 or more ($2,000 or more/week)</td>
</tr>
<tr>
<td>2</td>
<td>$83,200 to $103,999 ($1,600 to $1,999/week)</td>
</tr>
<tr>
<td>3</td>
<td>$67,600 to $83,199 ($1,300 to $1,599/week)</td>
</tr>
<tr>
<td>4</td>
<td>$52,000 to $67,599 ($1,000 to $1,299/week)</td>
</tr>
<tr>
<td>5</td>
<td>$41,600 to $51,999 ($800 to $999/week)</td>
</tr>
<tr>
<td>6</td>
<td>$31,200 to $41,599 ($600 to $799/week)</td>
</tr>
<tr>
<td>7</td>
<td>$20,800 to $31,199 ($400 to $599/week)</td>
</tr>
<tr>
<td>8</td>
<td>$13,000 to $20,799 ($250 to $399/week)</td>
</tr>
<tr>
<td>9</td>
<td>$7,800 to $12,999 ($150 to $249/week)</td>
</tr>
<tr>
<td>10</td>
<td>$1 to $7,799 ($1 to $149/week)</td>
</tr>
<tr>
<td>11</td>
<td>Nil income</td>
</tr>
<tr>
<td>12</td>
<td>Negative income</td>
</tr>
<tr>
<td>13</td>
<td>Don't know</td>
</tr>
</tbody>
</table>
.R  Refused

Do you usually speak a language other than English at home?

1. Yes
2. No
3. Don't know
.R  Refused

What language do you usually speak at home?

We are now at the end of the survey. Thank you so much for your time today.
APPENDIX 19

Club representative computer assisted telephone interview (CATI) survey script 2011

Hello, my name is ^_INTVR_^ and I’m calling on behalf of the Australian Drug Foundation. You should have received a letter from us in the last week or so letting you know that we will be calling you. We are conducting a survey as part of the evaluation of the health behaviours in sports program — otherwise known as the Good Sports Program.

The letter explained that participation in the survey is extremely valuable in determining whether the Good Sports program is assisting clubs to make healthy changes.

Would now be a good time to go through the survey?
1 Yes
2 No
3 Refused

We would like to start with asking a few questions about yourself and your association with the club.

What is your gender?
1 Male
2 Female

What is your age?

What is your current position with the club? You can select more than one option.
1 President
2 Vice president
3 Secretary
4 Treasurer
5 Coach
6 Committee member
7 Other
8 Refused

What other position?

How many years has this been your position at the club?

In total, how many years have you been associated with the club? This includes playing and non-playing time.

We would like to ask some questions about your club. If you are unable to answer with accurate figures, please provide your best estimate.

What is the approximate number of registered players?

What is the approximate number of players under the age of 18?

What is the estimated number of spectators at your clubs home venue on an average competition day?

Approximately, how many teams are fielded in the 'under 18s' each week?

Approximately, how many teams are fielded in the 'over 18s' each week?
APPENDICES

What would you say would have been your clubs approximate total income over the past year?

Considering this figure, approximately what is your clubs total income from alcohol sales?

Is your club sponsored by an individual, a business, a company or other organisation? e.g. a local hotel or registered club, a retail outlet, a fast food chain.
1. Yes
2. No
.R. Refused

Do any of your sponsors make, distribute or sell alcohol or represent any such groups? This includes brewers, licensed venues or associations.
1. Yes
2. No
.R. Refused

What type of sponsors are they?
1. Hotel/Pub
2. Registered club
3. Nightclub
4. Liquor store
5. Licensed restaurant or cafe
6. Brewer or wine maker
7. Alcohol association
8. Other

What other type of sponsors?

What do they provide as part of this sponsors sponsorship deal? You can select more than one option.
1. Money
2. Clothing {eg. jerseys}
3. Free alcohol
4. Free food
5. Discounted alcohol
6. Discounted food
7. Sporting equipment
8. Other

What other items are provided as part of the sponsorship deal?

What is the approximate monetary value of their contribution to your club? I would now like to ask you some questions about alcohol at your club. These relate to the service of alcohol from a clubhouse or canteen at your clubs sporting ground, not a registered club or hotel that may sponsor your club.

Does your sporting club have a current liquor licence? This does not include a hotel or registered clubs licence.
1. Yes
2. No
3. Sell alcohol using sponsoring hotel/club licence
.R. Refused
APPENDICES

What type of liquor licence does your club have?
1. Limited licence- single function
2. Limited licence- multiple functions
3. Function license
4. Don’t know
5. Other (please specify)
6. Refused

What other type of liquor licence does your sporting club have?

Which of the following club events during the sporting season would alcohol usually be served at your sporting clubs ground?

You can select more than one option.
1. Formal club events (e.g. end of season presentation night)
2. Training sessions (before, during or after)
3. Usual club round games-Senior games only
4. Usual club round games- both junior and senior games
5. Club finals games
6. Other off season events
7. Other events

What other events do you serve alcohol?

Thinking of these occasions, overall during the winter sporting season, how many days per week would alcohol ‘usually’ be served by your club?
1. Less than once a week
2. Once a week
3. Twice a week
4. 3 times a week
5. 4 times a week
6. 5 times a week
7. 6 times a week
8. Everyday
9. Don’t know

Responsible Service of Alcohol Training, sometimes referred to as RSA training, trains bar-staff in developing the skills and the knowledge required to comply with the NSW Liquor Act 2007. It covers items such as legislative requirements and RSA strategies by licensed premises.

How many of the bar servers at the bar at your sporting ground are trained in RSA by an accredited trainer? These include both paid staff and volunteers.
1. All
2. Most
3. Some
4. None
5. Don’t know
6. Refused

Please indicate how often bar servers are allowed to consume alcohol whilst on duty?
1. Never
2. Rarely
3. Sometimes
4. Usually
5. Always
6. Refused
Does your club provide any low-alcoholic drinks? (e.g. low-alcohol beer).
1  Yes
2  No

Which of the following low-alcoholic drink options does your club provide? You can select more than one option.
1  Low-alcohol beer
2  Low-alcohol wine
3  Low-alcohol mixed drinks (e.g. shandy)
4  Other

What other low-alcoholic drink options are provided?

Which is more expensive, full strength or low-alcoholic drinks?
1  Full-strength alcohol drinks
2  Low-alcohol drinks
3  Priced the same
4  Don’t know
.R  Refused

Does your club conduct any of the following drink promotions? You can select more than one option.
1  Happy hour
2  Cheap drink promotions
3  Drinking competitions eg. bostrace
4  ‘All you can drink’ functions
5  ‘Alcohol only’ player awards or raffle prizes
6  Drink vouchers
7  Other promotions

What other drink promotions does your club conduct?

How often are committee members present during the times when alcohol is available?
1  Never
2  Rarely
3  Sometimes
4  Usually
5  Always

Does your club maintain an up-to-date incident register? This records the details of all incidents such as staff refusing service or asking members to leave, or violent incidents.
1  Yes
2  No
3  Don’t Know
.R  Refused

On a typical playing week, what is the longest period of time the club bar would be open for people to purchase alcohol?
1  1 hour
2  2 hours
3  3 hours
4  4 or more hours
5  Anytime
6  Don’t know
.R  Refused

Approximately, on average, how many people would be present when alcohol is sold on these occasions?
<table>
<thead>
<tr>
<th>Does your club sell or provide food when alcohol is being served?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Yes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>What type of foods do you sell/provide?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Snacks (eg. packets of chips, peanuts, confectionary)</td>
</tr>
<tr>
<td>2 Light meals (eg. pies, hot chips, sandwiches or salads)</td>
</tr>
<tr>
<td>3 Full meals (eg. steak and veggies)</td>
</tr>
<tr>
<td>4 Other</td>
</tr>
<tr>
<td>5 Don’t know</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>What other types of food do you sell/provide?</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Does your club have a written alcohol management policy? An alcohol management policy provides a basis for the responsible management and service of alcohol.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Yes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>How often is the clubs licensee (or nominated person) present during the times alcohol is served at the clubs sporting ground?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Never</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>How often does your club provide free tap water?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Never</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Does your club sell unpackaged alcohol? That is, alcohol that is poured into glasses or cups such as wine from a bottle or beer on tap?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Yes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>How often does your club sell unpackaged alcohol in standard drink measures? A standard measure of wine is 100mL, a standard measure of beer is a schooner (285mL) or a nip (42mL), and a standard measure of spirits is a nip (30mL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Never</td>
</tr>
</tbody>
</table>
How often does your club sell ready-to-drink products with over 5% alcohol volume? e.g. OF rum and cola.
1 Never
2 Rarely
3 Sometimes
4 Usually
5 Always
6 Don’t know
.R Refused

How often does your club sell shots of spirits?
1 Never
2 Rarely
3 Sometimes
4 Usually
5 Always
6 Don’t know
.R Refused

How often does your club monitor all entrances to the clubs licensed area to prevent BYO alcohol from being bought in? For most clubs the licensed areas is the entire ground.
1 Never
2 Rarely
3 Sometimes
4 Usually
5 Always
6 Don’t know
.R Refused

How often does your club monitor all entrances to the clubs licensed area to prevent people taking alcohol out of this area? If this occurs, it often occurs after the game
1 Never
2 Rarely
3 Sometimes
4 Usually
5 Always
6 Don’t know
.R Refused

How often does your club refuse service to intoxicated people and ask them to leave your clubs licensed area?
1 Never
2 Rarely
3 Sometimes
4 Usually
5 Always
6 Don’t know
.R Refused

Does your club promote the availability of any of the following safe transport options? You can select more than one option.
1 Designated driver program
2 Key register
3 Taxi vouchers as prizes
4 Taxi numbers clearly displayed
5 Free call service for taxis
6 Free club transport
7 Free non-alcoholic drinks for designated drivers
8 Free bar snack for designated drivers
Free non alcoholic drinks for bar servers
Free bar snacks for bar servers
Other options
None of the above

What other safe transport options does your club provide?

Does your club have a written Safe Transport Policy?
1 Yes
2 No
3 Don’t know
.R Refused

Does your club provide non-alcoholic drink options?
1 Yes
2 No
3 Don't know
.R Refused

Which of the following non-alcoholic drink options does your club provide?
You can select more than one option.
1 Regular soft drinks (eg. coke, lemonade)
2 Diet soft drinks (eg. diet coke)
3 Juices (eg. fruit juice, apple juice)
4 Bottled/Mineral water
5 Free water
6 Plain milk
7 Flavoured milks
8 Sports drinks (eg. staminade, gatorade)
9 Hot drinks (eg. tea, coffee, hot choc)
10 Other

What other non-alcoholic drinks are provided?

The Good Sports team has provided support to clubs in a number of different ways. We would like to ask you about these elements of support and ask you to rate the amount of support received and how useful this support was.

Firstly, I would like you to rate the usefulness of the following elements of support in assisting your club to implement the Good Sports strategies. Please rate these in terms of being very useful, somewhat useful or not useful.

We provided you with a Good Sports Project Officer who would have met with you face-to-face and had other contact via email and phone. Your Project Officer was "PONAME". How would you rate the usefulness of support from your Good Sports Project Officer?
1 Very useful
2 Somewhat useful
3 Not useful
4 Don’t know
.R Refused

How would you rate the usefulness of printed resources, including your club kit, templates for media releases and signs?
1 Very useful
2 Somewhat useful
3 Not useful
4 Don’t know
.R Refused
How would you rate the usefulness of money your club received from the Good Sports team?
1. Very useful
2. Somewhat useful
3. Not useful
4. Don’t know
.R Refused

How would you rate the usefulness of feedback following match day visits?
1. Very useful
2. Somewhat useful
3. Not useful
4. Don’t know
.R Refused

How would you rate the usefulness of accreditation merchandise (eg. Bar runners and certificates)?
1. Very useful
2. Somewhat useful
3. Not useful
4. Don’t know
.R Refused

How would you rate the usefulness of newsletters from the Good Sports team?
1. Very useful
2. Somewhat useful
3. Not useful
4. Don’t know
.R Refused

How would you rate the usefulness of letters of encouragement from your sporting association?
1. Very useful
2. Somewhat useful
3. Not useful
4. Don’t know
.R Refused

How would you rate the usefulness of online training?
1. Very useful
2. Somewhat useful
3. Not useful
4. Don’t know
.R Refused

Now in thinking about the amount of support received we would like you to indicate whether the amount of support received on the following elements was too much, just right or too little in order for you to implement the Good Sports strategies.

How would you rate the amount of support provide by your Project Officer, "<FONAME>?"
1. Too much
2. Just right
3. Too little
4. Don’t know
.R Refused
APPENDICES

How would you rate the amount of printed resources, including your club kit, templates for media releases and signs?
1. Too much
2. Just right
3. Too little
4. Don’t know
.R. Refused

How would you rate the amount of money your club received from the Good Sports team to help with implementation - this was $500 per 2010 and 2011 season?
1. Too much
2. Just right
3. Too little
4. Don’t know
.R. Refused

How would you rate the amount of feedback following match day visits?
1. Too much
2. Just right
3. Too little
4. Don’t know
.R. Refused

How would you rate the amount of accreditation merchandise? (e.g. bar runners, certificates)
1. Too much
2. Just right
3. Too little
4. Don’t know
.R. Refused

How would you rate the number of newsletters from the Good Sports team?
1. Too much
2. Just right
3. Too little
4. Don’t know
.R. Refused

How would you rate the number of letters of encouragement from your sporting association?
1. Too much
2. Just right
3. Too little
4. Don’t know
.R. Refused

How would you rate the amount of training in food handling (this was an online course)?
1. Too much
2. Just right
3. Too little
4. Don’t know
.R. Refused

Thank you so much for participating in this Good Sports Program survey. Your input is valuable in evaluating the program.
APPENDICES

APPENDIX 20

Example Medline search strategy

1. exp Sports/
2. sport*.mp.
3. cricket*.mp.
4. netball*.mp.
5. rugby.mp.
6. canoe*.mp.
7. softball.mp.
8. triathl*.mp.
9. water polo.mp.
10. water ski*.mp.
11. australian rules football.mp.
12. surfing.mp.
13. handball.mp.
14. yacht*.mp.
15. rowing.mp.
16. boating.mp.
17. sailing.mp.
18. lawn bowls.mp.
19. bowling.mp.
20. horse racing.mp.
21. harness racing.mp.
22. dog racing.mp.
23. motor sport*.mp.
24. auto sport*.mp.
25. motor racing.mp.
26. auto racing.mp.
27. motorcycl*.mp.
28. car racing.mp.
29. archery.mp.
30. equestrian.mp.
31. shooting.mp.
32. hunting.mp.
33. lacrosse.mp.
34. polo.mp.
35. table tennis.mp.
36. badminton.mp.
37. squash.mp.
38. cycling.mp.
39. Fitness Centers/
40. fitness centre*.mp.
41. gym*.mp.
42. (sport* and (game* or event* or club* or arena* or field* or ground*)).mp.
43. athlete*.mp.
44. player*.mp.
45. spectator*.mp.
46. fan*.mp.
47. (sport* and member*).mp.
48. exp Health Promotion/
49. exp Public Health/
50. Harm Reduction/
51. (harm adj3 minimi*).mp.
52. Health Policy/
53. Public Policy/
54. program*.mp.
55. intervention*.mp.
56. Preventive Medicine/
57. health education/ or consumer health information/ or patient education as topic/
58. environment*.mp.
59. (responsible and (alcohol* or beverage*) and service).mp.
60. server training.mp.
61. server intervention*.mp.
62. enforcement.mp.
63. community action*.mp.
64. community mobil*.mp.
65. (alcohol* and control*).mp.
66. strategy*.mp.
67. exp Alcohol Drinking/
68. alcohol*.mp.
69. (alcohol* and (drunk* or incident* or safety or offence* or abuse* or disorder* or harm* or violent* or injur* or intoxicat* or assault*)).mp.
70. drink driving.mp.
71. randomized controlled trial.pt.
72. controlled clinical trial.pt.
73. randomized.ab.
74. randomised.ab.
75. clinical trials as topic.sh.
76. randomly.ab.
77. trial.ti.
78. double blind.ab.
79. single blind.ab.
80. experiment*.mp.
81. (pretest or pre test).mp.
82. (posttest or post test).mp.
83. (pre post or prepost).mp.
APPENDICES

84. Before after.mp.
85. (Quasi-randomised or quasi-randomized or quasi-randomized or quasi-randomised).mp.
86. stepped wedge.mp.
87. Preference trial.mp.
88. Comprehensive cohort.mp.
89. Natural experiment.mp.
90. (Quasi experiment or qua experiments).mp.
91. (Randomised encouragement trial or randomized encouragement trial).mp.
92. (Staggered enrolment trial or staggered enrollment trial).mp.
93. (Nonrandomised or non randomised or nonrandomized or non randomized).mp.
94. Interrupted time series.mp.
95. (Time series and trial).mp.
96. Multiple baseline.mp.
97. Regression discontinuity.mp.

98. 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14 or 15 or 16 or 17 or
18 or 19 or 20 or 21 or 22 or 23 or 24 or 25 or 26 or 27 or 28 or 29 or 30 or 31 or 32 or 33 or
34 or 35 or 36 or 37 or 38 or 40 or 41 or 42 or 43 or 44 or 45 or 46 or 47
99. 48 or 49 or 50 or 51 or 52 or 53 or 54 or 55 or 56 or 57 or 58 or 59 or 60 or 61 or 62 or 63
or 64 or 65 or 66
100. 67 or 68 or 69 or 70
101. 71 or 72 or 73 or 74 or 75 or 76 or 77 or 78 or 79 or 80 or 81 or 82 or 83 or 84 or 85 or
86 or 87 or 88 or 89 or 90 or 91 or 92 or 93 or 94 or 95 or 96 or 97
102. 98 and 99 and 100 and 101
APPENDIX 21

Full database search strategy

PART A: Initial database search:

<table>
<thead>
<tr>
<th>Database</th>
<th>Pre-Duplication Results</th>
<th>After De-Duplication (using &quot;Find Duplicates&quot;) Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>CENTRAL</td>
<td>140</td>
<td>97</td>
</tr>
<tr>
<td>CINAHL</td>
<td>47</td>
<td>35</td>
</tr>
<tr>
<td>Cochrane Library - Reviews</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Dissertations &amp; Theses</td>
<td>72</td>
<td>66</td>
</tr>
<tr>
<td>EMBASE</td>
<td>255</td>
<td>194</td>
</tr>
<tr>
<td>MEDLINE</td>
<td>242</td>
<td>239</td>
</tr>
<tr>
<td>MEDLINE In Process</td>
<td>16</td>
<td>13</td>
</tr>
<tr>
<td>PsycEXTRA</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>PsycINFO</td>
<td>80</td>
<td>44</td>
</tr>
<tr>
<td>SportDiscus</td>
<td>44</td>
<td>32</td>
</tr>
</tbody>
</table>

Total results after de-duplication with "Find Duplicates": 732

Symbols used in this document:

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>mp</td>
<td>Keyword search in OVID databases. This is the broadest search possible</td>
</tr>
<tr>
<td>adj</td>
<td>Adjacency search in OVID databases – “adj” will retrieve the nominated words within 3 words of each other, in any order</td>
</tr>
<tr>
<td>/</td>
<td>A dash preceding a search word/phrase in OVID databases indicates search within the subject heading field</td>
</tr>
<tr>
<td>*</td>
<td>Truncation symbol – will retrieve all words beginning with the set of letters appearing before the symbol</td>
</tr>
<tr>
<td>exp</td>
<td>Expanded search in OVID Databases</td>
</tr>
<tr>
<td>MH</td>
<td>In EBSCO databases, indicates a search within the subject heading field</td>
</tr>
<tr>
<td>n</td>
<td>Adjacency search in EBSCO databases – “n” will retrieve the nominated words within 3 words of each other, in any order</td>
</tr>
<tr>
<td>Near/</td>
<td>Adjacency search in Wiley databases – “near/” will retrieve the nominated words within 3 words of each other, in any order</td>
</tr>
<tr>
<td>App</td>
<td>Description</td>
</tr>
<tr>
<td>------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>40</td>
<td>lapar* and mammary* mp</td>
</tr>
<tr>
<td>41</td>
<td>1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14 or 15 or 16</td>
</tr>
<tr>
<td>42</td>
<td>exp Health Promotion/</td>
</tr>
<tr>
<td>43</td>
<td>exp Public Health/</td>
</tr>
<tr>
<td>44</td>
<td>harm reduction/</td>
</tr>
<tr>
<td>45</td>
<td>intervention* and microtumor* mp</td>
</tr>
<tr>
<td>46</td>
<td>Health Policy/</td>
</tr>
<tr>
<td>47</td>
<td>Public Policy/</td>
</tr>
<tr>
<td>48</td>
<td>program* mp</td>
</tr>
<tr>
<td>49</td>
<td>intervention* mp</td>
</tr>
<tr>
<td>50</td>
<td>Preventive medicine/</td>
</tr>
<tr>
<td>51</td>
<td>Health Education/</td>
</tr>
<tr>
<td>52</td>
<td>Consumer Health Information/</td>
</tr>
<tr>
<td>53</td>
<td>Patient Education as Topic/</td>
</tr>
<tr>
<td>54</td>
<td>environment* mp</td>
</tr>
<tr>
<td>55</td>
<td>responsible and (alcohol* or beverage*) and service* mp</td>
</tr>
<tr>
<td>56</td>
<td>server training mp</td>
</tr>
<tr>
<td>57</td>
<td>server intervention* mp</td>
</tr>
<tr>
<td>58</td>
<td>enforcement mp</td>
</tr>
<tr>
<td>59</td>
<td>community action* mp</td>
</tr>
<tr>
<td>60</td>
<td>community mobilization* mp</td>
</tr>
<tr>
<td>61</td>
<td>(alcohol* and control*) mp</td>
</tr>
<tr>
<td>62</td>
<td>strategy* mp</td>
</tr>
<tr>
<td>63</td>
<td>42 or 43 or 44 or 45 or 46 or 47 or 48 or 49 or 50 or 51 or 52 or 53 or 54 or 55</td>
</tr>
<tr>
<td>64</td>
<td>exp Alcohol Drinking/</td>
</tr>
<tr>
<td>65</td>
<td>with/ mp</td>
</tr>
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Total results before de-duplication: 152
Total results after de-duplication with "Find Duplicates": 145
After removing duplicate by hand search: 115
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| Users: Edwards? | }
### APPENDICES

| APPENDICES | 36 |

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**Database:** MEIDIE in progress

**Name of Host:** OVID

**Number of results:** 18 (10 from 2014-2015)

**Date searched:** 20 August 2015

*Cannot limit search to humans*

**Kingsland**

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<td>8. concussion or sport head* imp.</td>
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**Database:** SPORTDISCUS

**Name of Host:** EBSFC

**Number of results:** 87 (12 from 2014-15)

**Date searched:** 20th August 2015

**CANNOT LIMIT TO HUMANS**

**Nicholsians:**

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**APPENDICES**

Page 43
information or "patient education" or environment or (responsible and (alcohol* or beverage*) and service*)
or "server training" or "server intervention" or enforcement or "community action" or "community mobil" or
(alcohol* and control*) or strategy)

AND

(alcohol* or "dram* detox" or "dram* detox")

AND

("trial" or random* or "double blind" or single blind or experiment or pretest or "pre test" or posttest or
"post test" or "pre post" or prepost or "before after" or "quasi randomized" or "quasi-randomized" or "quasi-
randomized" or "quasi randomized" or "staged wedge" or "non randomized" or "non randomised" or non
randomized or nonrandomized or "time series" or "multiple baseline" or "repeated discontinuity" or
"comprehensive cohort")